

NARA Newsletter



President's Message – Randy VE7FAA

June looks to be a great month for NARA members, with three fun and important amateur radio events taking place. I am hoping that at least one of them works for you, perhaps all of them!

The Nanaimo Unpaved Gravel Fondo bicycle race happens on Sunday, June 16, on the lower slopes of Mount Benson. If you have not already volunteered to help provide safety backup communications, please consider adding your name to the list. This is always a fun event. Then we have ARRL Field Day over the weekend of June 22-23. If you are a 'foodie' then we have both a Saturday evening meal, planned by Linda's team, and upholding what is now becoming tradition, a Sunday breakfast is planned by my team. Bring your appetite! There is a small charge of \$5 per person for each meal to cover the essentials. Also, please register so that we know how many to cater for. Full details of Field Day at a glance appear below. Field Day is a radio event but the social side of meeting up and just chatting is also a vital part. Then, starting on Friday June 30, the Canada Day

contest is being held at VA7DXX's cabin just south of the Nanaimo airport. Look out for emails on all of these events as they get closer. I certainly hope to see you at one or more of these happenings.

Finally, some progress at the VE7NA station. Jack and I did some additional work and the air conditioning unit is now operational. TELUS is soon to upgrade the internet service and Mason's team will have some documentation to show you how to operate the Flex radio equipment. NARA continues to be a busy and active radio club, thanks to our members and those who organize events.

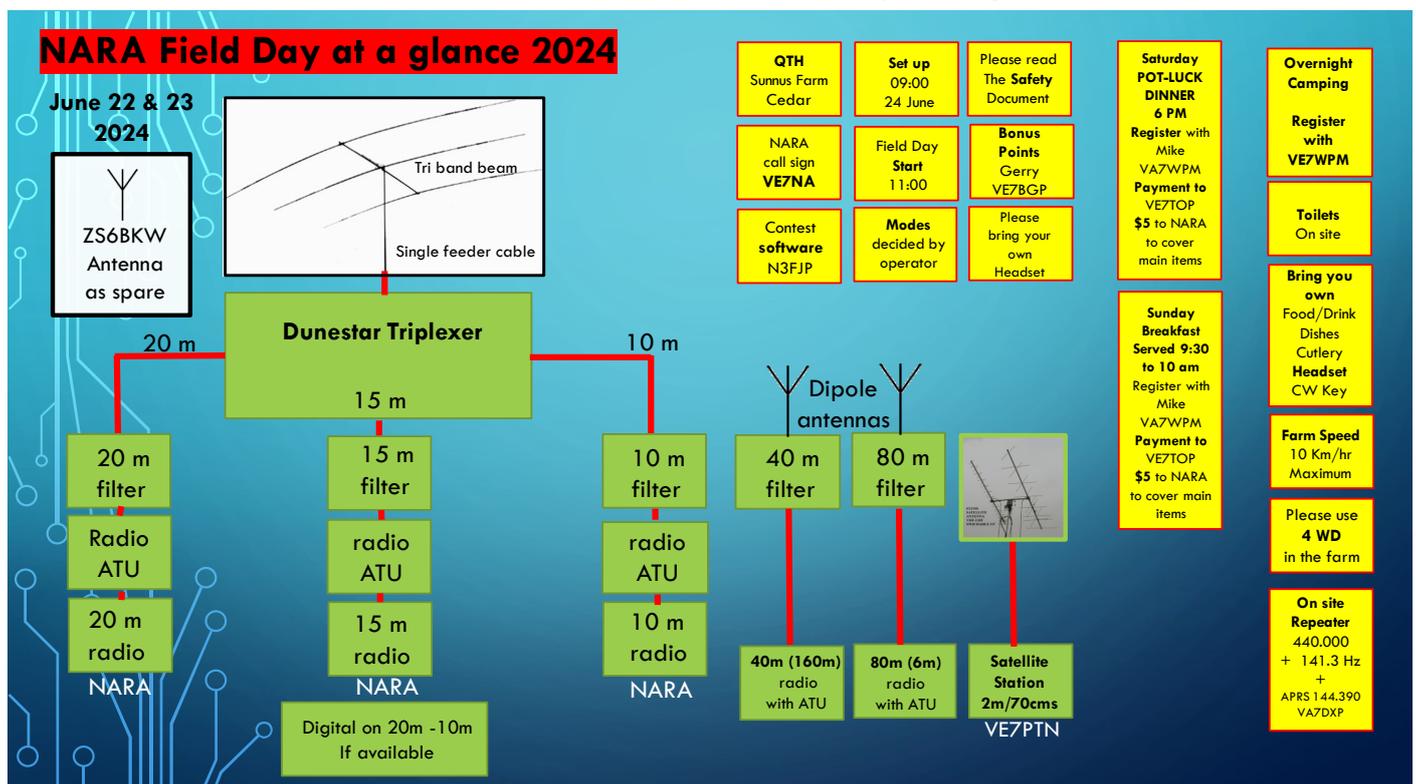
Field Day - June 22-23



Field day seems to have crept up on NARA this year.

Below is a Field-Day-at-a-glance diagram, and nearer the event NARA will send out a comprehensive package to all members but here are some essential points to keep in mind.

The first essential point is the pot luck meal on the Saturday evening at 6 pm and a Sunday morning breakfast at 9:30 am. If you intend to join in for either of these meals, please register ASAP with Mike VA7WPM at



(keelcove@shaw.ca) so that we know the numbers to cater for. We are also asking that you pay the treasurer \$5 for each meal in advance. The second essential point is that if you intend to camp on either Friday or Saturday night or both, you need to register, again with Mike VA7WPM. Finally, the third point is to please bring your own various required personal items, such as plates, cutlery, headsets, and CW keys. The Field Day package will be sent to all members soon, so please watch your email.

Island Events	Date	By
VELO Unpaved bike race	June 16	MIVA
Field Day – ARRL	June 22-23	NARA
NARA's Field Day pot-luck Dinner by Linda's Team	June 22	NARA
NARA's Field Day breakfast	June 23	NARA
Canada Day Contest @ VA7DXX's cabin	June 30 - July 1	NARA
NARA Picnic	July TBA	NARA
Nanaimo Bathtub Race	July 28	NARA
NIARS Campout	Aug. 15-20	NIARS
CVARS Flea Market At Cobble Hill	Sep. 8	CVARS
Canada Winter Contest	Dec. TBA	NARA

Learning Morse Code

On-air CW sessions via the VA7DXH 144 and 220 MHz repeaters started on Wednesday, May 15, at 9 pm. Three sessions have been completed so far introducing the letters 'A' to 'I' at three letters per week. The transmitted audio files are then available to those who have signed up for the course, via the NARA VA7NA shared drive. The audio files can then be played as often as required. Access to the NARA shared training drive and details of the NARA CW sessions can be obtained by emailing training@ve7na.ca.

AREDN at VE7KU – May 19 & 26 Mike VA7WPM

The Mid Island Radio Association and the Arrowsmith Amateur Radio Club have been working together to fund improvements to the power supply to the VE7KU repeater site which, among other radio infrastructure, supports AREDN antennas. NARA has partnered with the two clubs by providing work parties on the last two

Sundays of May. On May 19 members from the clubs met at the Highway 4 turnoff to Mount Arrowsmith massif and made their way to the repeater on Mount Cokely, just east and a bit lower than Mount Arrowsmith. The main task was to deliver the batteries needed as part of the power supply improvements to be made on the following Sunday.

The ride into the site is best done with a larger vehicle with good clearance as the road is a bit rough in places. Vehicle access to the site is very convenient, with only a short walk to the station from the road. There are some great views as you travel along the logging roads and once you get to the repeater site you are treated to some fantastic views down into Port Alberni, the airport at Comox, Denman and Hornby Islands, Texada Island and Lasqueti Island. You can also see the eastern coast of Vancouver Island around Qualicum Bay and Bowser and of course over to the Sunshine Coast. It's no wonder the site is such a great location for radio in general and AREDN in particular.

The repeater station is located above Cameron Lake, directly above the location of last year's forest fire that closed the highway to Port Alberni. There is evidence of work done by the BC Wildfire Service to protect the repeater site as the fire advanced. Luckily the fire didn't reach the site but it appears to have been close. The blaze was sparked accidentally by a hiker who had started a small fire to make a pot of tea. He had put the fire out when he was done but, unfortunately, not entirely. The resulting blaze which began on June 3 of last year burned 229 hectares of forest and closed the highway linking the west and east coasts of the Island for many days.

On Sunday, May 26, the work party at the VE7KU site installed a new separate power infrastructure for the AREDN mesh nodes and it went off very well. What was forecast to be a very wet and windy day fortunately did not materialize. On site in the morning there were high winds, but these soon trailed off to be consistent and cold. The rain was mostly absent as well with only some drizzle and a few 'here comes the rain' moments which fortunately didn't persist. The clouds mostly stayed above our heads and there were even moments during the day when there were hints of a blue patch or two along with a few moments with great views down to Port Alberni.

It was a big work party with 12 members of the Arrowsmith Amateur Radio Club, the Mid Island Radio Association and Nanaimo Amateur Radio Association on site. While the distance from parking to the repeater site isn't far, the first 35 feet involved quite a vertical scramble for bringing in the panels, aluminum angle supports, tower cross pieces and all the tool totes and other gear. This included a pop-up tent and small portable diesel heater which was much appreciated by all of the participants.

The main part of the day was linking two horizontal tower sections between the two vertical towers. Fortunately, this was done below the two upper solar arrays but still required much tower work, albeit at the seven and 12 foot levels. While this was being done, the supports for the two 44-inch x 68-inch 400-watt panels were built and attached to the panels in portrait configuration. The entire assembly was then hoisted up and attached to the tower cross pieces. A whole lot of nuts, bolts and U-bolts secured everything in place. The cables from the solar array were run down the tower and into the building where the final battery and controller connections were completed. Everything was connected up and the charging confirmed to fully power the new batteries.



Group picture of those assisting at the KU site on May 26. The new solar panels are the large ones near to the ground.

Bike Race - June 16

The MIVA unpaved bike race scheduled for Sunday, June 16, is set to go ahead. The organizers have made changes to the course. It is not too late to sign up for the race safety backup radio team by emailing VA7WPM at keelcove@shaw.ca. To those that have already signed up expect your race package, containing maps and station locations etc., to be emailed to you in early June.

NARA DF Hunt - May 25



Everyone had fun at NARA's first DF event of the year. It was an opportunity to show off NARA's new banner to be used at all NARA events.

How is DX – David VA7DXX



Amateur radio is about what each individual wants it to be, and indeed there are so many different aspects to the hobby/service to choose from. My biggest interest and most active side of amateur radio is DXing, specifically the challenge of trying to work each of the 340 countries on the current DXCC countries list.

Last month, on May 24, FT4GL on Glorioso Island, operated by Marek FH4VVK, started operations. Marek is not a CW operator and so would only be operating on FT8/FT4, SSB and RTTY. FT4GL initially appeared on 15m FT8 and I started to listen (watch my screen that is) for him at about 8:30 am on the morning of May 24, a Friday. I could see many stations calling him on FT8 but nothing at all from FT4GL. I monitored on and off and at 10:05 am FT4GL finally appeared at around -15 dB, which is a respectable signal for FT8. The signal was up and down and I typically called when the signal was at its strongest. Finally at around 12:30 pm FT4GL came back to me giving me a report of -8 dB, the equivalent of quite a weak CW signal.

Of those 340 countries on the current DXCC countries list, Glorioso is the 339th that I have worked — second to last. So of course I was delighted to work Glorioso, which also counted as a new Island for the IOTA (Islands on the Air) awards. Once propagation is suitable, working these FT8 pileups is not a question of signal strength it's a question of being heard by the DX station when there are hundreds of stations, if not thousands, all calling at once. So where you position your transmission is important and to that extent finding a clear frequency always has an element of luck involved. Late that Friday evening FT4GL uploaded his contacts to Clublog and I was able to see my callsign in his log to confirm the new country for me.

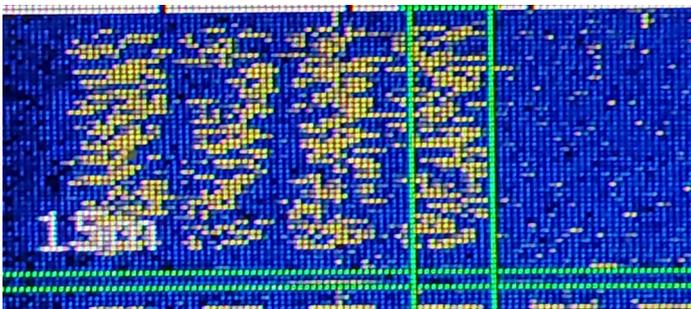


Glorioso Island in the Indian Ocean, north of Madagascar.



FT4GL's spiderbeam antenna on Glorioso Island.

FT4GL will remain on the air on Glorioso Island until his planned departure date of June 19. The main island in the Glorioso group in the Indian Ocean is about two kilometers long by one kilometer wide. It has a landing strip and also serves as a base for the French Foreign Legion. Otherwise it is uninhabited and mainly a nature reserve.



FT4GL's 15m 4 multistream FT8 signal at VA7DXX on Friday, May 24, he later went up to 6 streams.

During June we can also expect DXpeditions from: Greenland (OX3LX), Mozambique (C91AHV), St Martin (FS), Niger (5U5K), Lord Howe Is, (VK9LA), Maldives (8Q7JF), Tanzania (5H3DX), Miniami Torishima (JD), Turks & Caicos (VP5) and American Samoa (K8K).

The Outstanding Aurora

Recall that last month a Coronal Mass Ejection (CME) from the Sun had been observed and the plasma from the Sun was heading towards the Earth. The plasma ejected from the Sun in a CME can head in any direction so not all CME plasma is directed towards the Earth! The resultant storm was predicted as being a big one, but they have said that before!

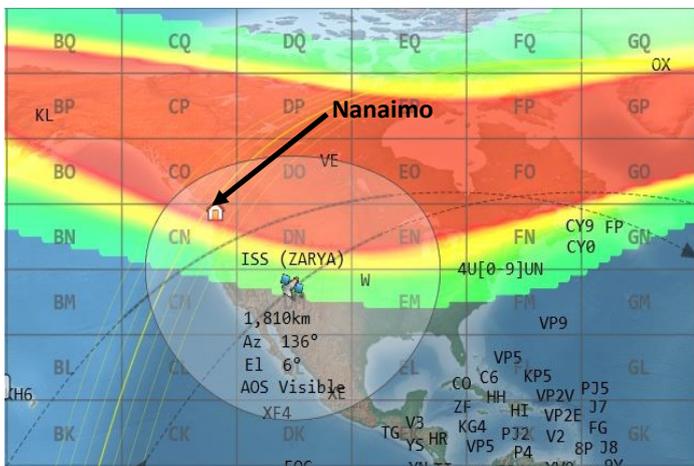
On the morning of May 10, just before what became one of the biggest solar storms in some time, I noticed that many of the European CW signals on the 20m band had the classic auroral distortion on them and I even worked a few of them. When there is auroral activity on a path between two stations on HF you can get both attenuation and a very distorted sounding CW note, typically by reflection. Rather than the pure sine wave, which we report as T9 on CW (as in RST, Readability, Strength, Tone), the note sounds more like a hiss or a buzz. In these circumstances operators who recognize the auroral note will use the report 59A; the A signifying that the distorted note is being caused by auroral activity.

So we had a forecast of the CME that would cause the magnetic storm and observed aurora signals on the 20m band. I then checked the space weather sites for aurora and sure enough above normal auroral activity was being reported; and it was not just above normal, it was significantly above normal!

At that stage I realized that if the auroral activity lasted into our Friday evening then the 6m band could be used for auroral backscatter propagation. But my 6m beam had not been properly tuned up! So, with some haste I got my 6m beam prepared, although, I really did not have time to fully optimize it. Nevertheless it would have to do.

The SWR was 1.4:1, OK but not perfect. Also I did not have the time to optimize the front-to-back ratio. I pointed the beam at 030 degrees true and waited for our Friday evening to arrive.

Finally some CW signals by auroral backscatter started to be heard on Friday evening and I started to work some stations, initially from Washington state. At sunset on Friday, May 10, the aurora was huge, certainly the largest I have ever seen from BC.



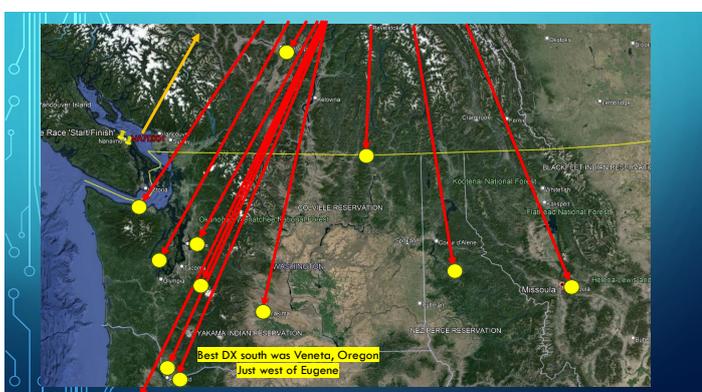
Taken by Mason VE7PMD

This is a graphical representation of the massive auroral activity near sunset on Friday, May 24. At the time the ISS was to the SE of Nanaimo in range, as shown above.

I managed to work 12 stations via auroral backscatter on Friday evening. You essentially beam at the auroral curtain on a heading of about 030 degrees true. Your signal 'bounces' off the aurora and the signal scatters to the south. If on the 6m band a CW signal has a very rough note, more like a hiss, then the signal is bouncing off the aurora.



Taken by Jack VE7GDE



These are the locations which VA7DXX worked by Auroral backscatter on May 24.

The resultant visual auroras on the evening/night of May 24-25 were quite outstanding, two pictures from local amateurs are reproduced. Many commentators have said that this is the best visual aurora for at least 20 years and some have said that this aurora was the best in 50 years.

NARA Coffee Klatches



Day	Frequency	Time	Location
Tuesday	Weekly	10:30 am	South end Smitty's: #50 10 th Street
Thursday	3 rd Thursday of the month	7:00 pm	Tim Hortons: 2320 Northfield Road
Saturday	Weekly	9:00 am	North end Smitty's: 2980 North Island Hwy, in Rock City Centre

AREDN Activist – May 3

Great presentation on AREDN by Orville (Orv) W6BI at the Nanaimo Cadets building on May 3. The in-person meeting was attended by about 20, and a further 60 attended via Zoom, many from the United States. During part 2 of the talk Orv described many of the new networking features available in the AREDN Mesh software. Thanks to Chris VE7TOP for arranging the meeting.



Orv W6BI taken just after the Nanaimo meeting on May 3.

NARA APRS What's up on aprs.fi

It looks like the NARA Mount Benson APRS digipeater should be installed by the end of July. If you are interested in APRS the email address for the NARA APRS group is aprs@ve7na.ca. Thanks to Mason VE7PMD for organizing this new digipeater.

Watch your junk mail

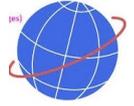
Some NARA members don't seem to be receiving all of their NARA emails. The best advice is to check your junk mail folder, and add the members@ve7na.ca to your safe list or contact app, and possibly add the entire @ve7na.ca domain to the safe list if those don't work.

NARA's Balloon project

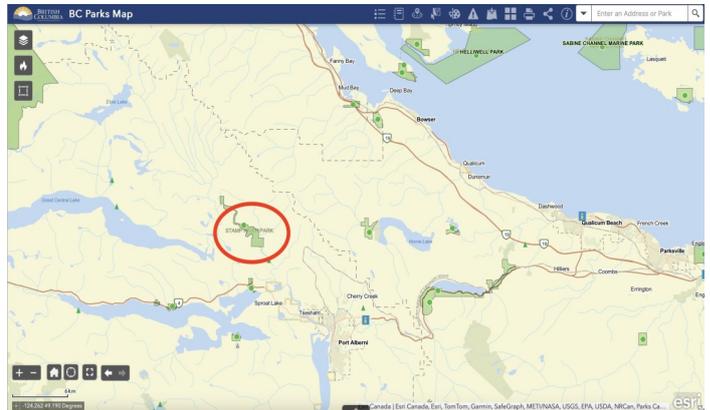
Good news that Jack VE7GDE has stepped forward to look after this project.



The Satellite Downlink: POTA Activation via GreenCube at Stamp River Provincial Park By Bruce VE7PTN

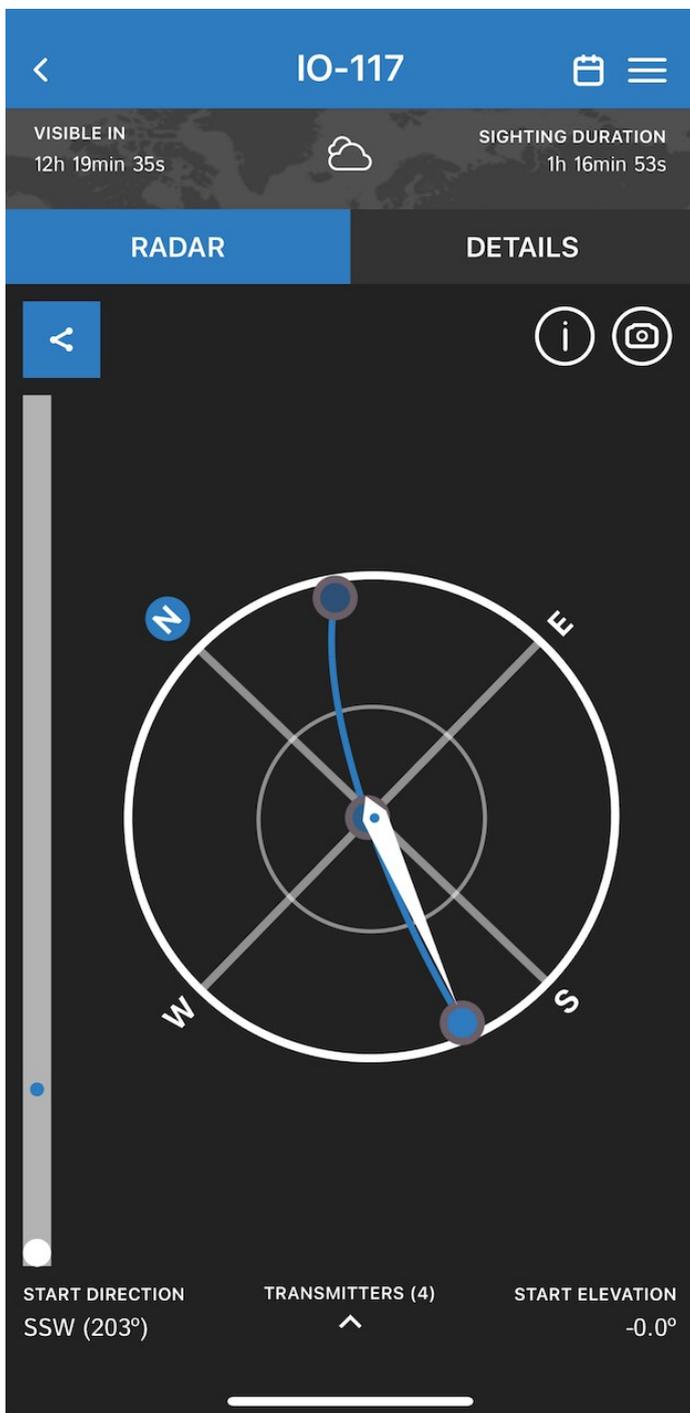


I'll start off with some good news regarding the status of the GreenCube satellite. As I have mentioned in earlier articles, the future of GreenCube has been uncertain with the announcement by the owner/operator, Sapienza Space Systems and Space Surveillance Laboratory (S5LAB) that the primary mission was over, and the satellite would be switched off. However, early in May AMSAT Italia announced that they have entered into an agreement on the ownership of GreenCube. A collaboration with S5LAB means that the satellite will continue to operate and with amateur radio as the exclusive use. This is great news for the amateur radio community. Hopefully the satellite will remain functional for years.



A map from the BC Parks website showing the location of Stamp River Provincial Park. The campground is in the southeast part of the park in the valley bottom, beside the Stamp River.

In mid-May, I went on a five-day family camping trip to Stamp River Provincial Park, near Port Alberni (grid: CN79mi). As usual, I took along my radio gear, hoping for an opportunity to do a Parks On The Air (POTA) activation around family activities. I knew in advance that this park would not be great for satellite operations because it is in a river valley with hills and trees limiting sky visibility, especially at low elevations. When we arrived at our site and I could see the lay of the land, my expectations were mostly confirmed. On days one and two I didn't even attempt any activation, telling myself that it would be wasted effort. I had reviewed the POTA website for the parks before our trip. So, I knew that it had been activated a handful of times, but probably not via satellite.



A screenshot of the ISS Detector phone app (<https://www.issdetector.com>) "Radar" view showing an upcoming IO-117 (GreenCube) satellite pass and how it will transit over the location. By default this free app only displays International Space Station passes. But with a purchased extension it can display amateur radio satellite passes.

By day three, I was getting itchy to activate and I was reminded of the quote often attributed to Wayne Gretzky: "You miss 100% of the shots you don't take." While getting the morning campfire started I used the ISS Detector phone app to check the path for upcoming satellite passes and how they would relate to the local geography and forest canopy. There was a decent

GreenCube pass that would go almost directly overhead during mid-morning. I decided that it was worth a shot and I quickly setup my satellite gear. To my surprise, I heard the satellite at a much lower elevation than I expected, even though my line-of-sight was through the surrounding trees. And not only could I hear the satellite, but I was also able to get in and be digipeated with my "CQ POTA CN79". I was immediately pounced on by several stations, and I began working the pileup. Over the next 45 minutes I managed 41 QSOs, including stations from Argentina, Ecuador, Japan, Lithuania, and, of course, Canada and the USA. One must make at least 10 QSOs for the POTA activation to be classified as "successful", so checkmark on that. "He shoots, he scores!" Thanks Wayne.



The portable operations desk of VE7PTN with GreenCube gear in the campsite at Stamp River, looking to the east. Note the dense tree canopy.

Encouraged by that result, I decided to work the next GreenCube pass at mid-day. It would be a little lower elevation but probably still workable. And indeed, it was. I made another 11 QSOs with stations not already worked and added Mexico as a country worked. There were no more passes above the local horizon for me this day. But I began studying the passes for the next day. I knew that the previous top activator for the park had two successful activations for 49 QSOs. I would already be the top activator by a few QSOs. If I worked the next UTC day, it would be another activation and could significantly add to my QSO count.

The next morning, I worked another two GreenCube passes for 45 QSOs total before the passes were again too low to work. I added China, England, Germany, and Spain to my country list for the trip. The CN79 grid is not

activated via GreenCube very often. It probably has not been activated since I did so last summer. With all the new GreenCube operators since then, there are lots of people interested in this grid. A few reached out to me via email or X (formerly Twitter) asking if there would be more passes soon, particularly for Europe. Unfortunately, with the trip ending soon and the poor horizon in the direction of Europe I had to disappoint them, at least until my June camping trip.

-finished antenna project. Perhaps I'll work on that during June and will have results to report for the July article. 73.

More from LZ2OQ

After VA7DXX's 20m CW contact with LZ1OQ on April 29, George LZ2OQ was able to apply for his award. As pictured below this is apparently a Russian award named after Vitus Bering, the explorer who gave his name to the Bering Sea, the Bering Strait and Bering Island. Bering was a Danish mapmaker and explorer in Russian service and an officer in the Russian Navy. Bering led two expeditions which included the western coast of North America, which is why we believe that George needed a contact with British Columbia.



Bruce VE7PTN working GreenCube at the campsite at Stamp River, looking to the west. Note the proximity to the river with less dense tree canopy in this direction.



Given that my QSO count was now 97, I would be the top park activator by QSOs when I submitted my log. But I would be tied with the top activator for successful activations. Our camping trip was ending the next day. I discussed with my wife, and we decided that I could work one more early morning GreenCube pass before we had to pack up the campsite to leave by the checkout time of 11 am. To maximize my popularity and chance of success, I advertised my pass for the next day on <https://hams.at> and X, adding a note asking ops to work me again on this new day. When the next morning came, the weather was still dry so the activation was on. And again, the satellite performed well through the tree canopy. I would see the signal fade to nothing as the satellite passed behind tree trunks. If it was only obscured by tree branches, there was usually enough signal to be workable. I managed to make another 31 QSOs before I had to QRT and break camp. I uploaded my POTA log when I returned home, and I am now the top activator for Stamp River Provincial Park in both the activations and QSOs categories. Woo hoo! Well, that's all for another month. I haven't forgotten about my half

NARA's New Banner & Sandwich Board

NARA recently invested in a new banner and sandwich board which will help to both advertise the Association and will be used at all future NARA events.

NARA Meetings for June

June 6 - NARA Executive Meeting (Zoom)

June 13 - NARA General Meeting (Zoom)



The volunteer group of NARA members producing this Newsletter would like to thank all those who provided material for this month's issue

The deadline for the July issue of the NARA Newsletter will be noon on Thursday June 27 with an intended publication date of June 30.

News items and comments should be sent to

news@ve7na.ca