



ACORN Newsletter



Androscoggin Amateur Radio Club (AARC)
P.O. Box 1, Auburn ME 04212-0001
<http://www.w1npp.org>

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Repeaters

<u>Auburn</u>	<u>Poland Springs</u>
146.610 PL 88.5	147.315 PL 103.5
D-Star 443.300	

Club Officers

President: Tim Bubier WT1A
V. President: Cory Golob KU1U
Treasurer: Ivan Lazure N1OXA
Secretary: Dick Knight N1NYW
Trustee: Tim Bubier WT1A
Newsletter Editor:
Harold Hartley N1LLU

ARES/RACES Meeting

Wednesday Mar 16th 2016 1730 EDT
Androscoggin Unified EMA Office
Basement of Central Fire Station
2 College Street Lewiston, ME

Club Meetings

Wednesday Mar 2nd 2016 1830 EDT
Meeting held in Potvin Room
99 Campus Ave. Lewiston, Me.

Club Breakfast

Wednesday Mar 30th 2016 0730 EDT
Held at the Ramada Inn Pleasant Street
Lewiston, Maine

On Air ARES/RACES NET

Weekly ARES/RACES Net is every
Thursday at 1900, on Club 146.610
PL 88.5, plus Weekly Training net
follows. Digital will be part of training
net.

Androscoggin ARES / RACES **By Paul Leonard / KE6PIJ**

The year has started out with enthusiasm. We have programmed the FT897 radios at the face-to-face meeting in the Emergency Operations Center (EOC) so they all have the same configuration and possess the frequencies most used in this county. That same configuration is available to those also wishing to install these frequencies on their own radios. CHIRP makes the programming easy and allows you to alter where the channels are located so you can keep your everyday favorites right where they are.

Our Simulated Emergency Test was postponed due to impending weather. No need to put people at risk for a simulation, so it will be rescheduled. Check in to the nets to find out when it will be. We did take some time, however, to experiment with additional digital modes via fldigi and the repeater. Some work, some don't. That's the price of using a repeater (especially one that is

capable of both analog and digital voice). At least we know what will work and what is likely not to work.

The Maine State Convention is coming up and we hope to see everyone there and visit our table to sign up or just talk about what is coming up this year. In April, the state is having the 8th Annual Maine Partners in Emergency Preparedness Conference. Several of our members plan to attend and provide information about ARES/RACES.

So far the weather looks to be warming up sooner than usual (of course we all know that can change). It won't be long until we are out and about doing exercises in the field. Check your go kits, update them for the new season, and be prepared to join us. Let's get the most out of this Summer that we can.

President's Notes **By Tim Bubier WT1A**

Hello Everyone,
Just a brief note this month. I will not be at the March meeting because I'll be in Florida that week, but we will have another interesting presentation from Walter, VE1AWS. This month's topic will be "A Beginner's Guide to Amateur Radio Astronomy." Fascinating topic and I'm sorry I'll miss it.

Big thanks going out to everyone working so hard to make the upcoming Hamfest and State Convention a success. We've got a full and diverse slate of presentations and meeting scheduled. Check out the club website, if you haven't already. 73 and see you there,

Dues are Due by March 31, 2016
Please, if you can not come to the
Meetings please mail your \$10 to
Ivan, N1OXA Thanks.

Ivan Lazure
440 Webber Ave.
Lewiston, Me. 04240

Secretary's Report

By Dick Knight N1NYW

February Report

The Androscoggin Amateur Radio Club held a meeting Wednesday February 3, 2016 at St. Marys' Medical Arts Building in Lewiston Maine. In attendance: kb1iek, ve1aws, kb1cdu, n1nyw, ke4ucw, kb1qhr, k1wtx, wa1skp, kb1doi, n1jd, ke6pij, kb1rsd, w1lwt, w1ltx, kc1aih, visitor Ian from Minot, wt1a, n1oxa, n1oxa, n1oxe, ku1u, n1wfo, n1dot, kc1dny.

Our meeting began at 6:31 p.m. with a great presentation by Walter ve1aws showing pictures of his trip to Sable Island February 23rd, 1982.

The business meeting started at 7:18 with President Tim wt1a presiding. Miriam kc1aih made a motion to accept the Secretary's report as printed in the newsletter. Seconded by Bob w1ltx. Vote: approved.

Ivan n1oxa gave the Treasurers report and Bob w1ltx made a motion to approve the report, and Miriam kc1aih seconded the motion. Vote: approved.

The repeater committee met two weeks ago and made their recommendations about the repeaters.

Auburn: Is running well, we will leave it alone so we don't break it.

Poland Spring: Needs new mast and longer coax to accommodate the taller mast and a new connector and keys for committee members.

Leeds: Temporarily install the repeater onsite with Ivans' dual-band antenna installed at low height to experiment between 2 meter and 440 MHz bands.

Purchase TXRX VHF amateur split duplexer

If we settle on a 440 frequency we already have duplexer

Purchase Antenna (undetermined at this time make and model) not to exceed \$ 180

Purchase 120 ft. 1/2" hard-line LDF4-50A or Equiv. with type N connectors (approx. \$ 350).

Total for the two projects: \$ 2077 not including labor.

Paul ke6pij made a motion to approve both proposals as recommended by the repeater committee. Dave n1oxe seconded the motion. Vote: approved.

Tim reported that the ARRL has sent handouts and gift certificates for a total of \$ 150 of league merchandise to be given away at the convention. So far convention speakers signed up are Joel Hallas propagation, Leo n1bok transmatch KQ1L Dave will talk about the link system and DMR, Yeasu has not confirmed a talk with a real person or by Go To Meeting video. Jerry k1wtx reports that Granite State is the only vendor so far that has sent the form and money for space at the convention.

We received a thank you letter from Christopher Blackwood kd2cxc thanking us for the money he received from our scholarship.

Tim passed along a message from the Trek Across Maine that they are having an event in Waterville February 17 and that Tom Frenaye sent a reminder that the CW Sprint will be held February 6 and 7.

Tim told of his trip to the ARRL meeting, he was the only one there from Maine. Other clubs in New England have the same problems we have in Maine with getting vendors to come to hamfests and getting new members. He reports that we have about 90 club members and Nashua New Hampshire has only 70 in that much more populated area.

Tim wt1a has a new general book to sell and will take the best offer.

The meeting adjourned at 7:52 p.m. without a motion, or vote.

DX News Notes

By Earl Gilmore N1SVB

The month of December we made 40 DX contacts which represents 29 countries.

Countries worked are: EA5KB/p, Spain; YO2LMW, Romania; S51A, Slovenia; LA1T, Norway; HI3/KL7JR, Dominican Republic; SV3AQR, Grease; 4X6TT, Israel; 9A1CCY, Croatia; PJ4DX, Bonaire Is.; V51WH, Namibia; XR4SURE, Chile; EW2W, Belarus; ZS5DCF, South Africa; HB0AFVL; Liechtenstein; VE3RH, Canada; UX!LW, Ukraine; C5YK, The Gambia; VP8STI, So. Sandwich Is.; HB9HLM, Switzerland; 4V1TL, Oman; 5Z4/DF3FS, Kenya; VK7XX, Australia; F4GTG, France; PR7CPK, Brazil; ZD7VC, St. Helena Is.; J79WTA, Dominica; J69Z, St. Lucia Is.; CP6CL, Bolivia; LU7HW, Argentina;

We made one Pacific contacts in January. We contacted VK7XX on in Australia.

There are several DXpeditions taking place in March 2016. Some haven't been assigned a call sign so they will use the listed prefix followed with another call sign.

Mar. 01 to Mar. 16	T32/	East Kiribati
Mar. 02 to Mar. 18	4S7/	Sri Lanka

Mar. 03 to Mar. 15	TX7EU	Marquesas
Mar. 04 to Mar. 13	3C7GIA	Equatorial Guinea
Mar. 04 to Mar. 19	E51AQA	South Cook Is.
Mar. 06 to Mar. 21	5J0P	San Andres & Providencia
Mar. 09 to Mar. 15	T88XH	Palau
Mar. 10 to Mar. 24	J34G	Grenada
Mar. 10 to Mar. 26	3W2BR	Vietnam
Mar. 11 to Apr. 07	CT9/	Madeira
Mar. 12 to Mar. 24	P4/	Aruba
Mar. 14 to Apr. 12	V47JA	St. Kitts & Nevis
Mar. 15 to Apr. 23	GD4SKA	Isle of Man
Mar. 15 to Mar. 26	VK9CK	Cocos Keeling
Mar. 15 to May. 15	JD1/	Minami Torishima
Mar. 17 to Mar. 21	T88/	Palau
Mar. 29 to Mar. 29	FP/	St Pierre & Miquelon
Mar. 18 to Mar. 24	FH/	Mayotte
Mar. 20 to Mar. 25	T81IR	Palau
Mar. 20 to Apr. 10	VK0EK	Heard Is.
Mar. 24 to Apr. 21	FH/	Mayotte
Mar. 27 to Mar. 31	PJ7/	St. Maarten Is.
Mar. 29 to Apr. 04	XW7FG	Laos
Mar. 1 to Apr. 14	FT4JA	Juan de Nova & Europa

ARRL international DX Contest, Phone (Mar. 05 - 06, 2016)
CQ WW WPX Contest, SSB (Mar 26 - 27, 2016)

The above DXpeditions are accurate to the 15th of the month. For later additions visit NG3K web page.

Fox Hunting or Amateur Radio Direction Finding

By Cory Golob KU1U

Fox Hunting, or Amateur Radio Direction Finding (ARDF), is when a person, or team, uses various methods to locate a radio transmission site. This site can be where a person is actually transmitting or a device, such as a "Fox Box", that beacons are set intervals. Fox Hunting is fun and a great way to practice in case a jammer is transmitting, either maliciously or unintentionally. It is also a perfect gateway to get people interested in the hobby because anyone can fox hunt since you are not transmitting, you are only listening. If you are competitive, you can compete against other teams, however, if you want it more realistic, you can work with other teams to save time and coordinate searches and compare bearings.

To do a fox hunt you need three basic things, a radio for the fox and a radio for the hunter. Optimally, the hunters would want to use a directional antenna to narrow down where the source signal may be and an attenuator for when you get close to the source signal since the signal becomes too strong. Yagis are the most popular antennas to use for fox hunting, especially home brew tape measure yagis since they are light and easily transportable. Quads have been used also, but they are more cumbersome to transport. Another very popular fox hunting antenna is a Time-Distance-Of-Arrival (TDOA). The TDOA is one of my favorite antennas that I use in conjunction with a tape measure yagi. A TDOA is a 2 element vertical dipole that electronically switches quickly between the two antennas. The idea is to use the antenna to find when the source signal is in phase with your antenna (in other words when the source signal is hitting the left antenna at the same time it is hitting the right antenna). If the signal is out of phase (hits one antenna before it hits the other antenna) then you will hear an audible tone. Typically the more out of phase the signal is, the louder the tone. As you start to get the signal in-phase the tone becomes quieter. When the tone has vanished, you are in phase. What is the downside to finding a signal that is in phase?? The signal is either in front of you or 180 degrees behind you! That is where the directional antenna comes in handy... to help you narrow down which direction the fox is! The other device, and most expensive of fox hunting equipment, is the Doppler system. A Doppler system is similar to a TDOA in that it switches among the antennas at a rapid rate, however, now instead of dealing with 180 degrees, you are dealing with 360 degrees so you can see the exact direction and bearing of the source signal. Remember, the equipment is only as good as the operator! Beckie and I did a fox hunt one month and we ending up winning against a husband-wife team that had a Doppler. Come to find out, the husband-wife team were 90 degrees off on every bearing because they did not place

their antennas on the car correctly (the North antenna was placed East) which pointed them in the wrong direction every time. It is also a good idea to test the equipment before you use it. Had this couple made a test transmission before they started, they would have realized the bearings were 90 degrees off.

How does one go about finding a fox once they have the equipment?? From my experience, a good fox hunter finds the highest elevations to take, at least their first, bearing. Anyone who knows VHF and UHF can tell you elevation is key! I prefer using

topographic maps when I participate in a fox hunt. Topographic maps can not only show me good elevations to take a bearing from, but they can also clue me in on elevations that may prove to be obstacles (refracting signals can prove to be tricky for a fox hunter). Once I get my first bearing I use a compass to find the bearing, plot my location on the map, the bearing and draw a line with a ruler across the entire map. I then select another good elevation, if possible to get my second bearing. What fox hunters use for locating the source signal is Triangulation. A good fox hunter can narrow down the signal source in three transmissions because they triangulate (use 3 points to make a triangle). Before GPS was used in cell phones, triangulation was how cell towers were used to get a location on a person who called 9-1-1 and did not know where they were.

Fox hunting is interactive. You can work with other teams and communicating with the fox is not out of the question. You can ask the fox questions, whether they answer truthfully is a different question, but if anything, it gets them to potentially talk more if they take the bait. Also remember, when fox hunts are done on the repeater, you want to get your bearings from the INPUT of the repeater, not the output.

Once the fox hunter was able to locate the fox, they would announce on the radio (if they had privileges) "Tally Ho!". In Connecticut, our radio club would host a monthly fox hunt. The fox would provide each hunter with a printed map, we set rules that the fox hunt had to be done within a 10 mile radius of the rendezvous point, the fox would use the local repeater to make their transmissions (giving a 2 minute warning every 8 minutes and transmit for about 2 minutes) and last, probably the most important rule of all, the fox provided refreshments for when they were located. The person or team that located the fox first, became the fox next month and would provide the maps and refreshments.

I am hoping there is enough interest that we can organize a fox hunt this Spring, and potentially make it a monthly tradition. If you are interested in learning more about Fox Hunting, the best book available is *Transmitter Hunting: Radio Direction Finding Simplified* by Joseph D. Moell and Thomas N. Curlee (ISBN-13: 978-0830627011). Happy Hunting!