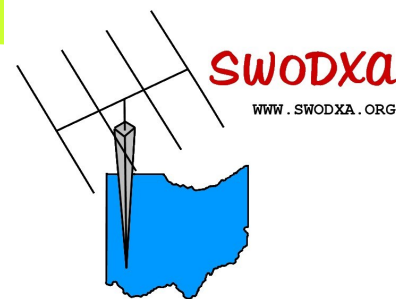




Volume 4, Issue 4

3/2021

the exchange



SouthWest Ohio DX Association

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The Prez says....Tom, NR8Z

Things are improving but not fast enough to meet in person this coming month. So, the March SWODXA meeting (Thursday, March 11th) will again be via Zoom, watch for the invite email on the members only reflector the week of March 8th. Hopefully, we'll get back to meeting again in person during the second quarter of 2021.



While Hamvention®, the DX forum and the DX Dinner® were cancelled for 2021, plans are in the works to hold the second W8DXCC convention at the Clermont County Fairgrounds. This will be in conjunction with the Cincinnati Hamfestsm on Saturday, August 28, 2021. As was done two years ago, the Hamfest will be held in the morning and the DX convention in the afternoon. The planning group (Bill, AJ8B; Dave, K8DV; and Chuck, K8CR, and myself) are curating a fun and informative session. Beyond W8DXCC sponsorship, this is a great opportunity to showcase our club. We haven't been very visible the last two years with Hamvention and DX Dinner cancellations. Ideas and volunteers to highlight SWODXA at the convention are welcome, please contact me or any of the planners.

Cycle 25 started off quickly but then petered out as I write this. Just like in person meetings, I'm very hopeful sunspots will return in the near future. Even in the absence of sunspots, keep working DX since the club contest closes shortly.

73,
Tom—NR8Z

Midway Atoll—2009

By Joe, W8GEX, Janet, W8CAA, and Tom, N4XP

This article first appeared in the January/February of 2010 edition of the DX Magazine, and is reprinted here with the permission of W8GEX and W8CAA. There will be a special follow up interview in the next Newsletter



Midway Atoll, a U.S. possession in the mid-Pacific, is a U.S. National Wildlife Refuge administered by the U.S. Fish & Wildlife Service (USFWS). Amateur radio operations were plentiful while the U.S. military occupied Midway from before World War II until the early 1990s.



Our transportation from Hawaii to Midway

However, after 1993 when the island was transferred to the US Department of the Interior, requests by amateurs to activate the Atoll were not approved.

During a visit in 2007 to Midway Atoll by the K7C Kure DXpedition group, discussion took place about the possibility of future radio operations on Midway. Then, in January 2009, the USFWS unexpectedly announced they would sponsor an operation during the October 2009 time frame.

In its announcement, they set forth guidelines like DXers had never seen before! Specifically, the one requirement that was most unusual was they were offering radio on Midway Atoll based on the number of beds available to visitors, and as such on a first-come, first-serve basis. No teams set up as one group would be considered. The announcement provided a telephone number to call to make reservations. We were to learn later the number of beds totaled 17 and they were filled within hours. For the most part, no one knew who had been given a bed. However, it was not long before we all knew who would be going, as the USFWS sent acceptance emails to all who had applied.

The "Team" Comes Together

As time passed the makeup of the team changed. In the end the USFWS increased the total number allowed from 17 to 19 and told us the group consisted of Bruce Butler, W6OSP; John Kennon, N7CQQ; Arnie Shatz, N6HC; Tom Harrell, N4XP; Craig Thompson, K9CT; Max Mucci, I8NHJ; Dave Johnson, WB4JTT; Franz Langner, DJ9ZB; Joe Pater, W8GEX; Charlie Wooten, NF4A; Paul Newberry, N4PN; Joe Blackwell, AA4NN; Kimo Chun, KH7U;

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Midway Atoll—2009—cont.

James Brooks, 9VIYC; Tom Berson, ND2T; Kevin Rowett, K6TD; Art Blank, WA7NB; Charlie Spetnagel, W6KK; and Don Greenbaum, NIDG.

We were advised by the USFWS these would be the operators and no more would be added. A backup list had been established and if anyone dropped out the next person on the backup list would be added. We were also told should vacancies occur we would not have any say in who would be offered a bed. As it turned out, some we knew, some we knew of, and others would be strangers. Even though we were not organized, the crew did change a bit over time, as some members had to drop out for various reasons. Each time it occurred, the USFWS added someone from the backup list.

It was not long before some of us got together on SKYPE for a conference call with the intent to talk with those we already knew and to meet for the first time those whom we did not know. Before we knew it, we were discussing how best we could make this a success. It was not easy, since we didn't know everyone and unlike all other DXpeditions, we were unorganized.

After lengthy discussions it was a unanimous decision that we elect a leader and organize, even though the USFWS did not want a "team." It was agreed that Tom Harrell, N4XP, would serve as the leader. There were several on the team who had led DXpeditions before, but never one this size. Tom on the other hand, handled some large groups, one of which was the highly successful Kingman Reef K5K operation. He also played a major role in the activation of

Scarborough Reef, an operation taking five years to come to fruition. Tom agreed to oversee the total operation and then requested Dave, WB4JTT, to be co-leader with him. Dave agreed and we were on the way as an organized "team," exactly what the USFWS had said they did not want.

At that point, Kimo Chun, KH7U, one of the individuals with a "bed" was asked to contact the refuge manager, Matt Brown, to talk about organization and how we felt it would be of benefit, not only to us but to the USFWS as well. We explained just having a single voice to deal with in all matters, would be best for them instead of 18 people calling every other day. Matt agreed, and we were now moving in a direction we all were accustomed to and felt very comfortable with.

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It takes a lot of "stuff" to make an operation like this run properly

Midway Atoll—2009—cont.

Tom and Dave established a management team for five specific areas. Don, N1DG, would handle IT; Bruce, W60SP, finance; Kimo, KH7U, and Dave, WB4JTT, would take care of transportation and logistics, and Joe, W8GEX, would oversee radios/amps/antennas and any other area dealing with operations daily. Dave, an attorney, would also take care of all legal requirements.

Now that the management team was in place, we were ready to start planning for what we hoped to be an outstanding DXPe-dition, but also knowing we had our work cut out for us. Each manager was directed to bring various other team members into his area of concern to assist, with some individuals serving on more than one team. Over the next six months we had hundreds of SKYPE calls and e-mails while all details were addressed, and problems were solved.

Logistics

Our first consideration was the date the operation would take place. In the notification letter from the USFWS, we were told the DXPe-dition had to take place during the period October 5 to October 19, 2009. This was primarily because of the bird migration, which brings about 1.5-million birds to the island on or about October 19.

We did not want to be there over a contest weekend, yet we wanted to be there two weekends. Did we want to do it all with one team, or did we want to use two crews with shift change in the middle? Because of the cost to get there, we decided it should be one big team effort.

Next was a call sign. Joe suggested a one by one call and after various suggestions, K4M was selected and reserved. Now we needed a way to get to Midway. A boat was not an option for several reasons, so we started researching airplanes.

Research quickly proved only one airplane would be available and as such is also the aircraft that goes to Midway for the USFWS under a contract agreement. They have regularly scheduled flights for their needs, but the plane is relatively small and would not accommodate USFWS needs plus the entire team. Our only choice was to charter this same aircraft when it was not committed elsewhere, or on a day it was in use by the USFWS. We then learned the aircraft would only carry 17 and even then, had restrictions on the weight, which ended up being 18 pounds per person. It was decided two team members would fly on a USFWS flight the day before, and the remainder on our charter, which was now scheduled for October 5th.

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Just one of several group meetings we had in Hawaii as we were preparing ourselves for Midway.

Midway Atoll—2009—cont.

The weight restriction meant that all our personal belongings, all equipment and supplies, and the radio equipment would have to be shipped in a container on a USFWS supply barge to Midway in August.

There were a lot of jobs designated early on. Kimo, KH7U, has worked with many DXpeditions to the Pacific Islands and because he had worked with the USFWS before, he understood their procedures. Therefore, he was the liaison between the team and the USFWS. Having been on numerous prior DXpeditions, Kimo had amassed a large inventory of equipment. This DXpedition was able to utilize some of that equipment. He also coordinated the purchasing of the bandpass filters and stubs for each station. Kimo would also provide the team the Hawaii staging area and coordinate all logistics.

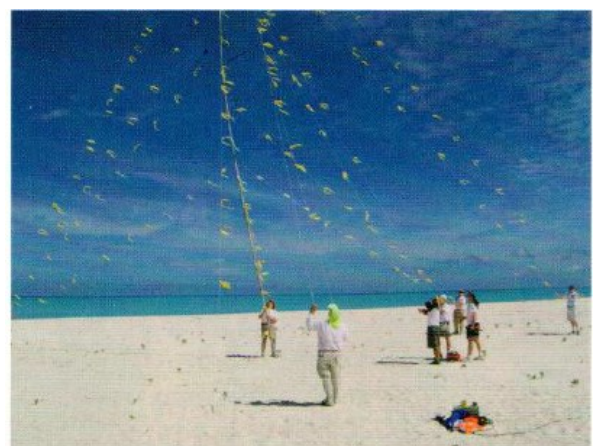
Don Greenbaum N1DG, who had worked on the Scarborough Reef operation with Tom, coordinated the shipping of supplies to Arnie, N6HC, in California, who served as a central receiving point for equipment that would travel to Midway on the USFWS supply barge. Arnie oversaw the collection and organizing of the equipment before it was put on a container to Hawaii. Once in Hawaii, Kimo picked up the equipment, added his items, tagged and inventoried everything, and then loaded it on skids and finally arranged for shipment via container to Midway.

Early on, Don, NJ DG, suggested, and everyone agreed, that our equipment should be standardized and interchangeable. This was done for numerous reasons, all of which were important to the overall mission, such as set up and

ease of maintenance and familiarity by all concerned. Don programmed all station controls and hardware at his QTH in Massachusetts prior to arrival on Midway. Once on Midway, set up was fast and efficient. All six positions were then set up identically with each position capable of CW, SSB, or RTTY. Equipment was ICOM IC-7600s and Acom amps using Rig Experts interfaces. Computers were also standardized for ease of use. We had several standby amplifiers in case they might be needed.

Bruce Butler, W6OSP, was responsible for financial aspects. Bruce, a past treasurer of NCDXF and now their President, had also been on several DXpeditions. Bruce was assisted by Margaret Blackwell, XYL of Joe, AA4NN, who was a great help to Bruce in tracking income and expenditures. Markus, DL9RCF, assisted by coordinating the European donations. Janet, W8CAA, assisted Bruce in the fundraising efforts and contacted clubs and associations for financial assistance. She also worked with the rest of the team in gathering their personal data and keeping it current for the management team.

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It was a group effort to get those big verticals standing upright on the beach

Midway Atoll—2009—cont.



The guy wires had to be "flagged" to warn the birds and hopefully prevent a collision.

Dave Johnston, WB4JTT, who has been on several trips to the Pacific, would be responsible for the physical plant, which included any and all requirements for the physical configuration of the operation. He also handled legal responsibilities.

The management team also asked Yrata, OKIKT, to assist with the QSLing requirement and to serve as the team liaison with Beda of EL-LI Print, who as a sponsor would be supplying QSLs.

Joe, W8GEX, would be in charge of daily on-island operations dealing with any and all areas concerning transmitting and receiving, i.e., radio position setup and tear down, cable requirements and needs dealing with positions, ongoing maintenance once on island, antennas, propagation, radio prep prior to shipment, etc. For the operating schedule Don and Joe worked together to assure the positions were properly manned.

It was decided K4M would use two separate main operating positions to include separate antenna fields, one for CW and one for SSB. Planning and decisions included where each station would be set up, where the antennas would be placed to include coax runs, amounts of 12V control cable, number of connectors needed, plus the electric service and other logistics. Not an easy task when you've not been there before.

With two separate antenna fields required, Paul, W8AEF, would provide one set of SVDAs (switchable vertical dipole arrays) and John, N7CQQ, would have Paul build a set for him that he would loan the operation. This would give us one set for each, SSB and CW. Arrangements were also made for the use of Kimo's two Titanex verticals as well as the loan of a Battle Creek Special from the Battle Creek Group. A vertical for 30 meters would complete the antenna requirements for 10 through 160 meters.

For receiving we decided to use the K9AY loop and a pennant. Joe, AA4NN, and Craig, K9CT, were asked to set them up at home and do initial testing. They set them up and tested them and then they packed and shipped them to Arnie's staging point for shipment to Midway on the supply barge. As it turned out we didn't even set them up once we got there, as the ops found the noise level was acceptable without them.

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Midway Atoll—2009—cont.

Departure Problems

With October 9th set as the departure date for Midway the team started to arrive in Hawaii with the arrival of WB4JTT, W6OSP and N4XP on the 5th. It was at this time we quickly learned our plans had already started to unravel with the bad news that the aircraft that was to take us to Midway was broken.

Soon several of the others arrived on the 6th and the remaining members had arrived by Wednesday evening. However, the airplane problem continued and we were thrust into a hold position. All the while our understanding was that the aircraft would be fixed “soon”! At least the equipment had arrived on Midway and was waiting for our arrival, and we were together as a team.

As most people now know, our scheduled departure did not happen. The aircraft was on Christmas Island and attempts were under way to repair it. We also had learned the problem revolved around an oil indicator light for one of the engines that would come on but only after four hours of flight. The pilot would have to shut this engine down to avoid damage to it and then land with one engine. We were also told they had flown a mechanic to Christmas Island to make repairs and get the plane back to Honolulu. That was completed and with the thought the problem was fixed it departed for Hawaii. However, as it neared Hawaii, the light came on again. Once the aircraft arrived in Hawaii the mechanics worked diligently but had difficulty locating the problem. It was only by a process of elimination that they resolved the is-

sue, which took several days. Each day they were getting further behind on their flight schedule. They were as frustrated as we were, and even had a mechanic fly in from California to assist while chasing the problem. This gave us many ups and downs, as they'd tell us they had found the problem, only to later find it wasn't really fixed. As this went on until Sunday morning, we all were very frustrated. To complicate the issue, the USFWLS had employees stranded on Midway who needed to leave; one for a funeral and another because his wife was about to give birth, and there were employees in Honolulu who needed to get back to Midway. Also supplies needed to be delivered. It was a stressful time for all.

In the meantime, we were frantically searching for alternate aircraft. One of our team members, Art Blank, WA7NB, who is an FFA air traffic controller, suggested that someone go to the airport and look around for other possible aircraft that could take us. So, Art, Kimo, and Don went to the airport, noted tail numbers from possible aircraft, researched the owners and contacted them. They all said no for a variety of reasons. Don, who is a facilitator of international shipments, called a friend and found an aircraft in California that could take us. However, this plane was cost prohibitive. That left our only choice the aircraft with the oil leak that was originally chartered. While we were seeking alternative transportation, the DX world was kept up to date through trade publications and our website.

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Midway Atoll—2009—cont.

The Waiting Game

We had scheduled a team meeting at the hotel to finalize the operation for Thursday, the day before we were to leave. Even though we were delayed, we continued with the meeting. This included our plans for staging, unpacking and repacking of equipment, setup, flagging of the antennas, lodging, scheduling, and most importantly, teardown and the cleanup. To facilitate the meeting Don had prepared a Power Point™ presentation that outlined our plans. While waiting, during one of our many calls to Midway, Matt indicated there was room for one more person who could be added to the team. The aircraft still held only 17 and we knew that would be an issue, but we moved ahead and went to the list for the next available operator. Next on the list was N5IA, who was not able to come. The next person then on the standby list was Charlie Wooten NF4A, who was enjoying an anniversary dinner with his wife when he received N4XP's call. Even after being told he had 24 hours to get to Hawaii, he was very happy to be invited and eagerly accepted. He quickly left his dinner, went home, secured flights, packed some clothes, and was off. Because he had such a short notice, the only choice was for him to drive five hours from home in Florida to Atlanta, GA, to catch a flight to Hawaii. Therefore, 23 hours later Charlie was picked up at the Hawaii airport, a bit disheveled but still glad to be a part of the team. We too were glad to have him. We settled into a waiting game with Friday and Saturday passing with no signs of the aircraft be-

ing repaired. We met three times a day to make sure all was still on track except transportation.

Departure

On Sunday morning Art received a call from the pilot telling him they had fixed the problem and were making one more test flight, and if successful, we would depart at 3 PM. As it was, some of the team had planned to pass the time by doing some sightseeing but were quickly called back to the hotel as by now it was after 12 noon! We anxiously watched the test flight online at www.flightaware.com and then saw they had landed.

We were now confident we would be leaving soon. Kimo soon received a telephone call telling us to be at the airport terminal at 3 PM.

Once we were at the airport and the team was assembled, we learned we would exceed the weight limit of the aircraft. We also learned of a USFWS charter to Midway on Tuesday and that we could have two seats. W6OSP and NF4A volunteered to remain behind and travel on Tuesday. The initial crew departed without difficulty at 3:30 PM.

During our flight, Art, WA7NB, N1DG, and K6TD operated K4M aeronautical mobile. This was our opportunity to let the DX community know we were airborne, and that the DXpedition was definitely going to happen. Thankfully our flight was uneventful, and we arrived at 8:30 PM Midway time.

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Midway Atoll—2009—cont.

On The Island

Upon arrival on Midway, we were met by Matt Brown, the refuge manager, and several of his staff. We then were required to attend an orientation about Midway Atoll given by USFWS personnel. This was to familiarize us with the island's infrastructure, and most importantly, about the wildlife. It took about an hour and then we went to the barracks for our lodging assignments. Soon we all were getting some much-needed sleep. This was not easy to do, as we were anxious to get going. After all, we should have been on the air by then.

At 0630 the next morning we were met at the barracks by Matt and then we went to breakfast. He next took us to the transportation office, where our equipment had been stored. It was then moved to the staging area just off the beach, where we would be operating. At the same time, we all were issued bicycles for our personal transportation.

As planned, the operation was separated for the CW and SSB camps, with the stations being about 500 ft. apart. The SSB station was set up in a tent, and the CW station was located inside the tavern used by the Midway staff. The CW station was put there so they wouldn't bother any customers when they were open.

Setup

Finally, we were under way. While Don, Kevin, and Kimo started station setup, the remainder of the team, W8GEX, AA4NN, N6HC, WA7NB, W6KK, N4PN, K9CT, N7CQQ, I8NHJ, DJ9ZB, 9V IYCV, and ND2T, started the big task of assembling not one, but two separate antenna fields. To make this happen, all boxes had to be unpacked and the antennas prepared for assembly. In the meantime, W8GEX and several others surveyed the beach area to compare our planning versus the reality of the situation. In the meantime, WB4JTT started tent erection as well as checking to make sure the electrical source was as it needed to be.

This all happened simultaneously and went smoothly and quickly. It was not perfect, but pretty close. We did a lot of coordinating using handheld radios, thus saving many steps.

Due to concerns for avian wildlife, the USFWS restricted the antennas to verticals only. The SVDAs proved to be sturdy, but because they were guyed, they had to have ribbons added to alert the birds.

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DXers Have A Choice



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Midway Atoll—2009—cont.

We also had two SteppIR verticals, a DX Engineering 30/40m vertical, two Titanex EL60E verticals, and the Battle Creek Special, all of which required intense placement of ribbons. All antennas worked well and made for beautiful photos.

Because of the large number of antennas and the extreme heat, the antenna fields were not fully erected until late the next afternoon.

In our planning, we knew that the antennas should be placed on the water line for best performance, but the USFWS would not permit this because of the seal population. Most of these antennas were placed 100 ft. to 200 ft. from the water line and worked extremely well. We ended up getting outstanding signal reports and had no trouble receiving.

Because there was no electric service outside the buildings that we could use, Kimo had worked with the FWS prior to our arrival for the installation of both 110V and 220V junction boxes. Large electric cords were run from these boxes to our stations. This electric upgrade was paid by the DXpeditions and left intact so that future DXpeditions would have it available. It was an excellent setup for our needs, and we give credit to Kimo for the engineering and working with the USFWS to be sure it was installed correctly.

On The Air

Our original plan was to have all stations come up simultaneously. However, because of our delay we decided to put each station on as it became operational. The first CW QSO was 13

October at 06:07 with ZL2IFB on 20 meters, and the first SSB QSO was 13 October at 06:33 with JE1AON on 20 meters. Five stations were operational within the first 13 minutes of operation, and once we were up and running everything went smoothly. Each operator worked three-hour shifts, with six hours off. Don did an outstanding job of operator scheduling.

Even though the stations were about 500 feet apart and we had stubs and bandpass filters, the SSB stations still suffered intermodulation from the CW stations. We were able to eliminate much of this by lowering the output of the CW amplifiers. In addition to CW, SSB, and RTTY, our operating plan called for 6 meters and EME. Sponsors provided all the equipment and it was on site, but we quickly learned the antennas were not bird friendly and we were not allowed to set it up. This was a disappointment, as we had the antennas with, and we knew there were lots of people waiting to work these two bands.

Before the trip, Jose, AB6RM, contacted Bruce, W6OSP, about setting up a schedule with the Aircraft Carrier USS Midway Museum in San Diego. The USS Midway was named for the battle that became the turning point in the Pacific during World War II. This would commemorate the historic linkage between the namesake Battle of Midway in June of 1942 and the USS Midway Museum. For this occasion, their station would be manned by amateur radio operators who are Midway Museum volunteers.

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Midway Atoll—2009—cont.

What a wonderful opportunity this turned out to be. The schedule was set for K4M on Midway Island to make contact with the Midway Carrier Museum at 2200Z on 14.325, with Bruce, W6OSP, a former U.S. Navy Communications Technician, as our operator. At that time, the regular operation working the pileups went QRT and moved to the assigned frequency and established contact with NI6IW, the USS Midway. This QSO made for a lot of happy operators on both ends. After a handful of exchanges with the operators aboard the ship, we went back to our main pileup. At that point it was decided to do the same the next day to give more of their operators the opportunity to get in the log. We were glad we were able to make this possible, as it was quite meaningful for both the Midway Museum volunteers and us.

The Island Experience

The only motorized vehicles on Midway were a fire truck and an ambulance with all visitors being issued either a bicycle or golf cart. While we were there, we had three bike accidents: Joe, AA4NN, ran off of the sidewalk and into the soft sand and had a spill; Charlie, NF4A, spilled in front of the barracks and a third team member crashed and bruised his shoulder and rib. Luckily no one needed medical attention.

Our sleeping quarters were in the former Navy "Charlie Barracks." It had been renovated from the military days and was quite comfortable. All meals were in Clipper House, the island cafeteria, which Had delicious food. It was open for 1-1/2 hours per meal and you

had to eat during that time, or you didn't eat. We would relieve the five on duty during "dining time" in order for them to eat, and then they would go back and finish their shift.

In addition to the cafeteria, facilities included a bowling alley, a grocery store, an internet cafe, the "Midway Mall," a movie theater, and a tavern. These facilities remain from when the Navy was there and are still operational today but with reduced hours. Many of the outbuildings were in disrepair with no plans to repair them; however, several key facilities are maintained as offices and work areas. The runway was repaved earlier this year and was in good condition.

While there, Matt Brown offered to give a tour of Easter Island, the original "Midway," and several team members made that tour. They reported that virtually all buildings are gone, but the runway is still there, in poor condition and overgrown.

Our weather on Midway was pleasant_ although hot at times. It was extremely hot the first two days while we were erecting antennas, and then it cooled off with beautiful, sunny weather the remaining time. As luck would have it, the day we tore down was windy with blowing but warm rain. Our operating plan called for tearing down one station at a time so we would be on the air as long as possible. The last CW QSO was 19 October at 19:00 on 30 meters with H7CU with I8NHJ the operator. The last SSB QSO was 19 October at 19:10 on 17 meters with AA1V and NIDG the operator.

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Midway Atoll—2009—cont.

Leaving Midway

We departed on schedule for Honolulu on Monday with seventeen of the team members. The remaining two would return on the next USFWS flight on Friday. This time John, N7CQQ, and Dave, WB4JTT, remained behind to close out the operation and arrange all the equipment for return, either on an upcoming night or on the USFWS supply vessel.

As their extended stay began, Hurricane Neki strengthened in the Pacific and on Tuesday night it was predicted to make landfall on Midway on Friday. Fortunately, the next day the predicted path showed it turning north. By Friday as John and Dave left Midway, Neki, now only a tropical storm, was directly in their night path as they passed over French Frigate shoals. As the flight attendant on board said later, "That was the worst turbulence I have ever experienced in this plane." That sounded like an exciting flight!

Summary

Our three-day delay in transportation reduced the on airtime to six and a half days, but even so, over 61,000 QSOs were made. Propagation proved to exceed all expectations, with conditions open to many areas of the world 24 hours a day. Much emphasis was placed on working Europe, and afterward we were very happy with the number of European contacts.

This operation came about like no other that has ever taken place. With no leader and no team already selected, it developed into an effective operation with highly skilled operators using good, solid planning and reliable equipment. The operators themselves had played major roles in

many past DXPeditions: N6HC having been to Kure and Clipperton; I8NHJ to BS7H, K5K, and E30 to name a few; 9VIYC to BS7H and many Antarctic DXPeditions; AA4NN recently from VU7, BS7H, and T33; ND2T also from BS7H; N4PN was last on Sprately after DXpeditions for over forty years; N4XP from K5K, ZK1, KH9, V7, and others; DJ9ZB has activated many entities from Africa and then recently from Kure; W8GEX from 4O, TO5, plus many in the Caribbean; N1DG from A6, VS6, and KH9; W6OSP from 3B9; KH7U from many Pacific islands and XU as well; W6KK from many Pacific islands; NF4A from Eastern EU and the Caribbean; WA7NB from the Caribbean; and K9CT from TI9. K6TD is fairly new to DXPeditioning, but we don't think this will be his last.

Everyone on this trip was hard working, congenial, and an outstanding operator. It was wonderful that this team, which was put together in such a different way (by FW S guidelines) worked so well together.

One of the goals of the Midway team was to ensure that those entrusted with the preservation of Midway Atoll were left with a positive feeling toward ham radio, thus helping to ensure future operations. This operation produced no problems for the local birds, and many positive comments were received while we were there. We are confident ham radio will soon again be heard from Midway Atoll

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Midway Atoll—2009—cont.

Our Thanks

We would like to thank the DX community for their patience and their financial support. Without your help, this trip would not have been possible. The team tried very hard to give you a very professional DXpedition. We are most grateful to you.

Of course our gratitude also goes to the US Fish and Wildlife Service and especially the Midway Refuge Manager, Matt Brown, and his staff for the support provided in making the operation happen, but most of all for allowing our DXpedition to take place. We also wish to thank NCDXF, the Colvin Foundation, INDEXA, GDXF, SWODXA, SEDXC, SEDCO, the Swiss DX Foundation, EUDXF, the Lone Star DX Association, OZDXF, RSGB, the Carolina DX Association, the Clipperton DX Club, Acom, Rig Expert, Heil Sound, WX0B, Davis RF, WriteLog, Vibroplex, Autek, the Battle Creek Group, ELLIprint, W8AEF, and W6SZN, all of whom were principal sponsors of this DXpedition. We also want to thank those other clubs, associations, and the many DXers who provided additional financial support to help make this operation a success. The team also wishes to thank those who provided IT, electronic, financial, logistical, and QSL support throughout the operation: AA1V, DL9RCF, W5DNT, W6XA, Margaret

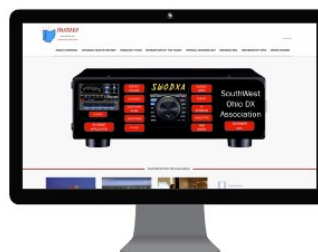
Blackwell, W8CAA, OK1KT, AH6NF, WH6GS, and AH6OZ.

SPECIAL ACKNOWLEDGEMENT

The group of operators at the USS Midway Museum, shown on page 14, are very proud of the museum and we are proud to acknowledge their efforts here. In the photo, left to right: Dennis, AE6AE; Jose, AB6RM; David, K5RQ; Chief Operator Bob, AF6Q; Rush, WB6LXG; Rich, KE6DUG; Buck, WA6C IF; Bob Hulsey, (special guest who was stationed aboard both Midway Island and the USS Midway: Rob, K6REF and a guest operator unnamed.

(pictures on next page)

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*Island transport: John, N7CQQ; Charlie, W5KK;
Paul, N4PFI; Max, I8NFI & Joe, AA4NN*



*On 2W5mo. KHTU; Charlie, NF4A; Art, WATNB &
James, 9V1YC*



On CW- Tom, ND2T & Charlie, W5KK



On SSB- Arnie, N6HC & Kevin, K6TD



More CWOps - Arnie, N6HC & Craig, K9CT



*Joe, W8GEX is a 60-meter enthusiast and he took the opportunity
to make some Q's on that band*



Midway working Midway (1) Bruce, W5OSP on Midway Island talking to USS Midway Museum Ops above, in San Diego



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60 Meters—The Channel Band

By Joe, W8GEX—w8gex@aol.com

NEW COUNTRIES—

Thailand: HS7KYV was spotted.

Also... Information comes from Fedor, UK9AA, of the Radio Amateurs of Uzbekistan, telling us that permission has been received for Category 1 Uzbek licensees to operate in the new WRC-15 Amateur 60m Secondary Allocation of 5351.5 – 5366.5 kHz with a Maximum Power of 100W.

Prior to this, Fedor was able to obtain a special individual permit from the regulator in 2014, making his first 5 MHz QSO in 2015. He believes he was the first in the CIS region to have received a license for 60m.

8Q – Maldives - Updating our December 14th story, G0VJG, Nobby, due to the pandemic, has rescheduled his trip until March 6. He plans to be QRV on 60 meters as well as others. His 8Q7CQ activity is now set for March 6-22. QSL via M0OXO.

G0VJG, Nobby, who is headed to Reethi Fura Island early next year gives us an update. The “License next year but been told 8Q7CQ from January 14-29. “The world’s best QSL Manager”, M0OXO, Charles, will handle confirmations.



Great News for the Maldives ; “I have written permission to operate 60m!”

73 Nobby G0VJG/ 8Q7CQ

V4 – St. Kitts & Nevis - John, W5JON, says he is sick of being stuck in Texas and can’t wait to get the vaccine shots and get “back in the DX loop.” His February 27 to March 27 trip to V47JA is still on and next year’s October-November V47JA and PJ5/W5JON trip is booked too.

60 METER CONDITIONS

N5KO, Trey Garlough (creator of the Cabrillo software) and a renowned op at HC8N and others, notes both A45XR and T6AA have been heard on the West Coast of NA on 60, “with big signals” at 1500Z. Trey also worked BG3ISR in CQ Zone 23 at 1530Z, on 5357 kHz FT8.



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ICOM

Interview with EL2BG

I worked EL2BG, Ishmael, and reviewed his QRZ.com page to find that he is a capable operator with a wealth of experience. I asked him if he would be interested in answering my questions and he immediately agreed! He can be contacted at el2bg@comcast.net.

AJ8B: How did you first get interested in amateur radio?

EL2BG: To be honest, it will be very difficult to pin point of an event that jilted my interest in amateur radio because I have been interested in electronics since I could remember. At a very early age, without any training or prior knowledge of basic electronics, I found myself building electronic gadgets. In my adult age, I was intrigued by security personnel talking through their walkie talkies and when I later read about mobile units in vehicles been used to contact DX stations far and wide, I was immediately hooked and was then determined to have such unit in my vehicle whenever I was able to own one.

AJ8B: Do you have a favorite band or mode?

EL2BG: When I finally got my ticket to get on the air in 1978 when I joined the Association, the Liberia Radio Amateur Association was very active with about 95% of its members being of different nationalities that worked in various places in Liberia and had licenses to operate; and by extension, were members of the Association. The Association had an organized Sunday morning net (The Eco Lima Net) on 7.060 MHz @ 0700 Zulu to encourage members of LRAA to check in exchange signal reports and other traffic, and since then, I fell in love with the 40 meter band. However, when I realized that Eco Lima (Liberia) was a needed DX sought out country, I made it my personal business to work all bands including 6M to give



opportunities to stations seeking EL to be able to work me, EL2BG. Since propagation was an issue in 2019 from Liberia for voice operation, I operated mostly digital, FT8, after been introduced to digital and with the addition of my Signalink USB sound card. I even attempted a few 6M contacts, which were very rare.

AJ8B: What time of day and days do you like to operate?

EL2BG: I have worked as a civil engineer for the past thirty-seven years and during those years, I tried to be on the radio on all bands every day of the week when I had the pleasure and opportunity of having electrical power. I have not had the pleasure of having such power at any 24/7, which dictated my time on the air after my official working hours. I have since retired, December 2020, and again my time on the air depends on the availability of electricity. I am available and will love to be on the air anytime I have or don't have available power. I was fortunate to have procured one of the Harbor Freight's 80 Watt Solar Panel Kit with a 12V - 100 amp hour battery that I use daily to be on the air if the battery holds adequate charge after a good sunny day to keep me on the air.

(continued on next page)

Interview with EL2BG (cont.)

AJ8B: Any secrets to your success?

EL2BG: Persistence, persistence, persistence. I am persistent in doing everything in my power to get on the air to give opportunities to all stations who want to work Eco Lima land. I consistently tune up my G5RV dipole to its peak performance to be able to get out of Liberia with approximately 100 watts and be professional and courteous during pileups. It is my hope that one of these days I will have the opportunity to have some shoes on and not keep working barefooted.

AJ8B: Any tips that you can share?

EL2BG: Apart from Eco Lima been a rare DX station, I make it my business to operate a clean station and be very receptive to stations who [email](#) me and or WhatsApp me to set up schedules with me to operate during predicted peak propagation hours or times when they were available to operate. I am always opened to any operator who requests special favors as to set up a schedule during my off hours on the radio. I can be found on any band and on any day calling CQ at any hour of the Zulu time.

AJ8B: Describe what you are currently using:

EL2BG: My shack consists of a Yaesu FT-857, an AT-100ProII antenna tuner, a Signalink USB integrated sound card, an Alinco DM-330FX power supply, a G5RV dipole antenna in an Inverted



Vee configuration, a Lenovo laptop running Windows 10 and a Harbor Freight's 80 Watt Solar Panel Kit with a 12V - 100 amp hour battery. A very modest station I will say. I am looking forward for the day when I can have a directional beam and about 500W output.

AJ8B: What advice do you have for those of us trying to break pileups to work DX?

EL2BG: My advice to stations trying to break pileups is to listen to the DX station for any instruction and to please give their full call signs and not only the suffix or the prefix. I can better pull out a station after hearing the full call sign than half a call sign. I am blessed with great hearing abilities that allow me to hear very low-power stations with about 30 dB of a whisper during pileups that sometimes astonishes me. I usually ask stations to call using the number system, meaning stations with ascending order numbers in their call signs, starting with "1", e.g., AB1CD and so forth till we get to "0". I will usually take up to seven stations at a time using the number system.

(continued on next page)



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Interview with EL2BG (cont.)

AJ8B: What is your favorite contest?

EL2BG: Due to my station's limited working condition, I have really not participated fully in any contest through its duration because of my limited electrical power situation. Because of that, I do not have any favorite contest at this time. I have participated in a number of DXpeditions that have taken place in Liberia by joining the DXpedition to work QSOs.

AJ8B: Any QSLing hints?

EL2BG: I make it my busy to return any and all QSL cards that I receive. I am very happy that I do receive some green stamps for some return cards, but green stamp or no green stamp, once I receive a card, I will return mine. The mail system in Liberia has not resumed to its pre-war condition; therefore, it is not possible to mail QSL cards directly from Liberia. As a result, I use the Florida address as noted on my qrz.com page as my official QSL address. Sometimes, my return cards are delayed but they are returned at the end of the day.

AJ8B: I noticed that you are also a pilot. Are you able to combine Ham Radio and Flying?

EL2BG: Negative, I am a student pilot for gratification. I started pilot school in Jacksonville, Florida some years back and I continue training only when I am in Jacksonville for a duration of one to two months within any one the year; as a result, I have not completed my training and it was because of my amateur radio hobby that drove me to the flying bug. I consider amateur radio, flying and photography as some of my many hobbies I have under my sleeves.

AJ8B: What coaching/advice would you give new amateurs?

EL2BG: My advice will be for new hams to continue to learn and advance to higher license classification and keep their hands dirty by building simple antennas and consider making schedules to be on the air a few hours a week to keep up their operational proficiency.

AJ8B: If I were to stop by for a visit to Liberia, what local place would you want us to visit?

EL2BG: You will be wholeheartedly welcomed and we will visit all of the ruins of the city of Monrovia that bear the scars of the [civil unrest](#) that took place in Liberia from 1990 to 2003 and drive up to a waterfall to a place called [kpatawee](#), where we could camp and operate the radio.

AJ8B: What local food would you want me to try?

EL2BG: I hope you have a tolerance for hot or spicy foods. In that case, [pepper soup](#) will be the ideal food for you. If that is OK with you, then we will try the [torborgee](#).

(continued on next page)

Grid: IJ46pi ~ CQ Zone: 35 ~ ITU Zone: 46
Lat: 6.348098 ~ Long: -10.730381

EL2BG

I. RICHMOND W. K. HARDING

BUSHROD ISLAND, SAYON TOWN
MONTERRADO COUNTY
MONROVIA, LIBERIA
WEST AFRICA

PRESIDENT

Liberia Radio Amateur Association (LRAA)

Confirming QSO with	DATE	UTC	FREQ	MODE	POWER	RST
Thanks for the nice QSO						

73, 73, 73



Interview with EL2BG (cont.)

AJ8B: Thanks for taking the time to answer my questions. Is there anything you would like to share with us?

EL2BG: I am at present the president of the Liberia Radio Amateur Association (LRAA) and my core mission is to recruit and train as many local Liberians to be part of the amateur radio world. Since the inception of amateur radio in Liberia, expatriates were the majority radio operators and I intend to change that trend. We have engaged in lecture series at several high schools especially the technical schools with electronic departments to talk about amateur radio and the benefits of being an amateur radio operator. The main preoccupation of the youths in Liberia is to find their daily bread and playing with radios is far from their radar, not mentioning the cost to purchase a rig. Therefore, it is my mission to solicit used rigs and other accessories to be donated to the club station to be used by the newly ticketed radio operators and to loan it out to individual hams to use at their various homes for a period to improve and appreciate their hobbies.



New Member: KC8GAE—Bob Shiflett

We have had several new members over the past several months. I hope to have “bios” on all of them in the next edition.

I was originally licensed in 1997 as a technician and then to General in 1998. In 2002 I had to put amateur radio on the back burner, and like a lot of others have just recently, (July 2020) started getting back in to it, (my how things have changed).

After putting my station back together and going through everything, I realized that all previous logs were not accessible, so I am starting all over from scratch. I have only worked and confirmed 96 countries, (53 phone and 43 countries digital) since getting back in.

My favorite band was always 10m and just recently added 17m to the list. My current station includes an Icom IC 7300, ALS-1306 Amplifier, Heil headset, and Force 12 antenna. (10, 12, 15, 17, 20, and 40m @ 57 feet)

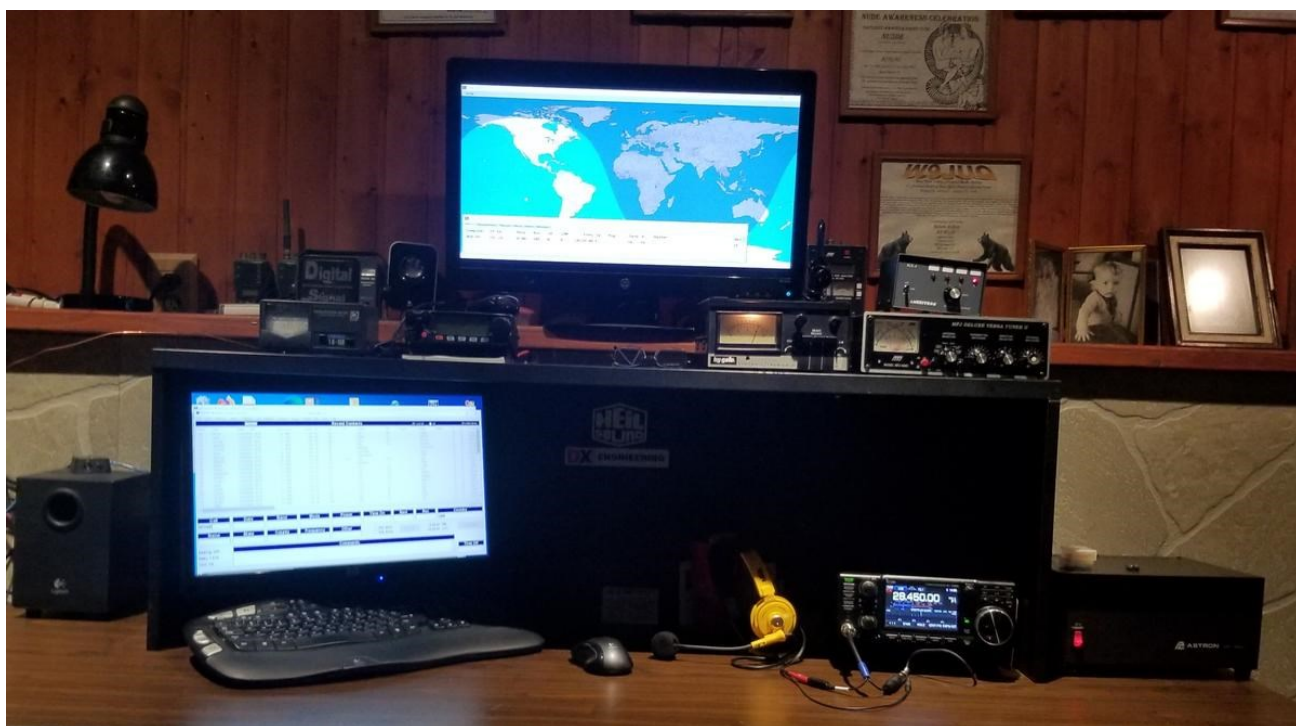
I have been bitten by the FT8 bug (*Thanks, Joe Pater, W8GEX*) and I have 2 fan dipoles, one for 17, 40, 80m, and one for 30 and 60m.

My future plans include, upgrading to Extra, (in progress) and an additional tower, a log periodic, and 17m and 6m Yagis.

I would like to send out a special thank you to Joe Pater W8GEX for all of his help in getting me back on the air.

73 and GUD DX

Bob, KC8GAE





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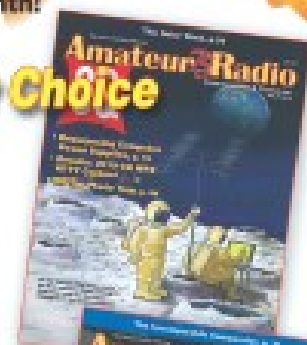
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QSL Card Management by our DX Friends

This edition's question for our esteemed DXers was "Do you keep all of the QSL cards that are sent to you? How many do you estimate that you have? How do you store them? How often do you take them out and look at them? Do you have a way to display them?"

Many of them responded..enjoy...

Do you keep all of the QSL cards that are sent to you?

Totally ... I don't understand Radio without the QSL's ... Being QSL Manager, I try to ensure that the QSL's are of the highest quality so that they last for more years in the collection in optimal conditions.

How many do you estimate that you have?

Around 5000 QSL's... I try to confirm all my QSO's by Mode / Band with a Paper QSL's... It is more difficult to obtain an Award...!!!! Lotw is free and Easy, but old fashion QSL Culture remind me of my beginnings.

How do you store them?

ABC Boxes per year with some anti humidity product

How often do you take them out and look at them?... Do you have a way to display them?

I have all DXCC's by ABC order in a book, and I try to see them one or 2 times per years when I show you to some Radio friend or when I insert a New One

Best 73 and Good Job ;!!
Jose EC6DX

(continued on next page)



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QSL Card Management by our DX Friends

Hi Dear Bill,

Difficulties in LoTW, validation of QSL cards. I'm using only ARRL (LoTW) due to problems with mail.

I wish you healthy and abundant QSOs.
73 de TA4LYL

Do you keep all of the QSL cards that are sent to you?

All QSL cards are kept and stored in closed boxes

How many do you estimate that you have?

About 4000 from the buro (qsl card only, no envelope) About 300 - 400 via direct. My logbook is updated manually for each card received.

How do you store them?

Some of them are displayed on a board but having no more space on this one, all new cards are now stored in bulk.

How often do you take them out and look at them?

I look closely at each card for a short while when I receive it. After that, they are forgotten !!

Do you have a way to display them?

My dream would be to stick them all to the wall otherwise I will probably never watch them again. Even big album wouldn't be enough to put it all away

73s Laurent
TK4LS

My QSL cards from 1985 to 1996 of which there were about 5000 I gave away to collectors one because of the room and secondly they would have a better home.

Then Data came along a few years back am very pleased that most of the thousands of contacts are electronically sent and stored but still receive about 200 qsl cards a month mostly from Europe and quite a few welcome SWL cards also answered, direct ones answered directly within a reasonable time, with the Covid 19 issue its taking about 1 year for me to receive cards. Most collectible cards are those with trains steam or otherwise on???

73

Doug
G0LUH

(continued on next page)

QSL Card Management by our DX Friends

Bill,

I usually collect LoTW. But nice QSL cards I display on the wall in my shack – which is impossible with LoTW! It is always nice to look around and memorize the contacts, some achieved after hard work and long nightshifts, and a few easy ones.

One part of the shack is for old QSL cards, another for ATNO – it's a lot of memories. I always like the QSL cards with a small hand written story or message.

73 Ken
LA7GIA



Hello Bill!

Do you keep all of the QSL cards that are sent to you?

Yes, I have all QSLs which I got as SWL OM3-27707 and OM2VL (also for previous callsign)

How many do you estimate that you have?

Hmmm, I never count it, but sure 20.000 +

How do you store them?

In boxes in the alphabetical order

How often do you take them out and look at them?

Sometimes when I apply awards.

regards, Laci OM2VL



QSL Card Management by our DX Friends

Good evening Bill—I hope you and the family are ok

Here are the answer. s to your questions as follows

1. I do keep all my qsl cards I find it very interesting from where ever on this planet it comes from...
2. I have about 4 to 5 thousand of them
3. I store them in a big square box
4. I do not look at them that often but when i need to sort them for a award it takes about a day
5. This moment i do not have a way to display them but i am planning to do it this year if i am finish i will send a picture

I hope that answers your questionnaire Bill

73 and have a great and Blessed week ahead
De Zs2ecTheunis

Hi Bill,

I have a few boxes of QSLs somewhere around, never took time to watch them again, I keep aside my DXCC cards. The most original one I ever received was for a QSO in 1979, from WB3CHS, Calvin. This "US shape QSL" is made of hard plastic. The QSO details are on the backside.

Nowadays, with the modern logs like eQSLcc it is easier to watch the QSLs, I still use paper QSLs just to maintain the tradition.

Keep Safe, 73s

Pat
3B8FA



(continued on next page)

QSL Card Management by our DX Friends

Hi Billy,

Sorry for the late reply but we are very busy at work. To answer some of your questions I really don't chase DXCC so I don't keep cards. With that said, i have kept 1 card from each DXCC entity over the years. I can safely say it has been in the thousands of QSL cards I have received over many years. I try to promote Digital Qsling to save some trees

"Lol" 73

Regards Chris 9Y4D

Hi there Bill!

Thank you for a SWODXA Newsletter with many interesting articles. I like it much and always check on the articles.

Yes, I have all my QSL cards received in the last 40 years stored. Since I have my previous call of YU3HR (ex Yugoslavia), I still have all the cards received in that time. Never throw any QSL cards and I will keep them as long I live.

I have used the bureau for more than 40 years. Older times were much better with the QSL's, as there was not an electronic way of confirmations, so there were many more to send.

There are many shoeboxes - but I did not count them. I have them on the ceiling and every year at least two new ones are stored there you can imagine that the ceiling is more or less all filled with them. I still get many QSL's over the bureau.

No, I don't check them much but when I do, it's surprising how many great DX can be found there, even some deleted countries such as Abu Ail, Penguin island, Walvis Bay and similar. That was the times. Many of the QSL card owners are silent key until now. Well, nice memories on some other times with more Ham-spirit and operating skills as today.

I may be old fashioned but I like paper cards much, I'm not a fan of eQSL, LoTW, and similar services. I send more than 60 000 QSL's for the call used now (S51DX) in last 30 years - so guys - any QSL is welcome here!

Bill, if you find any bad Grammaticals and wrong lettering feel free to change it.
(For "five-nine name Janez" I don't need some real English knowledge - hihhi)
I hope this meets your questions. Best of luck.

73 es DX de Janez S51DX

Primary e-mail : s51dx@yahoo.com

URL : <http://www.qsl.net/s51dx/>

(continued on next page)

QSL Card Management by our DX Friends

Do you keep all of the QSL cards that are sent to you?

Yes I keep all QSL cards I receive they are put into 300 pocket photo albums in alphabetical and country order

How many do you estimate that you have?

106 albums containing approximately 33000 cards dating back to 13-02-2005 when I first operated as VK7AC IN Tasmania

How do you store them?

In 300 pocket photo albums in my shack on shelves

How often do you take them out and look at them?

Quiet regularly when other hams come to visit or I want to look up a particular person

Do you have a way to display them?

Unfortunately not .

My current LOG4OM shows 92402 for VK7AC

Hello Bill,

I keep the QSL cards sent to me but as I have had QSL managers for many years I now receive very few. In the past I received many cards via the bureau but the bureau closed with the drop in member of the RSZ and the RSZ is now defunct. My QSL managers policy was to send me only the cards that I requested or those of special interest. My late QSL manager, Mike G3TEV, would send me all the G cards received and all the Japanese cards as he knew I am a chaser of JCC.

I estimate that I have about 5000 cards.

The majority of the cards are in two drawers in my radio room. The mixed DXCC cards I store and display in First Day Cover albums.

I look at my cards quite frequently usually when I am in my radio room and the bands are dead and I have nothing else to do. They are not arranged in any order.

I only have 9 cards displayed on the wall of the shack. They are those of special friends or events.

73 Brian 9J2BO,G3TOA

(continued on next page)

QSL Card Management by our DX Friends

Well Bill,

Good to hear from you again. Hope all is well with you and yours as the virus is still not showing any signs of abating. We are still in a major lockdown here with schools etc still closed. I am still working every day though which certainly helps my situation.

So, to the QSLs:

I keep all my QSLs and also have all my QSLs from my CB days from the early 90s.

I think I have about 10,000 (very rough estimate).

I have them sorted by band on shelves.

I usually don't look at them too often but they're there if I want to!

That's it,

Stay Safe Bill.

Vy best 73 de EI8IU Brian.

Do you keep all of the QSL cards that are sent to you?

Yes - until now I have done that.

How many do you estimate that you have?

I think about 10.000 - including all my different call signs.

How do you store them?

In boxes for every of my call signs.

How often do you take them out and look at them?

I look at them when I receive them - after that I do look very very seldom.

Do you have a way to display them?

I display some of them on my web site <https://www.oz1bii.dk/qsl.htm> and I display my own QSL layouts on https://oz2i.dk/wp/?page_id=2693

Hope to meet some of you in the upcoming ARRL DX CW Contest. I will be active from the Danish Contest Academy as OU2I. BCNU

Vy 73 de OZ2I Henning

(continued on next page)

QSL Card Management by our DX Friends

Do you keep all of the QSL cards that are sent to you?

Of course not, only about 45 percent, for a SWL I think it's a good result

How many do you estimate that you have?

More than 50,000

How do you store them?

In box containers of wood

How often do you take them out and look at them?

Seldom, only if a need to search for something

Do you have a way to display them?

Not as a picture or scan, but all data are held in a database of over 165,000 entries.

73 es good DX de Walter

(DE0WAF@qsl.net)



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The Gray Line

By Jay, K4ZLE

This originally appeared in the DX Magazine. Thanks to Jay for letting me reprint this.

This month we will review The Long Gray Line, otherwise known as the twilight zone or the terminator. Contrary to first impressions we will not be talking about the long line of West Point alumni, Rod Serling's old TV program or a movie by Arnold Swarzenegger. Our gray line is the band of transition from daylight to dark on one side of the earth and from dark to daylight on the other. Gray line conditions exist for 30 minutes each side of local sunrise and sunset and act as a conduit for radio signal propagation for frequencies below VHF. That gives us two hours per day for gray line communications. It is especially effective for work on 160, 80 and 40 meter DX. With the sunspots down and winter upon us, evening DX is most effective on these lower frequency bands.

In a column this short we do not have time to fully develop why gray line works. We will spend our time on how to predict coverage area. However, for those technically inclined, the short answer for why is that the D layer is absent in the twilight zone. The D layer absorbs MF/HF signals and is fading rapidly for the area in dusk and not yet formed for the area in dawn.

Generally speaking, for gray line work we should orient our antenna to radiate north-south. Depending upon the date and whether it is sunrise or sunset, the actual gray line follows a path

23 degrees east or west of north, or 23 degrees east or west of south. The twilight zone actually extends completely around the earth and signals can travel in either direction. Unless you have a highly directional antenna, do not worry that there is a 46 degree wide path. The half power beam-width for a 1/2 wave dipole is 78 degrees and a vertical radiates equally poorly in all directions. If you have a rotatable antenna, aim it according to the discussion below. Be sure to check both north and south paths to determine which has the strongest signal.



Month/Day	Angle	Month/Day	Angle
Jan 1, Dec 12	23E	Apr 5, Sep 8	5W
Jan 21, Nov 22	20E	Apr 19, Aug 25	10W
Feb 8, Nov 3	15E	May 5, Aug 9	15W
Feb 23, Oct 20	10E	May 26, Jul 19	20W
Mar 8, Oct 6	5E	Jun 21	23?W
Mar 23, Sep 23	0		

The table has been abridged in the name of space. For a given date extrapolate between the ones shown in the table.

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The Gray Line (cont.)

Let's work through an example. For illustrative purposes we will assume it is Jan 10th and our location is Cincinnati, OH. From the chart above, we find the angle to be 21 or 22 degrees E. If you extend a great circle line starting at an angle of 22 degrees E you will find it passes through the following countries: Southern Greenland, W. European Russia, W. Kazakhstan, Uzbekistan, Turkmenistan, Afghanistan, Pakistan, Laccadives, Chagos, Easter Is. and Central America. That takes care of sunrise; how about sunset? For sunset swing the same number of degrees depicted in the chart, but to the other side of north. In the Jan 10th example we swing 22 degrees west of north to circumscribe our circle ($360 - 22 = 338$). Such a line passes through the following countries: W. Asiatic Russia, Korea, Taiwan, Spratley, E. Malaysia, Brunei, and Indonesia.

Notice for dates near March 23rd and September 23rd, otherwise known as the equinox, the sunrise and sunset gray line paths are near identical since the angle is zero degrees. Countries on a north-south path from Cincinnati are Central Russia, Mongolia, Myanmar (Burma), Andaman, Cocos (Keeling), Cocos, San Felix, Juan Fernandez and Peter I.

To determine sunrise or sunset on the PacketCluster* use the command SH/SUN without a qualifier for local sunrise and sunset. Add the prefix for the desired country to find out sunrise and sunset times at a remote location; for example, SH/SUN VQ9 returns the times for the Chagos. If you suspect a given country is on today's gray line, you can check it

on PacketCluster* by first finding out your sunrise/sunset times and then finding the same for the country in question. If two of the times are within half hour of each other, a gray line path exists. Computer programs exist that do gray line calculations and provide visual presentations of the path for any day, sunrise and sunset. Look for ads in the various ham journals.

Gray line is easy and gray line is fun. It is possible to work very exotic DX at reasonable times of the day. Just make sure your low band dipole is oriented for a north-south path and be on the air a half hour each side of sunrise or sunset. Then Listen, Listen, Listen. You will be surprised what you can hear AND work.

M&K:0194 1993 J. J. Slough, K4ZLE

¹ For those interested in a useful book on propagation, including a more detailed explanation of gray line propagation, I highly recommend *The Shortwave Propagation Handbook* by George Jacobs, W3ASK, and Theodore J. Cohen, N4XX, CQ Publishing, Inc.

² *The ARRL Antenna Book*, ed. Gerald Hall, K1TD, 16th edition, (Newington: The American Radio Relay League, 1991), pp. 2-16

³ PacketCluster is a trademark of Pavillion Software, Marlborough, MA

Interview with JY5IB—Nart

I worked Nart, JY5IB on 40M and he agreed to answer some questions for me. He can be contacted at nart.tahamouga@gmail.com .

Hi Bill

I got interested in amateur radio in 1976 during my study in Romania (Electronics and telecommunication).

I don't have a favorite band , it depends on the condition or propagation. Nowadays I prefer FT8 for my mode.

I am a retired and all days are the same, so I keep the same operating routine .

There aren't any secrets to working DX, I think the passion of the hobby and my study, is the key. Study as much as you can .

Currently my working condition : Icom IC-781 Transceiver , IC-4KL Linear Amplifier, Hexbeam Antenna 10 - 20 m Band, Inverted V Antenna for 40, 80 m Band .

Breaking a pileup depends who you are trying to QSO. I have a friend, JY4CI; he always

listens to weak stations. If you encounter a different operator I think you have to use more power .

As I said previously, study. These days all the information you need is available on the net .

If you were to come here, Jordan has so many interesting places to visit. For example, The Dead Sea, Petra, Roman ruins in the city of Jerash and many other places .

If we were to eat, beside Hummus and Falafel , you can try Mansaf and Kunafa for desert.

If you have any other questions I am very glad to answer .

VY 73 Nart JY5IB



The Magic of 160M

Lee Barrett—K7NM/VP2MLB

West Point, UT DN31xr

In addition to being an excellent operator and a club member, Lee has also been an avid supporter of SWODXA and the DXDinner. You can check out Lee in action at his stations via <https://www.youtube.com/embed/yx5Amzjdt8Q?rel=0>

Thanks to Lee for this submission!

Like a lot of hams, I've always lived on a lot the size of a postage stamp. Now is no exception. The thought of 160m operations had been illusive for my 55 years in the hobby. On my last DXPedition to VP2M in December 2018, 160m operations became as focused as a laser. Four of us decided to go to Monserrat (my third trip) and try our hands at the ARRL 160m CW Contest. You must understand, NONE of us are "dyed-in-the-wool" contesters – just four "geezers" who wanted a ham holiday away from the snow and gloom of Utah for 10 days. However, we did spend nearly six months in the planning stages.

We purchased a full size 160m dipole for use in transmitting. At the Gingerbread Hill location (see Gingerbreadhill.com) – the Lea family is more than ham friendly. There is a motorized 60-foot crank-up tower installed next to the rear of the villa and accessible from the roof. We, however, elected to go with all wire antennas rather than a Yagi for upper bands because of the time it takes to assemble them. We rather be operating. We hung our 160m dipole center balun at the top of the tower. The Gingerbread Hill villa looks over the western



ocean from about 800 feet above the shoreline. A great height advantage for this band.

We used DX Engineering Beverage Antenna boxes along with a pre-amp and a feedline choke (built from a presentation by Tim Duffy, K3LR, given at Visalia in 2018). The Beverage was made from 300 Ohm TV twin-lead and measured 700 feet long. It was terminated for the US direction. All of it worked perfectly! We had an S6-S7 noise floor on the dipole and an S1-S2 noise floor on the Beverage which was laying on the ground most of the way along it. We had to put a "goat choke" in about half-way along the Beverage – there was a goat chained to a stake within nibbling distance of the antenna. We had to angle the antenna 10 degrees away from the goat and then back 10 degrees once past. This did not seem to affect the results. We were working pre-contest stations in Arizona at 4 pm Arizona time with good signal reports along with similar reports from other western states.

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The Magic of 160M (cont.)

We broke the contest up into 3 hour shifts with 1 hour of overlap on each end so the next operator could take over without being “cold” as to operation conditions when sitting down. This worked well. We also found that we could hold a frequency for several hours. There were the usual LIDs too deaf to hear us so we did move a couple of times. But, in general, our signal was apparently pretty strong. We had two of our group who were relatively new to CW but learned quickly to hold their own. We used a K3/KPA500 combination at 500W.

We were totally stunned to learn that we won the Multi-operator, Single Transmitter, High Power, DX Class category for the contest! Equally crazy was that my Elmer from 1966 (Larry Comden - K3VX) led a group to Bermuda who won the Multi-operator, Single Transmitter, Low Power, DX Class for the contest! I was bit by the 160m bug!!!

After returning home, I looked at my sad trapped 160m dipole which had only served as a “noise collector” for the 25 years at my current QTH. It had a bandwidth of 5kHz on a good day. Something had to be done.

The time sequestered in my home hiding from the threats of Covid 19 allowed for some time to ponder the postage stamp. That sprouted an idea. Though my lot is small, it backs up to a parking lot for a church. There is a perimeter fence around the parking lot. My tower is back against the fence. What if.....???

I pulled the yardarm off the tower that supported the pulley holding up the old 160m

trapped dipole and turned it so it protruded to the West of the tower instead of toward my lot to the East. I went 130’ to each side of the tower in my yard and asked the neighbors if they would mind a wire with a rope tied to it being tied to the fence top behind their houses. They all agreed it was “no problem”.

Ah-ha – I could now put up a full sized inverted-vee on the back side of my tower along the church parking lot fence line. This will be a snap, I thought. I bought stranded antenna wire, insulators and rope on-line along with insulators and a 50 Ohm – 50 Ohm balun especially wound for lower frequencies (e.g. 160m). On a nice day, I had my YF helped me roll out the lengths and put the insulators and balun together. Glenn Dixon (AC7ZN) and his grandson Chris Thompson (KA7ADN) came the next Saturday and up the antenna went. Initially, it was resonant at 1.7MHz. No sweat – just cut a few feet of and we will be there. After doing so, a sweep of the SWR showed the best I could get was 1.7! The bandwidth of this full-sized dipole was almost as bad as the old 160m trapped antenna at about 10kHz! Something didn’t smell right.

I took out the balun and checked it. Overall, it was not as good as hoped for – but over the 160m frequencies, it was not the problem. A “Cobra-head” was purchased (no balun feed for a dipole) and installed. There was basically no difference. This was very puzzling. Next, the stranded antenna wire was replaced with #14 sold wire from Lowes.

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The Magic of 160M (cont.)

Remarkably, the SWR and bandwidth improved – but only slightly to around 1:6 and approximately 15kHz.

The following weekend, I prepared a “Test Setup”. First, using my AA-30 RX bridge, I measured the electrical length of a 50’ length of pre-made RG-8x I had. Remember, the wavelength in coax is “shorter” than in free space because the speed of the wave gets bogged down traveling through the coax insulation material. One must know what the actual electrical length is of the coax – not its measured length.

Second, I measured out another dipole to 136 feet per leg – longer than the 160m length – so it would resonate below the 160m band. These legs were hooked to the Cobra Head along with the RG-8x and the antenna was raised with the help of my oldest grandson, Connor (no call – “yet”). By this time, I had purchased a NovaVNA and we used that device measure the SWR, Resistance (R) and Reactance (X) across the 160m band. We started with the full length. Then we successively cut off eight (8) foot lengths – three times – and repeating the measurements. We ended up with four sets of data points.

The third task was to dust-off the Smith Chart usage methods and “rotate the R and X values” measured at the coax feed point to what the R and X values were at the Cobra Head using the electrical length of the RG-8x. Once the feed impedance of the wires at the Cobra Head were known, a regression was done

through both the R and then the X points - both versus antenna length.

The lights came on! Normally an inverted-vee feed point impedance (at the center) is around 75 Ohms – **BUT ONLY** if the center point is around a quarter-wavelength above the ground. For 160m, that would be 125 feet to the center above the ground. My 50 foot tower does not begin to approach that. As the center feed point is lowered, the center point impedance also drops. From my graphs, it was obvious that my feed point impedance was in the neighborhood of 28 Ohms when the X value went to zero (0) – better known as resonance. Glenn also modeled the antenna in EZNEC and came up with the impedance.

The last step was to purchase a 25 Ohm – 50 Ohm balun and install it on the antenna. At last! The SWR at resonance dropped to 1.2. The bandwidth is from 1.8MHz – 1.87MHz without a tuner and easily tuned for the rest of the band with a tuner. It is also amazingly quiet with a noise floor generally around S6 – sometimes lower. However, the next project is to get my receiving loop running for comparison.

The second night around 11 pm local time running 200 watts of FT8, I was called by a ZL2 and easily worked him. Subsequent to that I have worked a 5T5, several Europeans and last week an E51 - all on FT8. The E51 gave me a received signal of +2dbm!

(continued on next page)

The Magic of 160M (cont.)

In addition, I worked a number of hours of the ARRL 160m CW contest in December 2020. Everything I could hear (even in the weeds) I could work within a couple of calls.

Lessons learned:

1. The operation just above the AM broadcast band is a fun challenge and achieving an effective antenna is not simple.
2. If your dipole (or inverted vee) is below $\frac{1}{4}$ wave high at the center feed point, check for a low impedance feed or you will lose 2:1 (or less) SWR bandwidth.
3. There are off-the-shelf 25 Ohm to 50 Ohm baluns that remedy this issue.

Who knew that 160m could be this much fun????

QSO Today Virtual Ham Expo

Tickets are now available to attend the QSO Today Virtual Ham Expo sponsored by the QSO Today Podcast, FlexRadio, Icon and Elecraft. Information can be found at <https://www.qsotodayhamexpo.com/> There are several hams from our area who will be speaking and you can watch the presentations live, ask questions of the presenters, and well as visit the booths of many vendors. The dates are March 13th and 14th. Also, you will be able to access many of the presentations until April 12th.



SouthWest Ohio DX Association (SWODXA)

Club Fact Sheet

Who We Are: *SWODXA* is comprised of active DX'ers and contesters with a deep passion for all aspects of Amateur Radio. We welcome everyone who is interested in joining our club to please contact us. *SWODXA* members are active in all facets of DX and Contesting. We also travel to, and fund various DXpeditions all over the world. *SWODXA* sponsors the annual DX Dinner held on the Friday evening of Hamvention weekend in Dayton, Ohio. In addition, *SWODXA* members moderate the Hamvention DX Forum. *SWODXA* is proud sponsor of the prestigious *DXpedition of the Year Award*.

DX Donation Policy: The policy supports major DXpeditions that meet our requirements for financial sponsorship. Details are available on the website at: <https://www.swodxa.org/dxgrant-application/> and elsewhere in this newsletter

Club History: The Southwest Ohio DX Association (SWODXA) is one of the country's premier amateur radio clubs. Though loosely formed in mid-1977, the club had its first formal organizational meeting in August of 1981 where Frank Schwob, W8OK (sk), was elected our first President. While organized primarily as a DX club, SWODXA members are active in all aspects of our hobby.

Requirements for Membership: We welcome all hams who have an interest in DXing. It doesn't matter whether you're a newcomer, or an old-timer to DXing; everyone is welcome!

Visit <http://swodxa.org/member.htm>

Meetings: The club meets on the second Thursday or each month alternating locations between at Marions Piazza on Kingsridge Dr. in Dayton, OH or Marions Piazza in West Chester. (Check the website) Members gather early in the private room for dinner and then a short business agenda at 6:30 PM, followed by a program. If you enjoy a night out on the town with friends, you'll enjoy this get together. Meeting attendance is NOT a requirement for membership.

Club Officers: Four presiding officers and the past president (or past VP) make up the Board of Directors. The current roster of officers are: President Tom Inglin, NR8Z; Vice President Kevin Jones, W8KJ; Secretary Mindi Jones, KC8CKW, and Treasurer Mike Suhar, W8RKO.

Website: We maintain websites at www.swodxa.org and www.swodxaevents.org managed by Bill, AJ8B. These sites provide information about a variety of subjects related to the club and DXing.

SouthWest Ohio DX Association (SWODXA)

DX Donation Policy

The mission of SWODXA is to support DXing and major DXpeditions by providing funding. A funding request from the organizers of a planned DXpedition should be directed to the DX committee by filling out an online funding request.

(<https://www.swodxa.org/dx-grant-application/>)

The DX Grant committee will determine how well the DXpedition plans meet key considerations (see below). If the DX Grant committee recommends supporting the DXpedition in question, a recommended funding amount is determined based on the criteria below. The chairman of the committee will make a recommendation at the general meeting on the donation.

Factors Affecting a DXpedition Funding Request Approval

DXpedition destination	Website with logos of club sponsors
Ranking on the Clublog Most Wanted Survey	QSLs with logos of club sponsors
Online logs and pilot stations	Logistics and transportation costs
Number of operators and their credentials	Number of stations on the air
LoTW log submissions	Bands, modes and duration of operation

H40GC	H44GC	ZL9HR	XX9D	HK0NA	FT4TA
KH1/KH7Z	EP2A	FT5ZM	C21GC	VK9WA	NH8S
K4M	CY9C	VK9MA	PT0S	FT4JA	YJ0X
6O6O	VP6D	TO4E	XR0ZR	VP8STI	SP8SGI
W1AW/KH8	K1N	3D2C	VK0EK	S21ZBB	E30FB
ST0RY	TI9/3Z9DX	VK9MT	K5P	9U4M	TX3X
VU7AB	3Y0Z	3C0L	TX7EU	CE0Z	3C1L
TI9A	3D2CR	3B7A	K9W	VU7RI	6O7O
C21WW	CE0Z	T30GC	T30L	D68CCC	