



Bulkley Valley Amateur Radio Society

Affiliated with Radio Amateurs of Canada

Hazelton 146.80, Smithers 146.88 and 444.9 (79.7Hz tone), Houston 147.06. IRLP 147.33, APRS 144.39 (no tone).

All repeaters, except as indicated, require 100Hz access tone. See www.pgarc.org for wider network information. BVARS membership is open to all interested persons, licenced or unlicenced.

BVARS callsigns: ve7rbh, ve7rhd, ve7rhn

Newsletter – January 2012

(Editor: Doug Steventon, VE7EPT)

2012 BVARS Officers/Directors:

President: Bob Haslett, VE7CE

Vice-President: Gina LaHaye, VE7LHA

Secretary/Treasurer: Doug Steventon, VE7EPT

Director: Gary Loble, VE7LCP

Director: Brian Butler, VA7BBG

Director: Matt Williamson, VE7MHW

BVARS Email: ve7rbh@rac.ca

Web page: <http://www.pgarc.org/BVARS.html>

Some Upcoming Dates/Events of Note

January-March (TBA): Basic Licencing Course

June 23-24: Annual Field Day (with Prince George ARC, location TBA)

July 1st weekend: Terrace Hamfest (tentative)

July 8: Annual Tyhee Lake Triathlon, Telkwa (we provide communications)

Various Dates (TBA): Messaging Centre planning, Repeater upgrade/maintenance trips.

August: Submit grant applications

September 1 and 2: Northern Net Hamfest (Riverside Park, Smithers)

Nets (all local times)

Every Sunday at 09:30hrs is the VHF Net on the repeaters

BC Net every evening at 18:30hrs on 3.729mhz

Northern Net Wednesdays and Sundays at 20:00hrs on 3.775mhz

Society News

The BVARS is an affiliate club of Radio Amateurs of Canada (RAC). RAC (www.rac.ca) is the volunteer-run national organization that represents our interests to Industry Canada and



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internationally. RAC provides many member services (including the *callsign@rac* email address) and publishes TCA (The Canadian Amateur, an informative magazine). The BVARs directors encourage you to consider joining RAC.

2012 Membership Dues

At the 2011 AGM (minutes available from VE7EPT) a new annual BVARs membership dues structure was adopted. A one year membership is now \$20 for those who are also members of RAC, \$30 for those not also a member of RAC (covers the additional \$10 BVARs insurance cost for non-RAC members). For new members the fee will be pro-rated depending on when they join during the year. The BVARs liability insurance covers club-sponsored events and activities, and for those with both BVARs and RAC membership, your personal amateur radio activities are also covered (see RAC web site for details).

Your prompt payment of dues would be appreciated ('Thank You' to those who have already paid). Dues can be paid in person to the Treasurer (Doug Steventon, VE7EPT), mailed c/o 8203 Kroeker Road, Smithers V0J 2N2 (cheque made out to Bulkley Valley Amateur Radio Society), or dropped off in an envelope marked "personal for Doug Steventon" at the Ministry of Forests, Lands and NRO office on Tatlow across the highway from Glacier Toyota.



The 2011 Northern Net Hamfest/Camp out had over 20 participants. One activity (we wish we didn't have to do) was to take down the antennas of long-time BVARs member and now Silent Key, Don Gillespie (VE7DRG). Most of us did enjoy, however, watching Bob (VE7CE) sweating up on the tower! The tower and antenna are getting a new home with VA7MNV in MacKenzie.



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Basic Level Licencing Course

The BVARS will be conducting a Basic level licencing course this winter. Registration is tentatively set for Monday evening, January 30th at Ranger Park. Participants will use the free on-line course at www.emergencyradio.ca and the Industry Canada exam generator as the primary in-advance self study tools. An intensive instruction session will then be conducted on a Friday evening, all day on Saturday, followed by the exam.

We also have two BVARS copies of the RAC Basic Licence Study Guide that are available as reference books. We anticipate a charge of \$20, including the exam and a BVARS membership for the current year. We will likely need some mentors to help out.

Public Service and Emergency Preparedness

The primary reason the Amateur Service maintains its spectrum allocation and gets grant funding for projects like our repeater network, is our contribution to emergency preparedness and public service. The BVARS works in affiliation with PERCS (Provincial Emergency Radio Communications Service, <http://www.percs.bc.ca>).

The BVARS again participated in the second 'BC Shakeout' earthquake preparedness drill on October 20, 2011. We had on-air participation by 8 of our members (13 volunteer hours). VHF and HF nets were called, contact made with the Terrace and Victoria PEP headquarters, and test messages to emergency officials passed the WinLink2000 digital email system via HF. Thanks to everyone who was able to participate. Doug (VE7EPT) was interviewed about the event by CBC Radio (Day Break show, from Prince George) including a simulated on-air emergency exchange between VE7CE and VE7MHW.

Both the Tri-It and Tyhee Lake Triathlons were also successful this past year, and we tried out reporting of racer positions using simple DTMF data. Maybe we will incorporate APRS next time.....



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Sunday Morning Repeater Net at 09:30

The Prince George club runs the Sunday morning (09:30) Northern BC VHF net on the repeater network. The net allows us to check operability of the entire linked repeater system. We can count check-ins as volunteer hours in our grant applications.

HF Nets

Similarly, it would be great to hear more Bulkley Valley voices on the BC HF nets (all local time):

BC Net every evening at 18:30 on 3.729mhz

Northern Net Wednesdays and Sundays at 20:00 on 3.775mhz

PEP Net Wednesdays at 19:00 on 3.735Mhz

Member Happenings/Profiles

Since the last newsletter, we suffered the loss of Don Gillespie, VE7DRG, after a battle with cancer. Don was a very active member of BVARS and will be missed.



Peter, VE7HFY and YL Gerti at a camp site on Morice Lake (summer 2011). Photo was sent as a test to VE7EPT as an attachment to an email sent by HF radio (Winmor mode, RMS Express software).

Bob VE7CE assisted Yvonne Gillespie with disposition of Don's radio gear, and we had a tower/antenna lowering day during the fall Hamfest.

Our focus member for this issue is Peter, VE7HFY. He is an active and long-time member of the BVARs. He can be heard on just about all bands and modes from his home QTH on Lake Kathlyn, or in the summer from exotic camp sites while he and Gerti are out exploring! You can track his excellent adventures in the summer on the APRS system. Peter also hosts a part time EchoLink node on 145.575Mhz simplex.

Our president, VE7CE, was featured in an Interior News article about the BVARs and emergency preparedness (<http://www.interior-news.com/community/135059238.html>).



APRS Network Expands

We are rapidly expanding the APRS network as part of the upgrade. It is quite easy and affordable to get on APRS! Check out <http://aprs.fi/> (try ve7ept-1) and <http://www.nwaprs.info/> has lots of info. There are also great APRS smart-phone, iPod and iPad apps.

APRS is much more than just blindly reporting positions. It is capable of two-way exchanges of data (e.g., weather reports) and text messages. Exchange can be in 'real-time' between stations over RF, or via email and internet services.

VE7AV in Prince George is now hosting an HF APRS gateway (VE7AV-4) on the standard 30m APRS frequency (10.151Mhz. LSB, 300 baud). This will allow alternative access from areas not served by the terrestrial VHF network. Another option (usually 3 times a day) is the digipeater on the International Space Station (146.825Mhz).

Repeater Upgrade and Messaging Centre Projects

2011 Highlights

Thanks to Gaming Grant funds, this past summer was phase two of the upgrade. We installed new VHF voice repeaters and digipeaters at the Houston and Hazelton sites, and a new link radio at Hazelton.

We have also moved from our wooden shack at the Hazelton site into the more secure concrete block building next door (courtesy of Skeena TV Rebroadcast Society). The uhf linking hub/repeater was moved to Tyhee Mountain (courtesy of Houston-Smithers TV Rebroadcast Society), along with a fill-in digipeater.

We have again received for 2012 a substantive Gaming Grant (\$17,850) to further work on the repeater network, and an automated 'messaging centre'.

2012 Repeater Site Projects

We have a few things left to do at our existing sites. A major one is replacing the poles and repeater antenna at the Smithers site (Glentanna). A new vhf antenna is also needed for the Houston site, and a possibly a better antenna structure at Hazelton.

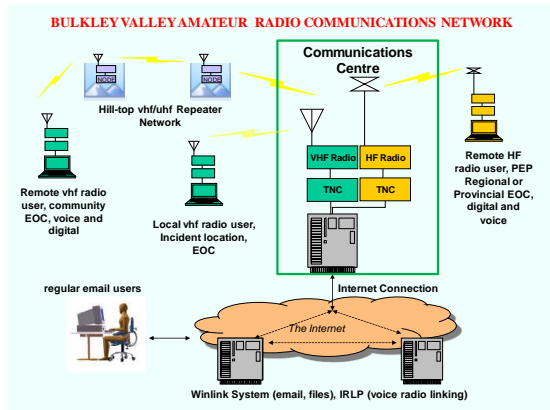
We also will be able to consider adding an additional new site. The first question is what area do we want to better cover? Options that come to mind include Babine Lake (Granisle to Smithers Landing), north up Highway 37, or further along Highway 16 towards Terrace, elsewhere..... **If you have thoughts on that, let us know.**



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Messaging Centre



The idea of the messaging centre was featured in the fall 2010 newsletter. The basic idea is an all-band, all mode station that will be accessible by radio link and internet from anywhere in the Bulkley Valley (or beyond). During non-emergency times, it will be accessible to BVARs members for general remote operation. There is a lot of detailed planning and installation work to do, so stay tuned for more info and opportunities to

participate!

The Hi-Tech, Homebrew and Equipment Corner

Amateur Radio Kits and Home-brew

In some ways, with modern integrated circuits and the like, building gear ('home-brewing') is actually easier (fewer components). It is still possible to play with building radios, power supplies, accessories and equipment for custom uses or just for fun! There is lots of room for experimenting with antennas, accessories and modifying existing gear. Matt, VE7MHW (ve7mww@rac.ca) is one of our most adventurous builders. If you are looking for parts suppliers, he is a good contact.

Kits can be a good way to get into home-brew. The following sites have lots of kits for accessories and even complete transceivers.....

<http://www.ramseyelectronics.com/hk/default.asp?page=ar>

<http://www.elecraft.com/>

<http://www.k1el.com/>

<http://www.foxdelta.com/products/>

<http://www.ac6v.com/kits.htm#HAM>

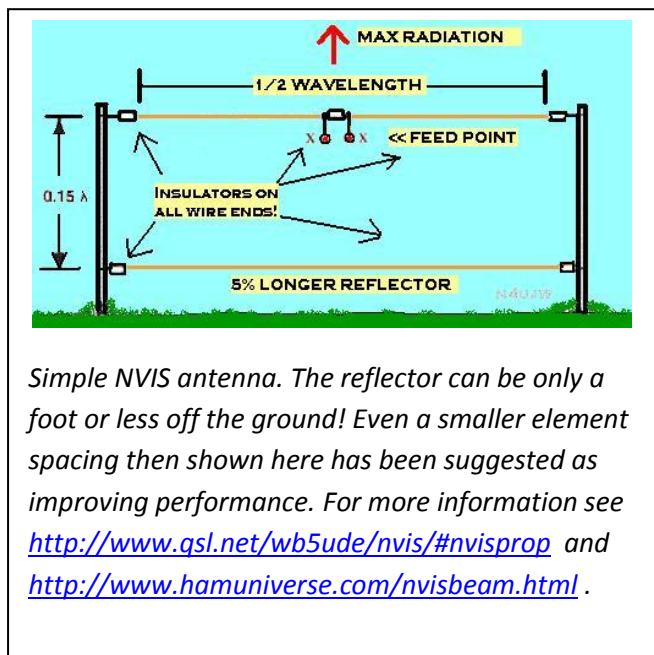
<http://www.genesisradio.com.au/Q5/>



Near Vertical Incidence Skywave (NVIS) Propagation on HF

For High Frequency (HF) operation, the goal is often to try to communicate as far as possible (DX, or long distance operation). The rule of thumb is usually to get antennas as high as you can, with a low angle of radiation relative to the horizon so as to get the longest skip. But is this always the best way to go?

When more local or regional operation is desired (say out to 200 km or so), we don't want to get long distance skip. Examples are for emergency use when regional connections (say from Smithers to Terrace, or from the back-country outside VHF repeater range) are the priority. Most of us would assume we need to count on Ground Wave propagation, where the signal follows the earth's surface. Unfortunately, the Earth's surface attenuates much of the signal,



and Ground Wave is subject to multi-path effects, etc., especially in mountainous terrain such as ours. Often much more effective is to use *Near Vertical Incidence Skywave (NVIS)* propagation. With NVIS, you deliberately aim your signal close to vertical with the goal of return to earth in a cone shaped pattern around you, out to about 200 km.

NVIS still relies on reflection from the ionosphere, and thus only works below the ionospheric imposed Maximum Usable Frequency in effect at any given time, generally below 10Mhz (e.g., 80 and 40 meter bands are good bets). Most operations use separate day-time and

night-time frequencies. Effective NVIS antennas are placed *very low* to the ground, and thus are comparatively easy to set-up in the field.