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## Special Edition – 2021 DXCC Year End Review – by Joe Reisert, W1JR – January 15, 2022

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**2021 Overview:** DXing in 2021 was very similar to what we experienced in 2020. Covid-19 and its variants prevented many DXpeditions. Others were postponed or cancelled altogether. This especially affected rare entities in Africa and Oceania. A few small DXpeditions did manage to operate mainly from Africa but often with great difficulties.

We are starting to see the beginning of solar cycle 25. Hopefully radio propagation will improve as we enter 2022. Despite poor radio propagation FT8 activity was high and filled in the gap.

About 268 entities were active during 2021, 20-25 less than normal. None of the top 10 most wanted entities on the Club Log list were activated. The only entity active in the top 20 was SV2RSG/A from Mt. Athos. Some rarer entities such as S01WS, 4U1UN, 5T5PA, and TZ4AM were available most of the year. This was the year of many unique commemorative call signs as well as many using YOTA in the suffix in December.

Bouvet activity as 3Y0I by the Rebel Group was delayed again due to COVID-19 concerns. A Norwegian group, 3Y0J has been formed to go to Bouvet in November 2022. Several DXpeditions like CY0, and CY9 are now re-scheduled for late 2022 and W8S (KH8/S) in 2023.

Most DX gatherings and conferences scheduled for 2021 were cancelled or re-scheduled. Some even opted for Zoom presentations. The famous Hamvention building known as HARA Arena near Dayton is now a pile of rubble.

**Radio Propagation:** Early in the year radio propagation was poor but it improved later in the year. There were over 60 days with zero sunspots, far fewer than in 2020. In the first half of the year solar flux mostly hovered around 75. Then later in the year it broke 100 a few times and finally hit 144 in mid-December. This is good news for next year since higher solar flux means better propagation on the HF bands above 17 meters.

As in recent years more propagation forecast papers emerged. One paper proposed a possible link between the Jovian Planets, Jupiter, Saturn, Neptune and Uranus, to the long term solar cycle. So far, no clear pattern has emerged for solar cycle 25. We'll just have to wait and see if it's better than most predictions near the end of the year.



In April WW6RG, Randy, was QRV from Wake Island with this setup as KH9/WW6RG.

**Club Log:** This website is becoming the main place to check logs especially during DXpeditions. Their “DXCC Most Wanted List” is always up to date. The 10 most wanted DX entities in order of rarity are still P5, 3Y/B,

FT/W, BS7H, CE0X, BV9P, KH7K, KH3, 3Y0/P and FT/X. Many other features are available such as OQRS (Online QSL Request Service), DXCC Charts, Log Search etc.

**Digital Operations:** The WSJT-X Development Group consisted of K1JT, K9AN and G4WJS. IV3NWV took over for G4WJS after he died unexpectedly in December. The developers of FT8 etc. have just released software version 2.5.4. During 2021 FT8 was often the dominant mode for working DX. FT8 sensitivity is up to 10 dB better than CW. Hence it can often decode signals that are not audible. FT8 can be a band opener during times of poor radio propagation especially on the upper HF bands. It also allows smaller stations to participate. A new mode known as Q65 became available. It is highly recommended for EME (Earth-Moon-Earth), ionospheric scatter, and other weak signal work on VHF, UHF, and microwave bands.

According to mode analysis by Club Log, FT8 was often the dominant mode of communications outside of contests and during weekly CW Ops Tests (CWT). DXpeditions often use the F/H (Fox and Hound) split frequency mode several KHz above or below the normal FT8 channels. Furthermore many FT8 operators are now transmitting in the upper portion of the channel to avoid QRM. RTTY operation is all but non-existent outside of contests and rarely used by DXpeditions.

Operating FT8 has a learning curve. Since most of the activity on the channel is displayed, it is fun to see many well-known DXers now operating FT8.

### **Band by Band Activity (Frequencies in MHz):**

**160 Meters:** Activity is low on CW except during Stew Perry and DX contests when activity fills the band. The cancellation of most of the planned DXpeditions due to COVID-19 really hurt 160 DX. FT8 activity has increased around 1.840. Try to avoid using frequencies divisible by 5 (e.g., 1.820, 1.825, 1.830 etc.) since broadcast birdies are often there.

**75/80 Meters:** DX activity has been low except during contests. It also is hurt by the cancellation of most DXpeditions due to COVID-19. FT8 activity on the other hand has increased around 3.573.

**60 Meters:** More entities have now received permission to operate on this band albeit many are often limited to 15 Watts and a dipole antenna. Well over 235 DXCC entities have been active on the band. Most DX activity is now concentrated around the third channel at 5.357 and almost entirely on FT8. The FCC is still considering non-channelized operation near channel 3 for USA stations. The ARRL DXCC program still does not recognize 60 meter contacts for DXCC credit. Remember that USA stations are limited to 100 Watts output power and a dipole antenna. Use of gain antennas require reduced transmitter power.

**40 Meters:** This was the workhorse band especially during the night and in the winter local time. However much activity has shifted to the FT8 mode around 7.074. SSB activity is especially good during contests. Remember that USA stations cannot operate SSB below 7.125. It is best to stay above 7.128 for safety. As a reminder stations from Region 2 cannot transmit on SSB above 7.200.

**30 Meters:** 30 meters is still very popular especially for low power stations. The USA power limit is still 200 watts at the transmitter. This band is usually open for a few hours before sunset and after sunrise. It can be open almost all day during local winter. There is lots of FT8 activity around 10.136.

**20 Meters:** It is no surprise that 20 meters continues to be the go-to DX band especially during daylight although much of the activity has moved to the digital modes near 14.074. SSB activity is still high.

**17 Meters:** The lack of sunspots has really hurt the higher bands. However, 17 meters has been less affected and is often open shortly after 20 meters opens. There is lots of FT8 activity around 18.100. All modes seem to be doing OK on this band.

**15 meters:** With increasing sun spots 15 meters is starting to open and support DX.

**10 and 12 Meters:** Likewise these higher frequency bands are beginning to support DX. Vigilant DXers took advantage of improved radio propagation. There is occasional activity here during the summer months when sporadic E propagation occurs.

**6 Meters:** In recent years DX seems to have gone almost all digital. MSK144 is popular all year around 50.260 while FT8 is most popular around 50.313 during band openings. EME DX using digital modes such as Q65 is becoming very popular during local moon rise and set as well as scatter. Over 120 stations contacted each of the FO/A and FO/M EME operation by W7GJ.

Frank, W3LPL, is now reporting up to date HF propagation in every issue of The Daily DX based on the NOAA/SWPC webpages.

### **2021 Month by Month DX Activity Sample:**

**January:** This is always a tough month especially being at the bottom of the solar cycle. This month had only 165 or so active entities, about 20-30 less than January 2020. Some notable rare to semi-rare stations active included VP6MW, JX2US, T6AA, S21VU, YI9WS, and TZ4AM.



**February:** Lots of DX contest activity plus 5UAIHM, S01WS and ZC4GR.

**March:** A25RU (45K QSOs), VK9CE (10K), 4U1UN, 8Q7MS, KH9/NL7RR, PY0F and DT8A.

**April:** C92RU (44KQ), ZL7DX, KH9/WW6RG, Z81D and T30TM.

**May:** TY5AB, ET3AA, VK9XX and 5N7MSE.

**June:** OJ0C and XT2AW.

**July:** T6AA and T6A went QRT after 101K and 22K (QSOs) respectively, SV2RSG/A and JW0W (16KQ).

**August:** HK0/HK3X (1K), 5I3B/5I3H, 5X3R, TY5AB and OJ0WS (2.4K).

**September:** CB0AA (Juan Fernandez), 7Q7CT, 3D2CR (Conway Reef 34.5KQ mostly FT8), D68AC/AD, XW8LP and 3B9FR returned.

**OH2RF, Pertti, was QRV during late June and early July as OJ0MR on 6 meters.**

**October:** Activity literally exploded starting with S9OK, J5HCT/J5T, SV2RSG/A, A35JP (5KQ), 3DA0RU (94KQ), 7P8RU (86KQ), PY0F, HD8R, 5A1AL, 3DA0WW, C5C (14KQ), TT8SS, VK9DX and TL7M/TL8AO (24KQ). Some of the rare entities were competing with each other at the same time.

**November:** Solar flux increased and 15 Meters and up improved. FH/K6ZO, FH/FR5DX, TZ1CE, 9N7AA, FJ/KP4DO and 9X4X.

**December:** Many YOTA (Youngsters on the Air) call signs during YOTA month. SV2RSG/A, 5A1AL, A52CC, and S21DX were active. GB2ZE and W2AN/BCG celebrated 100 years since the first USA hams were heard across the Atlantic.

**Unauthorized Operations:** As usual many fake and illegal stations including many DXpedition call signs (before and even during activation) were pirated such as 1A0KM, D0 (Donetsk prefix), SV2RSG/A, ZD9PB, and XZ7A to name a few. Any EZ stations (which have been unauthorized for years). Also many call signs were copied incorrectly and posted on the DX Cluster. WFWL (work first, worry later) still applies but don't waste your time and \$\$\$ working suspected pirates.

The DX Cluster is made up of multiple DX Cluster nodes. The CQ Marathon website maintains a large list of incorrectly-spotted call signs. <http://dxmarathon.com/helpfulhints/2021/BadSpots2021.htm>.

Furthermore, please **don't spot rare DX on the DX Cluster unless you know it's legit and surely don't spot rare DX call signs for test purposes.** It causes lots of bells to ring worldwide and unnecessary worry. Finally, don't post rare calls to thank someone for receiving a QSL etc. **No one is watching, cares or appreciates this type of boasting.**

**CTU and CWA:** Let's not forget Contest University under the direction of Tim, K3LR. It is now in its 15<sup>th</sup> year and has conducted Zoom sessions. They plan to be live again in Dayton at the next Hamvention. K1USN still has weekly slow speed CW activity for beginners. Likewise CWops have CW classes for beginners

**IOTA:** Poor propagation and COVID-19 just about shut down travel to most rare and new IOTA (Islands on the Air) activity. A few exceptions were KL7RRC (NA-039), C5B (AF-060), S21DX (AS-140), and AT7SJ (AS-177-1.3KQ). Operation from the ultra-rare Isle of Rockall (EU189) is scheduled for June 2022. The IOTA program website is [www.iota-world.org](http://www.iota-world.org).

**DX Contesting:** DX contests were everywhere as usual this year and lit up the sometimes quiet bands using CW, SSB and digital modes. Early reports are that it was a normal year. Several stations sponsored YOTA activity. The WA7BNM Contest Calendar is a great source of contest activity. The ARRL Contest Update is a biweekly newsletter that often has interesting tidbits on upcoming contests and operating etc.

**Equipment, Technology and Accessories :** The lack of live conferences due to COVID-19 has surely impacted new equipment displays and introductions. Transceivers are becoming more and more sophisticated with improved signal handling. Searching on the Internet often fills in. Of course websites and new and improved software are always available.

We now have RIB (Rig in a Box), a small remote station that can be left on an island where overnight operation is prohibited and remotod so that communications can continue. It should be an interesting concept.

**Safety:** This can never be stressed enough. With many hams confined to working at home, there was a need for antenna and tower repair. As hams are aging, it is most important to employ professional expertise for antenna work.

**Ham Radio and the Internet:** The internet now plays a very important part in Ham Radio. Most DX clusters are now on the internet as well as LOTW (more on this shortly) and Club Log to mention a few. Also many contests require logs to be submitted via the internet within a few days after the contest. Please remember to show modes such as SSB, CW, FT8, FT F/H when spotting stations on the DX Cluster.



**QSLing and DXpedition Costs:** QSLing especially with paper QSLs is becoming a lost art. Costs are skyrocketing and many countries are sometimes refusing incoming mail. As a result of the COVID-19, LOTW and the use of OQRS are becoming the major option, especially for DXpeditions. Shipping costs are also increasing.

**Operating techniques:** This past year was a tough one worldwide. Needless to say, the RST report on CW is now almost always 599 and 59 on SSB! FT4/FT8 is more complex. Split frequency operation on rare DX stations is almost always a must. Unfortunately many call right on the DX frequency and hence cause panic! Please don't tune up your **transmitter on the common DX frequencies. The old adage still applies: Always Listen, Listen, Listen before you start to transmit.** Poor operating practices seem to be repeated over and over. To save space in this report, please refer to previous year reports on the K8CX Ham Gallery.

**Silent Keys (SK):** This is always a tough subject to write about. The COVID-19 pandemic has also been a factor. Many prominent DXers and major contributors to the technology and success of our hobby have died, some from COVID-19. The Silent Key listing in the latest QSTs have recently decreased but I wonder if this is due to under reporting. The list was longer in 2020. What follows is a partial list not in any particular order of those that have departed us during this past year:

CT1ZW, 8R1WD, K8CC, PA0SSB, K2PLF, E51CG, VO1SA, W1UL/W2DEC, K0CS, EA4DN, N1RJ, W7ACD, W5HNC, I4EAT, SP7IDX, G3TEV, EK7DX, WA2WVL, VU2UR, 6W1PZ, XE1ZW, W0EK, W4NL, K0MQS, JK1OPL, YV5AM, SM6CAS, W2HTI, W1UF, K2FL, OE1WHC, K2UR, DK5AD/OE2BZL, N6RA, K1ER, K3IO/W3IWI, EU1AA/UC2AA, AA4NC, F1HRE, N4AR, W2VO, G4WJS, K1MMH, VE3XO, OZ4FF and K6SSS, my "Best Man" and DX friend for 70 years. Hopefully I haven't made any mistakes or omitted anyone. May they all rest in peace.

**2021 DXCC and ARRL Matters:** Rumors in the news media tell us that Bougainville, an autonomous region in Papua New Guinea (P29), has voted to become an independent nation. This could take years to happen before it is added to the active DXCC list. The VP8 prefix is expected to be modified for the islands other than the Falklands.

LOTW is operated by ARRL and now has over 1.450 billion records with over 153,000 users. Contacts are constantly being uploaded. Contesters in ARRL contests using the low power category will now be limited to 100 Watts (instead of 150 Watts). ARRL is a great source for DX bulletins and many other DXer material. If you want to see the latest DXCC standings, first go to [www.arrl.org](http://www.arrl.org), click "on the air" and then DXCC Standings." New publications were published in 2021 which were primarily aimed at improving technology and assisting newcomers to the hobby such as licensing manuals. The ARRL QSL bureau is another service for league members.

**And now the Drum Roll:** There were approximately 72 entities that are NOT believed to have been active during 2021. DX was severely affected by travel restrictions due to COVID-19.\*

**Africa (17):** 3B6, 3C, 3C0, 3Y/B, 9Q, 9U, E3, FT/G, FT/J, FT/T, FT/W, FT/X, FT/Z, TN, VK0H, ZD9 and ZS8.

**Antarctica (1):** 3Y0/P

**Asia (11):** 1S, 7O, BQ9P, BS7H, E4, EZ, P5, VU4, VU7, XZ, and YK.

**Europe (3):** 1A0, 4U1ITU, and R1F

**North America (9):** CY0, CY9, FO/C, KG4, KP1, KP5, TI9, XF4 and YV0.

**Oceania (25):** 4W, E6, FK/C, FW, H40 (Temotu), H44, KH1, KH3, KH4, KH5, KH7K, KH8, KH8/S, T2, T31, T32, T33, V6, VK0M, VK9M, VK9W, VP6D, ZK3, ZL8 and ZL9.

**South America** (6): CE0/X, HK0/M, PY0/S, PY0/T, VP8 (S. Ga.), and VP8 (S. Sand.).

\*Please note that some rare entities may not be on this list for 2020 because some operations were short, set up schedules or only on VHF, EME (Earth-Moon-Earth) etc.

The DXCC entities that are not believed to have been activated in ten (10) or more years have increased and now includes: 3Y/B, 3Y/P, BQ9P, BS7H, CE0X, EZ, FT/G, FT/W, KH3, KH7K, P5, YK, and YV0. This means that an avid DXer working hard at DXCC will take well over 10 years to make it to 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 in many years and not surprisingly goes to P5, BS7H, FT/W and BQ9P in that order.

**Upcoming DXpeditions:** There is still a chance for 3Y0I to activate Bouvet Island early in 2022 if COVID-19 restrictions are lifted. A Norwegian group is now hoping to activate Bouvet as 3Y0J in November 2022. FT/W activity is scheduled to begin in December 2022 lasting through February 2023. Stay tuned and check the [www.ng3k.com/misc/adxo.html](http://www.ng3k.com/misc/adxo.html) and Daily DX calendars at: <http://www.dailydx.com/the-daily-dx-calendar> for future operations. CY0 and CY9 operations are hoping to be QRV late in 2022.

**Looking ahead to 2022 and Beyond:** As stated above, solar cycle 25 should be gearing up in 2022. DX has really changed in the last few years with FT8 and COVID-19 problems. Some DXers chase the DXCC Honor Roll, the DXCC Challenge or the DX Marathon. There are well over 1,600 persons worldwide that have confirmed all 340 on the present DXCC entities list. More than 220 DXers have now achieved the very difficult DXCC Challenge 3000 level. Fernando, EA8AK now has an amazing 3264 entities and still leads the DXCC Challenge.

It's time to improve or repair if necessary your 10 thru 15 meter antennas as well as keeping your 80 and 160 meter antennas in repair. Then there are the never ending DX Contests, DX Marathon, DXCC Challenge and IOTA chasing. There are lots of things to do. Don't let the airways die for lack of activity. HF radio conditions on the upper HF bands are improving. Try to stay active and join the fun. Also don't forget to support the various DX Foundations around the world that help make DXpeditions possible!

**Finally:** We hope this review has been informative especially for historical purposes. I have tried to shorten this report this year since much information is similar to previous years. Prior year editions can be viewed on the "K8CX Ham Gallery." They are listed in the Table of Contents. Once again I am honored to be asked by Bernie, W3UR to write this review for the 17<sup>th</sup> year and for his valuable inputs and critique. Thanks also to John, K9EL, and especially Frank, W3LPL and my son Jim, AD1C for their valuable input as well as Jim for his computer help!

73, Joe Reisert, W1JR

**NOTE:** Obviously all the opinions etc. expressed are solely mine as are any errors that I have made. **This End of Year Review is copyrighted.** Therefore copies or use of this review **MUST** first be approved by Bernie, W3UR and then a courtesy copy of the reprint sent to Joe, W1JR. Best of DX to you in 2022. I'll see you in the pile ups.