



# Squelch Tales



*Newsletter from the Merrymeeting Amateur Radio Assoc. for August 2007*



## **ARRL New England Division cabinet meeting report**

By Steve Kerchel, AA4AK



At Brian's (AA1WI) request, I was delegated represent MARA at the ARRL New England Division Cabinet meeting on July 7, 2007 in Manchester NH. All New England Division Sections except Vermont were represented. The following particulars are worth note:

1) Many licensees do not notify the FCC and modify their licenses when they move. If the FCC sends a licensee mail and it is returned, it is cause for revoking the license.

2) The biggest long-term problem facing ham radio in the US is declining numbers. There are approximately 649,000 licenses in the FCC database, and the net number of licensees drops at a fairly steady rate of 5000 per year.

3) In the New England Division for the months of February through March 2007, there were approximately 100 new ham licenses issued per month.

4) The dropping of the CW testing requirement has resulted in a blip in upgrades. In the New England Division before February 2007, there was a fairly steady trickle of 15/20 upgrades per month. In February (when the new rule kicked in late in the month) there were 49. In March there were 226. In April there were 147. In May there were 85.

5) The ARRL has an education fund that makes grants to High Schools. The grants are typically \$3500, and must be requested by a teacher. These are not grants to subsidize high school radio clubs. Rather, they are grants to subsidize teachers wanting to incorporate ham radio into their classroom instruction.

6) There is a problem with 70-cm repeaters in Massachusetts and California interfering with the Air Force's PAVPAWS radar system. The Air Force has identified 15 repeaters in the Cape Cod area, and 120 repeaters in the Sacramento area (does one city really need 120 repeaters?) that are causing the problem. Since ham radio is a secondary user of practically all ham bands above 2 meters (all but 222-225 and 2400-2402 MHz), the burden is on ham radio to stop any interference to the primary user. The Air Force could simply demand that the FCC to summarily shut down the offending repeaters, but has not yet done so. Instead, the Air Force is working with the ARRL to see if a less drastic solution can be found. The problem is aggravated by the fact that the technical details of the radar are classified, and the Air Force will not give specific technical information as to what would be required to stop the interference.

7) The ARRL has withdrawn its "regulation by bandwidth" petition to the FCC. They are working on a revised version that should be more acceptable to the ham community. The old petition was perceived by many HF data operators as giving an unfair advantage to automated data schemes such as Winlink.

8) The FCC has filed its brief in response to ARRL's lawsuit. The ARRL will now file its reply to the FCC's reply, then the FCC will reply to that reply (it is no wonder that lawyers are rich). The central issue is that the ARRL is seeking to compel the FCC to release the technical data on which it bases its decisions regarding how it regulates (or more strictly speaking, fails to regulate) BPL operations that interfere with ham operations.

9) The State of Vermont has enacted a law encouraging the widespread implementation of BPL in Vermont.

10) 26 states have enacted PRB-1 (recognizing the restriction on the authority of state and local

governments to regulate ham radio antennas) into law. With the exception of Connecticut and Rhode Island, all New England states have done so.

11) ARRL had 2500 new members in the first half of 2007.

12) ARRL's budget has remained steady for the past five years.

13) The Boxboro hamfest will continue its "only in even numbered years" schedule. There is a long running trend of shrinking advertising for print publications (and a rapid expansion of Web based advertising). In the long run (quite a few years in the future), this will affect how the ARRL delivers *QST*



## First satellite QSO using D-STAR digital voice

Reprint from N3UC Ham News

What is believed to be the first Amateur Satellite QSO using the new Digital Voice Mode D-STAR took place on July 1st between Michael N3UC and Robin AA4RC using the AO-27 Amateur Satellite. This report from <http://www.ao27.org/>

On July 1st, 2007 during the 20:00 UTC pass over North America, AO-27 was again providing a new round of enjoyment for Amateur satellite experimenters.

Thirteen years ago, AO-27, which coined the term "Easy Sat" by employing an FM bent pipe in space, provided many hams the ability to use a satellite without the expense of multi mode radios. This time around, AO-27 was used to provide the first D-Star via Satellite contact between Michael, N3UC, FM-18 in Haymarket VA and Robin, AA4RC, EM-73 in Atlanta GA. Signals were reported as strong and easy to copy. Call signs were received digitally on both sides of the link. Communications were possible for most of the pass. Both Robin and Michael were surprised at just how well the digital link was received.

The Analogue repeater on-board AO-27 is well suited for D-Star work. The radios were designed to pass 1200-19200 baud GMSK data. The Analogue mode was not a primary mode of operation in the design. Using a free switch setting in the switching

board, the design team hooked up the output of the receiver to the input the transmitter to create the

Analogue mode. There is not the normal low frequency filtering that is found in normal FM Repeaters. This means the Analogue mode passes the low frequencies required by D-Star. The equipment for the contact were IC-2200s on the Up-link at both N3UC and AA4RC, an IC-2820 on the downlink at N3UC, and an IC-91AD on the downlink at AA4RC. Doppler shift did prove to be a minor problem while using these radios.

The D-Star signal would decode out to about 1.5 kHz in frequency error. The IC-2820 would only tune on 5 kHz spacing (the 6.25 kHz channels did not fall in the right locations to help.) so at times we could not decode the digital signals.

For others that want to try D-Star via Satellite we have a few things to keep in mind.

1) Remember that the FM users can't hear you on the bird. They hear a strong "noise" but can't decode you. So please keep the D-Star transmitting short. If you can monitor the FM side, you can time your transmitting as to not step on them. Please try to schedule with other D-Star users instead of calling CQ for the entire pass.

2) Watch the doppler, at times you may not be able to decode a signal even if the other station can decode you. Keep your up-link on 145.850 for the entire pass. Program your radio call signs the same as for simplex, AO-27 does not have a D-Star call sign. You don't need to set up your radio for repeater use.

3) Before using other satellites besides AO-27, please check with the control operators of those satellites. Every FM satellite may not pass the D-Star signal nor may the control operators wish to have D-Star traffic on the bird.

4) If you hear us on the Bird, please give us a call. We would love to have as many D-Star users on AO-27 as possible. The AO-27 Control Operators fully support and encourage the use of D-Star via Satellite on AO-27.

A shout goes out to ICOM for creating Radios for this Fun new Amateur mode of operation. Without their radios we could not have made this contact.

**Michael N3UC**, AO-27 Control Operator



# Another Roaring Success on Field Day

By Steve Kerchel, AA4AK



Let me extend my heartfelt appreciation to the many people who participated in MARA's 2007 Field Day operation. As near as I can tell, there were 52 people (and one groundhog) present. There were 22 ham participants, partly from our club and partly from the surrounding ham community. There were also several members who were active in the front-end work but had to be out of town on Field Day weekend. I will not try to acknowledge the specific individual ham participants; there were so many that I'd likely miss a critical player. I do extend most special thanks to Karen Hoffman and the other people at the Midcoast Chapter of the Red Cross for all that they did for us.



The Class F format is becoming increasingly popular, and we worked a great many more Class F stations in 2007 than in 2006. The advantage of a Class F operation is that Field Day is intended to be an exercise in emergency preparedness. What do the club members typically do in a real emergency? Typically, we head for the Red Cross in Topsham, and coordinate emergency communications from their radio room. This was true of the real emergency that we worked during

the Patriots Day Northeast, as well as the 2006 SET and WMD exercises. What we had on Field Day was technically a "two-transmitter" operation. The two transmitters were a PSK station on 20/40/80 meters, and a traditional SSB/CW station on 20/40/80 meters. We also had an "extra VHF station." In addition, we used the existing Red Cross ham station, NITRC, as our "get on the air" (GOTA) station; this enabled operators with little prior HF experience to give it a try.



One might suppose that an indoor operation loses some of the character of a traditional Field Day. After all, you don't have bugs --- right? WRONG!

Did we have bugs? Not as many as in 2006.

Michele did an excellent job of insect sealing the coax bulkheads. However, a few very determined mosquitoes made it through her defenses. Besides, what kind of Field Day is it if it does not rain? We did not miss out; we had a considerable rainstorm on Friday afternoon when we were trying to set up the HF antennas. In addition, Saturday morning was very windy. On both days, the weather made antenna setup a real challenge.



After two years of Class F operation, one might wonder if we should revert to the more traditional format. There are several drawbacks to doing so. First, a Field Day operation working in concert with a real EOC (as we typically do in real emergencies) is taken much more seriously by politicians and emergency officials than an operation preoccupied with swatting mosquitoes in tents (as we typically do not do in real emergencies). Further, and not to be dismissed, as a 2F operation we are a major player, at or near New England High Score, and at or near the top 10 for the entire exercise. As a 2A operation, we would merely be one more anonymous entry among many in the middle of a very large pack.

There is one issue that I cannot ignore. Several people made unsolicited comments to me that I looked so stressed out that they were worried about me. I take their concerns seriously, as many people in my family die at about my age. I've learned enough from the last two Field Day operations that I think I can find some ways to reduce the stress level enough to manage another 2F operation in 2008, but there would be no way that I could take on the added stresses of managing a 2A operation. I must look to my own health and safety. With the kindest of goodwill and wishing to give absolutely no offense, I have no choice but to say that if MARA decides on a 2A operation, then someone else will need to take the responsibility to manage it.

Furthermore, they're great many logistical advantages (not to mention bonus points) that we get for free from the Red Cross. As a 2A operation we would have to provide these things for ourselves. Considering that in both years as a 2F operation, we have not had quite enough resources to run two transmitters round-the-clock. It is hard to see how the added burden of pitching tents, fueling generators, preparing our own food, and, most critically, doing without our female participants, would make for a better Field Day.

Not the least of those advantages is the fact that, for the second year in a row, the Red Cross prepared the BarBQ. It was unforgettable. But wait, there's more! On Sunday morning, Michele provided us with delicious breakfast pitas. This is a serious lesson in EMCOMM that is not widely enough appreciated. If you want the volunteers to turn out, you need to keep them well fed.



Jim, N1IPA in line to chow-down

One of the objectives of Field Day is to show off our capabilities to elected officials and emergency responders, and the public. We had several EMS officials' tour the operation including Clark Labbe, the Brunswick Fire Chief. In addition, Dick McLean, the Selectman from Damariscotta in charge of emergency preparedness was present. Dick is very interested in using Lincoln County ham radio operators (some of whom are MARA members) to supplement the Town's emergency communications. Our pre-event press release was published in the Brunswick *Times-Record* and the *Coastal Journal*. Equally importantly, *Times-Record* sent a reporter to cover the operation on the Saturday of Field Day, and the story, including two photos (one shown below), was published on page 2 of the paper the following Tuesday.

We determined from our 2006 experience that there were several things we needed to do differently in 2007. Over the course of the past year, N1TRC has acquired a number of necessary amenities, including several clocks, a keyer, an SWR analyzer, and an improved operating console. The one feature lacking in the N1TRC setup that we hope to have operational by the 2008 Field Day operation is WinLink 2000, a PACTOR-based system for swapping e-mails by HF radio. We solved the problem of the CW operation interfering with the PSK station. N1TRC has a set of 200-Watt bandpass filters (BPF) for 20, 40 and 80 meters. For the 2007 operation, no two transmitters could operate on the same band, and each transmitter used the appropriate BPF. We used ferrite-shielded coax from each of the transmitters.



CW a big part of the KS1R effort



WIZE's 4:1 KW toroid balun feeding the 132-foot doublet

Are there other improvements yet to be made? No doubt. One public relations detail we discovered is that we need a very concise "MARA information card" to pass out to prospective members. As in 2006, the PSK station made a significant contribution to the overall effort, but we still need to find a way to be able to run the PSK station around the clock. In addition, we need to use the N1TRC VHF rig to monitor the 147.21 repeater whenever the GOTA station is operating. A small, but desirable improvement would be to assure we have a trashcan at each operating position.

Probably the most dramatic "lesson learned" was *never put three ropes in the same tree*. We did that with the south end of the 40-meter dipole, and the ropes got hopelessly tangled in the tree branches. Ultimately, Bruce had to tie the loose end of the antenna to his pickup truck in order to pull it down. (We did not damage the tree very much. Remarkably, the antenna is no worse for wear. I build them tough.)

One option that we should consider in 2008 is

using the 160 meter band. It is allowed under Field Day rules. The Red Cross site has tall trees far enough apart that we can put up a full-size half-wave dipole. It would give us an additional place to search for QSOs when 80 and 40 meters become "fished out." As long as sunspot activity remains low, it would give us three bands that remain open overnight.

One obstacle that we had to overcome was finding a way to pass our NTS-formatted messages. The SM was visiting various FD sites (including ours), and the NCS for the Seagull Net had not made any provision for accumulating and relaying messages for the SM. The unfortunate result was that for 45 minutes our SSB rig was tied up on the Seagull Net, with no FD QSOs made and no traffic passed. Bruce has proposed an elegant solution. On VHF simplex, we pass the messages to a club member who then relays them to the Seagull or Pine Tree Net after Field Day. This fulfills the requirement that all "NTS messages claimed for bonus points must leave or enter the site via amateur radio RF."

In the realm of the unusual, we picked up bonus points for making five solar powered QSOs, a satellite QSO, and demonstrating APRS.



Donnie, WD1F with solar power system



K1IJS's APRS set-up

The GOTA operation was a great success. Michele, KC7LIF, turns out to be a formidable

GOTA phone contester, with 34 40-meter SSB contacts (plus the GOTA bonus points for going over 20 coached QSOs). Overall, the GOTA station had 79 QSOs. Nevertheless, there were several “lessons learned” regarding the GOTA operation. One is that it is too much to ask that a single person be the GOTA coach. Experience shows that four GOTA coaches are necessary. During this period of low sunspot activity, which will certainly extend through summer of 2008, from midnight to 8 am, nothing higher than 40 meters is open, and that is when the non-GOTA CW and PSK operations run up the points, and most of the GOTA operators do not want to pull all-nighters anyway. Thus we can plan to shut down the GOTA operation for those 8 hours, providing for 16 hours of GOTA operation, from 2 PM to midnight and 8 am to 2 PM. If we have four GOTA coaches, each could serve a four-hour shift, and it does not become too burdensome for anyone. In 2008, we do need four people to step up and take a 4-hour shift as a GOTA coach.



**Michele KC7LIF operating NITRC GOTA station**

It would also be wise next year for us to put up a dedicated G5RV in the treetops for the GOTA station. The biggest problem with the GOTA station was the extremely lossy operation of the existing B&W folded dipole. In 2007 we did much better when we hooked the GOTA station up to the 40 meter dipole. A G5RV would get us 80, 40 and 20 meters all on one antenna.

We left 420 bonus points on the table that we should be able to pick up next year. 200 points are for non-traditional modes, and we should be able to demonstrate SSTV and WinLink 2000 next year. We had QSOs by two operators (thanks, Shane and Isaac) 18 or younger. Next year, we need to see if we cannot find 3 more young people to give us those extra 60 points. Hopefully, with

anticipated improvements in the GOTA station, we can find a total of 4 more operators to each make 20 coached QSOs and thus get us the extra 160 GOTA bonus points.

In the end, *our 2007 operation was a roaring success*. We had 503 contacts, 141 on SSB, 50 on PSK, and 312 on CW. Operating time was 19 hours on SSB and 13-1/2 hours on CW. The total includes 79 QSOs on the GOTA station. Our total score was 3160 points, including bonus points for emergency power, publicity, public location, information table, receipt of ARRL message, transmission of message to SM, transmission of ten other NTS-formatted messages, solar power, visit by an elected politician, visit by a served agency official, demonstration of APRS, satellite QSO, GOTA bonus points, youth QSOs, and e-submittal. In the 2006 Field day, there were 64 class 2F entries, and only 16 of them had a higher score. *We are in an excellent position to achieve New England High Score and an overall top ten finish for Class 2F for the second year in a row*. Most importantly, the public warmly received the operation, it got a photo story in the newspaper, and the Red Cross has invited us back for 2008.



**Harry, N1TTT wrapping-up FD-07**



**HELP SOMEONE GET A HAM LICENSE!**

# 4th Annual Maritime DX Forum - Nova Scotia

Reprint from Ham News on QRZ.COM

Members of the Halifax Amateur Radio Club (HARC) invite all contesters, DXers and HF enthusiasts to the 4th Annual Maritime DX Forum.

It will be held in Upper Tantallon, just outside Halifax, Nova Scotia, at the Head of St. Margaret's Bay. This is a full day event on Saturday, August 4th, beginning at 8:30 am.

The Program includes five excellent presentations:

- 1) Tom Harrell, N4XP, talking about the highly challenging 2007 Scarborough Reef DXpedition.
- 2) The second presentation will explore answers to the question: "Why do Mariners become Radio Amateurs? It features Jose Campione, VA3PCJ, a noted Ontario yachtsman and ham.
- 3) Scott Wood, VE1QD, will take you on a trip to the British Antarctic Territories, some of the rarest DX real estate on the planet.
- 4) Fred and Helen Archibald, VE1FA and VA1YL will show you how to mount a real DXpedition in your own region at a moderate cost.
- 5) The DX Forum Dinner will feature a reception at 5:00 PM followed by dinner at 6:00 PM. In the day's final event, Don Trotter, VE1DTR, and his musical group Sunrise will entertain after dinner with a Bluegrass Concert: DX Breakdown.

The registration deadline is Wednesday, August 1st. The complete details about the MDF and a registration form can be downloaded from the HARC Web site at:

<http://www.halifax-arc.org>

You can also contact Scott Wood, VE1QD at: [ve1qd@rac.ca](mailto:ve1qd@rac.ca)

## 14300.net celebrate first anniversary!

Reprint from Ham News on QRZ.COM

The website 14300.net will celebrate its one-year anniversary next month.

The brainchild of Steve Wojton, NN2NN, of Ransomville, NY, the website was started in August of 2006 to help promote the net activities on the frequency of 14.300 MHz. The website has steadily grown since it's inception and has not only become popular amongst those assisting with traffic but also with the Ham Radio sailing community.

With some exclusive content with easy links to pertinent information concerning net operation, the 14300.net has not only become a useful tool for the many net control stations handling traffic but also to those new "HF" hams who can find proper net etiquette and procedures available on the website.

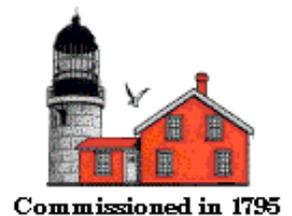
14.300 MHz... A great frequency... with an even greater purpose... to serve.

<http://14300.net>

**Seguin Light to go on the air!**

By Cory Golob, N1URA

The next lighthouse activation will be on Saturday August 11th at 1600z (14:00 EDST) until Sunday August 12 1600z on Seguin Island USA-746, it also qualifies for IOTA (NA-



137). Planned operations will be QRP - 2 stations on CW (5 watts), 1 station on voice (10 watts). Bands will alternate depending on propagation and activity but are expected to be 20, 40, 75 and 80 meters. APRS will be run from the island, you can check <http://www.findu.com/cgi-bin/find.cgi?call=n1ura-lh> for any updates. Info about the lighthouse can be found at [http://www.seguinisland.org/seguin\\_main1.htm](http://www.seguinisland.org/seguin_main1.htm). Hope to work you then!

73, Cory