

North Fulton Amateur Radio League NFARL eNEWS

June 2017

Celebrating 40 Years Service | Friendship | Education | Fun

www.nfarl.org



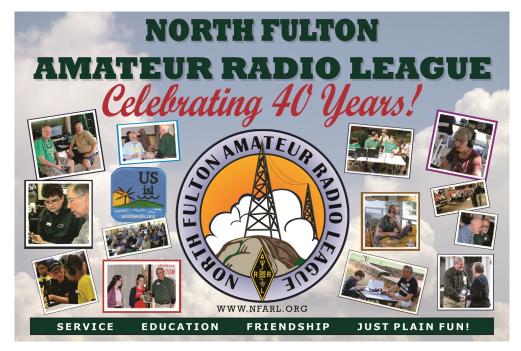
NFARL Shines at the Atlanta HamFest!

The North Fulton Amateur Radio League was a focal point at the Atlanta Hamfest on June 3rd!

The club had three tables where we celebrated NFARL's 40th anniversary, showcased our great club, presented our ARES group mission, and promoted HamJam 2017.

The NFARL tables were well staffed by club members and were a central point for coffee, doughnuts, water and amateur radio tales. However, the big draw were the NFARL Anniversary Cakes that were enjoyed by many of the HamFest attendees.

It turned out to be a perfectly mild day for early June that created a pleasant boneyard experience, which induced several NFARL members to splurge on a variety of "needed" items for the shack. This



same weather has been put on order for the NFARL Field Day event, June 24-25, so be sure to come out and enjoy the club's biggest activity of the year and maybe some more 40th Anniversary Cake.

Our appreciation goes out to all the NFARL members who volunteered to staff the tables for the event as we had a great showing. We would also like to thank the ARC and other local clubs for making this a great annual HamFest!

John Tramontanis, N4TOL, NFARL Activities Chairman

NFARL Upcoming Events and Dates

- Every Sunday NFARES net 8:30 PM 147.06 MHz (+) PL 100

 All licensed Hams are welcome, you do not need to be an ARES member!
- **Every Monday Tech Talk** 8:30 PM 145.47 MHz (-) PL 100 NFARL's flagship technical based "non check-in" net. The net is always better when using the web based chat room but Internet is not required to join the net. Check NFARL Nets website for "how to".
- Every Wednesday Hungry Hams Lunch Bunch 11:15 AM Slope's BBQ, 34 East Crossville Road, Roswell.
- Every Thursday YL Net 8:00 PM 145.47 MHz (-) PL 100 Check NFARL Nets website for "how to."
 OM's (guys) are welcome to listen in to this YL net.
 Great opportunity to get your YL's on the radio!
- Every Saturday Royal Order of the Olde Geezers (ROOG) Lodge No. 1
 9:00 AM Reveille Café, 2960 Shallowford Road, Marietta (at Sandy Plains and Shallowford). Everyone is welcome: You don't have to be "old" or a "geezer" to join this breakfast get-together.
- Second Tuesday NFARES Meeting 7:00 PM 9:00 PM
 Fellowship Bible Church, 480 W. Crossville Road, Roswell.
 Check NFARES.net for more information.
- Third Tuesday NFARL Club Meeting June 20, 2017, 7:30 PM.

Pre-meeting activities begin at 7:00PM.

Location: Alpharetta Adult Activity Center at North Park

13450 Cogburn Road, Alpharetta, GA 30004

Program: NFARL Field Day Chairman Ian Kahn and his team of Station Captains will present a primer for "NFARL Field Day 2017"

Saturday June 24th & Sunday June 25th - NFARL Field Day !!

Location: Groveway Community Park (Formerly know as Waller Park Extension) 160 Dobbs Drive, Roswell, GA 30075

Fourth Tuesday – NFARL Executive Team Meeting

June 27, 2017, 7:00 PM

Location: Arbor Terrace at Crabapple

12200 Crabapple Road, Alpharetta, GA 30004

Meetings are open to all NFARL members. Space is available on a first arrival basis. Please contact the <u>President</u> to ensure available space.

Field Day is Almost Here! / Ian Kahn, KM4IK

The final preparations are underway as Field Day 2017 rapidly approaches!

As I write this, we are 8 days away from the big event! Your station captains have been busy putting the final touches on their stations. As in years past, we'll have the usual array of K3s, Kenwoods, and other radios for our stations. Phone, swing, satellite, and 6m will be set up at the north end of the parking lot, where they've been in years past. Due to an unexpected accident with the camper we usually use, CW will be in a tent, set up somewhere near where the camper usually sits. And, GOTA will be under the picnic pavilion near the soccer field.





We have a couple of special events on tap for Field Day weekend, too. Jon Wittlin, K4WIT, along with several able assistants, are ready to teach the radio merit badge to Boy Scouts. As of this writing, we have 21 Scouts signed up and ready to take the merit badge class. If you know any Boy Scouts who would like to take the merit badge class at Field Day, we have 9 slots still available. Please send them to the NFARL MART to register. If anyone wants to help, reach out to Jon, at k4wit@nfarl.org.

We also have our traditional Field Day picnic. The club will supply the barbecue, hot dogs and hamburgers. We need you to provide the sides and desserts. Lynn, N4MSK, our food chair, also hinted to me that there may be something special at the picnic to help NFARL celebrate its 40th birthday. She won't tell me what her plans are so I'll have to wait and see, just like everyone else.:-) We do need to get a head count so that Lynn knows how much barbecue to order, and we ask everyone to please pitch in by bringing a side or dessert. Please RSVP by midnight, June 20 (that's just a couple of hours after the June club meeting) to fdfood@nfarl.org.

Now that you've heard what plans your Field Day committee has been busy making, I bet you're all asking what you can do to participate. I'm so glad you asked! The biggest thing you can do is sign up to take an operating shift. Field Day this year is all about showing the public our skills during emergencies. To do that, we need to have people's rears in the chairs making contacts! We have plenty of shifts available at all our stations. All you need to do is contact the captain of your station of choice, and let them know what time you'd like to work the QSOs. Your station captains are:

Phone/Swing – Nathan Wood, K4NHW (k4nhw@arrl.net)
CW – Pavel Anni, AC4PA (ac4pa@arrl.net)
6m – John Kludt, K4SQC (k4sqc@arrl.net)
Satellite – Daryl, K4RGK, and Lori, K4UPI, Young (k4rgk@arrl.net and k4upi@arrl.net, respectively)

(Continued on page 4)

If you're not sure what time you'll be at Field Day, don't worry. We'll get you on the air and operating, along with everyone else!

We also have, for those hams that are newly licensed, or people who come and want to operate, but aren't licensed, the GOTA station. This is a very special station that is manned at all times it is operational, by an Elmer. Our purpose with the GOTA station is to introduce new hams to the magic of HF, and teach them some good operating habits. It is also there to let those who aren't licensed get

"I encourage everyone to bring any youngsters you know to Field Day and let them learn the thrill of making an HF contact at our GOTA station."

on the air, with a properly licensed control operator, and make a few contacts. The hope is that, by showing them how much fun amateur radio really is, we can get a few more people interested in the hobby and keep the hobby growing. We see this as an especially good way to get youth interested in radio. I encourage everyone to bring any youngsters you know to Field Day and let them learn the thrill of making an HF contact at our GOTA station. Operating the GOTA station will be on a first come-first served basis Saturday from the 2:00 PM start until around 6:30. After 6:30, Mark, KK4FOF, this year's GOTA captain, has operating slots available. Please reach out to him about operating if you are GOTA eligible (licensed since Field Day last year, regardless of other radio activities; inactive on HF for the last three years; or unlicensed) or if you plan to bring someone new to Field Day and want to introduce them to operations. Mark can be reached at kk4fof@arrl.net.

There are other ways club members can help, as well:

Antenna setup – begins Friday, June 23, at 9:00 AM at Groveway Community Park. If you are available, please come help out. If you have an antenna launcher, please bring it, too!

Greeters – We would love to have greeters to make our guests feel welcome, take them around to show them the Field Day site and answer questions. If anyone is interested in helping out as a greeter during the first few hours of Field Day, from 2:00 PM until around 6:00 PM, please let me know.

Tear down — This is a big area where we can use help. Historically, the people who handle tear down on Sunday are the same people who handled set-up and who have been at the park most of the weekend. Even though we're all very careful, the fact that we've been there all weekend increases the chance of accidents happening. Last year, things improved significantly when several people came back to the park at 2:00 PM Sunday to help us tear down. I'm asking for about 10-12 people to come back Sunday to help us get the antennas down and the park cleaned up quickly, efficiently and safely.

If anyone has any questions about Field Day, please reach out to me. You can reach me at km4ik.ian@gmail.com.

See everyone at the meeting Tuesday, June 20, and at Field Day, June 24 and 25!

73 de, **Ian**, KM4IK 2017 Field Day Chair

Bare Bones HF IOTA or Minimalist DXing / John Tramontanis, N4TOL

As I was packing for our annual Memorial Day vacation with my in-laws at St. Simons Island, I received W4QO's e-mail promoting his favorite contest, the WPX CW, coming up that weekend. Jim's e-mail not only reminded me that I would be missing a fun event, but also that I was on the eve of an upcoming six days without ham radio, and being entertained by my in-laws. Jim's note also prompted me to figure out a way to get in on the WPX action while on St. Simons Island - IOTA NA-058.

The condominiums that we stay at each year are not amateur friendly. We always have first floor units on the interior courtyard. There is no means to accommodate any antenna setup without infringing on adjacent units, not to mention that the ground floor is surrounded by buildings that are four stories high.

So with just hours left to pack, I decided to give a simple, bare bones operation a try. I went with a "station in a bag" kit that I put together over a period of time, all from second hand purchases (except for the antenna):



John - N4TOL

- YouKits HB-1B QRP transceiver (\$200)
- Whiterook MK-44 Mini Paddle (\$20)
- Power cord with cigarette plug from basement junk box
- MFJ-2320T short HF 20 meter mobile antenna (new -\$19)
- Antenna Magnetic Mount HamFest boneyard, no name (\$1)
- Ear Buds borrowed from smartphone

Total cost of station \$240!

With this setup, the station can be configured and on the air in less than five minutes. So on Saturday morning, I grabbed my coffee and kit and headed to the condo parking lot. I stuck the mag mount antenna on the roof of the SUV and fed the coax through the passenger door. The next step was to wire up the HB-1B for power, paddle, antenna, and ear buds in the front seat of the vehicle. I was now ready to blast my 5 watts of power into a 33" mag mounted 20 meter stick!

At this morning hour, the WPX contest was in full swing and 20 meters was teeming with strong signals. In 30 minutes I managed to make 10 QSOs, including Virgin Islands and several into New England, Texas and Pennsylvania.

I repeated the same process the following morning, starting a half hour later than the previous day. I managed another 10 QSOs over a one hour period. The QSO rate dropped from the prior morning likely due to poorer propagation with the later start. Also, the activity may have been lighter as we were deeper into the contest and it was Sunday morning. QSOs on the second day included Curacao, Brazil, several New Englanders and Colorado.

(Continued on page 6)

(Continued from page 5)

My intent here, of course, was not to compete in the contest (nor to activate IOTA NA-058 - not a very rare one), but to take advantage of the WPX activity to make some QSOs and enjoy a bit of ham radio while on the island. Although some stations responded to my first call with my 5 watt signal, there were many (most) times I was not heard after numerous calls. So, I just moved on to the next stronger signal and tried again.

What I learned from this operation is that you can make DX and stateside contacts with a minimalist, low cost, portable QRP station and antenna. I also learned that you need to keep expectations realistic with QRP and a very short antenna. However, it was a lot of fun to have a brief ham radio operation to complement my vacation.

I have considered next year, that I might park the SUV closer to some trees and string a wire to improve my operation. But hey, its vacation and that would be work and it is awfully hot on that parking lot on St. Simons in late May. Better to spend more time on the beautiful beach! So, I may stick to the same setup and get my radio fix again with my morning coffee just going bare bones.

73

John Tramontanis NATOL

Ross Hull, 3JU & Other News / Jim Stafford, W4QO

This is a report on 3 recent activities. I was surprised to learn that they all were interrelated.

First, I am the depository for the club's back issues of QST (the smaller sized). I'd say as an adjunct of the club library, these are available to check out for your perusal. Thanks to club member, Nathan, K4NHW, and his making of a nice wooden bookcase, the issues from JAN 1920 to DEC 1975 are available in the hallway of my basement. If you are online and examining/

searching back issues, and have found an article that you would like to "hold in your hand", come on by and check out the issue of QST. All are bound, most in 6 month volumes. One reason I was open to maintaining this library is that it permits me to go back and read things from my own amateur radio past - 1958 but I also like to enjoy reading old amateur radio construction articles and especially QRP rigs.

Second, as I was roaming through the late 1938 volume, I came upon an article, rather near the front, announcing the unfortunate death of one of our radio pioneers, **Ross Hull**. He was an Australian and never got his American ticket since at the time, only US citizens were permitted a license in this country. When I was just starting out, Hull was a common reference to articles and work during the 1930s. I did not realize he was on the staff of QST until I read the obit. Hull was very interested in the new



Ross Hull Circa: 1938

(Continued on page 7)

"5 meter" (yes, 5 meter) band. He determined that the traditional way of constructing for frequencies below 30 MHz did not work well at the UHF frequencies. Note that at that time, UHF was the spectrum above 30 MHz. As a side note, this is why the PL-259 is referred to as the UHF connector, although they perform rather poorly at today's UHF (>300 MHz) and should be used at VHF and below. Hull also extended the range of 5 meter contacts to over 100 miles when 30 miles was considered a maximum for that band. He determined that 5 meter signals could propagate over greater distances even with poor sunspot conditions. (More on this later)

He became fascinated with early television and spent his "off hours" building TV receivers. It was over 100 miles from NYC where RCA had a transmitter to his home in CT. Unfortunately, as he was about to demonstrate TV to some dinner quests, he came in contact with some very high voltages and was killed. That was September 13, 1938. As I typed "Hull" into the search page of QST, it turned up 17 articles. You should do that as well. I was surprised to find an article on Ross Hull in the November, 2015 issue of QST by James O'Neal, K4XAR. That entire issue (along with all OST issues since January 2012) is available online. Another reason to belong to ARRL (I'm just saying!!)



W4QO & Friends

Third, which brings me to the last of my comments. I was reading through the current issue of the online magazine *The Spectrum Monitor* (successor to Monitoring Times). Google it for the link. In this issue, Kirk Kleinschmidt, NTOZ, (who was at one time on the QST staff) has an article entitled "**Six-Meter Success: You Don't Need Much!**". In it he talks about Es or E skip. For those of you that operated in the ARRL June VHF party this past weekend, you experienced that mode of propagation. I put my 6M moxon antenna back up on a 10 foot pole on my deck and had some fun, mostly on late Sunday afternoon. I worked 50 or so stations from NE to TX running about 60 watts. Amazing, the strength of some signals at this time of waning sunspot activity. I also worked Cuba and the Bahamas. None of this is up to the contacts made by K4PI and others in the ATL area using JT65. Europe and Japan were coming in. So the moral – tune up any piece of wire you have and check 6M from time to time this summer. You'll see why it's called the Magic Band.

Two Rules For Life

- 1. Don't tell people everything you know.
- Neil, N4FN

Thank You John Kludt! / Wes Lamboley, W3WL

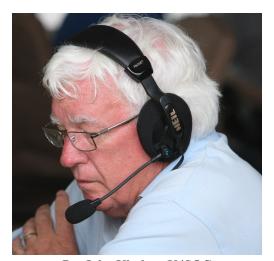
OK – I admit it. I am a Field Day junkie. Ever since my first Field Day back in '54 Field Day has been special for me. It was the start of a career in Electrical Engineering and the catalyst for many adventures in a variety of forms built around ham radio. It is the premiere event on the ARRL calendar, as well as NFARL's and many other clubs. It is ham radio's chance to introduce and demonstrate our emergency preparedness and communications capabilities to the general public, as well as stretch our own abilities to utilize various technologies and techniques to further our own proficiency and knowledge of the art.

The main driver behind the above is competition, for us as individuals, for our club on a local level and for our club at the national level. It is driven by the desire to do the "Best we can



Wes - W3WL

with the resources we have", as it is in all worthwhile human endeavors. As we have demonstrated in NFARL, Field Day can also be an introduction to contesting in general. As individuals, the measure of Field Day competition boils down to how effective one is as a communicator and in the use of the equipment at one's disposal. Over the years the ARRL has carefully crafted various means to add to an individual's or club's completive position by adding "Bonus Points" for publicizing ham radio to elected officials and the general public, using



Dr. John Kludt - K4SQC

innovative communications techniques and abilities, demonstrating message handling, adhering to safety standards, using less and greener power, having an educational activity and introducing newcomers to ham radio. All these additions were encouraged through the use of the bonus point system, and furthered the ARRL objectives of heightening awareness and participation in ham radio.

NFARL has enjoyed numerous Field Days, but none compare to the last two year's efforts under the leadership of John Kludt, K4SQC. NFARL, through a great effort utilizing teamwork and community, had a great family gathering, got all the bonus points offered thus meeting all the ARRL objectives, trained and exposed several members

to the joys of contesting and won the highly competitive Field Day 3A category two years in a row. We were only 25 CW/Digital contacts away from being in the top ten nationally (our initial objective), which included clubs running many more transmitters than we were.

As we wear our 40th anniversary shirts with the fact that we won 3A the last two years emblazoned on the back, be mindful that the 2A and 3A categories are so competitive that it will probably never happen again for any of us that participated these last two years. Thank You John, for leading us to victory!

US Island QSO Party & Club Contest Update / Terry Joyner, W4YBV

W/VE US ISLAND OSO PARTY SATURDAY AUG. 26 1200-Z TO 0300-Z

Our club station will be back on Pine Island GA.031-L on Lake Lanier this year. We came in second place last year from this location.

We are planning to be on the air for 15 hours this year. Last year we were only on the air for 9 hours.

This is a slow paced contest so anyone can take part, help out and join the fun!

We have openings for the first 7 hours and again during the last 8 hours. With our club contest running at the same time we have a good chance of securing first place this year!

Please make plans to join us this year. See you there!

Terry W4YBV



Our club's 40th anniversary and our US Island contest is highlighted in the June issue of CQ magazine!

What a great anniversary gift to the club!

With this publicity I think our island contest will be greater than expected. We have stations from all over the world looking for NF4GA on the islands.

Just this past week we had a request from (Spain) EA3LS, Miguel, for confirmation of his contact with us from Lazy Island, FL and he is putting the word out about our contest.

I have put together a Georgia pin map showing all 62 islands and hope this will help club members think about taking part in our NFARL 40th anniversary US Islands contest. 29 islands are in North Georgia and 33 are in the Georgia coastal area. You can drive onto most of these islands!

I have also put together a list of all the Georgia islands along with island numbers and I'll have it available at the next club meeting to help you locate islands.

As of this date our club has activated 13 islands! Our goal is to activate over 50 islands before the end of this calendar year.

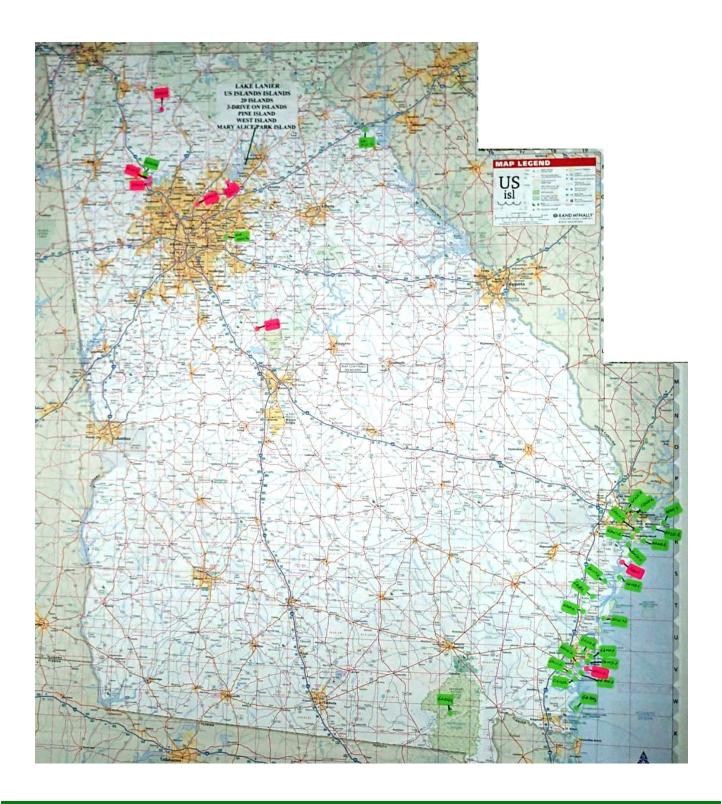
So if you want to have some fun please join us this year on the islands.

Terry, W4YBV

Terry's Map of GA US Islands for Club Activation This Year

Terry will have a legible copy of this map for review at the meeting on June 20th. He will also have a list of Islands available for us to work from.

Thanks Terry!



Sandy Springs Lantern Parade - Take it to the River! /Mike Cohen, AD4MC

On Saturday, June 10th, Sandy Springs held it's 2nd annual Lantern Parade. Here's a link to a 3 minute video of last year's event. https://www.visitsandysprings.org/lanternparade/ (Scroll down towards the bottom of the linked page to see the video.) In addition to being beautiful and fun, this event is necessarily held when it is very *dark*.

Sandy Springs Fire Rescue (SSFR) asked NFARES to provide emergency radio communications for this event to help reduce ChatComm radio traffic and the number of 911 calls. We provided 14 volunteers, including 8 hams; Wayne – KG5WU, Steve – K4SMK, Jim –KJ4QVT, Steven – KW4HQ, Scott -KM4JXE, Stuart – AK4EX, Mike B. – KM4TQR, Mike C. – AD4MC.

This was a joint team effort between NFARES and SSFC (Sandy Springs Fire Corps, a volunteer group that provides support for SSFR.) Positioned at the SSFR & SSPD Incident Command tent, Wayne, KG5WU, was our NCS.

If you look over the map, you will see that it should be a trivial task to support this event by radio, since it is only 1 $\frac{1}{4}$ miles long. (Spoiler alert...It wasn't trivial.) The walkers arrived at the three Parking Areas, P1-P3, went to the Steel Canyon Golf Club area (START = 925' ASL) and later paraded as a group of about 2500 down to Morgan Fall Overlook Park (END = \sim 800' ASL). That elevation difference of 125' meant that it was going to be a steep $\frac{3}{4}$ mile climb back to START with kids and lanterns in tow.

Radio signals don't like to pass through hills, so we needed to set up a 50W cross-band repeater at the high point (START) for NCS to reliably contact all the hams. The SSFC volunteers were using FRS radios that have a very short range, so they had to be relayed by the hams, who also carried FRS radios.

Did I mention that it was *dark*? We all wore reflective ARES vests & hats and used flashlights so that we could also act as "guiding lights" for the walkers. As the walkers started to return to the Parking Areas, we needed to relocate so that we could continue to be with them for communications and as "guiding lights".

There was "only" one terrifying incident, a 6 year-old boy was reported lost in the Park area. Fortunately, thanks to great communications efforts, he was located and reunited with his mother within 10 minutes.

One of the SSFC volunteers wrote "I was really impressed by how professional, focused, and low maintenance the NFARES guys are."

SSFR, Chief Mark Ware thanked us and complimented us for clearly demonstrating that we can provide a useful service for these public events. He said that, based on the success of this event, they are hoping that we will be available for future Sandy Springs Events.

So...We're looking for more volunteers for the July 2nd Stars and Stripes Celebration at the Sandy Springs Concourse. Contact Mike, AD4MC@NFARL.ORG to sign up.

News From North Fulton ARES / Jim Stafford, W4Q0

1. NF ARES represented in the NFARL lineup of tables at the Atlanta Hamfest. These glowing personalities are Mike, AD4MC and Larry, AA4QO who tended the table explaining the mission to all passersby. There were a number of handouts about ARES – both from the ARRL and also NF ARES specific. Hope you had a chance to stop by.



- On Saturday, June 10, NFARL and NF ARES member Tony, K4AWF, taught a course in CPR. This was done primarily to equip volunteers to work on Tim, K4RA's safety team at NF Field Day, thereby earning those valuable "bonus" points so critical to racking up an award winning score. Those who passed the course with flying colors were Mike, K4LJG, NF Emergency Coordinator, Tim, K4RA, Field Day Safety Lead, Scott, KM4JXE, Steven, KW4HQ, and Bill KN4DLE accompanied by his wife and daughter. Fred, the half dummy, did not pass but he did survive!
- 3. Life is not all work at the ARES group meetings! At the Tuesday, June 13 meeting, the gang celebrated the birthday of Mike, AD4MC. In addition, plans for FD, the Hospitality 400 Bike Ride, the Peachtree Road Race, Sandy Springs July 4th Fireworks, and a little bit of the Simulated Emergency Test (SET) were discussed. For the bike ride and the SET, about 30 hams are required to handle communications. If you are a beginner or even a seasoned "ham", please sign up at the June meeting to help.



The bike ride is upon us and will be held on July 9 (Sunday). Join us!

Remember, the first of the 5 purposes of amateur radio as defined in Part 97 of the FCC Rules:

Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.

What is your plan to help when the big one hits?

Photos From the NFARL 40th Anniversary Celebration at the Atlanta HamFest



Contact Us

President	Mark Schumann KK4FOF	President@nfarl.org
Vice President	Daryl Young K4RGK	VicePresident@nfarl.org
Secretary	Lori Young K4UPI	Secretary@nfarl.org
Treasurer and Repeater Trustee	Fred Moore, N4CLA 404-434-4499	<u>Treasurer@nfarl.org</u>
Activities Chairman	John Tramontanis N4TOL	Activities@nfarl.org
Membership Chairman and HamCram	Pavel Anni AC4PA	Membership@nfarl.org
Past President	Bob Beeman, k4bb	PastPresident@nfarl.org
Mentors / Elmers	Chuck Catledge, AE4CW 770-641-7729	Elmers@nfarl.org
Field Day Chairman	Ian Kahn, KM4IK	km4ik@nfarl.org
Scout Coordinator	Jon Wittlin K4WIT	k4wit@nfarl.org
ARES Liaison and Community Relations	Jim Paine, N4SEC 770-475-4454	n4sec@nfarl.org
Repeater Operations	Mike Roden, W5JR 404-781-9494	Repeaters@nfarl.org
WebMaster	Bill Cobb, K4YJJ 678-634-7274	Webmaster@nfarl.org
NFARL eNews Publisher-Editor	Daryl Young K4RGK	k4rgk@nfarl.org

Club Repeaters

Frequency—Description	P.L. Tone	Location
145.470 (-) EchoLink Node 56086 NF4GA-R	100 Hz	Sweat Mountain
147.060 (+) Primary ARES Repeater	100 Hz	Roswell Water Tower
224.620 (-) Joint Venture with MATPARC	100 Hz	Sweat Mountain
443.150 (+)	No Tone	Roswell Water Tower
444.475 (+)	100 Hz	Sweat Mountain
927.0125 (-)	146.2 Hz	Sweat Mountain

Supporters and Affiliates

Please support our sponsors and affiliates by clicking on the logos below to visit their websites.















HamJam Sponsors!

In addition to our wonderful sponsors year-round please thank our 2016 HamJam sponsors by visiting their web sites. Just click on a Logo and off you go! (Be sure to come back here!)



































