



New Zealand Association of Radio Transmitters

ZL1AA - AUCKLAND BRANCH 02

NOVEMBER

2014

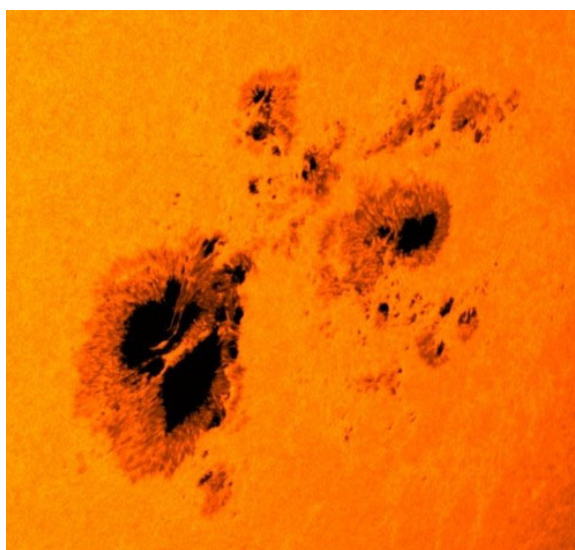
☞ INTER-BRANCH FOX HUNT ☞

SATURDAY NOV. 15 @ 13:00 Hrs

Meet at the Archery Club carpark

**No General meeting scheduled
Club Room will be open at 10:30 AM**

Can you identify the visitor?



NOTICE: Don't miss the CQWW CW Contest

ZL1AA
Auckland Branch 02
PO Box 18003
Glen Innes
Auckland 1743

www.qsl.net/zl1aa
ZL1AA@nzart.org.nz
Skype: ZL1AA_NZ

Club Officers

President

George Marr, ZL1TUJ
gmarr@ix.net.nz

Vice President

Wes Printz, ZL3TE
ZL3TE@dxer.com
027 227-7779

Secretary

Wallace Bottomley, ZL1WAL
ZL1WAL@nzart.org.nz
(09) 575-6383

Treasurer

Wallace Bottomley, ZL1WAL
ZL1WAL@nzart.org.nz
(09) 575-6383

Elected Members

Ray Chapman, ZL1AJR
ZL1AJR@xtra.co.nz
(09) 528-5410

Gwynne Rowe, ZL1AAR
rgwynne.rowe@xtra.co.nz
(09) 528-1177

Japie Nel, ZL1JJN
jjnel@orcon.net.nz

Logan Nicoll, ZL1LMN
chillistick@gmail.com
021 0271-5660

Steve Miller, ZL1FS
Dion4cy@gmail.com
021 0226-4981

ZL1AA Information:

Branch 02 Clubroom is located at
400 St Johns Road
Kohimarama, Auckland
(Off the beaten track / main road)

Google Earth:
36.869730s, 174.843860e

Clubroom is open every Saturday from
1030 hrs for members and guests to drop
by for coffee and a chat! .

General meetings are held on the third
Saturday of each month at 1330 hrs (except
Dec / Jan).

Committee meetings are held on the first
Tuesday of each month at 1930 hrs. ALL
paid members are welcome to attend.

Affiliations:
10-10 International
NZART
AMSAT-ZL

Club nets:
Monday:
3.645 MHz @ 2000 Ray, ZL1AJR NCO
Thursday:
145.775 MHz @ 2000 Ray, ZL1AJR NCO

10-10 Down Under Chapter Net:
28.530 MHz 2230Z Fridays
(1030 NZST Saturdays)

Branch Contacts:

Gwynne Rowe, ZL1AAR
(09)-528-1177
Steve Miller, ZL1FS
021 0226-4981

Branch Examiners:

Steve Miller, ZL1FS
021 0226-4981

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Librarian:

Gwynne Rowe, ZL1AAR
(09)-528-1177

Station Trustees:

George Marr, ZL1TUJ
Wes Printz, ZL3TE

Branch Technical Advisers:

Simon Watt-Wyness, ZL1SWW
sww@eagle.co.nz

SUBSCRIPTIONS

❖ Subscription Rates:

- Regular \$45 (discounted with a \$5.00 raffle ticket if paid by 31st March 2014)
- Youth Rate \$20
- ❖ Post to PO Box 18003, Glen Innes, Auckland 1743, direct credit may be made into our bank account 12-3047-0076823-00, or pay the Treasurer or Secretary at the clubrooms.
- ❖ A pro rata rate is offered to a new member joining part way through the year. The financial year runs from 1 December to 30 November
- ❖ Receipts will be distributed either in person at meetings or via mail/E-mail.
- ❖ Branch financial year currently runs from 1 December to 30 November.
- ❖ A current Membership Application / Renewal Form is required with all payments to assist with accurate record keeping. Available from the Secretary, or by download http://www.qsl.net/zl1aa/br02_mem_form.pdf
- ❖ All members' information is kept confidential unless approval is given for it to be released.

Newsletter material submissions are welcomed and appreciated by your editor. You may submit material in a variety of file formats: .TXT .DOC, or just plain old E-mail. Photos are accepted also. Please submit material via E-Mail to: ZL3TE@dxer.com I will use what I can with the space available at the time of newsletter editing.

Auckland Unitary Plan Update

The Submission Status

There is very little additional information since the Updates dated 6 August 2014 (and subsequently on 3 September 2014). The formal statics are, however, interesting.

The Auckland Council has published a "Further Submissions Report" in its website, which reports on the support or opposition of every clause of every further submitter. With respect to NZART's submission (No 4498) there were 133 submitters in support, and two who opposed.

The Further Submission Report for submission 4498 alone provides 114 pages with approximately 25 lines of submission data on each page, (in support or opposition), amounting to 3163 actual submission points of which all but a dozen were in support.

The Clasen Submission No 5219.

Hartwig Clasen had put in an original submission specifically limiting most aspects of amateur activity. In the "Further Submission Report" there are 133 lines of Further Submission data, of which 131 are in opposition to what Clasen requests, and two (from the same person) are in support. It appears that in all 66 Amateurs put in further submissions opposing Clasen.

Opposition to NZART's Submission.

Of the two who opposed NZART's submission:

- i) One is from Russell McVeagh Lawyers, representing Transpower. It appears they want a better definition of Masts.
- ii) The other was from K Vernon, who opposed the whole of the NZART Submission 4498.

Key Topics in Detail.

On Auckland Council's website, Amateur Radio does not seem to appear in the list of Key Topics. Nor does Amateur Radio appear in the list of "Decisions Sought" in relation to Auckland Wide provisions.

What happens next?

When the Hearings Panel gets around to dealing with our submission (which is probably a low priority as it does not feature in the above paragraph) we will be notified of a pre-hearing session and an in-person Hearings date. At that stage three persons will represent NZART: they are members of the steering committee; Vaughan Henderson ZL1VH, Peter Loveridge ZL1UKG, and Douglas Birt ZL1BFS.

Douglas Birt ZL1BFS
NZART Local Government Liaison Officer
kdbirt@gisborne.net.nz
Mobile 027 492 5189

Looking for something to do on the weekend? Need to fill some more DXCC Challenge slots? work new Countries, work new modes? Why not operate a short while in a contest. There are several to choose from. More Information can be found here:

<http://www.hornucopia.com/contestcal/weeklycont.php>

Nov 08-17

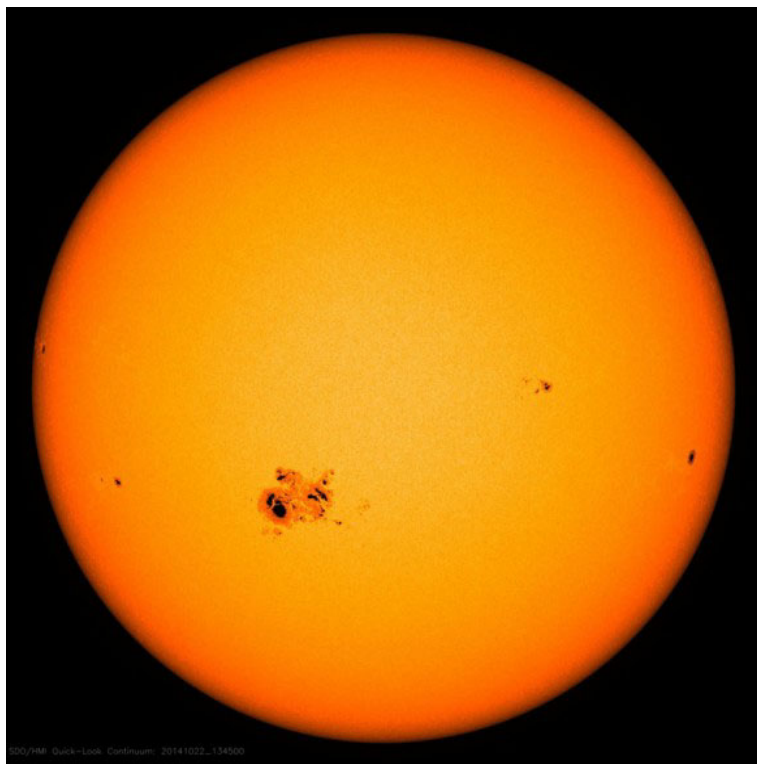
- WAE DX Contest, RTTY: Nov 8 / 9
- 10-10 Int. Fall Contest, Digital: Nov 8/ 9
- JIDX Phone Contest: Nov 8/9
- SARL Field Day Contest: Nov 15/16
- Feld Hell Sprint: Nov 15
- ARRL Sweepstakes, SSB: Nov 15/17

Nov 19-30

- CWops Mini-CWT Test: Nov 19/20
- YO International PSK31 Contest: Nov 21
- LZ DX Contest: Nov 22/23
- SKCC Sprint: Nov 26
- QRP ARCI Topband Sprint: Nov 27
- CQ Worldwide DX Contest, CW: Nov 29/30

Every Month: NZART Official Broadcast: 3900 kHz LSB last Sunday of month at 2000hrs and at 2100hrs. (Also broadcast on the National Link and available on the NZART Website).

AR 2192 - Largest Sunspot in 24 years.



The biggest sunspot to grace the face of the sun in more than two decades just rotated out of Earth's view, but it was responsible for kicking up some truly amazing solar activity.

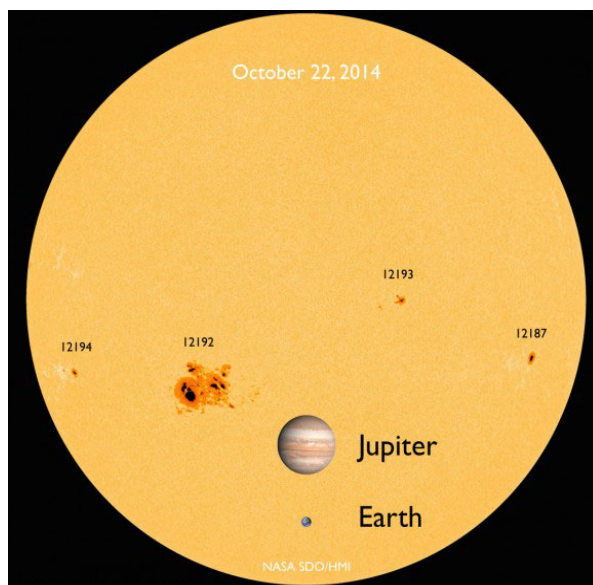
The sunspot AR 2192 shot off four powerful flares in four days recently, with many more smaller flares sprinkled in as well. The sunspot region was about the size of the planet Jupiter and is the largest observed in 24 years.

AR 2192 was actually one of the biggest observed sunspots of all time, ranking 33rd largest of 32,908 active regions since 1874, according to NASA scientists C. Alex Young and Dean Pesnell.

This event made for some rather interesting conditions during the CQWW SSB Contest. It stirred the bands up for several days. It was a welcomed visit by many.

Noteworthy Events:

X1.0 (10/19/2014) @ 05:03 UTC
M3.9 (10/20/2014) @ 09:11 UTC
M4.5 (10/20/2014) @ 16:37 UTC
M8.7 (10/22/2014) @ 01:59 UTC
X1.6 (10/22/2014) @ 14:28 UTC
X3.1 (10/24/2014) @ 21:40 UTC
X1.0 (10/25/2014) @ 17:08 UTC
X2.0 (10/26/2014) @ 10:56 UTC
M4.2 (10/26/2014) @ 18:15 UTC
M7.1 (10/27/2014) @ 00:34 UTC
M6.7 (10/27/2014) @ 10:09 UTC
X2.0 (10/27/2014) @ 14:47 UTC



Navassa Island (KP1) Operation

We are pleased to announce that the new Navassa 2015 DXpedition website is up and running. It can be found at www.navassadx.com Also, it is official...our call sign will be K1N.

Team members are: AA7JV, KØIR, K4UEE, K5AC, K9CT, KT4TTT, N2OO, N2TU, N4GRN, N6MZ, NA5U, NM1Y, WØGJ, W6IZT, WB9Z.

We will update the website often as more information becomes available. We are working closely with the USFWS and are pleased with their "can do" attitude. We should have specific dates shortly, but the team has cleared their schedules to be available for the two week operation starting in late January 2015.

Fundraising has begun. If able, we encourage you to financially support the project.

73,
for the DXpedition team
Bob K4UEE, Glenn WØGJ, Mike NA5U

Inter– Branch ARDF Competition

15th November 2014 / Cornwall Park

Start times are at five minute intervals from 1300 hours.



There will be five 2 metre foxes hiding; you will have a time limit of one hour in which to find them. Taking into account the ages of our previously successful competitors, we require the over 65 year olds to find only four of these foxes. We will not make you climb to the top of One Tree Hill.

Bring the family and a picnic; we shall fire up the BBQ. There are lambs to see, gardens to admire and views to behold. We have maps, but bring a clipboard and biro.

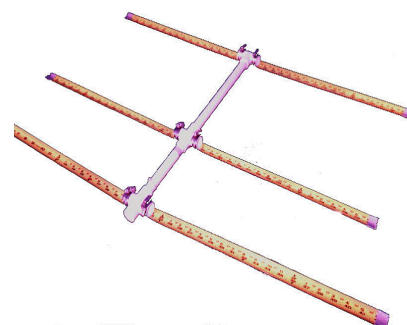


I am told to expect an team from the Waikato. Welcome. This is a good opportunity to meet other Amateurs in an atmosphere of fellowship and keen competition. You may have home made rigs to show off and strategies to compare after you have completed the course.

Last month's newsletter explained "What to expect". You may want to read it again by turning to page 7 of this newsletter. Read the tip about triangulation - the best way to locate the foxes.



Regrettably, our Easter event this year had to be called off when the bomb squad was summoned to deal to this alarming looking 2m fox, housed in a war surplus ammunition box and found to be ticking inside. We have since painted over the "high explosive" warning message.



To see a 6 minute Youtube explanation about ARDF, watch www.youtube.com/watch?v=UPLWCc_rDqk

Coming January 2015



FT4TA Update

We are now on the final lane of our operation. We will start to dismantle most of the antennas on Sunday because all equipment must be packed and stored in big plastic cases for transportation. The boxes will be transported from Tromelin to France in the coming months. We plan to keep all stations running but not on all bands for the last night. Estimated QRT time is around 0100z Monday.

For the coming 3 days, we want to focus on stations looking for Tromelin for an All Time New One (ATNO). Even if we made our best to give opportunities to everyone, there's still a lot of work to do and we'll try to do it as well as possible.

We kindly ask those having already a lot of QSO with us or with past operations to give a chance to others. This is HAM SPIRIT !

17 and 20m are the best bands for an ATNO and we will try to keep 2 stations on those bands. During daylight, 20m and 17m are almost dead and start to wake-up in the afternoon and works well up to the middle of the night.

We worked on low bands with some West coast and Pacific stations at our sunrise and sunset. We will try to continue to have 40/80 and 160m at these moment +/- 1h. Today again we worked many US on 80 at our SS. We were also on 160 but with no luck. We will try again tomorrow. We now know we have a good RX towards EU-NA, but still need to improve JA side.

We ask other stations to be cooperative. Too often, our TX frequencies get deliberate QRM, especially on low bands. We are aware of this when reports need to be sent 10 times for each station. To avoid time losses, we are doing a QSY to another band or mode. Yes, that's a pity !

We made the request of our LoTW certificate just before our departure and sent all documentations to the ARRL HQ. Once on the island, we sent the remaining document to let them validate the certificate. We took the decision to upload immediately the log on LoTW (during the operation). This is a simple way to thank all of you for your help and support and we think that's part of a good operation when possible.

We are now close to the 60K contacts. We are very tired due to the lack of sleep but we are ready for the last weekend ! Good luck to all of you !

Upcoming operations from US Sites in Antarctica

Amateur radio operations are part of the outreach and education efforts of the "Dynamic Response of the Ross Ice Shelf to Wave-Induced Vibrations" expedition from late October to early December 2014. Between about October 30 and November 10, team member Dr. Reinhard (Ron) Flick, staff oceanographer for the California Department of Parks and Recreation, Division of Boating and Waterways, will operate from the ham station at McMurdo, call sign KC4USV as work schedule and propagation conditions permit.

| 2014 dates | Location | Callsign |
|-----------------|----------------------|-----------|
| 30 Oct – 10 Nov | McMurdo | KC4USV |
| 10 Nov – 1 Dec | Yesterday Camp (RIS) | KC4/K6REF |
| 3-5 Dec | McMurdo | KC4USV |

Note: all dates approximate depending on conditions.

For about three weeks starting November 10, Ron plans to operate from Yesterday Camp near the International Date Line using a 100-watt transceiver and wire dipole antennas on the 20, 15, and 10-meter amateur bands, again, as time and conditions permit. Radio operations will be attempted in the afternoon and evening, Ron's call sign will be KC4/K6REF.



McMurdo, Antarctica QTH

Auckland Branch 02, NZART (Inc.) Minutes of General Meeting

Date / Time / Place: Saturday 18th October 1342 hours / Clubroom

Attendees: George ZL1TUJ Presiding, Wallace ZL1WAL, Ray ZL1AJR, Logan ZL1LMN, Steve ZL1FS, Gwynne ZL1AAR, Jeff ZL1TOU, Selwyn ZL1BRC, Bob ZL1AFU as per the Attendance book.

Apologies: Wes ZL3TE, Japie ZL1JJN, Terry ZL1TEZ, Simon ZL1SWW, Barry ZL1AAA, Paul ZL1AJY.

Sustained ZL1WAL / ZL1TUJ

Objection: Selwyn ZL1BRC and Bob ZL1AFU asked that these minutes record their objection that the agenda for this meeting had been circulated with unreasonable short notice (15 hours). That whatever the chain of reasons, this meeting will continue with the given agenda.

Approved ZL1WAL/ ZL1AJR; ZL1BRC and ZL1AFU abstained

Minutes: of the General meeting on Saturday 20th September, although printed and available, was left to lie on the table for consideration at the next General Meeting.

ZL1TUJ / ZL1AAR

Correspondence out:

- The Secretary read out the reply sent to Auckland Council.
 - o The letter traced the history of NZART's relationship with Council since 1971, and reaffirmed its gratefulness after their fire in 1981 when they built an annex kitchen for the clubroom and continued to provide services and utilities.
 - o Our monthly average electricity usage measured over 6 months last year (to trickle charge our batteries and meet weekly for a cuppa), is nearly one tenth of the May invoice (\$517 for 2,296 kWh) billed to "The Laundry". We suggested that Contact Energy should be asked to do an audit of the electricity feed (because squatters had been reported).
 - o We said that we would agree to Council's intention to put us on a monthly Licence on the same terms until such time as "Better Utilisation" is found for the site and then to relocate with Council's assistance.

Finance:

- The Treasurer tabled the year to date Accounts as presented to the Committee Meeting on 6th October.
- The Treasurer outlined a transaction to trade in ZL1AJR's TS570D Kenwood (\$600) for the Kenwood TS480HX (\$1300), thus earning \$700 revenue to the Branch (being amounts over \$300 requiring approval at General meeting as required by the Constitution). The Kenwood TS570D is working.

Received ZL1WAL / ZL1AAR

Approved ZL1WAL / ZL1AAR: ZL1AJR abstained

Reports

- AREC: ZL1TUJ gave a brief report.
- Tower: No progress with Nally tower pedestal until a car with a tow-bar is available to fetch a hoist from Hire Pool. Ray offered to finance the hire cost up to \$100.
- Remote Station: It is working however, the 40m ant needs a better match. 15m can be used also.
- Selwyn has cut a groove in the base of the main tower so as to recess the earth wire (often cut by the lawn mower).
- General use PC:
 - o ZL1BRC has loaded his Favourites for anyone to use and learn from him.
 - o He will prepare a newsletter article about them.
- Fox hunting gear.
 - o The 2m gear is presently being used at JOTA, and when returned will be painted.
 - o Some more 80m sniffers can be constructed from PLL chips sourced by ZL1AJH.
 - o Orienteers' weekly events in parks starts this week, but we need reliable gear.
- Future events:
 - o 15th November – Inter-branch ARDF event at Cornwall Park. Start at 1300 hours. It was considered that a General Meeting **may** be held there – weather permitting.
 - o AGM Tuesday 9th December at 1930 hours.

The meeting closed at 14:35.

Thanks to Gwynne for providing the BBQ before the meeting.

Auckland Branch 02, NZART (Inc.) Minutes of Committee Meeting

Date /Time /Place: Tuesday 4th November / 1945 hours / Clubroom
Attendees: George, ZL1TUJ (presiding), Wes ZL3TE, Wallace ZL1WAL, Ray ZL1AJR, Steve ZL1FS, Gwynne ZL1AAR, Japie ZL1JJN, Logan ZL1LMN.

Electricity: Power to 400 St John's Road has been disconnected. The generator was started to enable this meeting to go ahead. It was speculated that Auckland Council had not paid Contact Energy for the May invoice (\$517.17), this being the subject of correspondence reported at previous meetings after Council were advised about squatters having been seen on the property. The Pony Club will be the first to request reconnection.

Minutes of the previous Committee meeting on Tuesday 1st October 2014: Taken as read and accepted ZL1WAL / ZL1TUJ

Correspondence In:

- Newsletters: Franklin, North Shore, Suburban (by post); Hibiscus Coast; Auckland VHF Group Hastings and Napier, North Canterbury, Hamilton, REG and Rotorua (by Branch reflector).
- Western Branch – Notification of their Junk sale.
- IARU Rules of Championships in ARDF Championships (21 pages).
- QSL card from W6MF, Ken Dickenson – intending to visit our Radio Station soon.
- Various requests (by e-mail) to tune the K3 remotely operated station.

Correspondence Out:

- Wes ZL3TE - Contributions to the Newsletter.
 - o Minutes of Committee meeting.
 - o Minutes of General meeting.
 - o Announcement of Inter-Branch ARDF Competition.
- Auckland Council re Licence to occupy site and electricity used. Received and approved ZL1WAL / ZL3TE

Finance:

- Finance Report Taken as read and received ZL1WAL / ZL1TUJ
- Ray has since paid \$700, being the net difference for the Kenwood TS480HX and trade in of his TS570D. He also donated \$100 towards the cost of hoisting the tower; all of which has replenished our bank balance.
- Equipment for sale:
 - o Steve corrected the list and the Treasurer will put items on TradeMe.
 - o Another branch had better success selling grab bags with descriptions of the contents.
 - o Many items have negligible value and should be dumped. (Members welcome collect).

Progress reports:

- AREC assisting at Santa parades. George will ask Doug Cooke about jackets to be worn by AREC volunteers.
- Maintenance:
 - o Vermin – sounds are being heard; traps are set; access to ceiling space has to be closed.
 - o Blown fuse – A faulty point has been replaced; power points on S. wall need to be checked.
 - o Painting – North wall – is to be scheduled this summer.
 - o Bamboo poles - Four have been fetched. They should be stored under the clubroom.
 - o Tidy up clubroom
 - o Toilet door hasp and staple is rusted – Steve will replace it.
 - o Level floor – Steve has a big jack to do this job in the summer.
 - o The corner pile supporting the under-floor access door needs to be replaced.
- Antennas:
 - o Tower: A hiab truck will be here this weekend. Steve will ask the driver to hoist the tower.
 - o 40 m centre pole should be extended (with a bamboo pole).
 - o Loop antennas: Another four bamboo poles will be required. Wallace and Logan will fetch more poles on the last weekend of November.
- Computers / network
 - o Selwyn's list of "favourites" is beside the PC for general use.
 - o The quad processor at HF1 fails and is slow. George will arrange for it to be serviced.

(November Committee Minutes Continued on page 10)

- Remotely operated station:
 - o A marketing campaign is being planned to promote its use as a “listening only” station.
 - o Logan will extract the calls from the station log of requests to tune the station.
 - o George will email each with a progress report and seek their further interest.
 - o Next, they will be invited to join our Branch so as to qualify for permission to tune the K3.
- Nets:
 - o ZL1BQ net on 146.625 MHz on Sunday nights at 2015 hours.
 - o Monday 3.645 net. Gwynne remarked that the remote station was easy to operate.
- **Future Events:**
 - o 15th November : Inter-branch ARDF Competition at Cornwall Park, Archery Club : Wallace said that planning for the event is well advanced (see below) and it largely follows IARU rules. Volunteer helpers should contact Wallace ASAP please. (The world ARDF event held in Melbourne in 2012 had 50 helpers from the Orienteering Clubs).
 - o 22nd November: Deadline for Annual reports so that the notice for AGM is issued in time.
 - o 2nd December: Last Committee Meeting.
 - o 9th December at 1930 hours: Annual General Meeting.
- **Constitution and Rules:**
 - o Substitute the word “Review” instead of “Audit” in clause 12 of the Constitution. This requires approval by 3/5th of those present at the AGM. Further approvals will be sought from NZART and Incorporated Societies.
 - o The Branch constitution allows the Committee to make rules for any matter not already covered by it (clause 23). It allows the President or Secretary to call Committee meetings on such notice as he deems fit (Clause 6b). And it allows the Committee to dispense with calling General meetings. It is silent about notice and agenda.
 - o The Secretary deplored attempts to frustrate the conduct of business. He urged that a “soft” approach (a word used by the NZ Law Commission in this context), should be taken, rather than have the Committee set more prescriptive rules.
- **General Business:**
 - o Gwynne offered to order the ARRL Handbook for next year’s raffle. Unanimously Approved
 - o Gwynne addressed the meeting citing the work carried out by each Member of the Committee. He spoke of the generosity of each, and of the camaraderie engendered towards one another in the pursuit of their hobby. His dissertation was received with acclamation.

The meeting closed at 2200 hours with supper provided by Ray ZL1AJR.

VK9DLX – LORD HOWE Update

The last man on the island is Joe DF7TH. He extended his stay until November 11th. He will operate until November 10th on the remaining bands 30m, 17m, 12m and 10m we left antennas up. As he is a one-man-show now, don’t expect more than one station at a time in the air. Also he has to do organisational stuff beside operating. Therefore he will be QRV when time permits mostly in CW to give out a new one on the mentioned bands. Meanwhile signals are all equal and very low. So it seems he is digging out the QRP stations with some wire in the air.

We have over 115,000 QSOs with over 28,000 unique callsigns. We tried hard, but were not able to get more than 26% NA into the log. Europe with 47% of the QSOs is the dominating continent. We are a bit surprised that Asia with 23% has not more QSO’s as it is our neighbour. We are very happy about the great number of over 2,200 QSO’s with Oceania. And not to forget over 1,100 QSOs on 6m. During the DXpedition one of our goals was to take part in the CQWW DX Contest SSB as a Multi-Multi operation. And so we did. Using the well-known callsign VK9LM we finished with over 11,000 QSOs and 23,582,880 points. On the unchecked raw score table VK9LM places on place 1 in Oceania and place 4 world wide. Many thanks for the numerous callers!

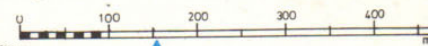
Of course we were asked when we will upload the online log for VK9LM. We will do that together with the complete log of VK9DLX after the end of the operation. We also got numerous requests to correct callsigns in the VK9DLX log. We will check those requests and will do the changes where applicable. When VK9DLX operation closes, we will open the Online QSL Request System (OQRS) on our website. We ask you to be patient and wait until November 10th. We will inform you when the system is up.

Feel free to visit the DXpedition website on <http://www.lordhowe2014.org>.

CORNWALL PARK and ONE TREE HILL



1:7500
Contours 2.5m



CENTRAL
ORIENTEERING
CLUB

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LEGEND

- OPEN GROUND
- TREES (IN VEGETATION)
- TREES IN ENCLOSURE
- THICKET
- SEALED ROAD
- VEHICLE TRACK
- SEALED FOOTPATH
- FOOTPATH
- FENCE
- BOUNDARY FENCE OR WALL (NOT TO BE CROSSED)
- WALL
- CROSSING (GATE - STILE)
- BUILDING RUIN
- BUILT UP AREA
- PLAY AREA
- CONTOURS 2.5M
- KNOLLS
- GULLY
- SHALLOW PIT
- STEEP SIDED PIT
- DEPRESSION
- BANKS
- CLIFF
- ROCK OUTCROP
- BOULDERS LARGE >2M
- BOULDERS SMALL 1-2M
- PILE OR GROUP OF BOULDERS
- BOULDER FIELD
- ROCKY PIT
- CAVE
- WATER TROUGH
- SPECIAL OBJECT
- POLE
- SEMI-OPEN GROUND

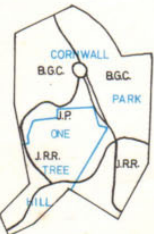


PHOTO PLOT COURTESY
ONE TREE HILL BOROUGH
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B CONGALTON - JAN 1979
DRAWN - J.R.R. B.G.C.

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