

The

August 2024

# NARA Newsletter



## President's Message – Randy VE7FAA

As the list of organized NARA and Island amateur radio events gets smaller as 2024 moves along, let's not forget that amateur radio can also be a very personal activity.

In terms of NARA events, we have just concluded the exciting Bathtub race, this year using APRS tracking for several tubs for the first time; it worked really well as did the voice radio communications. Every event involving NARA members is a learning exercise and part of the excitement is learning with a view to future improvement. The next event involving NARA members will be the annual NIARS campout at the Cluxewe campground starting on Aug. 15. The main purpose of this annual get-together at the north end of Vancouver Island is to maintain north-Island repeaters on the Island Trunk System. The ITS serves the whole of Vancouver Island with nets and day-to-day voice communications and is always there for emergencies.

On a personal basis, amateur radio provides a world of opportunities and is often called the best hobby in the world. There really is so much variety available within amateur radio. The great thing is that many NARA members specialize in aspects which are personal to them, and are leaders in their field. We have a lot of amateur radio talent in NARA, and sharing this knowledge and training is important and vital to our future. One very important part of amateur radio is trying new things and experimenting with different radio systems as, for example, we did with APRS during the Bathtub race.

NARA has a core of dedicated volunteers who take on a lot of work for the club. I am thankful to these members but we don't want to overload them. So, if you have a talent, ability or skill which could assist the club, or want to get involved or contribute to the organizational side of the club, please let me know.

Again, thank you to all of those who give up their time to organize and take part in NARA activities.

Island Events	Date	By
NIARS Campout	Aug. 15-20	NIARS
CVARS Flea Market	Sep. 8	CVARS
Christmas Pot Luck Dinner	TBA	NARA
Canada Winter Contest	Dec. TBA	NARA



## NIARS Campout

Many amateurs from the Nanaimo area and all over the Island will gather Aug. 15–20 for a work bee at several Island Trunk System repeater sites. The campout will be at the Cluxewe resort near Port McNeil (address: 1 Cluxewe Campground Road, Port McNeil, BC, V0N 2R0). It's not too late to join, so if you are interested please email the NIARS Secretary at [niars.ve7rnc@gmail.com](mailto:niars.ve7rnc@gmail.com).



*The Cluxewe resort near Port McNeil.*

## NARA CW Training

All of the letters in Morse code have now been covered and so for the next few weeks, during August, practice tests involving just the letters of the alphabet as plain language will be sent at the ISED test speed of 5 words per minute (+10%). That is, letters will be sent with a character speed of 12 wpm but slowed to a speed on 5 wpm by increasing the spacing between letters. These practice files will be sent on the VA7DXH repeaters at 9 pm on Wednesdays and then will be available online. On line access is available via [training@ve7na.ca](mailto:training@ve7na.ca).

NARA's website is <https://www.ve7na.ca/>



## Canada Day Contest 🇨🇦

It was as much a Canada Day social event at VA7DXX's cabin as a contest, with everyone relaxed and having fun. Rosemary G0NDB provided hot dogs (cooked by Kevin VE7KGV), coleslaw, and fries for lunch. And to mark Devan VE7LSE's birthday an ice cream cake was served as a treat.

Several keen CW and SSB operators pushed the number of contacts to 404 in about 12 hours of operating. On the 20m band on CW, apart from Canada and the USA, contacts included Brazil, Bulgaria, Czechoslovakia, England, Hungary, Hawaii, Ireland and Lithuania.



*Overview of the Canada Day contest*



*Happy birthday to Devan VE7LSE. Julia deciding whether to have a piece of Dad's ice cream cake or not!*



*Canada Day action*



*The 15, 10 and 6m tent*

## NARA Coffee Klatches



Day	Frequency	Time	Location
Tuesday	Weekly	10:30 am	South end Smitty's: #50 10 <sup>th</sup> Street
Thursday	3 <sup>rd</sup> 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



## How is DX – David VA7DXX



A new FT8 mode called SuperFox hit the airways on July 10. SuperFox mode is part of the new WSJT-X suite of programs, with the first production version to include SuperFox being v2.7.1. On that date I used a beta version of the WSJT-X software 'rc5' to work K8R in American Samoa, who was the first station to use this new FT8 mode on the 15m band. Version 2.7.1 of WSJT was released shortly afterwards.

SuperFox is a new type of fox-and-hound system intended for working DXpedition stations. The SuperFox – K8R in this case – transmits a completely different sounding signal which uses Multiple Frequency-Shift Keying (MFSK) modulation. What you hear is a tone jumping around in your passband over a 1512 Hz wide signal, which inside the normal passband goes from 750 to 2262 Hz. Those who remember the old UK diplomatic wireless system called 'Piccolo' say that SuperFox is reminiscent of the sound. The SuperFox transmission is quite distinctive and is much wider than the traditional 50 Hz wide FT8 signal, but it is a full power constant-envelope waveform capable of handling up to nine contacts at once.

SuperFox mode also has an advantage in that only properly recognized DXpeditions can use the mode, thus preventing pirates from using it. How? SuperFox transmits a digital signature of authenticity and if you operate in Fox mode – that is if you are the DXpedition – then you have to obtain a key or password to operate as a Fox. The key is only obtainable from the Northern California DX Foundation (NCDXF), who have volunteered to be the keeper of the keys.

As a SuperFox hound – you and me chasing the DXpedition – you really don't have to do much. All you have to do is go to 'Settings' and then the 'Advanced' tab, check the 'Special operating activity' box and then check 'Hound' and 'SuperFox mode.' Everything else

Special operating activity

☒ Fox

☒ Hound

☒ SuperFox mode

☐ ARRL Field Day

☐ FT Roundup

☐ ARRL Digi Contest

☐ CQ with individual contest name

Key: \_\_\_\_\_

FD Exch: 1D EMA

FT RU Exch: \_\_\_\_\_

Contest name: PACC

**These are the settings needed to operate the SuperFox mode as a hound. For further information on this mode go to <https://www.dx-world.net/super-fox-mode/>**

remains the same. The SuperFox transmits the new wide MFSK signal, which is decoded automatically, but as a hound you still transmit the original 50 Hz wide FT8 signal — making sure, of course, that you transmit on a clear frequency. There are no special frequencies set aside for SuperFox, and each DXpedition will determine where they will operate.

While K8R in American Samoa was the first DXpedition to use the SuperFox mode, this was really on an experimental basis leading up to the Jarvis Island operation by the same team. They are to leave on Aug. 1 for the Jarvis Island DXpedition, which now takes place Aug. 5-17. The DXpedition will use the call sign N5J.

Because Jarvis Island has been a part of the US National Wildlife Refuge Program since 1974 the operation will be 100 per cent RIB (Radio in a Box). This means that the stations on the island are operated remotely from a ship anchored nearby. This is all to ensure minimal environmental impact. Jarvis Island has not been active on the amateur radio bands since April 1990, so for many Islands on the Air (IOTA) aficionados this will be a new island entity (IOTA Ref: OC-081). As far as a DXCC country is concerned, prefix KH5, Jarvis Island is paired up with Palmyra Island, which has seen a lot more amateur operations; combined these two islands rate No. 17 on the worldwide most wanted DX list. They drop to No. 86 on the most wanted list from the west coast of North America. N5J will be a relatively easy shot from Nanaimo, so worth keeping a lookout for this one. It is also worth noting that this radio DXpedition will also be combined with a scientific research team.

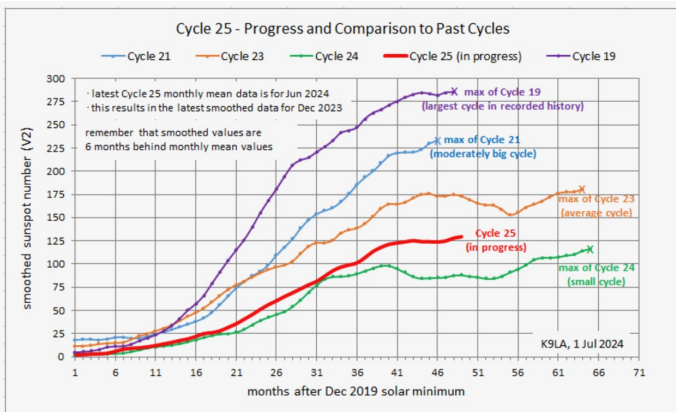


**Jarvis Island, about 1,350 kilometres south of Hawaii. It was discovered by the British in 1821 but is now administered by the U.S. Department of the Interior as part of the National Wildlife Refuge Program.**

Other planned DXpeditions in August include Scotland (MM0UKI from IOTA EU-118), South Cook Island (E51), Botswana (A25UX), Maldives (8Q7GG), St Lucia (J6), St Pierre & Miquelon (TO8FP), French Polynesia (FO), Timor Leste (4W), Tristan da Cunha (ZD9GJ) and St Paul Island (CY9C).

Propagation wise, Carl K9LA comments:

*"Cycle 25 is generating many sunspots now, with the southern solar hemisphere leading the way. If that continues, it may push Cycle 25 up to an average cycle (like Cycle 23). Regardless of what happens, the higher HF bands (15m, 12m and 10m) should be great for worldwide propagation this fall and winter. And maybe even some 6m openings via F2. These great conditions will likely continue through 2025 and 2026, when the amount of sunspots falls below what is needed for worldwide 10m propagation. Of course, we have to take the bad with the good - more solar flares and more CMEs occur around solar maximum to screw up the ionosphere."*



On the first day of the Olympic Games in Paris I worked the Olympic amateur radio station, TM2024OG, on 20m SSB (yes SSB, I was able to find my mic). They were S9, operating simplex and came back to my first call. I'll end this month with a picture of the Canadian team at the Olympic Games in Paris; we already have many medals. Remember that through amateur radio we can communicate and make friends with people from every single country represented at the 2024 Olympic Games. What a marvellous opportunity amateur radio represents.



## New Basic Exam Question Bank



On July 5, 2024, Innovation Science and Economic Development Canada (ISED) posted an announcement on its website stating that ISED has been working with RAC to update the Basic Amateur exam questions and answers for early 2025. ISED will also do a similar review of the Advanced Amateur exam, with new exams expected after 2025.

## North Frazer Balloon Launch - VE7SL

Scott VA7SL has written this report on the recent North Fraser ARC balloon launch. Here are some extracts.

*North Fraser ARC launched our most ambitious High-Altitude Balloon to date, the payload carried an improved crossband repeater, APRS position locating, a camera and a new stabilization system to arrest spin for the camera.*

*Also the radios worked very well in the new configuration, QSO's were made from as far North as Quesnel B.C., South to Metro Seattle and Puget Sound, west to Vancouver Island and all throughout the southern interior of B.C. The Net Control, courtesy of Coquitlam ARC and specifically Richard VE7RLW, kept things civilized and made sure that everyone heard got in the log, for as long as he could hear it, then VE7NZ took over with a pen and sheet of paper thrown at him in his car for the last few minutes before Loss of Signal. A total of 86 callsigns were logged. Outstanding! We equate this success to an antenna designed by Thomas VE7TOA that really pushed the signal lobe out towards the horizon and Adrian VE7NZ doing a great job on the radio crossbanding.*

*The first failure was an old chestnut that has plagued us for all three HAB launches, the APRS failed at 7,000M. Although we used extreme cold rated alkaline batteries that have been successfully flight tested by others, we believe they failed at about -40C inside the payload. Counter-intuitively the Lithium-Ion batteries in the radios worked flawlessly at altitude and we believe this is because of the heat generated from transmitting. In the future we are considering consolidating all power requirements on the Li Ion battery to attempt to avoid this failure.*

*The second failure was recovery; unfortunately we live in a challenging area for recovery and this launch proved that. The expected recovery area was farmland in Sumas Prairie, Abbotsford B.C. It is thought that the balloon was slightly under filled which would have caused a higher altitude than desired. With less gas the balloon would have had to go higher to achieve the burst diameter. The balloon may have risen as*

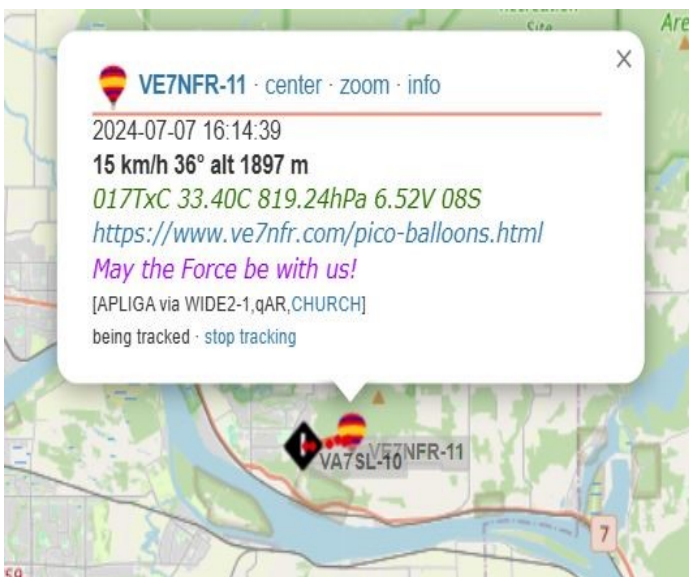


high as 35km. We think the balloon did follow the predicted course but continued on over into the United States and fell into the mountains, possibly a valley where it ceased to be heard immediately. Our US chase team did a great job of searching in the area as best could be expected but did not hear any signals to focus upon.

Because we did not recover the balloon we did not recover the camera which was impeccably nested in a 3D printed housing that was bolted with plates into a custom-made Styrofoam box by David VE7KZ. We are working on having a live video feed via a wide AFSK transmission on our next flight, which could be towards the end of Summer 2024, late August or early September. As always, we here at the Balloonex Department of North Fraser ARC fail forward! Until next time!



**Preparing the VE7NFR-11 balloon for launch.**



**An early balloon track with the unit at 1879 metres.**

NARA's slow CW transmissions at 9 pm, every Wednesday on the VA7DXH 144 and 220 MHz repeaters

## VA7DXH 2m repeater



On Canada Day, Devan VE7LSE and Kevin VE7KGV put up a new antenna for the VA7DXH 2m repeater near Ladysmith. They were assisted by Paul VE7XQL, Randy VE7FAA and David VA7DXX. The new antenna is a four-bay dipole antenna with the top dipole being at around the 58-foot mark. This replaces the temporary single dipole which was just 16 feet above ground.



**Devan and Kevin putting up the new VA7DXH 4-bay antenna**

## Sporadic E on 6m – from W3LPL

A note on 6m from Francis W3LPL, who provides frequent propagation predictions and who is the owner of the W3LPL superstation:

*If you've been active on 6 meters this season, you've noticed shorter duration and infrequent 6 meter sporadic-E openings extending beyond 2000 km. Last year was almost as bad, as were 2012 and 2013.*

*Sporadic-E is caused by vertical wind-shears in the lower thermosphere. Unlike lower altitudes in the atmosphere, the thermosphere is greatly affected by the solar cycle apparently causing anomalies in its wind field and a corresponding reduction in the frequency, intensity and geographic extent of vertical wind shears associated with sporadic-E formation.*

*Sporadic-E probably won't get much better for a few years. It's the price we pay for a more active solar maximum.*

## Bathtub Race



This year's Bathtub race was a bit different. For the first time three of the chase boats associated with their tubs were tracked using APRS (Amateur Packet Reporting System). The plan to conduct this experiment arose out of a conversation between VA7DXX and VE7GDE at Bathtub control last year and this year the initial experiment reached fruition. Because of some last-minute changes, the on-air APRS callsigns did not match the actual tub chase-boat callsigns; the actual tubs tracked were race numbers 505, 187 and 888. Still, the APRS equipment really worked well with some excellent tracks. NARA will now need to decide if the APRS experiment is to be continued next year. Thanks to VA7DXX and VE7KGV who loaned trackers for the event and to VE7LSE for organizing the chase boat installations.

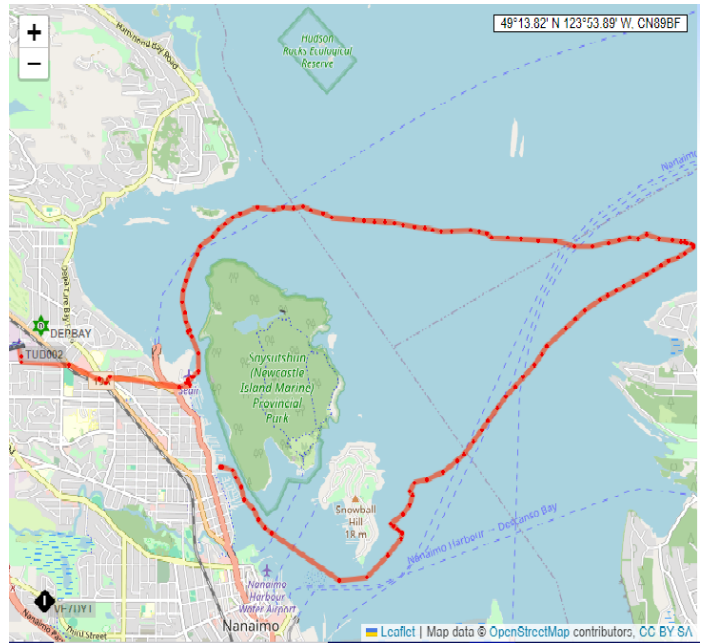
Voice radio-wise everything went smoothly with VE7GDE, VE7PMD, VE7IAD and VE7TOP at Bathtub control in the Coast Bastion Hotel. Mason VE7PMD handled net control and Bernie VE7IAD, a veteran boater, handled the marine side on the Marine 73 frequency. Wind noise was evident on some voice transmissions. A total of some 15 amateurs took part in the race communications. We should also note that two members from the Mid Island Radio Association in Parksville, Al VA7MP and Ron VE7RQX, joined NARA members adding to the already considerable radio expertise at the race. Thanks Al and Ron!

Forty-one tubs entered the race this year but because of the brisk 17-knot wind and associated rough seas, only about one-third of the tubs finished. This year's winner was Trevor Short of Ladysmith, with a time of 1:38:13.



**Overview of Bathtub control.**

Thanks also to Gerry VE7BGP and others who activated the NARA callsign VE7TUB over several days to celebrate the Bathtub race.



**A really good plot from one of the APRS trackers installed in one of the chase boats.**



**Jack VE7GDE setting up UHF the station at Bathtub control.**

## 10 GHz – David VA7DXX



Thirty years ago in the UK I purchased a kit of parts for a transverter; it was 144 MHz to 10 GHz. The 144 MHz was the intermediate frequency of course. I still have the kit, which will produce just a few milliwatts of 10 GHz signal, but the technology has changed significantly. A typical transverter for 10 GHz now has several Watts of output power.

A friend, Dino (Dimtcho) VE7XDT, recently retired and spent several months constructing his 10 GHz station. Fortunately he has all the test equipment necessary,



including signal generators, frequency counters, and more. During early July he finally got his equipment on the air and his first contact on 10 GHz was over a 10-kilometre path. His second contact was by bouncing his signal off a local mountain. His third contact was planned for July 3 with a station on Vancouver Island.

Being keen to listen to a 10 GHz SSB contact, I made arrangements to join Kirk VA7RKM at the Split Rock Lookout on the Malahat on July 3 at 2 pm. Dimtcho was going to transmit from the top of a 38-storey building in Vancouver. The contact on 10 GHz was over this 71-kilometre path, with signals at S9 each way. Although not my equipment, I did have a short session myself on 10 GHz using my call sign.

I thought that on 10 GHz the beamwidth from a 2-foot dish would be quite narrow and that aligning the two dishes at either end would be quite an issue. But no, the signal from Vancouver was easily readable with the dish swung 20 degrees either side of the direct heading. This could be because of signal scatter or maybe re-radiation from the wire fence (see the picture). Signal scatter on 10 GHz does allow contacts to be made by bouncing off mountains and also rain showers.



**Kirk VA7RKM on 10 GHz, beaming towards Vancouver.**

#### **NARA Meetings for August**

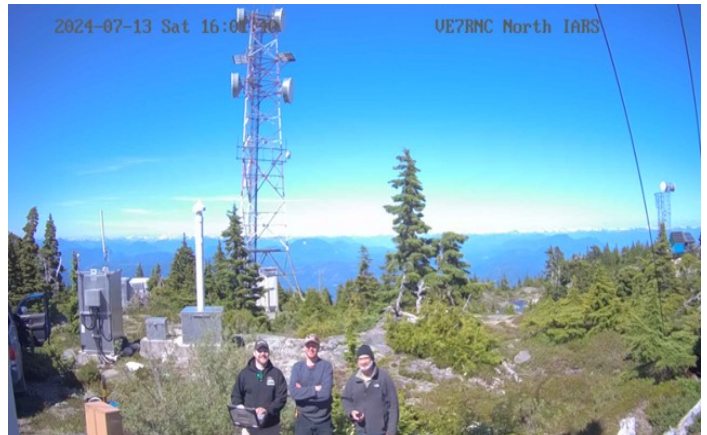
**August 1-** NARA Executive Meeting ( Google )

There is no General meeting in August

## **Newcastle Ridge ITS equipment failure**

Realizing there was an issue at the Island Trunk System's Newcastle Ridge site west of Sayward, Devan VE7LSE, Kevin VE7KGV, and Gord VE7UY made a visit to the site on July 13.

The main issue was that a fuse had failed inside one of the Daniels amplifiers, which was replaced. However, another issue concerning the Newcastle ridge batteries has come to light which means that sooner or later the batteries will need to be replaced.



**Kevin, Devan & Gord at the Newcastle Ridge site on Jul. 13**

## **Satellite Downlink**



Bruce VE7PTN returns to his regular spot in the *NARA Newsletter* next month.

## **NARA and Log Book of the World**

LoTW<sup>®</sup>

NARA is planning to put contacts made by some of its club stations onto the ARRL's Log book of the World. NARA has a number of callsigns allocated to the club. Actually seven, both for general use and for repeaters.

The plan is to put contacts made by VE7TUB and VE7NA into the Log Book of the World so that contacts can be more easily confirmed. NARA is in the set up process for this at present. It is also planned to use the eQSL system as well.

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 September issue of the NARA Newsletter will be noon on August 28 with an intended publication date of August 31.

News items and comments should be sent to

**news@ve7na.ca**