

# County Hunter News

May 2020  
Volume 16 Issue 5

Welcome to the On-Line County Hunter News, a monthly publication for those interested in ham radio county hunting, with an orientation toward CW operation. We also cover some park chasing activities these days. Contributions of articles, stories, letters, and pictures to the editor are welcomed, and may be included in future issues at the editor's discretion.

The County Hunter News will provide you with interesting, thought provoking articles, articles of county hunting history, or about county hunters or events, ham radio or electronics history, general ham radio interest, and provide news of upcoming operating events.

We hope you will enjoy the County Hunter News. Feel free to forward, or provide links. Permission is given for copying or quoting in part or all provided credit is given to the CHNews and to the author of article.

CW County Hunter Nets run on 14.0565, 10.124.5, and 7056.5, with activity occasionally on 3556.5 KHz. Also, there is SSB activity now is on 'friendly net' 7188 KHz. The CW folks are now pioneering 17M operation on 18.0915. (21.0565, 24.9155, and 28.0565 when sunspots better). Look around 18136 or for occasional 17M SSB runs usually after the run on 20M SSB . (21.336 and 28.336)

You can see live spots of county hunter activity at [ch.W6RK.com](http://ch.W6RK.com)

For information on county hunting, check out the following resources:

The USACA award is sponsored by CQ Magazine. Rules and information are here:

<http://countyhunter.com/cq.htm>

For general information FAQ on County Hunting, check out:

<http://countyhunter.com/whatis.htm>

MARAC sponsors an award program for many other county hunting awards. You can

find information on these awards and the rules at:

<http://marac.org/awards.pdf>

There is a lot more information at [www.countyhunter.com](http://www.countyhunter.com) . Please check it out.

Back issues of the County Hunter News are available at [www.CHNewsonline.com](http://www.CHNewsonline.com)

De N4CD, Bob Voss, Editor (email: [telegraphy@verizon.net](mailto:telegraphy@verizon.net) )

## Notes from the Editor

### **N4CD Rumblings**

**1 ) Sunspots** – there we go again. Sunspots of the new cycle appeared for 2 days but quickly vanished. A index stuck near or below 70 most of the month. Nothing new to report otherwise. Rotten conditions on upper bands continue but folks are making contacts. FT8/FT4 super busy with activity. One sunspot at beginning of April then nada for weeks and weeks on end. Some days of high A/K index, too.

**2 ) In the COVID-19 world** - How things change and change quickly. At the end of March, air travel from Asia and Europe was restricted. That was the first step. Then states started closing down – Over 40 states have 'stay at home' orders, all schools throughout the country were closed, colleges closed down and send their students back home, most colleges went on-line to allow completion of courses - as did many high schools. State parks were closed in several dozen states including TX, MD, FL, CO, NC, MI, WI, IL, NM.....Travel came to a halt. Airlines saw 95% reduction in passengers. Cruise ship passengers were 'stranded at sea' often with dozens/hundreds of sick passengers. Restaurants, bars, theaters, movies, nightclubs were shuttered. Entertainment venues from Six Flags to Disneyland and everything in between – closed. Only 'take out' food allowed. Grocery stores went to limited hours (with some hours reserved just for seniors). Toilet paper, paper towels, sanitary wipes and hand sanitizers vanished from the face of the Earth into hordes by the selfish few.

If you want to go to HI or some other states, you must quarantine in place for 14 days before you can do anything. If you come to TX from CA, NY, or LA, you must 'self quarantine' for 14 days. At the end of the month, Texas is re-opening some things in Phase I – like state parks, all businesses for 'take out' where you order on line and pick up at curbside, etc. Masks required in state parks and in some counties when you are outside off your property at any time. For state parks, you must reserve on-line, even for day use, so the entry people don't have to handle money, credit cards, state passes, and create paperwork to hand you. Now you show your printed off pass and proceed through the gate. No camping and limited number of folks per day at TX parks.

Usually this time of year, we have the MI Mini – end of April. Not this year with the COVID restrictions, and worse, the higher hospitalization and death rate for 'seniors' including a hundred or more county hunters. This year we missed the week long trips by folks like AB7NK/K7SEN and others. I'd normally take a week to get to MI putting out parks and counties along the way. Not this year.

That event was usually followed up by Dayton a few weeks later with even more trips by mobiles headed there. Not this year – things totally shut down.

So N4CD and most other mobiles have stayed close to home – maybe a one day trip somewhere and back with no need for motel stays or food on the road. Once a week trips for the CWT on Wednesdays at the local park 25 miles away to keep the car running.

Many of the state QSO Parties banned mobile operation – so there went a lot of the rarer counties – with no activity in many from fixed stations. It's been a strange year but many fixed stations did make it on for the event. Lots of activity as we report on each later.

Coming up there will be big changes in Field Day with many staying home, and others doing 'singles' type visits to operate. Some will set up stations and club members will log in remotely to operate for a few hours each from their home – with the station 'in the field' or at an Emergency Operations Center – or at a 'big gun' station. Some of the QSO parties operated this way for the mult-op category.

**3 ) Early E-skip.** On April 15, there was good activity on 10M and 6M CW and SSB for the better part of a day. Usually E-skip season starts in May. This year had some extra fun. Lots of stations on 10M and 6M FT-8 all the time now – hoping for small openings. One or two other days, the bands popped open for a few hours.

**4 ) Gas Prices** - Gasoline is down to \$1.20 a gallon here in TX. With the 'stay at home' order (or wander not far), I'm likely to need gas sometime in late May or June at the current rate of consumption – not much – a trip or two to the grocery store 2 miles away.....maybe take out food pickup 1 mile away once a week. I got the urge to go mobiling but the feeling at this point to 'stay home' and not risk overnight stays. It's frustrating. If you go back and read the April issue – it's full of N4CD trips – before the COVID situation took hold. Now, the radio club meetings are 'on line'. I'm getting in lots of TV watching – let's see...Perry Mason re-runs(1950s-60s) and other stuff from way back I haven't seen before. Crime network shows. Dr G Medical Examiner. Military Channel. I'm really ready to take some 4-5 day trips but Texas is pretty well shut down, and the nearest collection of parks I need to run are up in NE and IA and far west CO, western NM..... not something you can do in a day. It might be a while. Even small towns are sometimes 'hot spots' with meat packing plants or other plants where things have run rampant. Lamar County (Paris) TX just erupted with two dozen cases at a senior living home – between the residents and the staff in a county that had none before. Probably just one asymptomatic person did the damage.

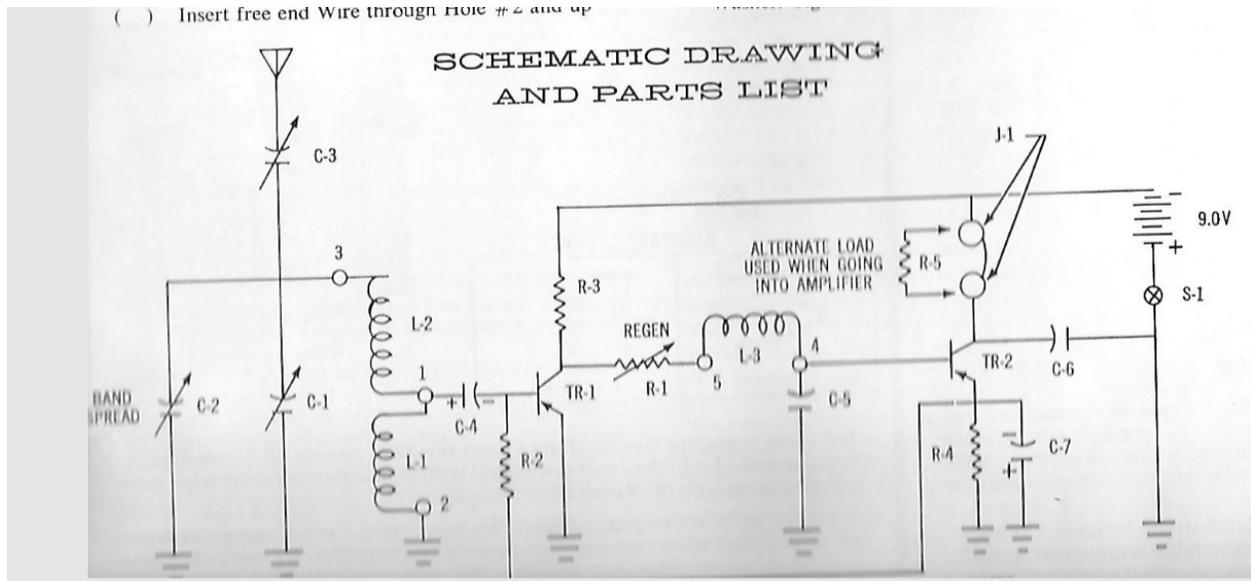
Just a few more state QSO parties on the next few weekends till Mid-May – then a long dry spell till the fall when QSO parties erupt again. Maybe they'll be mobiles running in those if allowed. I might sneak out to AR for their QSO party in two weeks – maybe an overnight trip? Who knows? It's 3 hours each way to the AR border so I can't do it in a day.

## On the Trail Of Regens I

Last month we mentioned the Revell 2 transistor Short Wave kit – a rather rare set. I found one on Ebay (after 10 years of looking) in nice shape – original kit, never built, with all parts and the manual – for \$12! . Now I have to decide whether to built it (no solder used) or keep it as an 'unbuilt kit'. All the parts went under bolt heads but it did have a circuit board – of sorts. They sent an overlay on a plastic sheet. You took that off and pasted it on the board – a crude printed circuit. You then put in bolts in the eyeholes and all the parts were connected under the bolt heads. Solderless.

Unlike unbuilt Knight Kit and Heathkit radio items , it likely has little extra value as a kit. A never built DX-100 or SB-100 sells for big bucks on Ebay. I spent all of \$12 on it, plus shipping.

Here's the schematic – a very basic regen circuit - of about 1962 design with transistors that struggled to work at that frequency above a few Megahertz. One stage regen detector, followed by a single audio amp transistor to headphones PNP transistors – that ran off a 9v battery.



How things changed since then. We have transistors that work up to the 10s of GigaHertz now and if you want to build a nice little SW set, you can plop in an audio amp IC chip after the one stage detector that gives you several watts of power to run a speaker easily. Maybe one transistor audio driver/match to the detector. These were PNP transistors from the 'early days'. The plus side of the battery went to circuit board ground. (2 transistors, 4 fixed caps, 3 variable caps, one 3 winding coil, 9v battery, 2 fixed resistors, one variable resistor, and some hardware).

## The Peak Oil Story – 2020 version

### Reflections on the Peak Oil Story—Never Say Never

“I wouldn’t be surprised if world oil production peaked by 2010 but I would be shocked if it didn’t peak by 2015.” So said a very knowledgeable Denver-based energy analyst, advisor and banker in 2005. By 2014, his views had changed dramatically, thanks to the

tight-oil revolution (referred to below as shale oil): “we won’t peak until at least 2020 and maybe later.” We tended to agree with that expert’s perspective, both in 2005 and as it had evolved by 2014.

From its inception, the peak oil story tended to focus on geologic limits. In its purist form, the theory is that when roughly half of the world’s discovered oil has been produced, production increases will slow, then plateau and eventually decline during subsequent years. The backside of the bell-shaped production curve might look quite different from the front side; in particular, it might decline more sharply for macroeconomic reasons.

Other key elements of the storyline, back in 2005, when ASPO-USA convened its first peak oil conference in Denver, included the following drivers:

1. Oil discoveries had peaked earlier and were in long-term decline.
2. Peak oil production would lag some decades behind peak oil discoveries.
3. Much of the cheapest and easiest-to-extract oil had been or was being produced, shifting reliance to ever-more-expensive oil.
4. Recovery technologies, including secondary and tertiary, were relatively well developed and deployed.
5. The unconventional oils would be more expensive and wouldn’t scale up to have a big impact; they would merely cushion the rate of decline from conventional oil production.
6. Shifting from oil and gas to renewable energy alternatives would be costly and would not scale sufficiently quickly to have a significant impact.

As a result of the above and other factors, world oil production was expected to peak “soon”. Typical estimates ranged from 2005 to 2015. During 2005, the US EIA’s first Reference Case estimated peak world production would occur in 2016, but most of their scenarios ranged into the 2020s and beyond. A few optimists—notably Cambridge Energy Research Associates—figured a peak would occur during the late 2020s and be followed by a decade-long plateau.

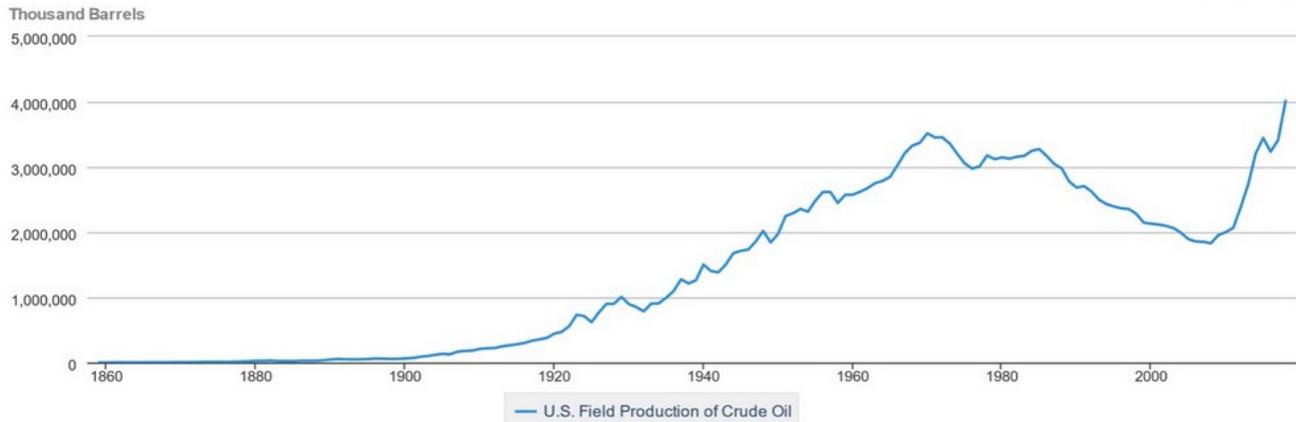
Some of the fundamental concerns listed above were on target. Yes, discoveries were, and still are, declining. Yes, outside of the Middle East, cheap oil was disappearing. Yes, the shift towards more unconventional oil—heavy oil, oil sands and eventually shale oil—was more expensive.

But did world oil production slow as projected by the peak oil community? No. In fact, hell no.

The US-driven shale oil boom led to the fastest growth in production in any one nation during the shortest period of time in the history of all oil-producing countries. US production of crude oil, which had previously peaked at 9.6 million b/d in 1970, bottomed at 5 million in 2005, then slowly increased to 5.7 million in 2011 and then rocketed to 12.2 million last year. That's a 6.5 million b/d increase over eight years.

U.S. Field Production of Crude Oil

 DOWNLOAD

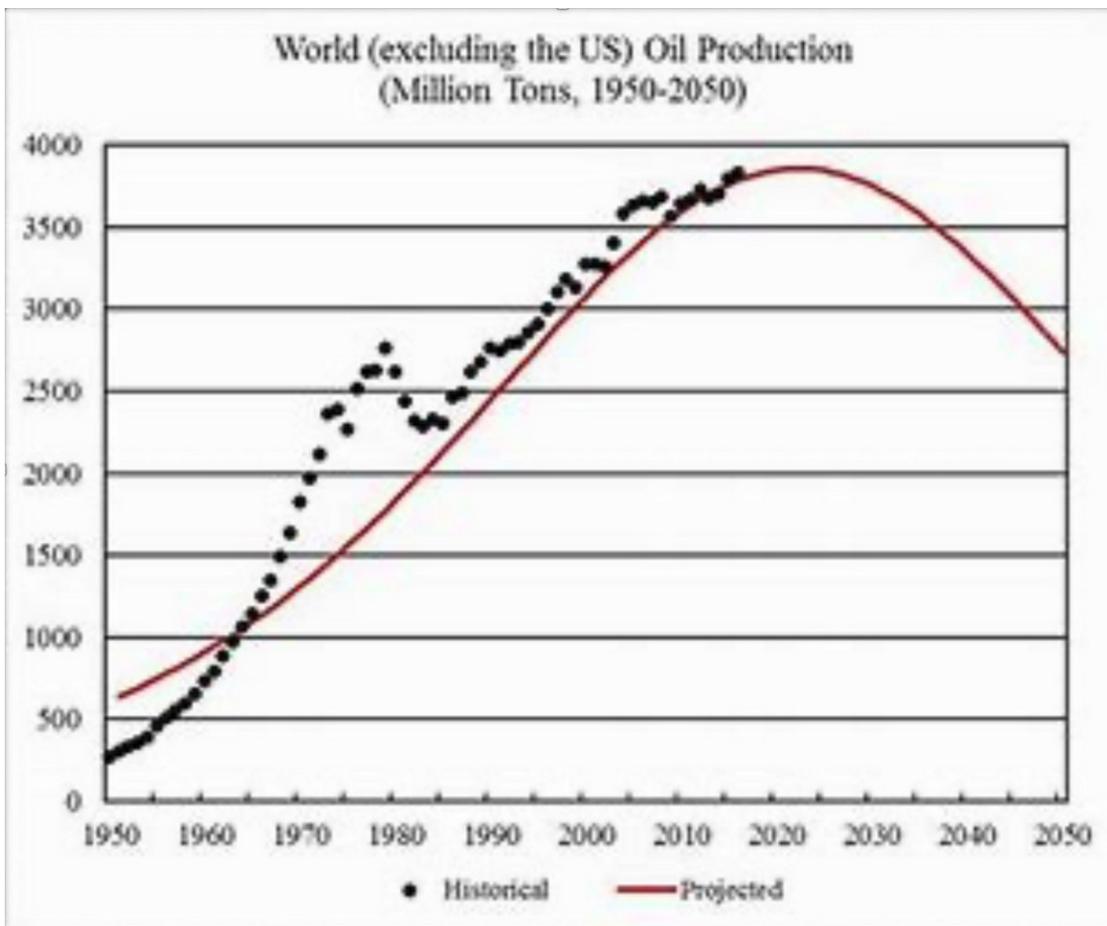


The shale oil revolution wasn't based on new discoveries; the Bakken shale oil formation had been discovered during the 1950s but was too costly to produce. It was the combination of horizontal drilling and hydraulic fracking—pioneered by George Mitchell (Mitchell Energy)—that eventually led to the unlocking of natural gas from the Barnett shale formation in Texas. The Bakken oil field in North Dakota followed this and then other shale gas and oil formations around the country.

The peak oil community missed four key factors. First, we underestimated the ability of technology to unlock the challenging shale formations. Second, we underestimated the industry's ability to rapidly scale up production from shale. Third, we underestimated the oil industry's ability to expand production to take advantage of higher prices; macroeconomics mattered. Finally, we underestimated the willingness of Wall Street to

underwrite the highly questionable financial returns from most shale oil projects. (To repeat a famous oil-related title from The Economist magazine in November 1999, “We wuz wrong...”)

At the world level, the combination of more investment in off-shore oil drilling, the opening up of small new finds, the development of a broader range of resources at higher oil prices, plus the boom in shale oil and tar sands in North America, continued to lift world oil supply to meet growing demand. It was a welcome reprieve to the oil industry and to oil-thirsty consumers. And that reprieve—coupled with a new discussion about “peak demand for oil”—virtually buried the discussion about peak oil that itself had grown steadily between and 2000 and 2010.



Yet in all likelihood, all the boom did was push out, by a decade or possibly two, the peaking of world oil production. Several of the fundamental drivers of the peak oil theory remain alive and well in today's world of petroleum production.

Consider the following:

--Only a dozen or so nations show potential to continue growing crude oil production for a while longer: the US, Saudi Arabia, Brazil, Iraq, Iran, Kuwait, the U.A.E., Kazakhstan, Oman, and Guyana, plus an offshore-Africa basin or two. Russia—whose production has inched up by an average of just over 100,000 bd/yr for the last nine years—does not appear to have any remaining step-function increases in its near future, though it may inch up for a few more years. While Russia has several potentially large but delayed projects pending, the relentless depletion of existing fields will make it difficult for Russia to record significant net increases

--Over 25 nations appear to be past the peak in their oil production. The list ranges from current and former top-10 world oil producers like China, Mexico, Norway and the United Kingdom, to mid-level producers like Angola, Indonesia, Algeria, India (on a plateau), Azerbaijan, Argentina, Egypt, Australia and Malaysia, to another dozen smaller producers like Denmark, Equatorial Guinea, Gabon and Vietnam.

--At any one time, up to 10 oil producers face volatile production numbers due to either internal strife, corruption, theft, civil war, or conflict with neighbors. The current list includes Venezuela, Nigeria, Colombia, Libya, Syria, Yemen, Sudan and South Sudan. Their level of future production could grow, or it could continue to stagnate and possibly further decline.

--The shale oil industry in the US, the driver for the world-class increase in U.S. oil production during the past decade, was already in a world-class financial bind at the start of the year. With the now-elevated financial turmoil in the financial and oil markets, thanks to the coronavirus as well as the oil market share wars between Saudi Arabia and Russia, the shale sector of the U.S. oil industry is almost certainly going to experience a second round of crippling bankruptcies.

A critical difference between now and the previous wave of bankruptcies: there was still several years' worth of drilling sites within the "sweet spots" of known shale plays, and

technology improvements were still in the pipeline. Neither of those advantages are likely to be significant factors during a future recovery.

--The shale oil industry has not managed to increase substantially beyond North America. Development of Argentina's prolific Vaca Muerta play may be held back by volatile economics and national politics. In England and Europe, shale drillers face both financial challenges and insurmountable political barriers. In China, the potential from shale seems difficult to tap.

While the past teaches us never to say never, the potential for worldwide growth in shale production looks limited. And, in the larger scheme of things, how much shale oil will the industry bring to the ultimately produced production total? 50 billion barrels? 150 billion barrels? Out of a total, what, several trillion barrels? From the historical lens of the year 2075, the boom in shale may eventually be viewed as the Last Hurrah. But never say never....

--On the plus side, we note the move towards electric vehicles and the infrastructure needed to support it. Additionally, we note the desire expressed by organizations and governments to electrify some end-uses (e.g., space heating, water heating, etc.) currently met with fossil fuels. To make any sense, this change will involve a massive upgrade of energy efficiency. These substantial investments may be challenging to implement soon, given the extraordinary debt currently being taken on by a number of governments worldwide to keep their economies from collapsing.

Unless there is a massive turn, and soon, towards 1) a war-time commitment to fully upgrading the energy efficiency of existing buildings and 2) a war-time commitment to expanding renewables (coupled with storage), we see the pace of future electrification of many fossil-fuel-powered energy end uses falling short of the pace needed to replace eventual dwindling oil supplies. Then again, the impetus for change from the organizations and people pushing meaningful responses to climate change will be pulling in the same direction as those concerned about peak oil's potential impact, so never say never...

Bottom line: At present we expect world oil supply to peak during this decade, all the talk about the shale boom and new frontiers and improved technology and "peak demand" notwithstanding. We lean toward a peak of world oil production within the next five years, with a very high level of confidence of a peak before 2030 (which would be 10-20 years later than we first expected). If we're wrong and world oil production keeps growing past 2030, at that time you can email us or snail-mail us a copy of this essay as it will be redeemable for the beer of your choice.

Source: From the Oil Drum – April 2020

## Nebraska QSO Party

There was one mobile to chase around and he did a great job of putting out counties. Otherwise, slim pickings especially on CW. Folks worked up to 40 counties. I caught a few stations while out sitting in a local park so I participated but slim pickings on CW.

**K7VAP - fixed - 19 SSB QSO - 18 counties**

A very special thanks to N0HJZ who gave me 12 counties!

**N7JPF - fixed OR - 1 CW 24 SSB**

Good job NE...special kudos to the great mobile work of N0HJZ keeping me focused all day. great job with 100w and a hamstick!

**WN4AFP - fixed - SC 5 CW 35 SSB**

When I heard that N0HJZ was going to be going mobile in the Nebraska QSO Party, I knew that it was going to be unlike any in the past. Rich, N0HJZ/m did a great job running the counties. 29 of my 40 Qs were with N0HJZ/M. There were times when he was below my noise, but we managed to work each other. Mobile stations are they key to a successful QP! PS: I also had a Q with bonus station KA0BOJ

Dave WN4AFP

**K4VBM 3 CW 41 SSB 1 dig**

This contest was moved from being in Sep. last year to April this year. With all the other QSO parties going on, there was a lot more competition

(in 2019, I was the Overall Out-of-State Winner for the NEQP - something I never ever expected to achieve!) so I had a tough job to repeat, and the bands were pretty dismal. The big difference this year was a rover, N0HJZ, Rich Westerberg, from MN, who did an amazing job driving the state by himself and hitting so many of the NE counties - I followed him as best I could both Sat. and Sun., and it really helped my score. I managed just 3 CW, ! PSK31, 10 FT8, and 42 SSB NE contacts (most of those with N0HJZ). I also managed to snag the bonus station a few times. It was by far my best score ever for this contest, and whatever the result, I had great fun!

### **K3WJV - fixed - PA - 6 CW 49 SSB**

Thanks to Rich, N0HJZ, for driving all over Nebraska from his home in Minnesota to give me 36 of my 49 SSB contacts in 35 counties for mults. Without help this alone would be no small feat but it sounded like he could have been by himself from the sound of things. The first few times I worked him I kept bugging him for how long till the next county and he was trying to read maps while operating and driving so I stopped asking and let him do his thing. N0HJZ, you deserve the "Most incredible Qso party Mobile Op" award for your amazing efficiency going from one county to the next all the while sounding like you were sitting in your shack at home just playing radio! All Qso parties need more of you.

I know I missed Rich in at least 1 county if not more on Saturday as propagation on 20 died after I worked him in Dawson. His next county I heard west coast working him but not a peep from him and I also don't know if I missed him anywhere when he first started out that day. Once I realized he was going to do a big list of counties I kept checking his freq.

I worked all 4 parties so things were a little crazy. It seemed every time I worked 1 station in the bandmap I had to change contests for the next spot even if just to find out if I worked it as they all started sounding familiar after a few hours. CW activity was awfully low and since phone spots were human generated I spent time hunting around only to find most of only to find most of the zero district calls to be in Missouri. At least I could count on a new county every half hour or so from Rich. Thanks again to N0HJZ.

# Louisiana QSO Party

There were two rovers out but mobiles were discouraged but not prohibited from running due to a state wide 'stay at home' directive. LA has been a hotbed of COVID infection which started right after Mardi Gras this year with tens of thousands gathering in close proximity. Certain groups who attended there have had a significant number of deaths from their exposure without those groups.

## **WM5H - rover - 160 CW QSO**

Had fun on my first qso party as a rover.

## **N5LCC - fixed - club - OUCHita 231 CW 578 SSB**

had no comments

## **K1RO - fixed NH - 26 CW 11 SSB - 24 mults on CW 10 on SSB**

no comments

## **WB8WKQ - fixed MI 24 CW 6 SSB - 21 parishes on CW 6 on SSB**

Pretty fun contest. Since I'm "playing" in the QP Challenge, I'm working all four QP this weekend (MS, LA, NE and MO) just for Q's. So I didn't concentrate on one particular QSO Party. Conditions seemed pretty good and was able to work LA stations on 20, 40 and 80. Thanks for all the Q's and see you next year.

## **KA3QLF rover**

Planning on: Beauregard, Allen, Jefferson Davis, Cameron, Calcasieu, others depending on time and activity

Well, can you tell this was a lackluster operation? hihi Started great, went to the small

park in Beauregard Parish, contest started worked a handful. Not being permitted to self spot in the contest sure hurts mobiles/rovers. Was time to move on to Allen, drove to the park I saw on Google maps...Closed. Gates shut and locked, yellow ribbon tape all round. Spent 20 minutes driving around to try to find an alternate spot, no luck, skip this one, off to Jeff Davis. As my luck would have it, a funeral procession in front of me. Out of respect for the passed, I stayed my distance behind. By the time it pulled off, and parked the vehicles in the procession, time to head back "home" for the weekly grocery order pickup. Get done with the errands, off to Cameron. I use a spot behind a wildlife drive, for it is certainly radio active. Had a decent activation, based on not being spotted to the ch cluster, though my 20M CW run was on 14056.5. Could tell when I had been put on the dx cluster for sure. At the time of writing this I am in my apartment watching it rain. There is still 3 hours left in the contest, if it stops raining, I mill try to do Calcasieu, my "home county" 73 Scott

### **KZ5D- fixed - LA - 501 CW QSO**

Well this was a real blast! Activity much better than last year since we all are confined to our "ham shacks"! Hopefully moving the date to coincide with other QPs helped also to entice out-of-state participation. Wish I could have sat at the rig for all 12 hours, but had to attend to life's other "stuff" also on Saturday. Finally had to QRT about 0000z and missed out on the fun on 80 for the last couple of hours. Was hoping to break 500 Qs and I was delighted to hit that goal. Thanks to all the gang who called in-many on multiple bands.

### **NO5W - fixed - LA - 42 CW Q**

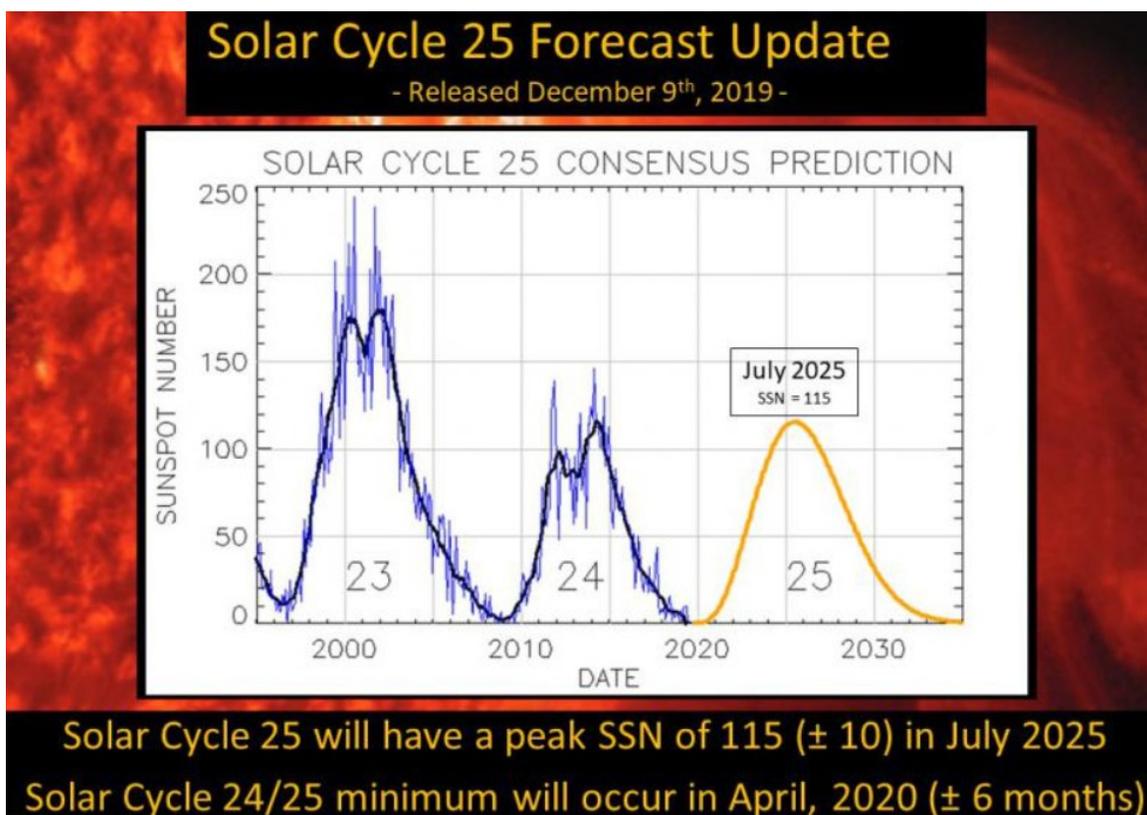
I usually operate from my club station (W5GAD.org) but the COVID-inspired lock down here in the New Orleans area locked me out of that option and I was forced to improvise. A pair of old Hustler (40 and 20) resonators and an old mag mount did the trick when I placed them on the tin roof of the shed in the backyard. The only problem was I had to move the K3 and power supply to the shed since I didn't have enough feed line to reach from inside the house. I could have also moved the laptop but decided to just log and send by hand which was fun. As you can see 40m was the "money band". The 40m antenna liked the tin roof more than the 20m. Fortunately I got the hint and moved to 40m early in the afternoon increasing my fun quite a bit. I would have stayed longer but the mosquito visits caused a loss of focus and fun.

Thanks to all who called in.

73/Chuck/NO5W

## Solar Forecast

Frank Donovan, W3LPL, notes that the National Oceanic and Atmospheric Administration (NOAA) Space Weather Prediction Center (SWPC) has published its official updated prediction of Solar Cycle 25 in new, interactive Solar Cycle Progression graphs. The updated prediction is based on the results of NOAA's Solar Cycle 25 Prediction Panel.



"SWPC forecasts a solar maximum between 105 and 125, with the peak occurring between November 2024 and March 2026," Donovan said. "There is broad consensus

that solar minimum is ongoing this year -- or may have already occurred -- and that Cycle 25 will have no major change in the level of solar activity compared to Cycle 24." As Donovan explained, for many years the SWPC's solar cycle predictions have used the Royal Observatory of Belgium's International Sunspot Number. SWPC's official solar cycle prediction now uses the SWPC sunspot number. The International Sunspot Number is typically about one-third lower than the SWPC sunspot number.

"While this is SWPC's official Cycle 25 prediction, it's important to note there is still divergence among various forecasting methods and members of the space weather forecasting community," Donovan said. "Most forecasts and forecasters agree that the Cycle 25 peak is likely to be within  $\pm 20\%$  of Cycle 24 and is likely to occur between 2024 and 2027."

Lots more info here <https://www.swpc.noaa.gov/news/solar-cycle-25-forecast-update>

## Missouri QSO Party

There appeared to be one mobile/rover out and maybe a few 'county expeditions' or operators in other counties. Mobile operation was discouraged, and naturally multi-ops with non-related folks didn't meet 'social distancing' criteria. John, N6MU worked 60 multipliers.

County Hunters N4RS and K0FG were on the air putting out their counties for the folks.

### **W00 Multi-Op Rover - 649 CW 122 SSB**

N0AX and KD0PES opr

Ellen KD0PES and I had a great time doing the contest while heading home from helping with a sick granddaughter for a week. We took plenty of precautions to avoid spreading or getting the virus and are now safely home after taking the "long way" through 16 counties. Nice to have the regulars following along and the bands were pretty good, at least on 14 MHz and down. No real problems, although I think I have a choke core heating up on 7 MHz after antenna system improvements changed the configuration a bit. Hope everybody had fun - no more mobiling for a while!

73, Ward N0AX

**WB8WKQ fixed 81 CW 54 SSB**

Very nice QP. Not sure I've ever "dabbled" in this one before, at least seriously. But with the QP Challenge, every Q is important, and of the four QPs going on this weekend, MO was the most active, at least in my log book. 40M was my "go to band". 20M was too long for most of the contests, although a few brief short openings allowed me to pick up a few (12) Q's there. 80M was good too, but a bit surprised at what seemed to be little phone activity there. I didn't hear anyone on 160M, but only checked briefly twice. Overall a very nice QP and thanks to all who provided the Q's. My score includes the two bonus stations

**K8TE - fixed - NM 56 CW 43 ssb**

Not the usual number of mobiles this year--no surprise. I hope everyone stayed safe and healthy! I didn't need any MO counties, but still had fun trying catch folks. Thanks for the QSO's!

73, Bill, K8TE

**W0W - Expedition to Howell County - 21 CW 556 SSB 1 digi**

Expedition class from Howell county MO. 100W and some wires.

**N6MU - fixed - CA 94 CW 61 SSB 60 mults**

Had no comments....but had more mults than most (counties). A bit more than half the 115 counties in the state.

**N4CD – out of state – 25 CW – 15 counties/mults**

While giving out parks and in-between, I managed to catch two dozen CW QSOs with MO folks. Skip long most of day but Saint Louis City County (SLC) well represented with 1/3<sup>rd</sup> of contacts with that county!

# Mississippi QSO Party

No mobiles this year due to COVID apparently. Good activity from fixed stations but of course the real rare counties weren't on the air. Most reported up to 22 counties worked

Comments from the 3830 contest reflector:

**WB8WKQ - fixed - MI 27 CW 27 SSB 17 mults**

Pretty fun contest. Since I'm "playing" in the QP Challenge, I'm working all four QP this weekend (MS, LA, NE and MO) just for Q's. So I didn't concentrate on one particular QSO Party. I've always liked this one though and tried to make a good effort. Conditions seemed pretty good and was able to work MS stations on 20, 40 and 80. Thanks for all the Q's and see you next year.

**OM2VL - fixed - DX - 31 CW 10 SSB 12 mults**

Busy weekend with 4 QSO Parties ... Unfortunately don't worked any of my 10 needed counties: Alcorn, Benton, Bolivar, Calhoun, Holmes, Issaquena, Kemper, Lauderdale, Lawrence, Scott, Tunica.

Most QSO's with stations:

4): W5XX

3): K5J, K5WK, N4OGW, NA5DX, NM5Z, NN5O, W5UE

Thanks for the QSOs!

73, Laci OM2VL

**K8TE - fixed - NM 15 CW 15 SSB 14 mults**

Nobody got close to the two counties I need in MS, but hopefully everyone stayed safe and healthy in this crisis! Thanks for the QSO's and hope to see you next year!

73, Bill, K8TE

**N8II- fixed- WV 30 CW 40 SSB 22 mults**

4 QP's and 1 computer made for a lot of mental fatigue changing logs, but I operated all I could until 0120Z. As far as I could tell there were no mobiles as suspected due to COVID, and maybe no portables. Considering that, there was a decent turnout of MS ops. My last QSO op 20 was 2049Z. 40 was open well from about 20Z until the end and 80 kept improving starting around 2345Z with very low noise levels here.

Thanks for all of the calls and QSO's.

Stay safe and healthy, Jeff

**N4CD - /m in TX - - 5 CW - 5 SSB - 5 mults**

While giving out parks in TX, caught a few MS stations there and in between parks. Only on for a few hours. Too far for 40m, too close for 20M most of the time. Only caught 'the big guns' there.

## Mobile Activity and Reports

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### Mobile Activity and Reports

W4SIG: My apologies for the chaotic and shortened Mississippi run . After getting to Lee City, I pulled into a gas station for fuel. That's when I discovered I had forgotten my wallet at home!! No gas, no ID, and no money. What a bonehead mistake! The station didn't take Applepay and could not enter my credit card info Amy gave me over the phone manually. I was stuck. I had to ask a stranger for \$10 to get enough gas to get home (lucky for me gas was inly \$1.49/gal). Thanks to the good Samaritan I was able to

crawl back home, get my wallet, and start over again. Thus, the slow start causing me to shorten trip. Another adventure for the diary! Thanks for riding along.

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KB2KBC ran a few counties in NJ on SSB at the beginning of the month

Don, K3IMC, ran a bunch in AL on cw

Mid-month Kerry W4SIG was out and about in TN on a one day trip

Ed, K8ZZ, ran a few in KS- not good condx the first attempt- later in the week he would be out again on a one day trip around his QTH.

Ron, KB6UF , headed to ME at the end of the month. Quick trip and not much activity heard. Few spots.

**There were many days during the week with ZERO activity this month. In fact – most of them!**

On the weekends, there was good activity from the QSO Parties but very very limited mobile operation in just a few of them, and mobiles were forbidden in most the QSO parties later this spring.

Other than parks – usually not spotted on the county hunter spotting sites but on the Parks On the Air page – there were slim pickings this month between the weekends. Likely 60-80 parks were activated this month so you had some other opportunities to snag 'mobiles' or 'portables' in parks.

Next month probably won't be too much different but a few mobiles might get out on longer trips. Who knows? N4CD isn't going to be on week long trips for bit here – I'm in the 'senior category' as are many county hunters. Many state parks are still locked down, too.

# New Mexico QSO Party

Due to COVID, the rules prohibited mobile - and only allowed 'county expedition' if on your personally owned property. Only 'fixed' stations were on the air, and stations not allowed to self-spot. John, N6MU caught 18 counties while several others had 15 counties. Obviously, many counties were not on the air this year.

**K1RO - fixed - NH - 22 CW 21 SSB 15 counties**

Nice turnout from the New Mexico stations, but I missed having the mobiles traveling to rare counties. Hopefully next year will be back to normal.

**K8TE - Fixed - NM 361 CW 206 SSB**

Well that was fun! Propagation wasn't as bad as predicted, fortunately. However, a lot of ops took time off for dinner which had a big impact on my rates. I spent a lot of time calling CQ because very few ops spotted me. Spotting is a huge deal in many QSO parties! I hope we can change the NMQP (and others) rules to at least allow spotting others if a single op and especially mobiles. The State QSO Party Challenge helped bring out more ops who might not have participated others.

Thanks for all the contacts!

With only three open bands, the maximum number of times to work any op was six.

There were three from outside NM who worked me four times: K1RO, K4XU, and, of course, John, N6MU. He lamented that I wasn't running around NM activating counties this year. I felt the NMQP is hardly essential travel and the rules prohibited that. I hope we'll continue to see increased QSO party activity. That makes it a lot more fun for all.

Finally, thanks to those who answered my "CQ ANYONE" calls!

Without you (them), I would have had many fewer contacts. I hope you'll join us testers in a lot more events. Good luck in the contest! BCNU next year. Stay safe and healthy!

73, Bill, K8TE

## **N4CD – fixed – TX 8 CW 6 counties**

Was over in the local park giving out some contacts for 2 hours. Caught 8 fixed stations while there on 40M CW. Nothing heard on 20M from NM. (Made a dozen or so in the GA QP that was running at the same time. NDQP would start a bit later. ).

## **Georgia QSO Party**

There was no mobile operation allowed this year – rule change – but there was good activity. Some folks racked up mid-20 counties on CW and up to 35 counties on SSB. That meant that over 100 counties had no activity reported likely. Usually six to 10 mobiles hit the road and cover most, if not all, counties in the usual two day event. This was shortened to just one day. Many fixed stations in GA reported 300 plus QSOs.

Didn't see too many comments from county hunters but I'm sure there were folks chasing hoping to find a needed county, work the prefixes, 1x1 calls, call combos, etc.

from the 3830 contest reflector:

### **AA5JF - fixed - GA 354 CW 315 SSB**

Operated with M/S with my oldest son KO4BUR who just got his license, and this was his first experience with a contest. He made 98% of the phone QSOs. Very fun to share this. Having OM2VL call him on 20, and then me explaining where that was, was the highlight. Lots of fun overall, although we never had much luck getting much going on 20M, either phone or CW. 40M just kept giving, where in the last 20 minutes, two West Coast multipliers called me on CW. I'm new to this contest, but was really impressed with the participation -- thank you everyone for sharing part of your weekend with us in Georgia.

### **WI0WA - fixed IA 78 CW 22 SSB**

Thanks to the Georgia QSO sponsors for supporting the QSO party and especially KU8E for encouraging so many to get on the air.

There has been much talk the past few weeks about distributed contesting and when I saw a posting from VU2PTT with instructions on how to setup a VPN I decided to give it a try. Surprisingly the installation went well and Jim, W0BNW, and I connected through a server located in my shack. Jim did the SSB part running about 300w and I did the CW running my normal LP. The VPN network ran well but it is a steep learning curve for me and a few things to iron out. We will let the log checkers decide how to handle our log.

Thanks for your QSO, Bill

Butternut Verticals and Low Power

**N4CD – fixed – TX - 8 CW – 5 SSB**

At a local park for just one hour after the GA QP started at 1800z. Caught some GA stations to be able to say I participated this year. Had to vamoose as nasty weather was on the horizon headed my way with T-storms and worse predicted so couldn't hang around.

Rig: IC-706 at 100W with mobile antenna consisting of six foot mast on trunk deck and 17/20/30/40M resonators horizontal.

## The IPS “Rubber Crystal” VFO

Made by Radio Apparatus Company – Chicago, IL – is a mid '30s VFO. This one uses two 6V6 tubes (and a separate power supply) to generate output from 160M through 20M using plug in coils. It will drive your pair of 210 tubes or so by itself using link coupling. (Probably your transmitter would be built in a small or large rack). I've never seen one of these before. Have you?

Bidding started at \$40 (plus \$31 shipping) for this item which was in 'working

condition'.



## North Dakota QSO Party

One mobile to chase around in a half dozen counties was out on SSB and CW – and a handful of fixed stations that gave out the contacts by the hundreds. Those with more than 5 or 6 contacts probably worked one of the fixed stations on multiple bands or modes. Saw N7IV in there giving his home county out – Ward. ND.

From the 3830 contest reflector:

**W0ZQ mobile 239 CW 116 CW**

A one day one-man mini rove to the far SE corner of North Dakota. I brought my own food and made just two gas stops; gas was \$1.59 a gallon. No problem practicing social distancing in this part of our great country as I saw more deer than I did people. I did activate five counties; Cass, Barnes, Ransom, Sargent, and Richland, running 20m

phone and CW along with 40 and a little 80m CW. Conditions were so-so at best, probably typical ND propagation, with 20m closing down early while 40m was still not very productive. None the less, it was fun to be out and to hand out some Q's.

Thanks to those who stopped by.

73, Jon

**K1RO - fixed NH - 9 CW 13 SSB 9 mults**

Nice to hear so many ND stations active.

**K4XU- fixed - OR 6 CW 11 SSB 9 counties**

no comments

## New ARRL Benefits

ARRL members will now receive digital access to four ARRL magazines beginning with their May/June issues. Joining QST and On the Air magazines on a digital platform will be the bimonthly editions of QEX -- The Forum for Communications Experimenters and NCJ -- National Contest Journal. QEX includes articles, columns, and other features ranging from construction projects to more advanced technical information in radio theory and practice. NCJ, published since 1973, targets radio amateurs active in radiosport. NCJ includes scores, technical articles, contributions from top contesters, and advice for beginners and seasoned radiosport enthusiasts alike.

"Feedback from ARRL members and our readership surveys has shown that our magazines are one of the most valued member benefits," said ARRL Publications Manager Steve Ford, WB8IMY. "Our investment in digital access provides another channel through which we can deliver content to our members across the expanse of interests and activities in amateur radio. All members can enjoy specialized content and a high-quality reading experience whether at their desk or on the go. Offering this suite of digital magazines is an opportunity for us to give members more of what they want

while adding value to ARRL membership."

ARRL's digital magazine editions provide replicas of the printed editions with added functionality, allowing users to fully search issues, enlarge pages, share articles, and more. The free ARRL Magazines app also supports downloading complete issues onto your mobile device or tablet for offline reading.

Members who have elected to receive a printed QST or On the Air as part of their membership benefits will continue to have this service. Members may not substitute a print subscription of QEX or NCJ as their delivered magazine member benefit. Print subscriptions of QEX and NCJ will continue to be available at additional cost for those who want to receive them.

All four magazines are easily accessed through any web browser from members-only links. The free ARRL Magazines app is available for iOS and Android in the Apple App Store and Google Play. If you're already an ARRL member and previously created an arrl.org website account, your username and password will provide you access to the digital editions, whether online or in the app. Members who have not previously registered will need to create a new account. If you've forgotten your password, visit [www.arrl.org/forgot-password](http://www.arrl.org/forgot-password), or email [circulation@arrl.org](mailto:circulation@arrl.org) for assistance. Previous and prospective members can join ARRL and take advantage of this and other membership benefits.

## Michigan QSO Party

There were no mobiles or 'expeditions' allowed out this year in MI due to 'stay at home' orders and COVID-19. Thus, many counties did not make it on the air. On cw, max worked was in the 30s and most had in the 20s. Same for SSB with most in the 20s of counties worked but KI0F in MN racking up 42 on SSB as the only one that high. Not sure what the actual number of counties that did make it on the air – both modes combined. Multipliers were separate for each mode. KI6RRN had 45 mults on SSB.

**KI0F - fixed MN - 47 CW 203 SSB 24 CW mults 42 SSB mults**

no comments posted but most SSB QSOs of any posted so far.

**K4BYN - fixed NC - 106 CW contacts - 37 mults**

listened for a while on 20 meters but no stations heard. 40 and 80 were in good shape here. Thanks to all the Michigan stations!

**K1RO - fixed NH CW 45Q 53 SSB Mults 25 on CW 29 on ssb**

ice turnout, thanks for the Qs.

**K8TE -fixed - NM 30 CW Q and 17 SSB - 19 CW and 13 SSB mults**

My old stomping grounds from the late 1970's where I picked up this call. It was good to work Leelanau and Grand Traverse counties where I hung for work and play! This year was not the same as working from Leelanau County where I took 2nd place after giving a couple of Novice exams and dinner to two students--bad planning.

This year I wanted to play for the State QSO Party challenge and maybe work the last county I needed. The former worked OK, but no joy for the latter. BCNU next year.

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N4CD made 9 CW and 8 SSB contacts in an hour from 1 mile from the QTH – in about 1 hour – just to say I participated.

Noted half a dozen county hunters filed reports on the 3830 contest reflector but had no comments, so they aren't listed here.

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AK8A forwarded a report to the County Hunter News:

“Just sending some stats from the Michigan QSO Party. I spent only 3.81 hours all on 75 meters except two contacts on 40. I made 238 contacts in 49 different MI counties and 27 different states all SSB. It was good to work many old time County Hunters

Steve AK8A

## On the Road with N4CD

Early in April, on the 4<sup>th</sup>, I decided to sneak out of the house for a short trip over to two parks not too far from the QTH – well, 80 miles or so. Got bored sitting at home, or only going to Spring Creek State Forest Preserve – 25 miles away – for the weekly CWT. Needed something different for a change, and didn't plan to see anyone along the route. Packed lunch (peanut butter, jelly and banana sandwich).

So off it was to Tawakoni Wildlife Management Area (WMA) only in the POTA system. To get to this, after you drive to Lone Star TX and head west 7 miles or so, you head up about ½ a mile on a 'gravel road' that is usually in decent condition. Today it was a bit muddy with all the rain we've been having in TX. Inches of it. No problem getting there and I made sure I wouldn't get stuck in the designated 60 foot diameter 'dirt' parking area by checking first on foot. OK....pulled in right around 9am.

The LA QSO party would start soon and I could snag a few of them as well – but mostly fixed stations this year with one mobile hitting half a dozen counties and another getting to only a couple. Same for the MO QP – where there was one mobile on his way out of the state – and one or two 'county expeditions'. Otherwise, fixed stations only and 'lockdown' for most as they 'stayed home' and didn't go out. Got there in in hour and forty minutes and put a handful of LA and MO in the log about 25 or so. I decided to head to Lake Tawakoni State Park about 40 minutes away, 'activate that' and maybe hit the first park again on the way home.

The GPS lady seemed to think the the fastest way was to continue on the one and a half lane dirt road.....well, that turned out that it wasn't a good idea. It turned a bit more muddy in a few spots but the car got through it OK.....then came a big puddle halfway across the road....I scooted to the side of the road that was little bit higher with some ruts and figured I'd get by. Nope....the car slid down into 'puddle' and it turned out to be a giant mud bath. Real slimy mud. I got trapped. OK....I got AAA.

Called them. They asked are you on a 'hard surface road'. Nope, I'm on a county road – and it's dirt and gravel and where I'm at it's quite muddy. Nope – regular service isn't going to get you out. Unless you are 'within 50 feet of a hard surface road' a regular tow truck won't be dispatched. It will take a special tow with a 'skidder' to get me out – and they let me know in a few minutes how much. Next call I got was from the company with a skidder (A small Bobcat like machine with big knobby tires).....and he was an hour and 15 minutes away and say it would be \$350. Ouch! Double Ouch!. Well, I

was stuck – wasn't going anywhere. One side of car submerged in a mud pit and other side in mud ruts and up to my axle with the drive wheel. So there I sat for an hour plus or so till they got there.

Hooked up chain and pulled me out.....then followed me out the road to the hardtop.....and finally off to Lake Tawakoni State Park – KFF-3031 still in Hunt County TX. Put a couple dozen in the log and a few more MO stations. Think one third the stations I worked in MO were in SLC. Wasn't in the best mood either. Ate lunch that I brought along with me.

Decided I had enough for one day and headed home. Caught a few more MO stations on the way home. Wasn't a fun trip after all...but made it home safe with a bunch less money. I did get out of the house for half a day. Took me two hours to get the mud off the bottom of the car with the hose. On the way home, the tires were bouncing all over the place from mud on the rims unbalancing them over 45 mph. Washed them down as best I could. Probably 50 lbs of mud came off the bottom of the car and wheel rims. The ride got better but not good as now I could do 55 mph. It was time for a free tire rotation anyway at Discount Tire so took the care over there to get the remaining mud off the inside of the wheel rims off and tires rotated.

Usually you sit in the seating area inside as someone drives your care into the service bay after you arrange for service at the counter. This time they met me outside. I was 'first in line'. They had me pull the car into Bay 3 and asked me if I wanted to stay inside car safely. Yep. The lift went up a few feet - they got the tires/wheels off and scraped off the remaining mud. Down I went .....gave the guy a good tip for the extra work. They didn't have a lot of business as most folks are driving only a few miles a week, don't need new tires or postponing it, or getting flat tires that need fixing or replacing. In and out in 20 minutes – normally it's 45 minutes to an hour. Car good at 75 mph – the typical speeds on the limited access and rural highways here.

So about the only time I get out otherwise is heading over to the local KFF-4423 park 25 miles away for the weekly CWT on Wednesdays – either at 1300 or 1900z for an hour – then back home. Or to the grocery store either real early (7am) , or senior hours which is even earlier at 6 to 7am on Tuesdays! Other than that, I'm a hermit staying at home, surfing the web, watching TV, etc. Like most seniors at this point.

Our local prof seems to think most of this will be over about 2 ½ months after the 'peak' which should be coming up soon.....and we'll get back to a new normal. I hope he's right.

## Hamfest News

The second biggest hamfest in the world – the annual event in Friedrichshaven Germany in late June has been canceled. Attendance usually over 20,000.

Of course, Dayton Hamvention in May canceled for this year, and likely many others will be until at least fall. Attendance last year was about 30,000. We'll see how it goes. Until widespread testing arrives, large scale gatherings are going to be scarce. Might not be any hamfests/conventions this year at all.

There's a big hamfest in June in the Dallas area – Hamcom. Last year about 8,000 attended. It's still tentatively on, but I really expect it is going to be canceled as well. You probably won't see me inside rubbing shoulders at 2 foot spacing in the inside flea market that normally exists.....maybe the outdoor flea market if there is one. One of the big draw is the programs – but that's 100 or more people in a small room for an hour at several feet at best spacing. I don't think it will happen.....but N4CD will be scarce other than outside if it's a 'go'.

## Solar News II

SB PROP ARL ARLP017 (posted 4/24/2020)  
ARLP017 Propagation de K7RA

The last day with a visible sunspot was April 4.

Over the past reporting week, April 16 to 22, average daily solar flux was 69, down a half point from the previous week, when the average was 69.5.

Average daily planetary A index was 7.3 while mid-latitude A index was 7. This was up from 6.1 and 5, mainly due to the first geomagnetic storm of 2020, which pushed planetary A index to 18 on

April 19. That event bumped up the average.

Solar flux numbers have been soft of late, with averages over recent weeks of 71.1, 69.4, 70.2, 69.5 and now 69. Lower solar flux probably means less radiation that might excite the ionosphere.

Predicted solar flux is 71 on April 24 to 30 and 69 on May 1 through June 7. Actually, the April 23 forecast shows predicted solar flux at 96 on May 12, but we've seen this error once in the past. The digits were transposed.

The predicted planetary A index is forecast at 5 on April 24 to 29, 8 on April 30, 5 on May 1 to 4, 12 on May 5, 5 on May 6 to 16, then 12, 10, 8 and 10 on May 17 to 20, 5 on May 21 to 23, then 10, 5, 5 and 8 on May 24 to 27, 5 on May 28 to 31, 12 on June 1, and 5 on June 2 to 7.

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"Early this month SWPC published their official updated prediction of Solar Cycle 25 in a new user- interactive graph format. Their updated prediction is based on the results of NOAA's Solar Cycle 25 Prediction Panel.

[www.swpc.noaa.gov/products/solar-cycle-progression](http://www.swpc.noaa.gov/products/solar-cycle-progression)

SWPC forecasts a solar maximum between 105 and 125 with the peak occurring between November 2024 and March 2026. There is broad consensus that Solar Minimum is ongoing this year -- or may have already occurred -- and that Cycle 25 will have no major change in the level of solar activity compared to Cycle 24.

For many years SWPC's solar cycle predictions have used the Royal Observatory of Belgium's International Sunspot Number. SWPC's official solar cycle prediction now uses the SWPC sunspot number. The International Sunspot Number is typically about one third lower than the SWPC sunspot number.

While this is SWPC's official Cycle 25 prediction, its important to note there is still divergence among various forecasting methods and

members of the space weather forecasting community. Most forecasts and forecasters agree that the Cycle 25 peak is likely to be within plus or minus 20 percent of Cycle 24 and is likely to occur between 2024 and 2027.

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Tamitha Skov, WX6SWW has a new report:

<https://www.youtube.com/watch?v=QmfS7P1pJMQ>

She does a weekly (usually late Thursday) update and prediction for the week. Worth a look.

## Florida QSO Party

No mobile operations this year!

The big guns in FL racked up literally thousands of contacts during the contest period with N4U multi-op high power reporting over 3000 made. From out of state reports, it looked like about 48 cw FL counties were on, but most folks had 35-45 on CW. On SSB, one station worked 51 counties on that mode, with most in the 35-40 range at best. With 67 counties there – no one worked them all on one mode and it is undetermined if anyone had more than 51 with both modes combined. This contest has no 75/80M allowed.

**N4U - multi op FL - -1667 CW 1602 SSB QSO**

**W5TM - fixed - out of state - 310 CW 46 SSB - 46 CW mults 0 SSB**

**WA3AER - fixed - 161 CW 31 Mults**

Lots of activity! I kept coming back to this one to find new stations. 40M was a treasure

trove Saturday evening when I was operating.

KUDOs to the FCG for organizing this QP. Lots of fun.

**NP2X - fixed - Puerto Rico - 294 CW 326 SSB 46 CW mults 51 SSB mults**

**N2CU - fixed NY - 233 CW 167 SSB 48 CW Mults 40 SSB Mults**

Didn't start until Saturday evening. Thought it was going to be a 40m only contest as 20m was dead. Sunday morning 20m came alive and stayed there most of the day. Thanks for the QSOs!

73, Tom N2CU

**NS2N -fixed NY 254 CW 89 SSB - 45 CW Mults 35 SSB Mults**

thanks for the Qs everyone

15m was a little open at different times on Sunday

## Awards Issued

Bingo IV #2

KC3X, Hollis

April 2020

## Upcoming Events for County Hunters

May 2 1300z to May 3 0700z  
**7th Call Area QSO Party**  
CW Ph RS(T), 5-letter state/county code or SPC  
[7qp.org](http://7qp.org)

May 2 1500z to May 3 0300z  
**Indiana QSO Party CW Ph**  
RS(T), IN county or SPC  
<http://www.hdxcc.org/inqp>

May 2 1700z to May 3 2359z  
**Delaware QSO Party CW Ph**  
RS(T), DE county or SPC  
[www.fsarc.org/qsoparty](http://www.fsarc.org/qsoparty)

May 2 2000z to May 3 2359z  
**New England QSO Party CW Ph Dig**  
RS(T), county+state or SPC  
[www.neqp.org](http://www.neqp.org)

May 2 0001z to May 3 2359z  
**10-10 International Spring Contest, CW**  
Name, mbr or "0," SPC  
[www.ten-ten.org](http://www.ten-ten.org)

May 9 1400z to May 10 0200z  
**Arkansas QSO Party CW Ph**  
RS(T), county or SPC  
[www.arkqp.com](http://www.arkqp.com)

That's all folks. See you next month.

73 de N4CD