Nashoba Valley Amateur Radio Club

# NVARC Signal

VOL. XXXIII… No. 7 WWW.N1NC.ORG July 2025

## In This Issue



## Next Meeting

The next meeting will be held in September. Stay tuned for details in an upcoming issue.

Our guest speaker will be sitting outside the Pepperell Community Center, wondering why there's nobody there.

## Weekly 2-meter Net

Summer schedule for the NVARC Information Net is 8:00 PM local, using the 147.345 N1NC repeater, PL 100.

An informal net on 28.400(+/-) may follow the VHF net.

# President's Corner
## Les N1SV

Well, we had another successful Field Day. Thanks to all those who came and helped set up on Saturday, operate the different stations, and then take everything down on Sunday. A special thanks to our Field Day Chairman John K1JEB, who did an outstanding job to bring it all together. Also, thanks to our station captains, Bruce K1BG (CW), John KK1X (SSB), and John K1JEB (GOTA). And thanks to all those who donated food and/or beverages to keep everyone well fed and hydrated.

The weather really cooperated which is always helpful. It was really great to see a lot of our new members and visitors getting involved. This is one of those events where those new to ham radio can really learn a lot! While I got a brief stint operating the SSB station Saturday evening, I mostly manned the VHF station introducing newcomers how to operate FT8 on 6m. The 6m band was open sporadically both days and we worked many stations in the Southeastern US and even one station in Bermuda using Sporadic-E propagation. I even got a member who was dead set against FT8 to admit he was interested in getting more involved with it after seeing a demonstration. While we are still tabulating our final score, in the end we all had a lot of fun so I'd call that a win!

With the warm weather upon us now is a great time to tackle those antenna projects you've been thinking about doing. For me, I'm preparing to have some work done on my towers in September. This will be a collection of replacing some worn out VHF antennas and adding a couple of new UHF ones. I encourage everyone to get out and work on your antenna projects. The NVARC reflector and Saturday breakfasts are great places to discuss these projects or just ask for assistance. No matter what the antenna project, chances are good that one of our members has already done it before and can provide some valuable input to save you time.

Don't forget HamXposition 2025 is August 21-24 at the Best Western Royal Plaza Trade Center in Marlborough, MA. Please visit their webpage https://hamxposition.org/ to learn more. This event always had some really interesting presentations and a good flea market. Inside the exhibit hall there is typically a good collection of commercial exhibitors that you can talk to. I'll be at the W1 QSL Bureau booth checking QSL cards for DXCC, WAS, & VUCC awards. Stop by and say hi.

# Treasurer's Report
Ralph KD1SM

Income for June was $20 in membership fees. Expenses were $0.60 in PayPal fees leaving a net income of $19.40 for the month.

Current balances:

General fund $3,631.68
Community fund $7,128.25

At the April Special Meeting the membership approved a change to the Bylaws making all memberships renew on the first day of January each year.

Members with a renewal month other than January will adjust their renewal date to January by adding $1.25 (12/15) to their next renewal period for each month between their previous renewal and the following January.

I will inform each affected member of the specific amount of this adjustment for their next renewal date.

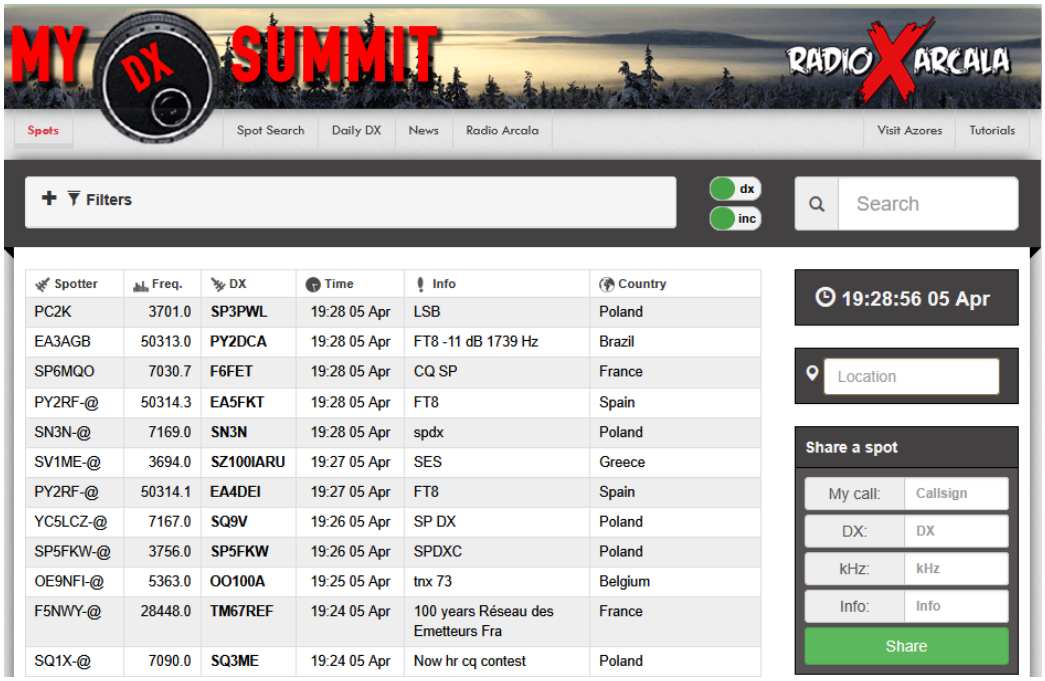
As of 3 July we have 55 members who are current with their dues and 37 renewals outstanding.

To pay membership dues via PayPal see the instructions in https://n1nc.org/membership/

If you are joining ARRL or renewing your membership please note ARRL's instructions to enter your NVARC membership information. As a Special Service Club, the ARRL expects a majority of Club members to also be ARRL members and will send a portion of your new or renewal ARRL membership fee back to the Club. Contact Ralph for further information if you need it.

# DXer's Notebook – Online Resources
## Les N1SV

In this installment of the DXers notebook, we're going to look at some online resources you may or may not be aware of. Some of these are helpful in identifying where a DX station is, while others can provide insight into propagation. There are also news sites and DX bulletins. All in all, this information should help you to maximize your DX enjoyment. DX packet clusters are effectively chatrooms or nodes where DXers can post information about DX either worked or heard. Initially these nodes were connected together via packet radio (digital radio using the X.25 protocol) but these days they are mostly connected together over the internet via telnet. Most logging programs support DX packet clusters however, an even easier way to access them is by going to the DX Summit website http://www.dxsummit.fi . This site streams posts of stations reporting or "Spotting" DX stations in real time. If you happen to see a station that you would like to call, simply go to the frequency listed and see if you can hear them. Just because you see a spot for a DX station doesn't necessarily mean that you can hear them because these reports come from all over the world. If you're tuning across the bands and run across a rare DX station that you think others should know about, post your own report. The site also has multiple filters that you can use to tailor what you want to see. Play around with this and I think you'll find this site quite useful.

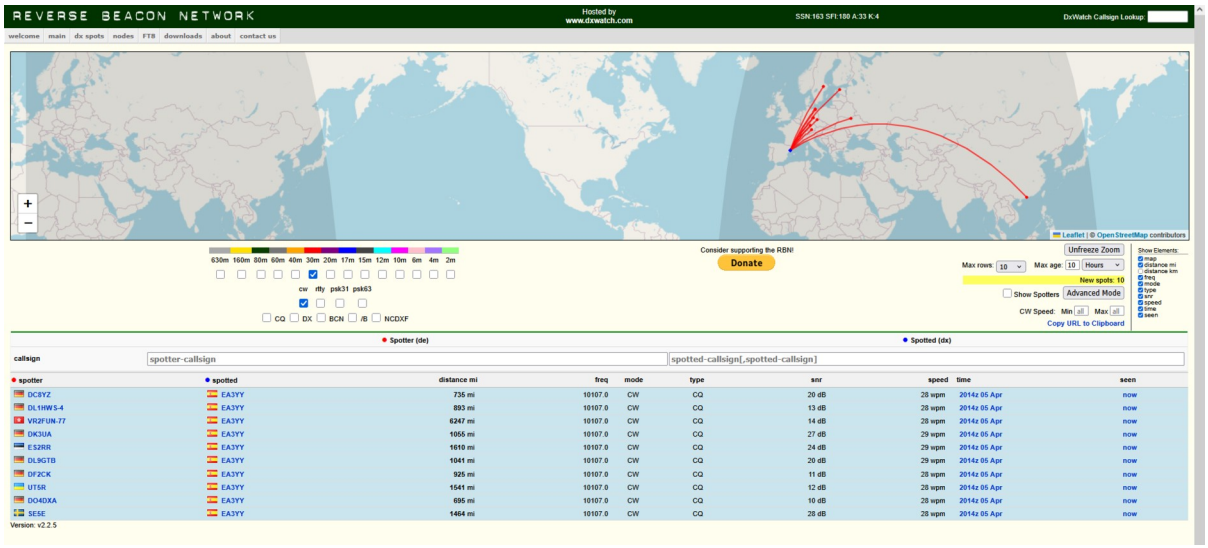


The DX Maps website at https://www.dxmaps.com/spots/mapg.php provides a graphical representation of packet cluster spots in real time on a world map. On the main menu bar there are tabs that display spots for specific bands or areas of the world. The site also has some real time propagation reporting including real-time sporadic-E clouds and MUF. This can be a very useful site especially during Sporadic-E season. I use it extensively to identify where 6M activity is.

There are a number of online propagation tools that can provide real time information on what areas of the world are most apt to support DX communications. VOACAP is a free predictive tool where you can enter station information to generate "what if" scenarios. PropView & W6ELProp are also downloadable programs. While I don't have a particular favorite, here are some popular tools you might find useful.

- https://www.qsl.net/4x4xm/HF-Propagation.htm#Reg2
- https://hf.dxview.org/
- https://www.voacap.com/hf/
- https://www.dxlabsuite.com/propview/
- https://www.qsl.net/w6elprop/

The Reverse Beacon Network (RBN) at https://www.reversebeacon.net/main.php provides spots from worldwide monitoring stations that decode CW, RTTY, and some specific digital mode transmissions in real time. This can be a handy way of knowing if your CW signal is being heard or just to know who is active on a particular band.



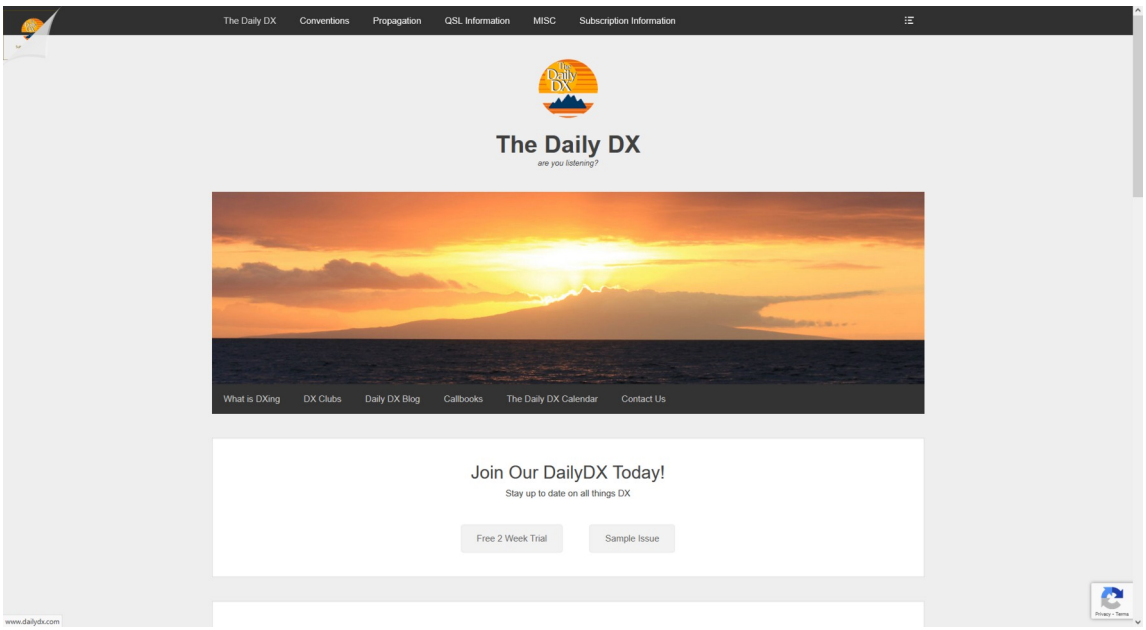
HTTPS://PSKreporter.info is a website that provides forwarded QSO reports of many different digital modes that can be displayed in a tabular form or on a map. The website https://pskreporter.info/pskmap.html has filtering that allows you to display spots for a particular spotted station or those heard by a particular station on a specific mode. This is a great way of knowing who is hearing you even if no one is in their shack. I've noticed that there a lot of stations that routinely keep their radios on and automatically forward QSO information even when they are not around (I sometimes do this myself). Some of you may remember Philip Gladstone N1DQ who gave a presentation on PSKReporter at the October 2024 NVARC meeting.

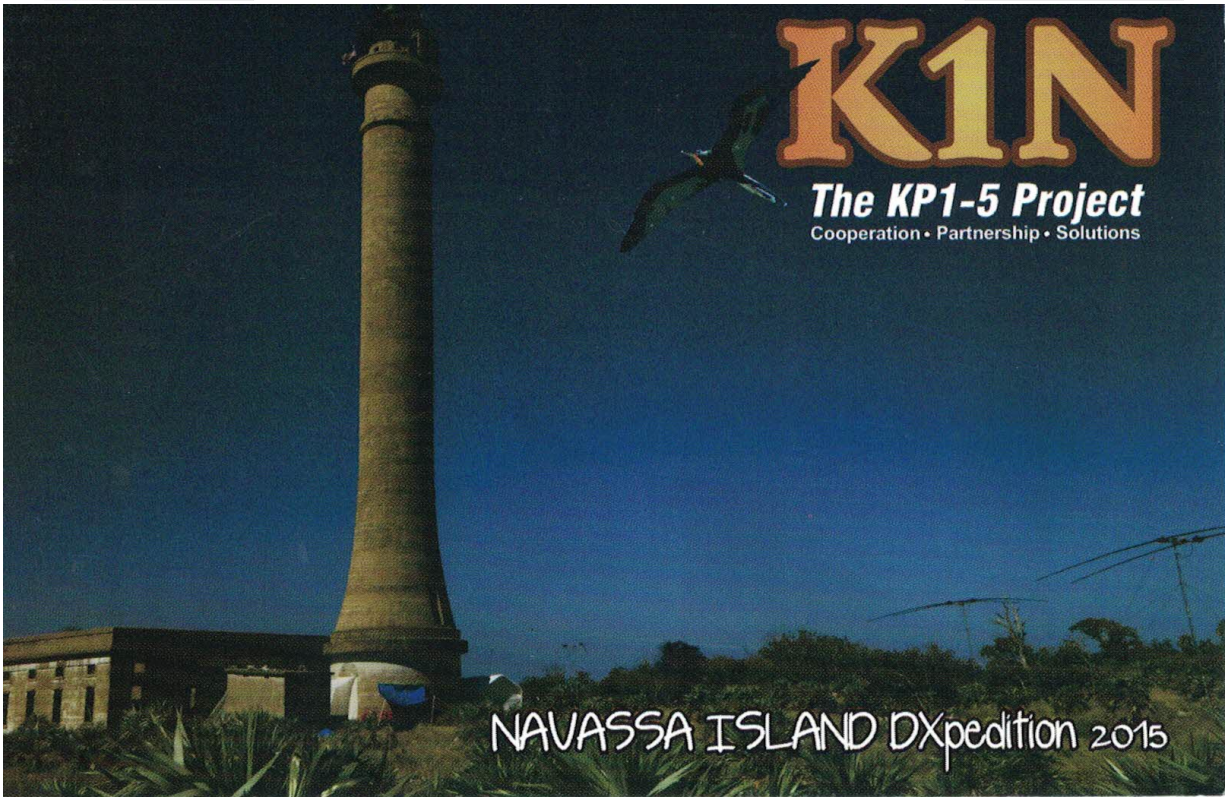
The Weak Signal Propagation Reporter Network (WSPR) is another great tool for knowing what parts of the world are active and on what bands. The WSPR system is comprised of worldwide stations that either are monitoring stations, beacon transmitting stations, or both using WSJT-X. Beacon stations transmit their call sign, four-digit grid square, and transmit power level for two minutes of each 10-minute window. Monitoring stations receive these transmissions and forward the reports to a central database where they are displayed here https://www.wsprnet.org/drupal/wsprnet/map. You can customize the displayed information using the fields at the bottom of the page and then update the map by pressing the update button.

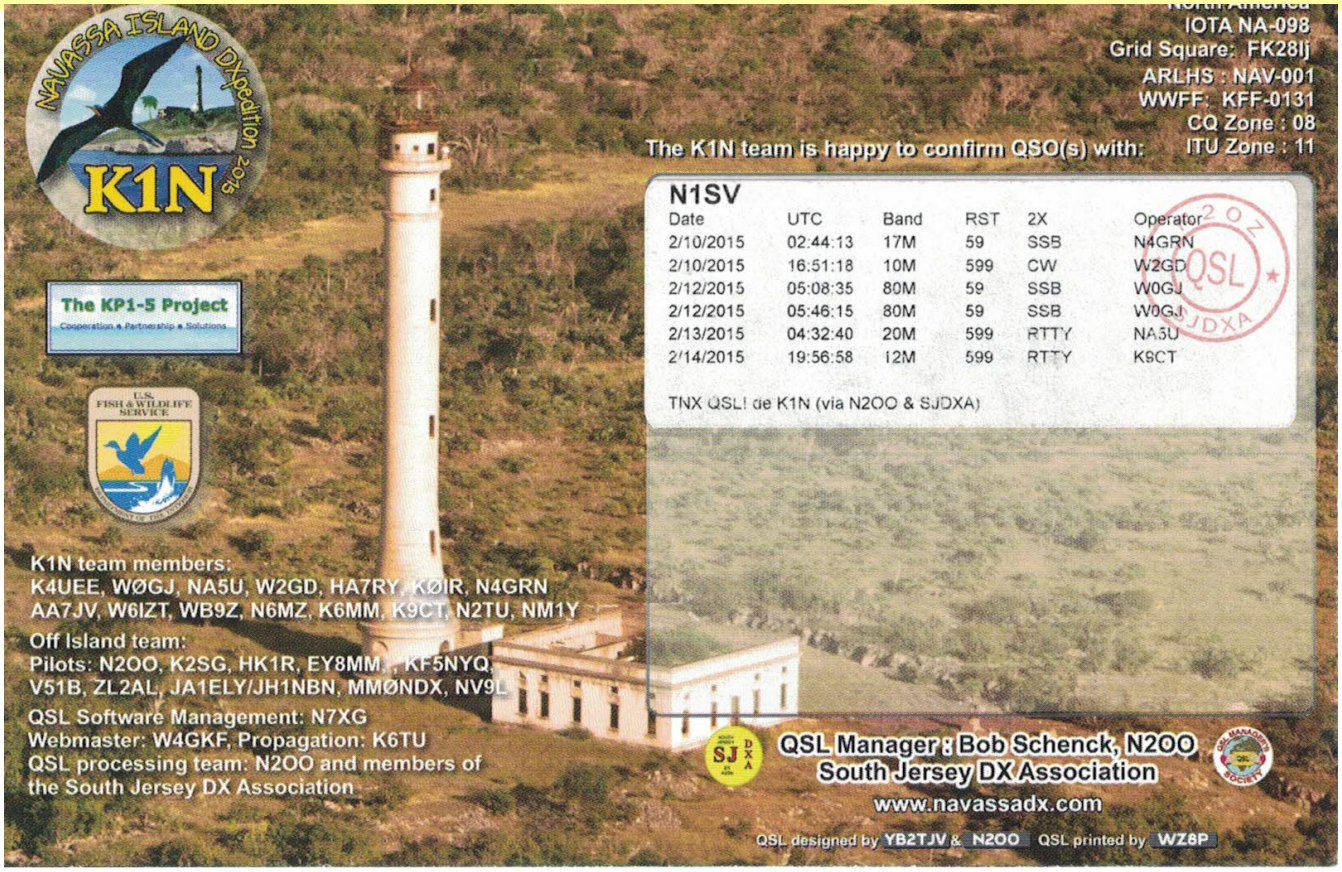
There are number of sites that publish DX news about upcoming DXpeditions, holiday style operations (people who are planning on vacationing somewhere and want others to know they will be taking a radio with them but are not considered a real DXpedition), or just articles of interest to DXers. Here are a few you may want to look at periodically so you don't miss anything.

- https://dxnews.com/
- https://www.dx-world.net/
- https://www.425dxn.org/

And finally, while it may not be an online resource, DX bulletins via email are a good way to stay abreast of planned DX operations or other relevant DX news. The ARRL publishes a free one that you can sign up for by logging into your ARRL account and selecting it from the E-newsletters & Notifications page. There is also the Daily DX Bulletin that Bernie, W3UR publishes both in a daily or weekly form. This bulletin is not free but if you become a serious DXer could be quite useful. More information about the Daily DX bulletin can be found on his website https://www.dailydx.com/.






Navassa Island is an uninhabited island in the Caribbean approximately 40 miles West of Haiti. The Island is claimed by the US and administered by the US Fish & Wildlife Service. While many have sought permission to operate on the Island few have been successful with the last being in 1993. In 2015 a multi-national team of operators activated this island making more than 140,000 contacts.

# Field Day Photos June 2025

George K1HFT

Eliot W1MJ

Photos N1SV

# Field Day Photos June 2025

George KB1HFT, Charlie AB1ZN, Bob AB1EO, Eliot W1MJ, Bruce K1BG, Les N1SV, John K1JEB, Zack KC1VUY, Phil K9HI. I suspect Phil brought us a nice piece of wallpaper.

Kevin?

Photos N1SV

Photos KC1RVK

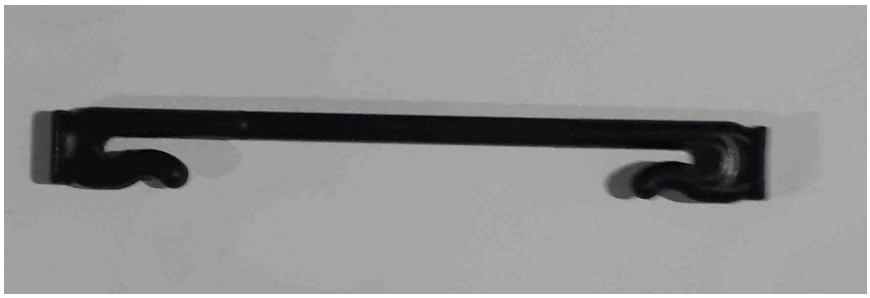
Down-Under Ladder Line
Donald Howarth VK6JDM

**My Ladder Line or My Contribution of Disrupting Big Coax.**

For years I was a believer in coax. Now I know denigrating coax can start a brawl among amateurs but I ask you, we homebrewers and QRPers are simple folk, often stingy and generally value the simple over the complex and the economical over the expensive. So it was I underwent a conversion from belief in coax to belief in ladder line.

I live on the south coast of Western Australia (in winter I call it the north coast of the Antarctic Ocean) where in summer our little farm often swelters in 45+ centigrade heat (113 degrees F) and in winter the winds howl and snap limbs off mature trees. Coax would work for a few years, then I would find the outer plastic was weathered or the magpies had striped bits off and let water to enter the braid or the wind would have fatigued the braid and at that point the incoming signals would become weaker and my signal would not be heard.

Cheap coax and expensive coax all had their failings. In 45 centigrade heat with harsh sun on the black plastic, I hate to think what temperature the foam dielectric was experiencing as it broke down while at the same time the UV was pouring through the ozone hole and breaking down the outer coating. So one day I finally took the advice of a fellow ham who had long been converted to the ladder line clan.



Now balanced feed line comes in many forms. 300 ohm ribbon has a poor reputation in our harsh climate so it was off the books. You can buy ladder line ready made for quite a high price. I needed about 60 feet to go from the shack across to the tower and then 60 foot up to the top of the tower. I am stingy so something cheaper was needed. About then I overheard two east coast VK's discussing ladder line made with vine clips. That led to a search for the elusive clips they were talking about.

It turns out those clever folk in Aotearoa – New Zealand make 3 inch long polypropylene sticks with a hook at each end designed to be hooked onto 2.5 mm (1/10th inch) fencing wire then looped over a grape vine and back onto the fencing wire. They come in bags of 1000 and at the time they cost 3.3 Australian cents each (about 2 cents US.) So the price was right. The clips are made by Klipon who have a website (https://www.klipon.co.nz/) and various distributors around the world. Having found the clips, I just needed wire.

Now tradesmen here regularly throw out long extension cords at the local tip. Usually near a sign that says no scavenging (I must get around to looking up what scavenging means one day.)

The wire inside Australian 15 amp extension cords just happens to be 1/10th of an inch OD, so $3.96 Australian (about $2 US) worth of vine clips and we had a very stable 120 foot long ladder line with one spacer every foot. It is hard to get a metre of good coax for that price. The clips have gone up in price since I made my ladder line but are still just a few cents each.

So I hope I have convinced some of you to leave the path of Big Coax and to join me down the path of ladder line depravity.

The author has to declare a conflict of interest being a holder of a New Zealand passport.

73, VK6JDM
Donald Howarth
donald.howarth@uwa.edu.au

Ed: Author has informed me of a US distributor of these clips:
https://orchardvalleysupply.com/
At press time - $US34 per 1000

# Board Meeting Notes
John K1JEB

Editor's note: The Board meeting was postponed until after press time (I feel so Jimmy-Olsen) so will be included in the August Signal.

Ed

# Working POTA
John KK1X

Rather an inaccurate title, I'm afraid, although I was technically "working POTA".

At breakfast on Saturday (0800 at Tiny's in Ayer if you have not been paying attention), George KB1HFT posed a question to which I had no real answer. I could probably have come up with an opinion, of course, but answers? I was fresh out.

George asked whether I'd used elevated radials for a vertical quarter wave antenna, and whether that was the best approach. I had tested such an antenna last October to see if there was any real traction there [https://n1nc.org/Newsletters/2024/3310.pdf]. This configuration of the antenna was lauded by Michael KB9VBR in one of his YouTube videos. Since I had the gear pretty much already in place, I tested the antenna after building linked *tuned* radials, insofar as elevated radials must be tuned. The antenna worked, but required a tripod and fence posts to elevate the radials, so it was unstable in any wind. And having to tune the radials for band changes was clunky, so I didn't think much of it overall.

In the interest of "science" (and because I need fodder for the newsletter each month), I decided to conduct a bit of an experiment to see whether an elevated quarter-wave vertical with elevated radials outperformed a ground-mounted quarter-wave vertical with ground-level radials. Seems straightforward enough.

Of course, what ensued around the breakfast table was a discussion regarding elevated radials v. ground radials. Bruce K1BG pointed out that one can reasonably get away with only two diametrically opposed radials. Bruce also pointed out that commercial AM broadcast stations run lots of ground-level radials. LOTS of them, even up to 360, spaced around the base of the transmitting element, often buried below the surface.

Experiment in mind, I headed out to Bolton Flats Wildlife Management Area, right on MA-110, not far from the Bolton-Clinton line [Photo 1]. There's a grassy area where I was able to park right in the way of the one other person who wanted to park there.


Photo 1

The configuration I ended up with (Antenna B) was an elevated quarter wave with three elevated radials [photo 2]. The radials were my "stock" ~16.5 foot wires, which is pretty close for 20 meters, where testing took place, ends elevated using plastic fence posts. I used a meter to measure 1:1.88 SWR. The "regular" antenna (Antenna A) was ground mounted [photo 3], using the $20 AliExpress antenna I reviewed in May https://n1nc.org/wp-content/uploads/2025/05/2025-05.pdf

I laid out 13 radials (no superstition. I'd have had 15 if I'd properly crimped that one connector...) [photo 3]. I'd like to think that the 5:1 ratio of radials made things relatively evenly matched. Again, no real "science". (Yes, I am legally required to put quotes around that word). I subscribe to the school of thought that ground-level radials need not be tuned, so all of my radials are ~16.5 feet in length (good on 20 if I'm wrong).

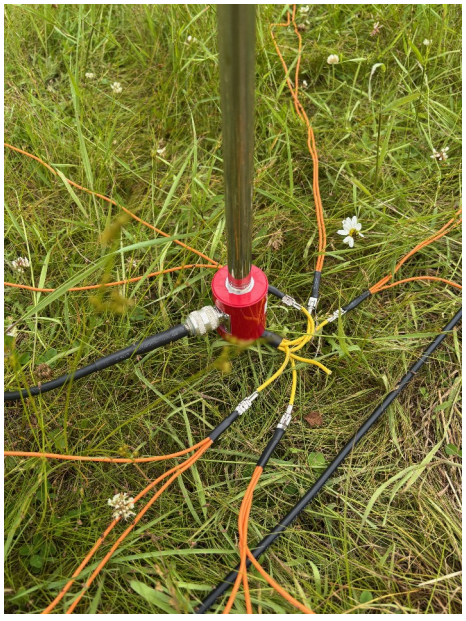


Photo 3

Photo 2

Measured SWR on the ground-mounted antenna was 1:1.77. As the SWR of both were pretty close, I made no additional adjustment other than allowing the KX3 autotuner to do its magic.

The test consisted of calling "CQ POTA KK1X FN42" using Antenna A for fifteen minutes, then switching to Antenna B and calling "CQ POTA KK1X/P FN42" for fifteen minutes. This cycle was repeated twice, occupying an hour, perhaps not quite exactly. Can't cut a guy off in mid-QSO just because a timer expired… I wasn't looking for contacts so much as range. While I was performing a Parks On The Air (POTA) activation, my primary concern was the antenna test itself. I was happy to manage the ten necessary contacts to make this an activation.

As far as results are concerned, it's a mixed bag. It seems conditions were not great by any stretch. While there were clearly stations up and down the 20 meter FT8 subband, signals were weak. I managed to pull in 11 contacts in the hour, including one dupe who worked me on both antennas. He knew I was doing something weird :)  The contacts were about evenly split, with five contacts on the ground antenna and six (including the dupe) on the elevated antenna. Photos 4 and 5 below show the PSKReporter.info reporting for the two antennas, which looks to favor the ground antenna, but even fifteen minutes can drastically change ionospheric conditions. (/P allowed differentiation of signals on PSKReporter.info.

So, yes, George, there is a Santa Claus, but I don't see much of an advantage in elevated radials. At least not in this limited experiment.

Photo 4 – ground level

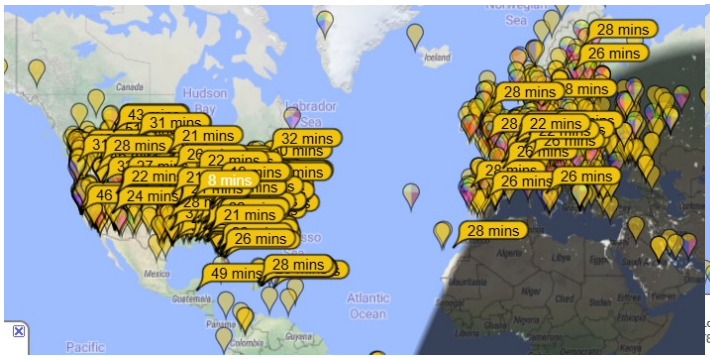
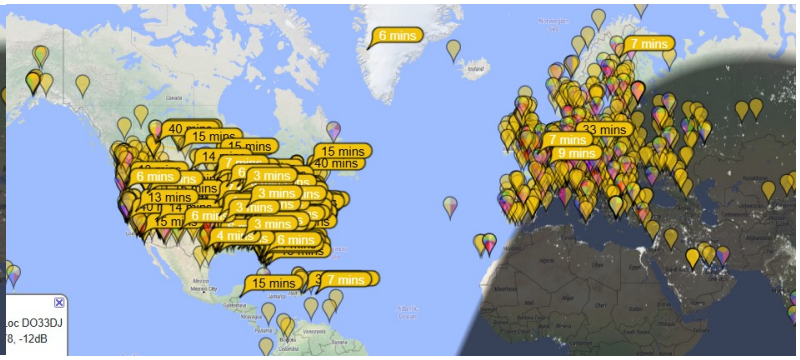



Photo 5 – elevated radials



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Matt Fennell KC1TUV ( 2025-2028)

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Join NVARC! Annual dues are
$15 individual, $20 family

Contact us on the N1MNX repeater:
442.900(+) PL100
147.345(+) PL100
53.890(-) PL100

This newsletter is published monthly. Submissions, corrections, and inquiries should be sent to

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