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A Sweep from the Shore — NP4DX and CW Sweepstakes

I was still smarting from paying off my 2009 dinner bet with Sean, KX9X, when he started thinking up more Sweepstakes adventures. This time, though, instead of head-to-head competition, he was thinking of a collaborative effort from one of Sweepstakes' rarer sections. As the ARRL contest manager, he sits in the catbird seat and watches for sections not making their way into enough logs.

As all fans of the annual broomfest know, there are several sought-after sections whose siren song sends shivers up sweepseeking spines! Of course, the shiver can also be in the spine of the sender during those November weekends. North Dakoty? Vermont? Manitoba? The Yukon? My imagination was heading along a disturbingly boreal bearing! As it turns out, I was calling on "wrong path" as he pointed out that tropical Puerto Rico was rara terra for the past couple of years. I rapidly warmed to that idea!

Since the end of the KE3Q@WP3R years, Puerto Rico had been playing hard to get, going from the top spot to the not spotted. Sean enjoys nothing more than handing out as many Clean Sweep mugs as he can, so could we imagine ourselves on the right end of those pileups? Not only was KP4 a crucial ingredient, but in 2011 two new low power spices had been added to the Sweepstakes recipe for the Unlimited and Multi-operator categories. The consensus was "Let's do it!"

Sean and I are both fans of portable operation, so we knew that if we could get the "right" location and the "right" gear we could have a lot of fun, satisfy some sweepseekers, and promote the new categories in a big way. Game on! Having answered the why and who questions, there remain three major components in pulling off a successful portable contest expedition: Where, what, and win!

The where of operating is the most important if you are serious about making a lot of QSOs and won't have a lot of time or resources to build a big station. We started by scrutinizing the map of Puerto Rico (see Figure 1). It's not a particularly big island, but it does have some serious topography. Being on the wrong side of the Cordillera Central would be a big mistake. We definitely wanted to be on the north side of the island and on the beach, if possible, since our antenna farm would be lightweight and temporary.

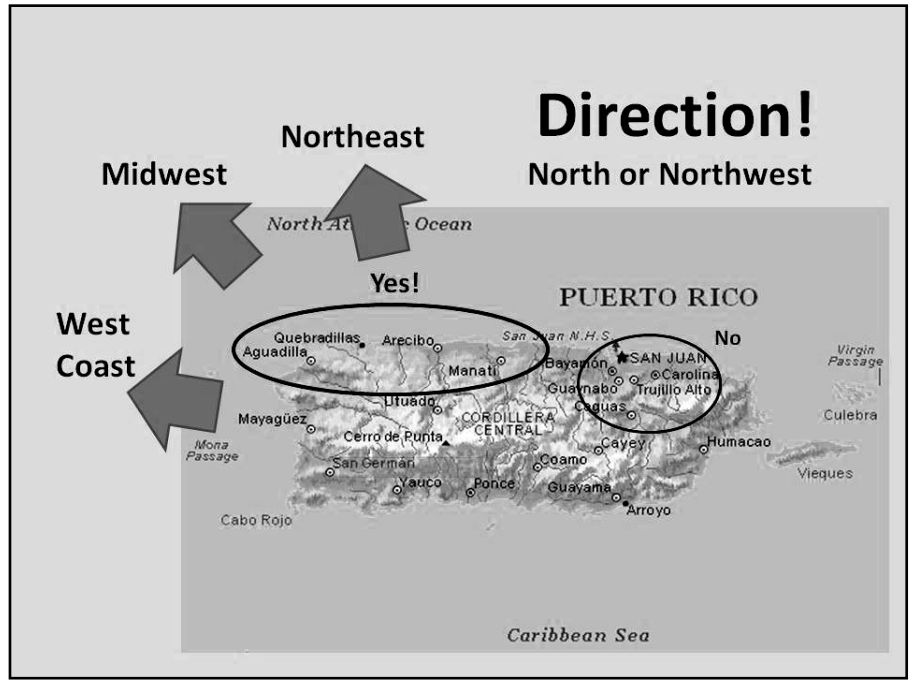

Figure 1 — Puerto Rico is a lot further east than you might think, 800 miles southeast of Florida, meaning a clear shot to the northwest is a requirement for Sweepstakes operation.

Two other potential disasters lurk in the form of noise and neighbors. In a temporary operation you don't have time for troubleshooting power lines, and you sure don't want to be negotiating RFI problems with unhappy fellow vacationers or local residents, upon whom you descend with a collection of strange equipment. This meant staying away from the most densely settled, urban and suburban San Juan. Go west, young men! Thus we focused on the northwest shores.

Right off the bat, we decided against hotels — too many other people, dealing with management, access issues, RFI potential. Condos were better but still offered loads of opportunities for trouble. Luckily, the solution was found by mining the many offerings of Vacation Rentals by Owner (VRBO), **www.vrbo.com**. You can find everything from high-rise apartments to beachfront bungalows on VRBO. We

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Figure 2 — Our place was right on the beach, with flat ground for verticals and coconut palm trees for holding up dipoles.

located what looked to be a ham's dream, just east of Arecibo in the hamlet of Islote. The rental was a small house with an acre of coconut-palmed yard and a private beach right on the ocean! It didn't take long for us to reserve it for the first weekend in November.

Getting there was the least of our difficulties. There are lots of flights to San Juan International. Sean even took a direct flight from Hartford, Connecticut, while I booked a bank shot off of Houston. The rental was about an hour's drive west of San Juan, although there is a small airport near Arecibo. Negotiating the island's highways is easy, even for someone who's Spanish is pretty much limited to "Do you speak English?" Nevertheless, the extra cost of the GPS unit was a great investment.

With the where taken care of, it was time for the what. Multioperator is a little easier with low power than high, but it's still nontrivial. Each of us was bringing a separate station: IC-7000 or IC-706, AT-7000 autotuner, power supply, laptop with radio interface, paddle and keyer, and headphones. Sean brought a pair of ICE 419 switchable band-pass filters. We'd switch those ourselves without a PC interface. To prevent "samultimeous signals," the plan was to use N1MM's network lock-out feature and coordinate any hand sending manually.

For antennas, I was bringing my recently acquired Bravo 7 portable vertical dipole, another design from the creative mind of N6BT (www.n6bt.com). A review of this antenna appears in March 2012 *QST*. Sean assembled three dipoles to slope from the previously mentioned coconut palms. We used RG-8X coax for all antennas.

All this stuff was to go in our single checked bags. While Sean went the suitcase route, I chose a hard-sided golf bag, a carry-on Pelican case for the radios, and my laptop bag. The airlines are pretty fussy about size and weight limits, so I didn't want to incur extra baggage fees or charges for odd-sized stuff. Luckily, a 50 pound golf bag is on the list of things that count as a checked bag; whether or not they are full of golf clubs doesn't seem to be an issue. Since mine contained 48.2 pounds of antennas and coax and radio junk, that was a good thing.

Another benefit of going south is that you don't need to pack much clothing, which also makes good padding. I hung around the X-ray machine in case eyebrows were raised, but nobody said a peep and off I went. Next stop – KP4!

When we got to the house we were not disappointed one bit. Tata the housekeeper showed us around, tossed us the keys and we were on our own. As you can see in Figure 2, looking toward the US and Japan, the beachfront billing was accurate. The Bravo 7 sat about 5 feet above the ocean and maybe 10 feet from the water's edge. Two of Sean's dipoles stretched from the top of a 50 foot palm to near the water. The 10 meter dipole was hung vertically over the waves, putting out a potent, low-angle signal!

The single, large bedroom had doors that opened directly on to the covered lanai, and, ignoring the view, we set up the radios on a card table. Note to self: Bring an inflatable chair cushion in anticipation of uncomfortable folding chairs next time! With the stations facing each other (Figure 3) it was easy to coordinate operating, share comments, torment the other operator — all the important multioperator functions. Coax was simply run out the door and across the close-clipped grass. We had to keep the doors closed because of the surf's volume and constant chirping of the coqui frogs. Sounds tough, huh?

Table 1 — QSO totals

Before the Contest (30, 17 and 12 meters)

Band	*QSOs*
12	278
17	225
30	105

Sweepstakes Breakdown

Band	*QSOs*
10	190
15	374
20	453
40	146

Before the contest we spent most of our time on 30, 17 and 12 meters, as KP4 is quite rare on those bands, particularly on CW. Anytime a band was open, we could get a pileup going. The JA operators were eager to work the Caribbean on 12 meters over quite a lengthy path. Table 1 shows the QSO totals before and during the contest. Sean also brought a handheld Arrow dual-band Yagi and made 15 contacts on AO-27

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Figure 3 — Both stations fit on a card table with operators facing each other. The antennas were right outside. Our mascot, Jarvis the Alligator, kept us under strict supervision during the contest.

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Figure 4 — When it was time for the run operator to stand, by we coordinated transmissions by using the N1MM software lockout, assisted by the highly sophisticated PYAS system (Pointing, Yelling, and Swearing).

during a couple of passes.

Note that we completely omitted 80 meters, since Sweepstakes is a work-them-once contest. This would not have been an option for a DX contest. The Bravo can be tuned on 80 meters, and I plan to experiment with adding loading wires to it for 80 and 160, but not on this trip.

During Sweepstakes we planned on running, running, running and then some more running. KP4 veteran Chip, K7JA, basically said, "Get on 15 meters and stay there!" and that was the strategy going in. As you can see from the table, 20 meters turned out to be a little better for whatever reason, but 15 was a money band for us. Ten meters was a little down from the exceptional conditions of mid-October, but bursts of action padded the totals. Once 20 got weak to the West Coast, 40 meters picked right up, and we operated until about 2 AM local time before taking almost all of our off time.

With one operator running, the other spent time looking for unworked stations and multipliers. The house had WiFi, so we kept an eye out for juicy spots and those last few sections. When search turned to pounce, it was time for the operators to turn a radio pas de deux (not to be confused with a how de deux) while keeping the run frequency occupied and busy. This was accomplished as shown in Figure 4, illustrating the well-known PYAS method of transmit coordination. (Pointing, Yelling, and Swearing) Seriously, talking to each other and some simple hand signals (no, not that one) kept things in control and preserved our single-signal status.

The high bands weren't as good as we expected on Sunday morning, leaving us wishing we'd operated longer on 40 meters, but we'll know better next time. Note to self: Study propagation a little harder before the next trip. In addition, although our final total of 1163 QSOs and 181,000 points and a sweep was pretty good, we didn't have the sustained audience we'd experienced while on the wrong side of KP4 pileups. Obviously, we didn't have the big WP3R station perched on a hilltop, so there are limits to what low power can accomplish!

When the dust had settled and the log deadline had passed, we were thrilled to be in the top spot for our category by a wide margin. Mission accomplished! While Puerto Rico was still pretty rare in the list of most-needed sections all of the rarer places (ND, NE, MB, NL, and NT) were a lot colder, too! (Our last section was VE4, as it was for a lot of other stations.)

This adventure would have been a lot harder if we hadn't had some help. When we hatched the plan, Dan, K1TO; Dave, KM3T, and Bob K4UEE put us in touch with helpful local hams Eladio, WP3MW, and Rafael, KP4WW, who were very gracious. We also appreciate the generosity of the Atlantic Contest Club and its trustee Alfredo, WP3C, for the use of the excellent club call sign, NP4DX. Angel, WP3R, gave us a great tour of the radio telescope as described in the sidebar. ¡Muchas gracias to all of you, amigos!

This was a lot of fun. Going somewhere for Sweepstakes is an expedition within reach (and a day's drive) of many hams. It doesn't cost a fortune, and you can be on the right side of the pileups for a change. All you have to do is look through the online scores, and the lightlypopulated sections are obvious. Now's the time to start planning for 2012. Practice sending "portable," and we'll see you in the pileups!

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Visiting the Big Dish

How could hams go to Arecibo, Puerto Rico, and not visit the world-famous Arecibo Observatory? It's a short drive up into the cordillera on an excitingly winding mountain road and our host Angel, WP3R gave us a marvelous ham special tour behind the scenes and under the dish itself! You may recognize several scenes from the movie *Contact*, and the facility has had many famous visitors over the years.

The dish is occasionally put to use on the ham bands, as described in "Moonbounce from Arecibo Observatory" by K1JT, WP3R, and WA3FET in August 2010 *QST* story. Angel is the head of telescope operations and spectrum engineer, plus he is the trustee of the observatory's radio club, KP4AO. Several other hams work there, too. Nobel Prize winner Joe, K1JT, discovered the first binary pulsar at Arecibo with his partner, Russell Hulse, in 1974.

Figure 5 — Our fantastic tour host Angel, WP3R, is the "go-to guy" at the Arecibo Observatory, with a career of 37 years at the facility. His terrific hilltop station for terrestrial contacts is located just outside the observatory.

We were fascinated by the scale of the dish and all the mechanics and electronics associated with it; at 1000 feet across (305 m), it is the largest radio telescope ever constructed. The giant feed structure weighs 900 tons, and the housing for the electronics alone is as big as a four-story building! The aluminum-mesh dish is spherical (it took nearly two years of aligning individual support cables to configure it to shape), so the beam can be steered across the sky by moving and rotating the feed structure. Combined with the observatory's low latitude and the tilt of Earth's axis, the result is surprisingly wide coverage of the sky. This is a good thing, because it's pretty hard to swivel that dish around!

A big "thank you" to Angel from both of us for taking time out of his schedule to show us around. Contact him via his **QRZ.com** Web page, and he encourages you to visit. Who knows? You might hear ET while you're there!