

The Northwest Amateur Radio Society

Houston, Texas

st Amateur Radio Society

Houston, Texas

## **December** Meeting

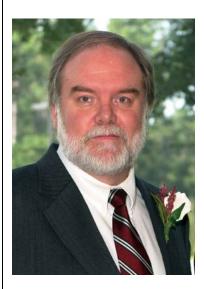
## K5ZTY(sk) Show-N-Tell Night

The December meeting will be the traditional meeting of "Show and Tell. Hence forth, this meeting will be know as the K5ZTY Show-n-Tell meeting. It is that annual meeting where everyone is invited to bring that special project they have been working on all year, or might seem like all year. Uncle Zedd loved both the serious and the lite-hearted side of this meeting.

At press time, the question will "Big Foot" appear? Only Joe KD5KR can answer the question. See you at the meeting!

## Steve Niles N5EN (sk)

It is with great sadness that we announce the passing of a longtime club member: Steve Niles N5EN. Steve's passing marks the second passing of a NARS member in less than six months. Steve was also a TDXS member. (Bill K5ZTY passed away just a few months ago.)



Steve was a hardworking, generous man. He enjoyed serving others and it was a source of great joy when he could use his skills to help others, especially when he knew it would further the ministry of Christ. Steve was an avid amateur radio operator (N5EN) and appreciated the many friendships he developed through this interest. Steve was also a collector, especially of computer or technically related items. He never wanted to throw something away in case he might need it to help somebody in the future.

Steve leaves behind his wife Nancy (N5EEN), daughter Jill, step-children and their families: Trisha and Martin Perez, Tyler, Justin, and Ashley Perez; Logan and Justine Hill and Gabriel Winter; Morgan Hill and Lyle Hill.

He will be greatly missed by his family and friends.

Donations in memory of Steve can be made to Cypress Bible Church, 11711 Cypress N. Houston Rd, Cypress, Texas 77429.

## **Important Dates**

#### Friday, December 21st, 7:30 PM

Monthly Club Meeting, Cypress Creek Christian Community Cntr, 6823 Cypresswood Drive

#### Saturday, January 26th, 8:30 AM

VE License Exam Session Tomball Community Center S. Cherry & Market streets (just South of Main)

#### Tuesday, January 29th, 2013 7:30 PM

Board of Directors meeting Ponderosa Fire Station 17061 Rolling Creek drive.

#### Lunch Bunch - North

Jason's Deli Dec 19th Baker St.- Dec 26th Sweet Tomatoes - Jan 2nd BJ's Restaurant & Brewery - Jan 9th Gianna Italian Kitchen - Jan 16th Spring Creek Barbeque - Jan 23rd

#### Lunch Bunch - West

Please contact Mark Tyler K5GQ for details.

#### Lunch Bunch - Medical Center

Morningside Thai - Dec 19th Pronto Cucinino - Dec 26th Jason's Deli - Jan 2nd Buffalo Grille - Jan 9th Southwell's Hamburger Grill - Jan 16th Marco's Mexican Bar & Grille - Jan 23rd

#### **Taildraggers Lunch Bunch**

11:00 am, Aviator's Grill, Hooks Airport

**Notice:** NARS membership dues are \$20 per year, renewable on anniversary.

Deadline for articles to appear in the newsletter is the last day of this month.



## **President's Corner**

December is a busy month for all of us with the holidays and closing out the books for the year. Lots of things are being completed and renewed for next year while others are finished. Our year at NARS is in the same mode. In review, our year was most significant. We lost two of our members this year and others moved to other cities. I hate to mention that some of our members have lost interest in ham radio and/or in participating in NARS activities. For that, we are mostly responsible for it, but lets not forget that with age our interests change too. Given that this is normal for all of us, how to keep the interest on a keel that will permit growth and interesting activities? First of all we need to recruit new members and when they join with us, we must find activities for them to explore and contribute their ideas into the mix. We need younger members on the Board of Directors. This is my last year and for sure I am NOT a younger member. This year we has three new members that are in the younger category. Next year's board did not add any younger members. That is something that we need to correct. If we do not get new younger blood in the leadership of NARS, it will slowly pass away. Take a look at the successful churches in our neighborhoods. All of the successful ones have a children's facility, and programs that make up more than 60% of their plant and budget. Youth, by definition, is the force that creates growth in all things.

This coming year I left a challenge for the Board next year. The repeater problems must be analyzed and a plan constructed that includes the NARS membership to forge a better repeater and suggestions to create activities like the Wednesday night Rag Chew. There are lots of examples of excellent repeaters around us here in South Texas. This is my favorite project for 2013 and I will be trying to help get it going.

... Continued on page 3

## **VE Session Notice**

#### Keith Dutson NM5G - NARS VE Session Manager

Saturday, November 24 VE Test Session Results at Tomball Fire Department We had 6 candidates taking 11 tests.

the find o candidates taking 11 tests.

- Element 2 tests given: 5; passed 3
- Element 3 tests given: 5; passed 3
- Element 4 tests given: 1; passed 0

Congratulations to:

- Stevelyn Winbigler new technician
- John Cook new technician
- Brian Nickels KF5SKL upgrade to General
- Andrew Jones new General
- Ernie Halsell KC5BFR upgrade to General

Thanks to the VE's in attendance:

- Ronald Horton KF5LFL
- Mike Bragassa K5UO
- Martin Rogoff N5GPS (acting session mgr)
- Sheree Horton KF5LMJ
- Robert Ferguson K5AWC
- Sarah Connell W2AOV

The next session will be held Saturday, January 26 at 8:30AM at the Tomball Community Center, located at the corner of Market and South Cherry Streets.

Official address is 221 Market Street. Let me know if you would like to serve at this session. Thanks.

Anyone who wants to observe and/or participate in a session is always welcome. Just let me know if you want to learn more about becoming a volunteer examiner.

Parking is in the rear of the building. Use the entrance on the south side bordered by Fannin Street.

Exit 68, I-45 North 800-471-7373 267 Cypresswood Drive 281-355-7373 Spring, TX 77388 Fax: 281-355-8007 Houston Amateur Radio Supply, Inc. David McCombs, K5FNG President

E-Mail: houstonamateurradio@sbcglobal.net

## President's Corner (cont)

This month is the first time that we will call our Show and Tell, N5ZTY Show and Tell. Several people have signed up, but unfortunately, we will not have Steve Niles, N5EN SK. He always had the most interesting projects to share with us. Perhaps we can find a way to share some of his earlier efforts.

Next month we will have our annual awards banquet. I have invited Zed's daughter to be our guest and I will present her a copy of the K5ZTY Show and Tell plaque. See you there.

This is my last report as President of the NARS Board. Thanks for your support and helpful comments.

## Awards Banquet 2013 scheduled for Jan 18th.

How come we haven't received your reservations for the Annual Awards Banquet yet? You know, it's only four weeks away. To date, we've received thirty reservations, which represent about 45 percent of our goal. This is the highlight meeting of the year in which we not only recognize those who helped make NARS what it is today, but it's also a chance to sit down to a fine meal and enjoy conversing with fellow members, some of those who go into hiding only to emerge for this once a year event. To add to the excitement, we're giving away a few neat prizes for those attendees with a "lucky" ticket.

Remember, this event replaces the usual general meeting NARS has each month.

Here are the details:

- County Line of Houston, 13850 Cutten Road
- Friday, January 18th, 7 to 9 p.m. (Dinner at 7:30 p.m.)
- Cost: \$24.00 per person. Cash bar on site.

Send your check to: NARS, P.O. Box 90387, Houston 77290-0387

We need your support to make this event a success. Make that reservation now while it's fresh in your mind. Don't make me say, "I told you so!"

## Texas Trail Runs

#### Event Coordinator Paul Owen - N5NXS

To all the volunteers and Club officials,

We made it through another Texas Trail Runs. This year the runners could run a 20K, 50K and the 50 Mile run is back. The weather has been getting warmer and warmer each year. This year was shorts and t-shirts and no jacket needed. Great weather for watching but the runners certainly had a hard time with the warm weather. We had our usual scrapes and bruises but nothing more than that. Which was luckly for the EMT's since the park ranger would not let them use the ATV's they brought to cruise the trails. I am sure they will figure out how to get them on the trails next year.

I want to thank all the club members that got up and drove up to Huntsville in the very early hours. And my thanks to the members that came out for the whole day. It's a very big commitment to do this event and it has been a great deal for the club to support this event. From all the give aways and dinners that we had when it had big money support. Roger Solar has been trying to find that partner to grow the race back to a well supported race.

I want to thank Mike Hardwick for supplying the commercial radios. They come in handy when the EMT's don't bring radios.

Thank you all for another great day in the park.



## Texas QSO Party 2012 – A Brief Recap

About the only negative condition for the 2012 Texas QSO Party was the weather which, on Saturday in many parts of the state, included torrential rains. Even so the 2012 edition of the party was one of the best in recent memory with good participation and good band conditions. Even 15m and 10m opened up and there were many folks that discovered that their radios and antennas could still operate on those bands and actually made some QSOs up there. So here is a brief summary report with some data that will provide more details on the 2012 TQP.

Probably the most basic indicator of participation is the number of logs recieved. This year we received 328 logs, which represented an increase of about 20% over 2011. Most of those logs were in some electronic format rather than on paper. We still accept all forms of logs but of course having them in electronic format surely makes the log checking go quicker. So if you have the capability to produce a computer generated machine-readable log please do so. Thanks go to Keith-NM5G, Larry-K5OT, and Cranz-WB5BKL who handled the paper log processing.

In addition to those 328 official logs the QSOs that they contain indicate that there were another 150 stations who made 20 or more QSOs and 50 of those made at least 50 QSOs. So, accounting for the pseudo logs, one can reassonably say we had about 480 operators involved in the QSO party at some level. Of the "no log submitted" pseudo-log group the station most cited was a mobile who made at least 268 QSOs. Now go figure why an operator would spend gas money and time to travel through five or six counties and then not submit a log. Makes no sense. Perhaps he forgot. So if you play in the TQP please submit a log, and do it first thing before it has time to slip through the crack in the shack floor. No matter how small it may be, submitting a log shows support for the TQP and helps to improve the validity of the log checking results.

Speaking of log checking, that activity is now complete and, thanks to webmaster Bill N5BIA, the results have been posted on the TQP website at http://www.txqp.net. If you haven't already done so, go there and check out who won what and how many QSOs, mults, and bonus points it took to finish up in the top three in each category. You might even look around for a category or two where you could compete next year for a nice plaque for the shack wall and begin making your strategy. If you submitted a log this year and would like to see how it fared in the log checking process you can contact NO5W at no5w.chuck@gmail.com and request a report showing any QSOs you did not receive credit for and why. It might be helpful in improving your score in TQP-2013.

Thanks to the following NARS operators for submitting a log: K5UO, K5WAF, KB5VGD, KD2KW, KF5LFL, KF5LMJ, KK5LO+K5WNO, N5BIA, N5NXS, N5TM+NO5W, NM5G, W5MF, WK5DX, K5GQ, NS5J, and N5BE. Of that group congratulations to the following who finished in the top three in their category:

- KK5LO + driver K5WNO 2nd Place Texas Mobile Single Op Phone Only
- W5MF 3rd Place Texas Fixed Single Op Mixed
- N5TM + NO5W 3rd Place Texas Mobile Multi-Op

Due to the efforts of those NARS members who submitted a log the club managed to hold on to its second place finish in the Club Aggregate competition. So a round of applause to NARS for continuing to sponsor the TQP and for supporting it with their participation. Of course there is always room for improvement so if TQP-2012 slipped by before you had time to get on the mike or key be sure to mark your calendar for the last full weekend in September for TQP-2013.

If you like working DX there are usually some DX stations chasing counties in the TQP and 2012 was no different in that regard. The following DX stations submitted a log: CR5BWW, DL3DXX, DL3GA, DL5ME, DL6KVA, DL8USA, ES1TU, HA1AG, IK2RMZ, JO7WXN, LA8OM, OE5KE, PA3ARM, SP6JOE, YV5OIE, Z35F. Many other DX stations can be found in the submitted logs. You can see that most of the DX stations submitting a log were European but South America and Asia were also represented. One of the big surprises for N5TM and NO5W operating mobile as N5TM occurred on Saturday morning in Galveston County right close to the Harris county line and the Kemah boardwalk when on 20m CW we worked DL3DXX and about seven minutes later JI3MJK. It was one of the first times either of us had worked a JA while operating mobile in the TQP and coming so close after working DL3DXX was really surprising. Working DL3DXX was not a surprise as Dietmar is always in the TQP and this year made a phenomenal 313 QSOs spread across 166 counties.

When you give a party and invite folks that are from out of town along with your local friends there's always some concern that the locals will huddle together and not engage the out of towners in the conversations. In TQP with the attraction of being able to obtain multipliers by working Texas counties it's a similar situation and always a concern. For this reason some QSO parties do not give multiplier credit for in state QSOs but this has never been a problem in the TQP and was not a problem in 2012 as the following statistics show.

#### **Texas QSO Detail**

Texas-Texas QSOs	31%
Texas-Non Texas QSOs	69%
Texas - US QSOs	57%
Texas - VE QSOs	3%
Texas - DX QSOs	9%

One of the goals of theTQP is to put all Texas counties on the air. With 254 counties that's a difficult task and it remains an elusive goal although, once again, we came close by activating 250 counties failing to activate only Matagorda and Refugio along the coast and Hardeman and Clay along the Oklahoma border. This was made possible in large part due to the efforts of the following mobiles:

W0BH(+AD0DX), W5MJ(+K5PI),N5TM(+N05W),KK5W(KK2Z + KD5QPX) , WB5JC(+ NW0F and KA5POW), K5ITO(+KB6OJE), N5BE(+KE5MS), N5NA, WD5IYT, K5JX, W3DYA, WC5D, N5DO, K5CM, WB0TEV, KK5LO, K5MRA, K5EJL, N5PKZ, WK5DX, WB5KIA, K5JDB, AF5BV, and K5ZZR. Special thanks to the out of state mobiles who came over to help out: this includes the W0BH team of W0BH and AD0DX who came down from near Wichita, KS, to stir the pot in the Panhandle counties, K5CM an Okie from Muskogee who came down to help out with northeast counties, and K5ZZR an Okie from Okmulgee who came over to hand out QSOs in the Panhandle. If you have mobile capability and are looking for a place to try your hand at mobile contesting consider rovering up to Oklahoma or Kansas as operating in those well-attended QSO parties can be a lot of fun.

Folks who stop by the TQP booth at various ham fests often have questions regarding whether TQP is a CW contest or a SSB contest and the appropriate response is that it's whatever you want it to be since there are CW Only categories, Phone Only categories, and Mixed mode categories. In the 2012 TQP the CW and SSB QSOs were split 57%-CW and 43%-Phone. Another question that comes up is what bands are used and for the past several years the answer has been 20m and 40m but, as indicated at the beginning of this summary, this year 15m and 10m showed considerable life and the band breakdown went as follows:

## Chuck-NO5W & Keith-NM5G Co-TQP-Coordinators

Band	CW	Phone	Total	Percent
2m	0	9	9	01
6m	1	1	2	-0
10m	1128	1456	2584	4
15m	7067	3195	10262	15
20m	20190	13818	33008	50
40m	8156	10890	19046	29
80m	588	64	652	1
160m	0	3	3	-0
Total	37130	28436	65566	

So 20m was the money band followed by 40m and then 15m and although 10m was a small percentage of the total QSOs 2584 QSOs are 2584 more than were logged on 10m in 2011. Hopefully next year conditions will merit phone operators giving more attention to 15m and CW ops more attention to 10m.

Finally in preparing for next year's running of the TQP it would be good for all operators to review the county abbreviations prior to the party in order to avoid losing QSO credit due to the following frequent errors which were noted during the log checking process.

- The correct abbreviation for Montgomery county is MGMY, not MONT.
- The correct abbreviation for Comal county is COML, not COMA
- The correct abbreviation for Harrison county is HRSN, not HARR
- The correct abbreviation for Jackson county is JKSN, not JACK.
- MONT is the proper abbreviation for Montague up near Wichita Falls.
- COMA is the proper abbreviation for Comanche and its a long way from San Antone.
- HARR is the proper abbreviation for Harris, home county of the Houston Texans.
- JACK is the proper abbreviation for Jack county not many ways to abbreviate Jack.

Those are just a few of the errors that were noticed. So before putting lips to mike or fingers to the key in 2013-TQP please download the list of abbreviations from the web site and keep it handy for ready reference.

Looking forward to working you in TQP-2013.

#### **QSO Records by Band and Mode**

## Our Name in Lights!

#### Lollie KD5WZM

The Redd School LABRATS Radio Club now has a true Call SIGN! Club mentors Jerry Whiting (KB5VGD) and Terry Myers (KQ5U), and George Carlson (KC5RCC) put their heads together with George Carlson (KC5RCC) to create a wonderfully crafted acrylic sign for the club that lights up!





It was a great surprise and I'd like to thank all of them for their generous gift to our club! NARS members have kept this club in action for many years and we are truly thankful for your continued partnership and investment in the education of children!!



Jerry presented the sign to the Redd School and the LABRATS in a recent meeting. School principal Ellen LeBlanc was also present for the unveiling.

## 2013 NARS Officers

The following officers will guide the club in 2013.

- President: Tom King
- Vice President: Ron Horton
- Director: Tom Atkins
- Director: Sheree Horton
- Director: Jerry Whiting
- Director: Joe Sokolowski
- Secretary: Martin Regoff
- Treasurer: Sheree Horton
- VE Manager Keith Dutson
- Salvation Army Bell Ringers Jerry Whiting; Buffalo Bayou Regatta Keith Dutson; NARS Webmaster Bill Bouy; W5NC Trustee Paul Owen; and Newsletter Editor H. O. Townsend

## Houston Marathon

**Houston Marathon Events for 2013** 

Saturday, 12 January 2013, 5K

Sunday, 13 January 2013, Houston Marathon and  $^{1\!\!/_2}$  Marathon

All Hands,

I write to request your help with providing amateur radio communications (or support of our part if you do not have a license) to assist with assuring the safety and welfare of the several thousand runners and spectators of the 2 events during Marathon Weekend in 2013 in Houston. The first event is a 5K race on Saturday, 12 January 2013. The second event is Houston Marathon and the ½ Marathon races on Sunday, 13 January 2013.

The 5K is near the GRB and is an Out-&-Back run. This event will need about 12 or so amateur radio operators. We will assemble at 5 AM, and the race should be over about 10 AM.

The Sunday Races will be very similar to past years, and they will need several kinds of positions to be filled. We will assemble at 4:30 AM. When you will be dismissed will depend on what job you have. You might visit the Houston Marathon Committee's web page and peruse the course maps and other materials there.

For now, however tentative, I need to know whether you can help on either or both days. If you can help, contact me by e-mail, preferably <u>WC5WM@arrl.net</u>. Or you can respond to

**<u>Carl.Hacker@oplink.net</u>**. You may wish to call at 713-977-9754. If you wish to work at the same position as in past years, please let me know.

I will be checking all accounts, but if you do not hear from me in day or so, Try again, or call 713-977-9754. Your help is appreciated and needed.

Should others express to you an interest in helping, please have them get in touch with me.

This year, the Houston Marathon Committee is maintaining a data base of all who volunteer. That database serves a very different use than the one I developed for Amateur Radio Operations several years ago to keep track of who is on board with what gear and to generate reports for Amateur radio operations.

Please follow this hyperlink to complete The Houston Marathon Committee's part of registering to volunteer.

houstonmarathon.volunteerhub.com/Events/Event/ Summary.aspx?EventID=1157591

Note: in the upper right hand corner there is a line to click for "sign in". After that, you can follow the instructions in the other pdf file attached to this e-mail that will step you though the process.

Those helping with Amateur radio operations will need to enter the following "join code" to register for this job: HAM. If you have any difficulty with this system, please call me at 713-977-9754 after 24 November.

Thank you again for your willingness to help on past Marathons and considering doing so again.

73's Carl Hacker WC5WM

# Happy New Year



Shaw Clifton, General Commissioner Maxwell Feener, Territorial Commander Lt. Colonel Henry Gonzalez, Divisional Commander Major Chris Flanagan, Area Commander Majors Stan and Debi Carr, Corps Officers

Michael St. Julien Salvation Army Northwest Corps 12507 Windfern Rd. Houston, TX, 77064

December 11, 2012

Northwest Amateur Radio Society P.O. Box 90387 Houston, TX 77090

Dear NARS,

The phenomenal success of the Saturdays Kettle Fundraising is a reflection of the everincreasing dedication and enthusiasm NARS volunteers' display on a continual basis. We would like to personally thank you for your recent contribution of time on December 8, 2012. Because of your support we raised over \$800 with the two Kettles combined.

The Salvation Army appreciates your gift of time, energy and enthusiastic support. We would like to take this opportunity to say a heartfelt "Thank You!" We look forward to working with you again soon.

Best Wishes,

004

Michael St.Julien Kettle Coordinator

The Salvation Army Northwest Corps Community Center 12507 Windfern Road • Houston, TX 77064 • 832-200-4620/phone • 832-200-4626/fax www.SalvationArmyHouston.org • 1-800-SAL-ARMY(725-2769)/donation line • A United Way Agency

"...there is no reward equal to that of doing the most good to the most people in the most need." -Evangeline Booth

### Welcome, Congratulations, and Condolences

Welcome new members Brian Nickels KF5SKL and Stevelyn Winbigler KF5SXK.

## NARS Resource List

#### General Help:

Allen Majeski WA5REJ 281-353-8652, <u>wa5rej.tx@netzero.net</u> Bill Denton W5SB 281-469-8331, <u>w5sb@arrl.net</u> Deral Kent K5WNO 281-548-7476, <u>k5wno@juno.com</u> Digital Modes: Marty Fitzgerald W5MF 281-251-4301, <u>fitz6@swbell.net</u> VHF/UHF: Brian Derx N5BA 281-894-5942

PC Programming and Operations: Keith Dutson NM5G 281-351-7683, keith@dutson.net

Building Electronics & Kits: Mark Tyler K5GQ 281-587-0256, <u>k5gq@juno.com</u>

Interference (Basic Advice): Terry Myers KQ5U 281-443-6042, tmyers1031@sbcglobal.net Card Checking for Awards: Bob Walworth N5ET - DXCC 281-292-2221, rwalworth@charter.net

Brian Derx N5BA - WAS, VUCC 281-894-5942

Bob Walworth N5ET - WAZ 281-292-2221, rwalworth@charter.net

NARS Public Information Officer: Joe Sokolowski, KD5KR 281-353-2196, <u>kd5kr@arrl.net</u>

#### PRESIDENT & BOARD CHAIRMAN Jerry Seay, KE5PUT 281-376-2810,

#### jjseay@hal-pc.org

VICE PRESIDENT

Tom King, WK5DX 281-370-3528, tom.s.king@gmail.com

#### SECRETARY Martin Rogoff, N5GPS 281-890-4538

#### n5gps.tx@gmail.com

TREASURER Sheree Horton, KF5LMJ 281-890-4038

shereehorton@sbcglobal.net

DIRECTORS Tom Atkins, KD5EIJ 281-447-4347 tom sts@hotmail.com

Tom Hoherd, KK5YU 281 370-2941, tom70@att.net

Ron Horton, KF5LFL 281-890-4038, ron.horton@sbcglobal.net

Mike Schulz, K5TRI 832-303-1290 mschulz@creative-chaos.com

## NARS Information

ADMINISTRATIVE AND GENERAL INFORMATION Joe Sokolowski, KD5KR 281-353-2196, kd5kr@arrl.net

Send address, phone, email and other changes to: NARS P. O. Box 90387 Houston, TX 77090-0387

#### NETS

10-Meter Ragchew: Mon 8:00 PM, 28.444 mHz

2-Mtr Wed. Night: 8:00 PM, 146.06/66 Coordinator; Jerry Whiting KB5VGD <u>g\_whiting@sbcglobal.net</u>

#### WEB SITE

URL: http://www.w5nc.net Web master: Bill Buoy N5BIA 281-370-3510, n5bia@arrl.net

NARS REFLECTOR NARS@mailman.gth.net

Coordinator: Keith Dutson NM5G 281-351-7683, keith@dutson.net

TEXAS QSO PARTY Coordinator: Chuck Sanders NO5W 936-273-6930, <u>no5w@consolidated.net</u> VE SESSION (ARRL) Manager: Keith Dutson NM5G keith@dutson.net

**REPEATERS (KA5AKG)** 2-m: 146.06/146.66 mHz Tone: 141.3 70 cm: 444.375/449.375 mHz Tone:103.5

#### MEETINGS

Monthly General Membership Third Friday each month at 7:30 PM Cypress Creek Christian Community Center, 6823 Cypresswood Drive

Saturday Breakfast Denny's, 7720 Louetta, 7:30 AM

Wednesday Lunch 11:30 AM Various locations (Info on 146.660 and listed on front page in *Important Dates* section)

NARS NEWS is published monthly by the Northwest Amateur Radio Society Send all articles and materials for the newsletter to:

Editor: H. O. Townsend - K5CX 281-376-7416 - <u>k5cx@arrl.net</u>

Northwest Amateur Radio Society is a Special Service Club affiliated with the American Radio Relay League ARRL Club No. 2120