



May 2016

([www.k7id.org](http://www.k7id.org))

P.O. Box 1765 Hayden, ID 83835-1765

## REGULAR CLUB MEETINGS:

**Monday, May 9, 7:00 p.m.**  
Search & Rescue Bldg.  
10865 N. Ramsey Rd.  
Hayden, Idaho  
Topic: ???  
Presenter: ???  
Refreshments: ???

**VE Testing**  
Monday, May 9, 5:30 p.m.  
10865 N. Ramsey Rd.  
Hayden, Idaho

**FRIDAY, Jun. 10, 7:00 p.m.**  
1250 W Lancaster Rd  
Hayden, Idaho  
Topic: ???  
Presenter: ???  
Refreshments: ???

**VE Testing**  
9:30 a.m. to 12:00 p.m. ???  
Saturday, June 11  
1250 W Lancaster Rd

### Upcoming Events

**K.A.R.S. Hamfest**  
June 11, 2016  
Shriner Event Center  
1250 W Lancaster Rd  
Hayden, Idaho

### Letter From the President

**Dave Boss KF7YWR**  
[boss@infinityusers.com](mailto:boss@infinityusers.com)  
208.290.8590

### Coeur d'Alene River Boat Race Coverage Test

Saturday April 23 found a number of our KARS members gathered around both ends of the Coeur d'Alene River. Jim Petersen graciously supplied the boat, Dan Smith and Lee Hopkins manned the Cataldo end while Adam Crippen and Lenny Gemar and his wife Claire waited at Harrison for our arrival. Dave Hopkins delivered Jim's truck and trailer to Harrison. Not long into the trip we lost the Guys at Cataldo using only VHF simplex. We were able to make contact via Mark Avakian's repeater linked to Mica. Additionally we were able to make contact through the Wardner repeater. The rain that day was light but consistent and trying to log latitude and longitude and manage three radios change frequencies and PL tones on the fly was challenging at best. While we had coverage in most places, the trip showed us the weak areas, which was exactly the point of the trip. We still need several volunteers, as a number of those already on the list require being landlocked for various mobility and medical issues.

### Hamfest 2016

Hamfest will be sneaking up on us in no time, so start gathering up your salable treasures (read junk) and turn it into some cold hard cash or into a sweaty wad of dollar bills either way you win and someone else goes away with your stuff. All the details are in the great looking flier that was emailed just days ago. If you want to be part of the crew, contact Adam Crippen.

### Thursday morning Coffee and Donuts

I have had to relinquish my duties for the weekly social event at 8:00 am at the Silverlake Mall due to re-entering the workplace. That a fancy way of saying I have job once again. Anyway, I really miss the camaraderie that takes place and can't wait to get back, but the good news is that there is an empty chair you can fill, so don't hesitate take advantage of the event, held in the old Hallmark shop. Coffee and donut just a buck.

*73,Dave KF7YWR*

Kootenai Amateur Radio Society  
April 2016 Meeting Minutes

The meeting was called to order at 7:10pm by Club President Dave Boss (KF7YWR). The Pledge of Allegiance was led by Dan Croskrey (NV2Z).

License Testing: Edward Ellison, George Williams, Matt McLallin, and Larry Tyler all passed their Technician License, Mathew McBlair took and passes both the Technician and General Class License, and Ronald Bauer (KI7COE) passed the Extra Class License.

The Hamfest is coming up on June 11<sup>th</sup> and was approved at the CDA Shriners Club in Hayden and at the March meeting the members approved the price of \$500 for the Shriners Club. President Dave Boss looked into the matter further and the Shriner's Club in fact will only be \$250. Adam Crippen (N7ISP) made a motion that the club pay the \$250 for the building rental and donate the remaining \$250 to the Shriner's Club to support their mission. Lenny Gemar (N7MOT) seconded the motion, motion passed by member vote.

The Coeur d'Alene River Jet Boat races will be held May 24<sup>th</sup> and 25<sup>th</sup> and volunteers are needed to help with radio communications. The event planners for the race are planning on 10 safety boats along the river and at the start and finish points of the race. If you are interested in volunteering please contact Club President Dave Boss or Secretary Adam Crippen.

Club Treasurer's Report: Checking \$3,300.13, Savings \$1,850.82, Petty Cash \$96.78, Total \$5,247.73. Monthly expenses consisted of: Maps for Jet Boat Races \$36.35, Cups and Napkins for Coffee \$56.87, Total Expenses \$93.22.

Volunteers are needed for many upcoming events including Hamfest, Field Day, and Weed Control. If you are interested please contact a Club Board member.

KARS Field Day will be held again at Majestic Park in Rathdrum.

Club Projects this summer: CDA River Boat Races and the UHF Fusion Repeater for Idaho Mica.

Raffle Results:

50/50 \$9 AD7VB Todd Silk  
Member \$71 N7DHL Gary Holland – Absent

Testing will be held on May 18<sup>th</sup> at Kootenai Health, 7pm.

Lenny Gemar (N7MOT) made the motion to adjourn the meeting at 8:40pm, the motion was seconded and passed by member vote and meeting was adjourned.

Deadline is June 1 for US Radio Amateurs to Submit IARU Region 2 HF Band Plan Suggestions

The deadline is June 1 for US radio amateurs to submit suggestions to the ARRL Board of Directors' HF Band Planning Committee regarding possible changes to the International Amateur Radio Union (IARU) [Region 2 Band Plan](#). That band plan and other significant Amateur Radio spectrum issues will be on the agenda for the IARU Region 2 General Assembly in Chile this fall. The ARRL joins other IARU member societies in the Americas in seeking input from the amateur community on the Region 2 HF Band Plan. The HF Band Planning Committee will review the current plan, consider comments from US radio amateurs, and recommend any changes to the ARRL Board for submission to IARU Region 2.

“The ARRL HF Band Planning Committee wants to stress that the IARU Region 2 Band Plan is a voluntary guideline and does not supersede FCC regulations related to spectrum usage,” Committee Chairman and ARRL Second Vice President Brian Milesosky, N5ZGT, noted. He also pointed out two other issues for radio amateurs to consider.

Most Region 2 countries outside the US do not have the sort of detailed sub-band regulations contained in the FCC's Part 97. For radio amateurs in these countries, the Region 2 Band Plan may serve as the only source of guidance on spectrum usage.

The designation of a calling frequency or band segment for a particular purpose or mode in any IARU band plan does not convey any special rights or exclusivity of use. On the other hand the *absence* of a calling frequency or band segment associated with a particular purpose or mode should not suggest that these have been overlooked or are viewed negatively.

The Committee urges US radio amateurs who are considering suggesting revisions to the IARU Region 2 Band Plan first to study the existing [IARU Region 2 Band Plan](#). They then should formulate a clear statement of any proposed changes, including a brief explanation of why each particular change would benefit all IARU Region 2

spectrum users. Participants should include name and call sign.

[Submit](#) input via e-mail by June 1, 2016. Messages will be automatically acknowledged.

Radio amateurs licensed in Region 2 countries other than the US should contact their own [IARU member society](#) for information on how to participate in the band-planning process.

The 19th IARU [Region 2 General Assembly](#) will take place in mid-October in Viña del Mar, Chile. Held every 3 years, the Region 2 Conference is attended by delegations from IARU member societies in throughout the Americas. (ARRL News)

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Reminder - The Extra Class exam has been revised and the new question pool goes into effect July 1, 2016.

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Young Ham Wins First-Place Science Fair Trophy with Mag Loop Antenna Entry

A 10-year-old ARRL member from Snoqualmie, Washington, took first place in his grade and division for a magnetic loop antenna project he entered into the Washington State Science and Engineering Fair ([WSSEF](#)). Dragan Tuip, KG7OQT, was among the more than 700 presenters at the fair, held April 1-2 in Bremerton. A 5th grade student at Yellow Wood Academy in Mercer Island, his project, “Modular HF Mag Loop Antenna,” stemmed from his desire for a compact antenna to use in his room with his HF transceiver — a flea market bargain. According to his dad, Martin Tuip, KG7HAX, Dragan built the antenna himself and successfully tested by making JT65 contacts with Japan and Georgia. The 59th annual WSSEF marked Dragan’s science fair debut.

“When they called my name during the award ceremony, I was stunned! I was amazed!” he told ARRL. “I learned that not everything is always the best, and some things still have room for improvement. I had several people already ask me if they could buy the antenna.” One of his goals is to earn DXCC before he turns 11. He eventually hopes to market the antenna.

The magnetic loop design he entered into the science fair consists of a 10-foot circumference loop of LMR-400 coaxial cable with a 2-foot circumference loop of solid copper and a variable capacitor for tuning housed in a central enclosure. He reports the antenna is usable on 40, 30, 20, 17 and 15 meters with a low SWR. The antenna can handle up to about 10 W for 100 percent duty cycle modes, and up to 15 W PEP for SSB.

The need for an indoor antenna arose after his mom let it be known that she didn’t want any new holes drilled in the house nor any more visible antennas. “He tried a few of the HamSticks that I have lying around, but they were simply too big to fit,” his father said. Dragan had seen some mag loop-style antennas in articles his dad had been reading and asked if something like that might fit in his room.

“I told him that that size would work, and off he went to scavenge the house for parts to build a prototype,” Martin Tuip said. “We had to order a capacitor for the prototype, and he built further upon that.” Dragan did all the calculations for the wire lengths involved, he said.

“He ran propagation tests using *WSPR* with my G5RV as reference, and the mag loop was about 80 percent as effective at a fraction of the size,” Martin Tuip said. “The outer loop has to be less than 0.10 l on the lowest design band, while the inner loop has to be 0.20 the size of the main loop.

The WSSEF awards more than \$1.8 million in scholarships as well as special awards meeting a sponsor’s specific criteria. WSSEF is an all-volunteer non-profit organization dedicated to promoting science, technology, engineering and math across the state year-round. Dragan has been licensed since he was 8 and obtained his General ticket a year later. He presented on Amateur Radio at last year’s Northwest Overland Expo, a large international gathering for remote expedition travel enthusiasts.

You are invited to join the Pacific Northwest Winlink User Group. This is an email group for Winlink users in Washington, Oregon, Idaho, Montana, Alaska and British Columbia. The purpose of this group is to share information and facilitate Winlink development.

To join the PNWWUG group, please send your name, callsign, location and email address to Lynn Burlingame, N7CFO, at [n7cfo@n7cfo.com](mailto:n7cfo@n7cfo.com). You can only post messages from an address that is subscribed to the group, so if you use an ARRL alias to subscribe, you will only be able to receive messages if your email client can be configured to send "from" the ARRL alias.

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### Amateur Radio Praised Following Participation in Washington Interoperability Exercise

Amateur Radio came in for high praise following its role in a March 30 to April 3 Washington National Guard interoperability communication exercise, sponsored by the US Northern Command. The so-called "Vital Connection-Cascadia" exercise was aimed at improving interoperability among Department of Defense entities, federal, state, and local first responders, and Amateur Radio operators. Interoperability was tested on 5 MHz frequencies. The spring drill was a run-up to June's "Cascadia Rising/Vigilant Guard/Ardent Sentry" exercise. It included voice and data radio and satellite communication plus video integration from airborne assets.

"The largest success of this exercise by far was the use of the 60 meter HF interoperability bands to successfully pass voice and data traffic between military and civilian entities," the *After Action Report* said. "There was great integration among military units from Washington and other states, Army and Air Force MARS, Washington State Guard, state and county EOCs, and the ARES and RACES Amateur Radio communities."

Lt Col Lawrence Hager of the Washington Air National Guard also had kind words for Amateur Radio. "I would like to thank everyone who participated in the Vital Connection-Cascadia [communications exercise]," he said. "We had many successes, such as HF radio interoperability between military, government, and civilian sectors on the 60 meter (5 MHz) band." Hager is an Air Force officer responsible to The Adjutant General (TAG) for communications in both the Army Guard and Air Force Guard.

"It was truly a pleasure exercising with you folks," allowed State RACES Officer Ed Leavitt, K7EFL, in a

message to the Washington National Guard. "Thanks for inviting us." Regarding outreach to civilian jurisdictions using the 60 meter channels as the conduit, Leavitt said, "While I am hesitant to use phrases like 'This has never been done before,' I suspect that may actually be the case."

ARRL Western Washington ARRL Section Manager Monte Simpson, K2MLS, who is also Washington State RACES Officer, said the feedback he's received regarding Amateur Radio participation has been positive. "The 60 meter band proved to be excellent," he said. "While at the State EOC I had the occasion to hear a 60 meter conversation that was crystal clear with nearly no noise. The Mason County Emergency Coordinator/RACES Officer reported that he had used *Fldigi* to communicate with the National Guard. The Washington State Guard provided soldiers who are Amateur Radio operators as the ham radio connection to the National Guard." (ARRL News)

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### Annual Armed Forces Day Cross-Band Communications Test Set for May 14

The US Army, Air Force, Navy and Coast Guard will cosponsor the Armed Forces Day Military/Amateur Radio [Cross-Band Communications Test](#) on Saturday, May 14, 2016. The event gets under way at 1200 UTC, with activity continuing throughout the day. Some military stations may not operate for the entire period.

"New for Armed Forces Day this year, military stations and Amateur Radio operators are authorized to directly communicate on the 60 meter interoperability channels," US Army MARS Program Manager Paul English, WD8DBY, pointed out.

This year marks the 66th Armed Forces Day (AFD) observance, a week later than the radio event. Armed Forces Day is observed this year on May 21, but the Military/Amateur Radio Cross-Band Communications Test is held earlier in order to avoid conflicting with Dayton [Hamvention](#)®.

The annual communications exercise is an opportunity to test two-way communication between amateur and military communicators and features traditional military-to-amateur cross-band SSB and CW communication and offers an opportunity for radio amateurs to utilize modern military communications modes such as MIL-STD serial

PSK and automatic link establishment (ALE). These tests give Amateur Radio operators and shortwave listeners (SWLs) a chance and a challenge to demonstrate individual technical skills, and to receive recognition from military radio stations. QSL cards will be provided to stations that contact military stations during this event. The [complete announcement](#) of stations, times, and frequencies—subject to change—is available on the US Army MARS website.

Participating military stations will transmit on selected military frequencies and listen for Amateur Radio stations on selected amateur frequencies, which the military station operator will announce. Contacts should be limited to a minute or two, so all participants get a chance. Some stations will operate on Military Auxiliary Radio System (MARS) frequencies; others will use CW.

Amateur Stations with automatic link establishment (ALE) capability can contact military stations on specific half-duplex cross-band channels established for this purpose. Military stations will scan and receive certain Amateur HFLINK ALE frequencies, and transmit on the corresponding military ALE frequency. Military stations will also transmit ALE station identification (soundings) on each military frequency at 30 to 90-minute intervals.

The traditional Secretary of Defense message will be transmitted via Military Standard radio teletype modes, described in MIL-STD 188-110A/B. Reception of serial PSK will provide a technical challenge to amateur stations to receive the broadcasts using a high symbol rate serial PSK waveform not utilized in Amateur Radio, but found in all modern military equipment. See the complete schedule for details. Additional transmissions will use wide-shift FSK (RTTY), as this mode represents a baseline in interoperability common in all radio services. Most RTTY programs can be set to decode this mode. To accommodate amateurs some stations will transmit the Secretary of Defense message using common ham radio modes such as RTTY, PACTOR, AMTOR, PSK31, MFSK and MT63.

Transcripts of the received text should be submitted “as received,” without attempting to correct possible

transmission errors. Provide time, frequency and call sign of the military station copied, including the submitter’s name, call sign, and address (with ZIP code). This information should appear on the paper containing the test message.

Stations copying the Secretary of Defense message from Army and Navy stations should send their entries to Armed Forces Day Celebration, Commander Netcom, ATTN: NETC-ITSMD, Bldg 90549 Jim Ave, Fort Huachuca, AZ 85613-7070.

Stations copying Secretary of Defense message from Air Force stations, should send entries to Armed Forces Day Celebration, 38CYRS/Chief AF MARS, 203W Losey St, Room 1200, Scott AFB, IL 62225.

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#### FCC Action Anticipated on ARRL’s “Symbol Rate” Petition for Rule Making

The FCC has put “[on circulation](#)” its decision on the ARRL’s *Petition for Rule Making* (RM-11708), seeking to change the Amateur Service Part 97 rules to delete the symbol rate limit in §97.307(f) and replace it with a maximum bandwidth for data emissions of 2.8 kHz on amateur frequencies below 29.7 MHz. Proceedings on circulation are pending action by the full Commission, although there is a current backlog, and FCC action is not likely in the near future. ARRL General Counsel Chris Imlay, W3KD, said the League has remained patient.

“While we had hoped for more responsive handling, it is understood that the large number of comments from radio amateurs on the *Petition* took some time to sort out,” he said. “It was good to note that the Wireless Telecommunications Bureau has circulated a draft of what we presume to be a *Notice of Proposed Rule Making* responsive to our *Petition* to the Commissioners for their consideration. We hope to see the proposal released soon.”

In its petition, the League asserted that the changes proposed would “relieve the Amateur Service of outdated, 1980s-era restrictions that presently hamper or preclude Amateur Radio experimentation with modern high frequency (HF) and other data transmission protocols”

and would “permit greater flexibility in the choice of data emissions.”

Symbol rate represents the number of times per second that a change of state occurs, not to be confused with data (or bit) rate. Current FCC rules limit digital data emissions below 28 MHz to 300 baud, and between 28.0 and 28.3 MHz to 1200 baud. “Transmission protocols are available and in active use in other radio services in which the symbol rate exceeds the present limitations set forth in §97.307(f) of the Commission’s Rules, but the necessary bandwidths of those protocols are within the bandwidth of a typical HF single sideband channel (3 kHz),” the ARRL pointed out in its 2013 petition. At one point, the League’s petition topped the FCC’s list of “[Most Active Proceedings](#),” attracting hundreds of comments.

Meanwhile, the Amateur Radio community continues to await action on [ET Dockets 12-338 and 15-99](#) that would spell out service rules for the new 2200 and 630 meter Amateur Radio bands. The FCC was expected to issue a *Report and Order* last fall. That subsequently got moved back to the first quarter of 2016, which also has slipped.

Regulatory provisions under consideration have included a possible notification requirement by some radio amateurs to utilities that operate PLC systems in that region of the spectrum, prior to their starting operation on either new band. Utilities use unlicensed PLC systems to control parts of the electrical power grid.

Earlier this year, the ARRL has asked the Commission not to adopt overly broad requirements to notify utilities in advance of intended Amateur Radio operation on the pending bands. The Amateur Service would gain access to 135.7-137.8 kHz (2200 meters) and 472-479 kHz (630 meters). Both bands have been used by numerous Experimental (Part 5) licensees, and the ARRL’s [WD2XSH 600 Meter Experiment](#) continues. (ARRL)

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### RFinder Now Includes Coverage Maps

In February, ARRL announced it had established an agreement with RFinder, the creator of a web and app-based directory of Amateur Radio repeaters worldwide,

to be its preferred online resource of repeater frequencies. RFinder has now announced that through a new strategic alliance with CloudRF.com, users will now have coverage maps for all repeaters on earth. “Our systems are busy rendering and indexing coverage maps based on ground path loss using the Longley-Rice irregular terrain model,” said Bob Greenberg, W2CYK, creator of RFinder — The Worldwide Repeater Directory. “We have worked with Alex Farrant, M6ZUJ, creator of CloudRF.com, to render coverage maps for nearly the entire collection of repeaters in RFinder’s database.”

The resulting KMZ files are viewable in Google Earth on Windows and Mac (through [web.rfinder.net](#) and [routes.rfinder.net](#)), on Android and iOS versions of RFinder. The Windows and Mac versions allow multiple coverage maps viewable simultaneously, a great aid to repeater coordinators worldwide.

As part of this project, RFinder will be providing complimentary access to repeater coordinators worldwide. As coordinators update repeaters with HAAT, Power and Gain and updated Lat/Lon, maps will be automatically re-rendered within a few minutes and made available to all subscribed users. The procedure to sign up for the repeater coordinator program will be announced later this month (March 2016). This new capability will make repeater coordinators more efficient, as they will easily be able to see repeater coverage maps side by side for both coordinated and uncoordinated machines. This information is critical as simplex nodes for internet linking, crossband repeaters and homebrew repeaters crop up worldwide using various new out of the box and homebrew technologies. (ARRL)

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**COFFEE & DONUTS  
EVERY THURSDAY MORNING**

0:00 A.M.  
To  
10:00 A.M.



**Community Mtg Rm  
Silver Lake Mall  
Coeur d'Alene**

**TALK-IN: 146.980, PL127.3  
443.975, PL136.5**

Bring a Writing Instrument **Community Mtg Rm**  
has the napkins for our breakfast table engineering!

Deadline for submitting articles, stories, reports, etc., is the 25th of each month for the following month’s newsletter.

# Kootenai Amateur Radio Society (KARS) MEMBERSHIP APPLICATION

**One year membership Rates:**

New Member: \$15.00  Renewal: \$15.00  Family Membership: \$23.00

**Two year membership Rates:**

New Member: \$28.00  Renewal: \$28.00  Family Membership: \$42.00

**Lifetime membership:**

Member: \$150.00

**Information Update Only**

**Are You An ARRL Member?                      Yes / No ( Please Circle One)**

Callsign: \_\_\_\_\_ Class: \_\_\_\_\_ Expiration: \_\_\_\_\_

First Name: \_\_\_\_\_ M.I. \_\_\_\_\_ Last Name: \_\_\_\_\_

Nickname: \_\_\_\_\_

Address1: \_\_\_\_\_

Address2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_ - \_\_\_\_\_

PHONE NUMBER: (\_\_\_\_) \_\_\_\_\_

**OK to publish phone number?                      Yes / No ( Please Circle One)**

EMAIL ADDRESS: \_\_\_\_\_

**OK to publish Email address?                      Yes / No ( Please Circle One)**

**Do you want to receive the emailed Newsletter?                      Yes / No ( Please Circle One)**

Note: If this is a family membership, (all members with the same address), please complete the following section for your family.

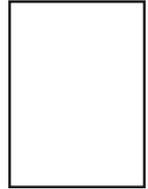
Name: \_\_\_\_\_ Call: \_\_\_\_\_ Class: \_\_\_\_\_

*RETURN THIS FORM WITH YOUR DUES, (CASH OR CHECK), TO THE KARS TREASURER,  
OR, MAIL TO: KARS MEMBERSHIP, P.O. BOX 1765, Hayden, ID. 83835-1765.*

(Office use only.)

Cash:		Check #:		Money Order:	
Membership Card:		Roster:		Newsletter:	

**KOOTENAI AMATEUR RADIO SOCIETY**  
**P.O. Box 1765**  
**Hayden, ID 83835-1765**



## **DIRECTIONS TO KARS MEETING:**

Take U.S. Highway 95 to Miles Avenue (Miles is about 1 mile North of Hayden Avenue). Instead of proceeding west from the corner of Miles and Ramsey, go north about ¼ mile, to the first building on the left (West) side of the road.

## **2016 CLUB OFFICERS**

President: Dave Boss, KF7YWR  
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Past President: Dave Boss, KF7YWR

## **Notice**

Propagation is published monthly by the Kootenai Amateur Radio Society (KARS). The club is located in Coeur d' Alene, Idaho and serves the North Idaho and the Spokane, Washington areas.

All opinions expressed in this newsletter are those of the individual contributors and not the radio club as a whole.

KARS operates a voice repeaters on 146.980 and 443.975, and a packet repeater on 145.510 Mhz.

Anyone interested in Amateur Radio is welcome to join. Dues are \$15.00 (individual) and \$23.00 for a family membership. Contact the Treasurer if you wish to join.

If you know of anyone interested in joining KARS, you can notify the newsletter editor as to that parties' email address. A copy of this newsletter will be sent with no obligation to join.

Material can be submitted for publication in Propagation. The deadline for articles, etc., is the 25th of each month for the following month's issue.