



Official Publication of the  
West Allis Radio Amateur Club

# Hamtrix

[click here to go to web site](#)

Volume 69, Issue 7 July, 2020

## JULY CLUB HAPPENINGS



### NUT NET

3.985mhz  
Monday-Saturday  
8:15am CT  
**NUT NET**  
Breakfast  
8:30am fourth  
Tuesday  
of the month

### Milwaukee-Florida Net

Every Day on 14.290 Mhz  
7:00AM - 9:15AM ET  
6:00AM - 8:00AM CT

### Sunshine Committee

If you know of a member who could use a bit of cheer or support,  
Barb Garnier (KD9HPS) is now the Sunshine Committee Chair.  
Contact her: 414-529-3536 or [barbsewsblue@gmail.com](mailto:barbsewsblue@gmail.com).

### July Virtual Club Meeting

July 14, 2020 7:00 pm

Using Zoom

Meeting ID: 925 5116 1563 - Password: warac

**Cushcraft 15M Beam Conversion to a 6M Beam**

by Steve Dryja, NO9B

Virtual meeting coordinated by

Chuck Dellis, W9WLX

### Virtual Board meeting July 28,2020

### WARAC 2-meter net

Every Wednesday at 8pm

SEWFARS W9TJK Repeater 146.820

standard (-) offset 127.3 Hz CTCSS

if repeater down try 146.55 simplex

### Index

President's shack .....	2	Story.....	7
Minutes .....	3	Virtual Ham Expo.....	9
Field Day follow up.....	3	Field Day Comments.....	10
DX/contest update.....	5	Field Day Pictures.....	11
Hotspot business.....	6		

## The President's Shack

Field day has come and gone. I think for all of us it was different, to say the least. I decided to operate from my patio with a battery powered QRP setup. That was not the way for me to go. I had zero contacts . I know QRP SSB is one of the harder ways to make contacts. But this time I wasn't able to be heard on all but one contact. That one heard me but could not copy my info.

What was the problem? I have no idea. The bands were really crowded (there were more than the usual home stations operating), propagation might have been weak. I have no idea. I will be interested to see what is written about it. By any definition, one for the record books.

Not much change in the club actions. We will have another Zoom meeting. Steve NO9B will be telling us how he rebuilt a 15 meter beam into a 6 meter beam. Should be interesting.

If anyone has a project they want to tell us about

let me know. We would love to hear about it.

For August we will try to have an outdoor gathering. What I have come to describe as sitting 6 feet apart and shouting at each other. HI HI I think it will be fun to see everyone for an eyeball QSO.

More info in the next Hamtrix.

73

Frank KA9FZR • —• —••



**From the Editor**

No editorial due to being occupied by the President's Shack

## WARAC Club Meeting Minuets June 6, 2020

Due to the nature on the Covid-19 crisis and Governor Tony Evers “Emergency Order #12 Safer At Home Order”, Chuck W9WLX offered his work experience and conducted the WARAC club Zoom Meeting.

The club meeting was called to order 7:00 pm by Frank KA9FZR.

Approximately 15 virtual club members were identified by the Secretary Dave WB9OWN as being present. There was 1 visitor, Bob Arndt AE0Y.

Field Day, Chuck Dellis reviewed the “at home” Field Day 2020 rules.

Club Presentation, Review of Icom RS-BA remote control software package. This was through discussion of Internet remote operation of Icom radios, and troubleshooting the home internet connection issues. A number of tools were discussed.

Ping the DOS utility command: “ping 8.8.8.8” - Googles address is easy to remember.

Web based upload and download speed tools. <http://www.dslreports.com/tools>

Buffer Bloat? (Burp!) First I heard of this but it’s very important!

[https://www.bufferbloat.net/projects/bloat/wiki/What\\_can\\_I\\_do\\_about\\_Bufferbloat/](https://www.bufferbloat.net/projects/bloat/wiki/What_can_I_do_about_Bufferbloat/)

Internet Latency <https://testmy.net/latency> <https://evenroute.com/latency-vs-speed>

A new home router maybe the option. <https://evenroute.com/>

Then there’s the basic problem of maintaining a fixed IP address. Web based App?

How do you remotely turn your station On & Off with all the gotchas that involves?

This maybe your option. <https://www.digital-loggers.com/>

For fastest local ISP around, ditch AT&T and go <https://www.spectrum.com/internet>

Wisconsin QSO Party Results, Tom Macon K9BTQ. The Wisconsin QSO party certificates were mailed out. Looking at past WI QSO parties there are still some counties that hadn’t had fixed station operating. <https://www.warac.org/wqp/activate.htm> This is an opportunity for next year.

August WARAC meeting will be held in a park – Stay Tuned.

General meeting was adjourned at 8:30 pm, informal meeting continued until 8:53 pm.

Respectfully submitted,  
David Garnier WB9OWN  
Secretary WARAC. . . .  
June 7, 2019

### Field Day Wrap Up

Chuck Dellis, W9WLX  
Field Day Chairman

Field Day 2020 was a Field Day like none other! The Covid-19 pandemic has disrupted just about everything in our lives and this event was no exception. We adjusted to the situation as did the ARRL in creating a

couple of rule waivers. If you haven't already sent in your logs for the two club events, please do so. The deadline is July 28, 2020.

Submit your log to the ARRL at <http://field-day.arrl.org/fdentry.php>, be sure to name our club specifically as West Allis RAC on the entry form, and send a copy of your Cabrillo log to [w9wlx@wi.rr.com](mailto:w9wlx@wi.rr.com). Your score will be included in the published ARRL results (individual and club aggregate) in December, QST, and you're entered into the club's "friendly competition". I appreciate everyone operating this year and completing the post Field Day submission. If you have any questions, please reach out.

As expected, the number of class D stations was sizable this year. It seems the number of class A & D stations swapped positions over what we typically see. I compared my 2020 data operating class D to the club's 2019 data.

2019--W9FK Club 1006 QSOs		2020--W9WLX 557 QSOs		2020--W9WLX 557 QSOs	
A	61%	A	11%	Band	QSO's
B	3%	B	6%	80	97
C	0.3%	C	1%	40	237
D	18%	D	66%	20	82
E	12%	E	16%	15	103
F	6%	F	1%	10	38

I operated class D from my cabin in Marinette county. The station was 100 watts using a multi-band dipole at about 35-40 feet. Operation was 3 modes, CW, FT4/8, SSB, on 5 bands, 80-10 meters. With the plethora of HF activity, I never made it to 6 meters. Although I didn't plan it this way, I ended up with roughly one-third of the QSOs in each mode. 40 and 15 meters yielded the most QSOs followed by 80 and 20 meters. 10 meters lagged behind and didn't seem to pop wide open like it has in prior years. 15 meters was a pleasant surprise with short skip covering North America well, though a bit stronger on Sunday morning.

Another characteristic of operating I experienced this year was less congestion on phone, particularly 40 & 20 meters. Don't get me wrong, the congestion was still there necessitating the use of narrow filters and pass band tuning, but it was very workable. Running a frequency seemed to be easier too. CW seemed a bit less congested as well--I never had to use a filter narrower than 400 Hz and never had to flip my sidetone to the opposite side to copy a QSO that was being QRM'ed. I'm attributing the reduced congestion to having a lot of activity on 15 meters, openings on 10 meters, and the proliferation of FT4/8 contest mode on all bands. These digital modes have gained wide acceptance and use in Field Day operation.

I hope everyone had a chance to participate in Field Day and operate with the method of their choosing. I invite you to share your experience on the West Allis Radio Amateur Club's Facebook page. Thankfully, we had some additional choices this year, accommodating an extraordinary social condition.

-73, Chuck W9WLX



# DXing and Contesting - July Update

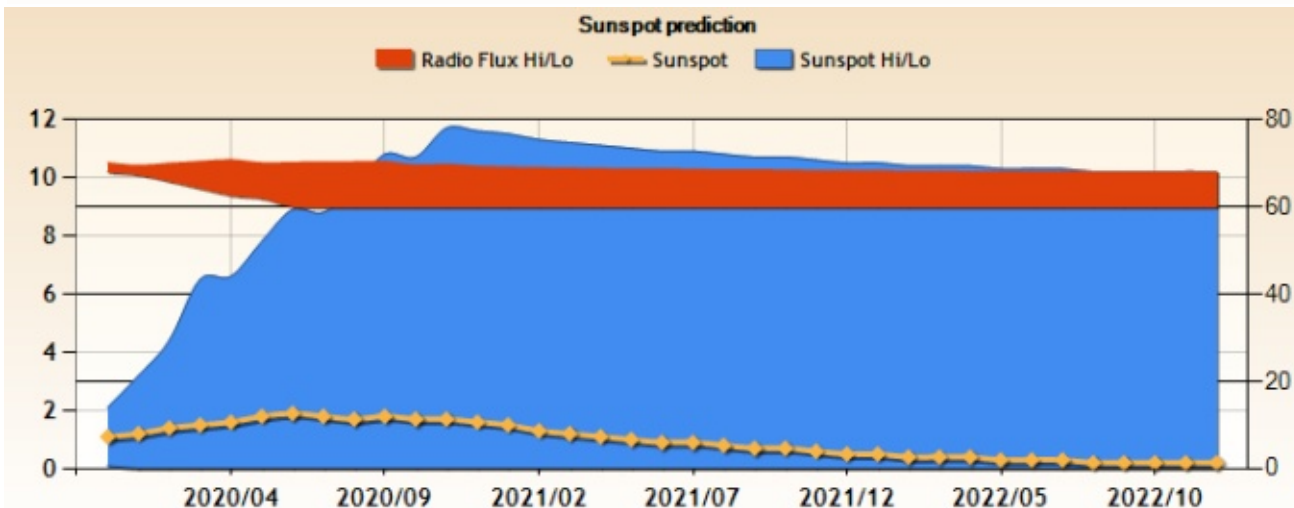
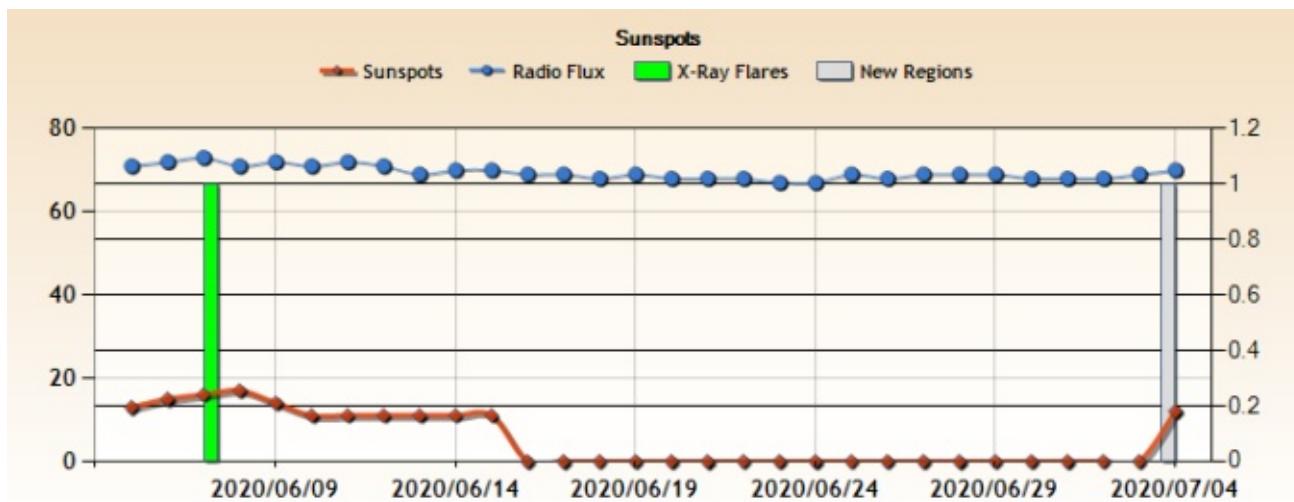
## DX UPDATE:

No major DX Expeditions have been announced, only postponed. Drat. Having said that, for the DX minded individual there are some opportunities none the less.

**VHF:** Just this afternoon, 6 meters was hot, hot, hot. Loud continuous openings to the east coast, south and midwest...all at the same time. The VHF season has a ways to go, so keep it on the charts.

**10 Meters:** While you are doing VHF, take a spin through 10 meters as well.

**Sunspots:** Thar' be signs of life in ol' Sol...Just this afternoon activity has been spotted. Don't get excited, it won't last.



## CONTEST UPDATE:

Field Day is done, how'd it go? Did you pick up on RAC Canada Day? Both were fun events completely different from prior years. Hope everyone got on the air and made some noise.

As for contests in July, well it is a thin soup. Lot's of QRP events and standard weekly operations. There is one major contest this month, The IARU HF World Championship, July 11 - 12. It is that time of year you will actually need your IARU Zone Number (that would be 8 for most of us). That is the where we are for contests this month. What are you doing inside anyway? Go out and enjoy the summer weather!! • —• —•

# HOTSPOT BUSINESS

Mike Johnson, WO9B

I've happily been out of the digital voice hotspot business for better than a year now. Two events occurred which got me to at least check out the current pricing and I was kind of surprised. For those who don't do digital voice modes, a hotspot is a little uhf/vhf repeater that monitors a uhf/vhf frequency that you set up for your personal access and then it retransmits the signal into the internet. Very common for D-Star, DMR and Fusion. My interest has been in DMR so my comments/opinions are influenced in that mode. YMMV with D-Star and Fusion.

So a couple years ago we did a group buy of Anytone 868 radios. It became apparent to me that enjoying DMR is greatly enhanced with a hotspot. The internet can provide you with a total understanding of how hotspots work and what they do. Suffice it to say, I can run about a 2 block radius from my house and talk solidly with my HT on DMR. I kind of decided to see how inexpensively I could get one for. Turns out building them in bulk and selling the excess was pretty easy, but also very time consuming. Long and short, I built a bunch of them for 6 to 8 months and sold them on the internet. They were costing me \$50 for the last batch and were selling for \$85 to \$90. I sensed the market was getting cheaper and so decided to stop fooling around with them.

Last week my constantly plugged in hotspot suddenly failed and I got interested in the market once again. The problem ended up being a software update issue, so technically I'm not in the market anymore, BUT I do have a RPi2 that would work great as a duplex hotspot. That's a different story. But for those with an interest in maybe buying/building a hotspot, perhaps the pricing presented is of interest. BTW these are for simplex units.

**Commercial Units:** Buy em, plug em in and viola. Did I mention you get customer support? That can be a good thing.

- SharkRF Openspot 3: \$280, but this is the top of the line device.
- Zumspot: \$130 to \$180, prices vary depending on source.
- DVMega: \$239

**MMDVM Units running Pi-Star OS:** These are the type of hotspots that litter Ebay and Etsy. You can buy them completely assembled or in pieces. They are all constructed of a MMDVM tophat for attachment to a Raspberry Pi. The RPi can be a Pi-Zero or any of the full size Pi's (2, 3, 4). You also need a memory card (8 gigs) and a case. OLED screens are also nice to have, but not totally necessary. The Pi-Star OS is a free download

- Fully Constructed Units: \$65 to \$100+, Ebay is awash with these units. They all ship from China, so expect a 3+ week wait. Pay attention if an OLED screen is included or not.
- Individual Components: MMDVM Hat, Case, OLED screen: \$28    8 Gig SD Card: \$4 to \$8, Pi Zero W with Header attached: \$15.....Total \$47 to \$51

The price has not changed all that much in a year. My experience was that buying in quantity (10+) could result in a saving of 10% or so. The selling price of the unit has definitely gone down which makes the build and sell equation not so attractive anymore. Assembling the units from components is not all that difficult. What is hard is determining if the components are functioning properly. Since most come from China, bad parts turn a short project into a long frustrating one. Based on my experience, the Pi-Zero W had a failure rate of 60% when paired with the MMDVM tophat. I first was buying the Pi's cheap on eBay,

but due to the failures, I started buying only from US suppliers. I also only purchase them with the header pins preinstalled, which allows me to test the board and if it fails, return it. Once you solder on header pins, good or bad, the board is yours. The above pricing reflects the US sourced Pi-Zero and SD card.

As high a failure as the Pi-Zero's had, the MMDVM tophats had no failures. Go figure.

If you have a Raspberry Pi hanging around the parts drawer, a hotspot could be just the ticket to breathe life into it. There are a ton of cases available to spiff up the final product.

On a final note, the latest trend is for duplex hotspots. They are not new, but there has been some developments in both the hardware and software to wring out the bugs. The duplex hats allow setting up low power repeaters or utilize both TD's of the DMR radio for monitoring and transmitting or allow you to setup multiple simultaneous modes. There are some desensitization issues, but what the heck, there are also some workarounds. • —• —••

## A Volunteer's Story

from <http://www.arrl.org/real-world-stories>

My partner on the Emergency Communications Response Vehicle (ECRV), Richard McMahon, KB9TOR, and I were deployed to the Red Cross forward headquarters in Montgomery, Alabama, while Hurricane Katrina made its devastating landfall along the Gulf coast. Then we received our instructions. We were to take a case of self-heating meals and a case of water from the supply area and head to Gulfport, Mississippi. A few hours later, as we got close to our destination, we checked our ARRL repeater directory to determine which amateur radio frequencies were usually used in that community. Here are two guys from Chicago driving in an unfamiliar area with no electricity, no telephone service, no cellular service, and not even being able to rely on local landmarks for guidance because Katrina had leveled them just a few hours earlier. Bob Jackson, KC5OAE, answered our call on the radio and provided turn-by-turn guidance to the building from which the Red Cross was operating. Bob was able to do this because, as a licensed amateur radio operator, also known as a "ham radio operator", using only his own radio equipment, an antenna on his truck and the truck's battery, he was able to talk with other operators across the southern part of Mississippi. To explain, our ECRV is one of nine identical Ford Excursions which is equipped with a satellite dish, 52' mast, satellite television, more

than a dozen different types of radios, notebook computers, a communications interoperability system, antennas capable of world-wide communications, and an 8000 watt generator powered by the truck's diesel engine. The site to which we were assigned was to be a bulk-distribution site where large truckloads of food and supplies were being unloaded and reloaded into smaller Red Cross Emergency Response Vehicles (ERV's), which then delivered the food and supplies to people in the heart of the affected area. Like any organization, this site needed telephone and email capability to order supplies and manage the operation. As our ECRV approached the building under Bob's guidance via ham radio, the Red Cross personnel waved us in and already had a parking place cleared next to the building so we could run our cables directly into the facility. There were still puddles in the parking lot and boards on the windows. As my ECRV partner began to establish satellite communications with Red Cross national headquarters and raised the satellite television dish, I ran data and coax cables into the facility through a side door. I also setup wireless networking equipment, unpacked a few notebook computers, distributed voice-over-IP telephones, and located a television. We ran extension cords from the ECRV to power our networking equipment, and within about an hour of arriving, a few dozen Red Cross personnel were able to make phone calls, begin sending and receiving e-mail for supplies and logistics, and were able to see for the first time on network television the

hurricane which had passed through their community. By the way, while we were setting up the high-tech equipment, Bob kept providing essential communications from his radio and his pickup truck. But that was only the beginning. With essential communications in place for the Red Cross operation, it was time to plan for communications with the rest of the affected area. And that meant using amateur radio. For the rest of week that I was in Gulfport, Richard and I used a combination of handheld and mobile ham radios to stay in contact with the Emergency Operations Centers (EOC) in Hancock, Harrison, and Jackson counties. Amateur radio operators took turns working virtually around-the-clock for weeks passing emergency and logistical radio traffic between EOC's, local agencies, and our operation. Because ham radio was being used so extensively for communications, it would sometimes take fifteen minutes or more for a break in traffic so we could transmit a message requesting supplies or assistance. When the airwaves would go silent, it was usually followed a few minutes later by an explanation that there had been a problem with a generator or other piece of equipment, and that a ham had found a few spare parts from his or her toolbox, fixed the problem, and restored radio service.

2Messages of all types were passed. The space from which the Red Cross was operating was generously made available to us by the regional EMS provider. After a day or two I realized that a ham radio operator was receiving EMS calls for help via ham radio and passing the messages across the aisle to a dispatcher. With the Red Cross operation stable, having worked in the fire service for a few years, and being a licensed ham, I asked him if he'd like some relief. He introduced me to the dispatchers and then walked away to get some much needed and deserved rest. This rotation continued for the rest of the week. Richard, the fellow in the dispatch area, and I helped cover each other's radio traffic when one of us stepped away for a break. In fact, there was so much ham radio traffic that my crewmate and I took turns listening to the radio so we wouldn't miss important messages. Once, an EOC, knowing that we could

make telephone calls via our satellite connection, called via radio and asked us to locate an important person from a local commercial facility that was vital to the region. At other times we passed radio traffic regarding missing persons, requests for ambulances and police assistance, and called for more supplies. Additional ham radio operators began to arrive a few days into the operation. These folks arrived prepared to be self-sufficient with food, water, tents, generators, fuel, and lots of radios. They were ready to provide emergency communications where needed. One evening when it was no longer possible to bring diesel fuel to our ECRV, we had to shutdown and go get it from a local facility that was open to emergency vehicles only. Of course, once we shutdown the ECRV, the Red Cross operation had no communications. Our new ham radio friends who had just arrived stayed and maintained radio contact with the ECRV while it left for a couple of hours. As days and weeks passed, operators were in service at shelters, field kitchens, other bulk distribution sites, and wherever needed. I deployed again about three weeks later for Hurricane Rita, this time with an ECRV in Jasper, Texas, supporting communications, computers, and other types of response technology for a field kitchen operated by a partnership between the American Red Cross and the Southern Baptist Convention. Once again, ham radio operators were there to support the operation. They worked around-the-clock using their own equipment, tents, and campers. I earned my amateur radio license less than two months before being deployed for Hurricane Katrina. I am humbled by the selfless service demonstrated by the amateur radio operators I met in Gulfport, southern Mississippi, and Alabama. Although I know most of these people only by their call-signs, I feel as if they are my friends.

Craig Dieckman, KC9HWK  
Volunteer Lead, Response Technology  
American Red Cross of Greater Chicago

[www.chicagoredcross.org](http://www.chicagoredcross.org)

[dieckmanc@usa.redcross.org](mailto:dieckmanc@usa.redcross.org)

• —• —••



<http://www.arrl.org/news/view/qso-today-virtual-ham-expo-announces-full-lineup-of-speakers>

## QSO Today Virtual Ham Expo Announces Full Lineup of Speakers

07/06/2020

The first **QSO Today Virtual Ham Expo** Saturday and Sunday, August 8 – 9, <https://www.qsotodayhamexpo.com/> has confirmed what it's calling “a packed lineup of over 70 great speakers” for the ARRL-sanctioned event. Attendance is free and registration is open.

Presentations will cover a range of topics, with two tracks focused on providing hands-on, practical advice for those just getting started in amateur radio. Steve Johnston, WD8DAS, will demonstrate basic soldering techniques for repairing equipment and building projects. Marcel Stieber, AI6MS, will offer an overview of common battery types, discussing the pros and cons of each — including battery chemistry, common uses and misuses, and everyday application tips.

For experienced operators, topics will cover new techniques, equipment upgrading, 3D printing, and more. Glenn Johnson, WØGJ, will attempt to answer the question, “Is 3 dB Worth a Divorce?” and cover a wide range of antenna topics. Jim Veatch, WA2EUI, will explain how to build a QRP radio. In his presentation, “The Slot Antenna — Undiscovered Country for Most Hams,” John Portune, W6NBC, will demonstrate how a satellite TV dish can be “slotted” to make an effective outdoor 2-meter or UHF antenna for use in antenna-restricted neighborhoods.

Prominent youth educator Carole Perry, WB2MGP, will moderate a lineup featuring amateur radio's future leaders. Audrey McElroy, KM4BUN, will speak on, “Getting Girls Involved in STEM, Specifically Amateur Radio!” while hot-air ballooning will be the focus of a talk by Jack McElroy, KM4ZIA, “Highly Flying Kids with HAB.”

QSO Today's Eric Guth, 4Z1UG, says that one challenge to any ham radio convention, whether in person or virtual, is keeping the content of presentations from becoming overly complicated and overwhelming. “For our inaugural virtual Expo, we've made sure that there are great speakers for both beginners and experienced hams,” Guth said. “We've asked all of our speakers to be laser focused on their topics while providing hands-on, practical advice.” Each presentation will wrap up with a live question-and-answer session.

For more information or to register, visit the QSO Today Virtual Ham Expo website. Attendance is free, and there are early bird prize incentives for registering by July 24.

**Field Day COMMENTS:  
Phil, W9NAW**

--This FD was more fun considering the small amount of time required to set up.

--FD weekend was hot and humid, hasn't been this bad for some years back. It was great to be operating from inside. Hope those stations that operated outside didn't mind the weather.

--It was great to not have gather all the necessary equipment/stuff that is needed to be brought to the FD site. No worries about something missing. It takes a lot of time to get ready.

--What, no gasoline and generators needed? No camping trailers were needed

--Howard, WA9AXQ, did not have to practice his excellent cooking skills. He had fun too.

--The one bad item is that there was no publicity for the public to learn about amateur radio. No GOTA station to have people try out.

--I am still in the process of setting up my radio operating desk. I cleared some space, put the TS-850 on the shelf with the tuner on top of the cabinet. (see picture attached) I decided to check out the R-7000 vertical with its matching network replaced by direct contact to the coax. I actually heard signals. So I used both antennas in the contest

--Finally, there was no excuse for any WARAC member for not operating. Did you make a few contacts and have fun too?

73





**Mikes's WO9B  
Field day in  
Michigans UP**

**Company at  
Mike's WO9B site**



**Wide open view**



# Images from 2018 Field Day







Officers and Board  
President  
Frank Humpal KA9FZR

Vice President  
Steve Dryja, NO9B

Secretary  
Dave Garnier WB9OWN

Treasurer  
Bill Reed N9KPH

Directors  
Tom Macon K9BTQ  
Phil Tollefson, WA9AQL

Newsletter Editor  
Frank Humpal, KA9FZR  
fhump@milwpc.com

Webmaster past president  
Mike Johnson WO9B

West Allis Radio Amateur Club  
P. O. box 511381  
New Berlin, WI 53151-1381

**West Allis Radio Club**  
**PO Box 511381**  
**New Berlin, WI 53151-1381**