



Special Edition – 2016 DXCC Year End Review – by Joe Reisert, W1JR - January 22, 2017

2016 Overview:

What a difference a year makes. Compared with 2015, DX radio conditions in 2016 slowed down a bit. Propagation was best in the early part of the year and really dropped off rapidly after early October. Openings were shorter and definitely fell off on the upper HF bands. KH5K, Kingman Reef became a deleted entity. The total active DXCC list is now at 339 entities. There were approximately 286 DXCC entities activated this year, about eight (8) fewer than in 2015. There were over seventy five (75) DXpeditions with two or more operators and many had between five (5) and fifteen (15) operators. Five operations were from very rare entities in the top ten on the “DXCC Most Wanted List.” Some other operations were unexpected and available to “The Deserving” on all modes and all bands from 10 through 160 meters, some even on 6 meters and EME (Earth Moon Earth). Activity as usual was high from the Caribbean but also from the Oceania Islands and Africa.

2016 Review:

There were many call signs ending in YOTA (Youngsters on the Air), especially from Europe. These youngsters are very important to our hobby as the average Amateur DXer age is creeping up and we need new Younger Blood in our hobby. Don’t forget the Jamboree on the Air. Amateur licenses in the USA rose to a new high of 742K, a good sign. The DXCC Challenge and the CQ Magazine DX Marathon activity were high. As usual, there were more contests than ever, especially for DX.

We are now using the “DXCC Most Wanted Survey” by Club Log (WWW.ClubLog.org) since it is very up to date. Michael, G7VJR at Club Log monthly updates this list based on users log entries. Club Log now has almost 400M QSO records with 43K active and 58K total users. The end of December 2016 most wanted list is very different from last year since there were so many DXpeditions to rare entities in 2016. The latest 10 most needed DXCC entities in order of rarity are: P5, 3Y/B, FT5W, KH1, BS7H, CE0X, BV9P, KH3, VK0M, and KH7K.

2016 saw five notable DXpeditions from the 2015 top 10 Most Wanted Survey. They were in order of activation: K5P (Palmyra I.), VP8STI (S. Sandwich), VP8SGI (S. Georgia), VK0EK (Heard I.), and FT5JA (Juan da Nova). Two single operator operations in the top 20 also took place from SV/A and FT5X. Some other relatively rare entities were activated during the year including CY9 (St. Paul I.), T31, 3D2 (Rotuma), ZL9, JD/M, H40 and XZ.

Unfortunately as frequently happens, several DXpeditions such as 3Y (Bouvet) and KH1 were delayed, hopefully only into 2017. Others were delayed, interrupted or cancelled (T31W) because of transportation problems, financial considerations or logistical problems, hurricanes (YX0A), Don’t argue with Mother Nature, shortened due to weather and icebergs (CY9C and VP8STI), crocodiles (VK5MAE/6), stolen equipment (T30COW) and for one reason or another. Long duration away from home (46 days for VP8 trip) makes it difficult to find willing operators. **This clearly shows just some of the many difficulties in putting on a rare entity and we DXers shouldn’t complain!**

Most large DXpeditions activated in 2016 were available on SSB, CW and Digital modes. CW was as active as ever since there were about 280 entities active on CW. The newer JT65 digital mode is becoming popular especially on 60 Meters. A look at 2016 statistics on Club Log logs shows that the rarest DXpeditions had many more CW than SSB contacts. Of course the “599 TU” QSOs on CW or “59 thank you” on SSB are still ever

present especially with DXpeditions. Operating CW at high speed (30 WPM or higher) has caused problems perhaps due to computer receiving and processing and were very much in evidence. Serious DXers are definitely using the DX Clusters and Reverse Beacon Network for spotting DX.

Band by Band Activity:

Despite poor propagation, **160 Meters** is still generating LF DX activity especially by DXpeditions usually operating between 1810 and 1830 KHz. W8LRL is the Top Band leader with 342 confirmed entities (including about 11 deletes). Try to avoid frequencies divisible by 5 (i.e. 825, 1825, 1830 etc.) since broadcast birdies are often there.

75/80 Meter SSB and CW are becoming more active as conditions on LF improve as well as during contests and DXpeditions. The later often operate at either the low end of the band or near 3525 KHz. 75 Meter SSB is often busier than 80 Meters.

60 Meters has had several new entities that have received permission to operate on this new band especially in Europe. Since the FCC relaxed mode requirements, CW and digital (mostly JT65) activity are now being used in the established five (5) fixed channels. Some of the DX entities outside the USA have different channels or must operate on different frequencies making it sometimes difficult to work them except by split operation. Some frequency modifications may occur in the future after the recent IARU Conference. There have been over 100 DXCC entities active on 60 Meters but the ARRL DXCC program still does not recognize 60 Meters contacts.

40 Meters is still the nighttime breadwinner and was great all year. DXpeditions heavily used it especially for CW near the bottom of the band but nowadays many opted to operate near 7025 KHz to reduce QRM. The expansion of 40 Meter SSB from 7100 to at least 7200 KHz for many of the worlds entities has generated lots more simplex activity, especially during SSB contests with less emphasis on split operation contacts. Unfortunately, there are now many short wave broadcast stations that are intruding into the band. Remember that USA stations can't operate SSB below 7125 KHz. For safety sake stay above 7128 KHz.

30 Meters was very popular by DXpeditions as well as for QRP and digital modes and is sometimes open 24 hours a day during the darker months. **20 Meters** is still the daytime breadwinner along with **17 Meters** where activity is increasing and there is less congestion. Signal strength on 17 Meters is often better than 20 Meters when both bands are open. **15 Meter** openings are rapidly decreasing with the lower solar activity. During this past year **12 and 10 Meters** are showing fewer and shorter openings as solar flux decreases. Sporadic E propagation especially from mid-May through early August and in December often enhances HF and 6 Meters DX but this is not due to sunspots.

2016 DX Activity Month by Month:

January: There was lots of DX activity as 2016 started but decreased as the month proceeded and solar flux (SF) decreased. It was possible to work over 100 DXCC entities in the first weekend of January and working 200 entities in the month was possible although difficult. It took me until February 1st! There were approximately 217 entities available in January, fewer than normal. As January started, 3D2AG was active from Rotuma followed by FT5XU, and S01WS (active all year long). As the month progressed, CY0/VA1AXC, H44TM, E41WT, C21DA, ZL9A (8.6KQ), K5P (Palmyra 75K), VP8STI (S. Sandwich 54.6K) and VP8SGI (S.GA.83K) joined to mention a few.

February: Many EPs all month, 5V7T (24K), Z81X, and 3XY1T (91K) to name a few

March: The long awaited VK0EK DXpedition to Heard Island finally occurred in late March but only netted about 75K QSOs, far less than anticipated with the majority on CW. Also active were S9BK (5K), 3C7A (13K), TX7EU (FO/M), A52NH, VK9CK (23K) and FT5JA (105K).

April: 9M0O (Spratly), 9X9MM, 5V7D, VK9L, S21, A25UK (25K), EP2A (68K) and 9M0S as well as newbie SV2RSG, Monk Iakovos who came on 40 Meter SSB from Mt. Athos. Let's hope he helps the demand for SV/A.

May: 9M0S, 9M0Z, E44QX, KH8, TN2BJ, S21S, VK9L and VK9N were all active.

June: YI1WHR, XX9TGM, R1FJ and FJs were available.

July and August: This Summer in NA was more active than usual with T30AR, OJ0s, VP6T, XX9TYT, T20COW, YJ0COW, A52LSS and CY9C (64K) livening up this normally quieter time.

September: VP6AH started operation for a few months followed by D66D, S9WL/BT, H44GC (16K), T2R (2K) and A51A (15K).

October: The month started out well but propagation soon faded through the end of the year. H40GC (18K), 5N, T31T (30K), 5U7RK, S9YY (51K), FT5XT, ZL7G (42K), 9N7FD, 9G5 and ZD8s helped liven up DX.

November: DX tried its best to buck poor conditions. VP2EGR (25K), XU7MDC, XZ1A (12K), XX9TXN (4.4K), TL8AO (14K), FO/A and VU7MS (3.3K) all worked hard.

December: Several single operator DXpeditions were active including E44QX, 3B9HA, FH/HB9AMO and Vlad, UA4WHX from C5, 5T, 6W, D4 and EA8. Vlad was a busy guy. OF9X (33.6K) was very active from Santa Claus Land.

Other 2016 News:

During the year there were threats to close the base on Macquarie Island (VK0M). It now seems that for the near future the base will stay open. Also there are new Russian Arctic Over-The-Horizon (OTH) radars set to start in 2017. Let's hope they will not disrupt the Amateur frequencies like the Russian Woodpecker in the 1970-1980s. Also it has been announced that China is preparing plans for reclamation and construction on Scarborough Reef (BS7H). It is not known if this will enhance operations from there in the future. Monk Apollo, SV2ASP/A had surgery earlier in the year but he is now active again. Nigel Jolly, the skipper of the Braveheart that has been the transportation for many DXpeditions (and the upcoming 3Y0Z) is now licensed as K6NRJ.

Pirates and Unauthorized Operations:

As usual many pirates were active during the year including D1 and D0 etc. from the self-proclaimed Donetsk People's Republic in the Ukraine. Many of the large DXpeditions had their call signs pirated even before they were on station including VK0EK and ZS8Z. There were lots of pirates from YI and EP as well as 5H3PM and JX7DFA. Also HV0A and 1A0KM call signs were sometimes pirated. Watch out for busted calls on the DX Clusters. Beware of the same. K9EL has a long list of pirates and busted calls on the CQ Magazine DX Marathon (<http://www.dxmarathon.com>) website. As usual, WFWL (work first, worry later). Then there were the usual people testing their gear and boasting about receiving their QSL by posting a rare DX call on the cluster. This is very annoying and sets off bells at some shacks. **Please refrain from this form of boasting.**

IOTA:

DXers often like to chase islands for the IOTA (Islands on the Air) program, which is now co-sponsored by the RSGB (Radio Society of Great Britain). There are approximately 1200 IOTA Island Groups and over 100 are already DXCC entities. Several IOTAs were activated this year for the first time such as A91HI (AS202), AT2SL (AS176), and ZL9A (OC286). QSLing has been a problem for IOTA activations since they do not have

access to LOTW (Logbook of the World). However, this year in conjunction with Club Log, a new program similar to LOTW started operation to speed up the IOTA QSLing process.

DX Contesting:

DX Contests as usual were everywhere on CW, SSB and Data often yielding rare entities especially before the contest starts as operators setup and test their equipment and antennas. Younger operators are showing interest especially since most contests require computer logging. Furthermore logs are often required on line usually within a few days after the contest. Earlier this year CQ Magazine announced that Randy, K5ZD was stepping down as the chairperson of their DX contests. Fortunately Doug, KR2Q stepped up to fill the position.

A Solar Review:

Monitoring solar activity is showing a dismal picture of radio propagation as we approach solar minimum around 2020. Solar Flux (SF) was in the region of 80-120 in the early part of 2016 but started decreasing after early October when SF flattened somewhere between about 70 and 80. Solar Cycle (SC) 24 is decreasing rapidly especially since mid-October. SF is a good indicator of improved propagation on 10 through 15 meters, especially when the K Index is low (1-2). There were 10 days with no sunspots in June and in late December there were at least 7 days with no sunspots! Experts are still telling us that this was the weakest SC in 100 years and that the SC 25 may be the weakest in 200 years. Let's hope they are wrong!

Finally, VOACAP version 2.0 beta (www.voacap.com/prediction.html) is a user-friendly program for predicting band conditions. Another interesting program "Realtime Band Conditions" (<http://www.bandconditions.com>) is available. It is based on a new ionospheric sounding method called "HF Ionospheric Interferometry" and maybe of interest.

Equipment and Technology:

More new or upgraded transceivers and antennas came on the market. There are supposedly now over 85 SDR receivers and transceivers. Elecraft introduced the KX2. TenTec was sold by RKR to Dishtronix. DXEngineering acquired Clifton Labs preamps and filters as well as Trans-World antennas. More portable antennas are coming to market.

Ham Radio and the Internet:

More DX programs were upgraded or became available. Microsoft Windows 10 came on strong in mid-year. Club Log, TQSL and LOTW are constantly being upgraded. Club Log is very popular especially during DXpeditions since logs are often updated so you can see that you are in the log! Furthermore, OQRS (On-line QSL Service) assists with procuring QSLs. As mentioned earlier, contest logs are often required to be sent via the Internet within a few days. Amateur Radio sites, DX clusters and of course use of emails etc. on the Internet are supplying lots of good services.

Much has been said about the use and abuse of the DX Clusters so I will not bore you with more of the same. If interested, you can see my prior year end reviews on the K8CX website. The DX clusters are still an amazing tool for finding and spotting rare DX. "DX Summit" is surely one of the favorites. Also Reverse Beacon Networks, which use CW skimmers, are being widely used and rarer spots uploaded to the DX Clusters.

Make sure to correctly spot call signs and frequencies on the DX clusters. Of course self-spotting is frowned upon. Just because a DX station is spotted doesn't always mean the call sign etc. are correct. Working an incorrect call may result in a NIL (Not in Log) to your QSL request. Obviously posting obscenities and negative comments on the DX Clusters are never acceptable.

QSLing and DXpedition Costs:

QSLing is becoming far too expensive. Many European postage rates have risen again. IRCs are costly, seldom available (USA discontinuing same) and often can't be redeemed but are sometimes necessary where postal

theft is a problem. The ARRL outgoing QSL Bureau or the QSL bureaus in many entities can lower QSLing cost. However ARRL just announced that it had to increase the price. The ARRL Outgoing QSL bureau shipped approximately 1.2M QSLs during 2016, about 50% more than in 2015. I prefer paper QSLs since they may be needed for awards other than DXCC but I realize that I am now in the minority

To further offset QSLing cost, **LOTW** is extremely popular. The DXCC has been the prime user but other awards such as WAS, VUCC, Triple Play, and some CQ awards are now available. There are now over 807 million LOTW QSO records, an increase of about 12% over 2015. Over 92,000 registered LOTW users and over 140 million QSO records have now resulted. LOTW use continues to increase and doesn't look like it will level off for many years. Contesters are often uploading their logs immediately after the contest ends. Many DXpeditions are now using LOTW, sometimes while still on location such as FT5JA!

DXpeditions to rare entities are expensive and may cost \$100,000 or more. They are experiencing difficulties raising the necessary funds for transportation etc. It now can cost between \$10,000 and \$25,000 per operator to participate and travel to rare DX entities. The estimated cost per QSO for the VK0EK Heard Island DXpedition was \$5.00 but probably doubled since they only made about half of the expected QSOs. Some of the cost is covered by QSL donations. However this makes donations from clubs and DX foundations necessary to offset high cost and make these rare entities available. Help support DXpeditions directly or through organizations such as NCDXF, INDEXA, CDXC, EUDXF, etc.

Club Log has revolutionized direct QSLing by adding OQRS where for a donation no QSL need be sent. Club Log is also very popular with many DXpeditions uploading their logs in short order and has streamlined the OQRS procedure by making it available on their website. This also allows DXers to check the log for their call sign even when the DXpedition is still on location thus preventing a NIL (Not in log).

Operating techniques:

There are still many problems with operating and especially with DXpeditions. QRM and continuous calling or calling out of turn are common abuses that decrease the QSO rate. This subject was discussed in detail in prior reviews so I will not repeat it here. It can be read on the K8CX website where prior reviews are available.

Make sure to review the DX Code of Conduct (WWW.dx-code.org). W3UR had some good tips on operating on page 96 in his "How's DX" column in December 2016 QST. On CW some DX stations transmit at 30 to even 40 WPM. Some operators just can't copy their call sign that fast. **Some of the problems may be the limitations of code readers especially for newer operators.**

Try not to rag chew or tie up frequencies frequented by rare DX such as 3.795, 14.025 and 14.195 MHz as well as 14.040 and 14.260 MHz for IOTA. Other suggested frequencies to avoid are listed in "The Daily DX." Transmitting on these frequencies will make it difficult for others who are experiencing better propagation than you are.

Silent Keys (SK):

DXers are aging as are DX Honor Roll leaders and Amateurs in general. At least two issues of 2016 QST Magazine listed an entire page with from 350-400 SKs call signs! RSGB also listed increasing numbers of SKs.

An interesting story was recently reported about where the term "Your ELMER" came about. It turns out that in the March 1971 "How's DX" column in QST by Rod, W9BRD he mentioned how Elmer "Bud" Frohardt, Jr., W9DY SK (ex W9GFF), helped him and many others get started in Amateur Radio. The phrase stuck to this day.

The following is a partial list of notable DXers or officials in Amateur Radio who became SKs in 2016. They include I0AMU (Top Italian), N7OU, DJ6QT, 9A2WJ, 4O1A, WF5W, VK3UM (EME), WA3HUP (QSL

mgr.), N9NS, W0UN (HAARP), JA8SLU (TZ6JA), N5IA, W6AQ, W1NU, W6CCP, GW4BLE, F3AT ex FF8AG (was still active at age 102!), K3CB ex K6LEW (VHF DXer), DL1VU, HS1A (King Bhumibol Adulyadej), W0WOI (ex K0CER), NC1L (DXCC Desk), W9DY (ex W9GFF) to mention a few. This means that we Amateurs have to be more active to recruit new members especially youth into our hobby. Kids Day, Jamborees and YOTA programs are good examples.

2016 DXCC and ARRL Matters:

As mentioned above, Bill, NC1L, former head of the DXCC Desk became a silent key in October. His brother Gene, W4ETM has acquired his call sign. Dave, K1ZZ the CEO of ARRL for many years of service retired in April and is an active DXer and Contester.

In March KH5K, Kingman Reef, moved to the ARRL Deleted List. Thus DXCC active entity list now stands at 339. If you add the 62 deleted entities, the DXCC List total is still 401 entities. Therefore, until more entities are created, 400 will be an elusive number. Kosovo, presently using the Z6 call block is still a possible new entity and now is a member of the IARU. However Z6 is not an ITU sanctioned prefix for Amateur Radio and IARU membership no longer qualifies an entity for DXCC.

The 2015 “DXCC Yearbook” was the last. It is no longer needed since the DXCC statistics are now updated daily on the ARRL website. Just select “DXCC program” and select the click on the appropriate list.

And now the Drum Roll:

There were approximately Fifty Three (53) entities that are NOT believed to have been active during 2016 as follows: *

Africa (14): 3B6, 3C0, 3Y/B, 9L, 9U, E3, FT/G, FT/T, FT/W, FT/Z, J5, T5, ZD9, and ZS8.

Antarctica (1): 3Y0 (Peter 1).

Asia (8): 7O, BS7H, BV9P, EZ, P5, VU4, YK and ZC4.

Europe (2): 1A0 and JX

North America (7): 4U1UN, FO/C, KP1, KP5, TI9, XF4 and YV0.

Oceania (15): 3D2/C, FK/C, KH1, KH3, KH4, KH7K, KH8/S, T33, VK0/M, VK9/M, VK9/W, VK9/X, VP6/D, ZK3, and ZL8.

South America (6): CE0/Z, CE0/X, HC8, HK0/M, PY0/S and PY0/T.

*Please note that some rare entities may not be on this list for 2016 because some operations were short, set up schedules or only on VHF etc.

The DXCC entities that are not believed to have been activated in ten (10) or more years includes: 3Y/B, BV9P, CE0X, EZ, KH1 and KH3. This means that an avid DXer working hard at DXCC may take at least 7 years to make the DXCC Honor Roll. This list also serves as a guide to those planning DXpeditions to rare entities. As for me, the top of my need list for the DX Challenge has not changed and not surprisingly goes to P5, BS7H and FT5/W in that order.

Upcoming DXpeditions:

Unlike 2016, there are only a few announced DXpeditions for 2017 on the DX Most Wanted List. KH1 activity was promised for September. 3Y0Z is scheduled from Bouvet Island in December or January 2018. The often delay YV0, Aves Island DXpedition could still happen. E51AMF (N. Cook) in January. Stay tuned and check the Daily DX calendar at: [HTTP://WWW.DailyDX.com/calendars.HTML](http://www.dailydx.com/calendars.html) for future operations.

Looking ahead to 2017 and Beyond:

Solar Cycle 24 sunspots will be slowly decreasing although sporadically. This will affect propagation on the higher HF bands, especially 12 and 10 meters. Look for good propagation when the solar flux goes above 100 with low A (<20) and K (<3) indices. Solar wind below 350 KM per second and dynamic pressure less than 0.5

nPa as shown on NOAA Space Weather (www.swpc.noaa.gov) are good indicators of improved HF propagation. January is usually a good month for Low Frequency operation.

DX means many different things to many people. Some DXers are only interested in the ARRL DXCC Honor Roll and soon run out of interest and challenges. Others pursue the never-ending ARRL Challenge competition. Fernando, EA8AK is now in the lead with an amazing at 3251 entities. This award includes all the bands from 160-6 meters. 6 meters is a tough band for stations outside of Europe. More than 60 stations in Europe have worked over 200 entities on 6 meters while 190 entities is the maximum for North America with only 15 above 150! Hence the Europeans will probably dominate the top of the DXCC Challenge award for the foreseeable future.

The DL Bavarian Contest Club will sponsor WRTC 2018. Also don't forget to support the various DX Foundations around the world that help make DXpeditions possible! For the last several years, CQ Magazine has reinstated the yearly CQ DX Marathon to see who can work the most entities in each calendar year. This program has a few more challenges by also adding seven (7) entities recognized only by CQ Magazine as well as working all 40 zones. And there are the never ending DX Contests. There are lots of things to do. Don't let the airways die for lack of activity. HF radio conditions are still fair. Stay active and join the fun.

Finally:

We hope this review has been informative. Using DX publications and the Internet are a great way to keeping us up to date on what is happening now and in the future. There was so much news in 2016 that I can't possibly fit it all in. Once again I am honored to be asked by Bernie, W3UR to write this review for the 12th year and for his valuable inputs and critique. Thanks also to John, K9EL, Dave, NN1N and Rose-Anne, KB1DMW for their valuable inputs as well as my son Jim, AD1C for all his computer help! Previous Reviews can be read on the K8CX Ham Gallery website.

NOTE: Obviously all the opinions etc. expressed are solely mine as are any errors that I have made. I hope there aren't many! **This End of Year Review is copyrighted.** Therefore Bernie, W3UR, MUST first approve copies or use of this review and then a courtesy copy of the reprint sent to Joe, W1JR. Best of DX to you in 2017 and here's hoping to see you in the pile ups. 73, Joe Reisert, W1JR