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Satisfy your competitive urges by participating in a hidden transmitter hunt. Read about last year's activities here, then plan for Foxhunting Weekend 2014.

## Results of the 2013 CQ World-Wide Foxhunting Weekend

BY JOE MOELL,\* KØOV

**“Y**ou’re cruel!” That’s what the cashier at a nature center gift shop in Oregon exclaimed some years ago as I approached her register. I started to ask what made her say that, but then I realized that she was staring at my T-shirt. It had a cartoonish picture of a bushy-tailed critter and the words “OH-KY-IN Foxhunter” on the front.

To this clerk and most of the general public, “foxhunting” brings to mind mounted horsemen, packs of dogs, and an ancient hunting sport that has been banned in Britain. I quickly explained to her that to ham radio operators, the meaning is quite different. To us, it’s a popular name for contests in radio direction finding (RDF). You may also hear it called “bunny hunting” or “T-hunting,” but it never places furry animals in danger. By any name, RDF contesting can be an exciting, intriguing, educational, and healthful ham radio activity.

Every spring, CQ encourages its readers to join together with other hams and would-be hams for a day or an evening of radio foxhunting. The many reports that I received of activities during the 2013 CQ World-Wide Foxhunting Weekend are good indications that hams at all levels of experience and technical ability can enjoy it.

There are two broad categories of radio foxhunting: mobile and on-foot. Some transmitter hunts include both. The term “foxhunting” to describe it probably started in northern Europe and Scandinavia, where the game began with 80-meter loops and portable receivers in the early 1950s. It spread

throughout that continent and became a regular activity among youth, particularly in former Soviet Union and Soviet satellite countries.

Before long, there were international contests using uniform rules developed by a committee of the International Amateur Radio Union. Those rules have been modified over the years to revise the age/gender categories, improve starting procedures, and so forth. This

on-foot sport is known worldwide as fox-tailing, radio-orienteering, and Amateur Radio Direction Finding (ARDF).

The aforementioned OH-KY-IN Amateur Radio Society has done regular foxhunting for many years, both mobile and all-on-foot. The club has twice been a sponsor of the USA Championships of ARDF. Some members have traveled to the ARDF World Championships. The club’s mobile T-



First-timer Richard Belansky, KG6UDD, learns about 2-meter on-foot RDF at the annual southern California “Antennas-In-The-Park” event on CQ WW Foxhunting Weekend 2013. (Photo by Joe Moell, KØOV)

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*The 80-meter band is excellent for foxhunting, especially for beginners. Equipment is small and easy to carry. Confusing signal reflections from buildings and hills don't exist on that band. Marvin Johnston, KE6HTS (left), is teaching Adam Houser, KK6AXY, how to use a Ukrainian 80-meter ARDF set at a practice session in Goleta, California. (Photo by KØOV)*

hunts take place on the second Saturday morning of the month when weather permits.

It has become an annual tradition for OH-KY-IN members to put on a Foxhunting Forum at the Dayton Hamvention®. In 2013, they staged an on-foot hunt at Sinclair Park on Hamvention® weekend with 26 low-powered transmitters that 18 convention-goers attempted to find. Matt Sanderson, KC9SEM, won the hunt, finding 19 of the transmitters in 50 minutes.

In southern California, Foxhunting Weekend is an opportunity to invite newcomers to join the active ARDF community. Most years, it is the weekend for "Antennas In The Park," an annual cookout and mini-Field Day hosted by the Fullerton Radio Club. The site is Tri-City Park, located in Placentia near three other cities: Fullerton, Brea, and Yorba Linda.

As usual, on-foot hidden-transmitter hunting was the most popular activity at AITP-2013. As one group of hams tried out QRP HF stations, others set out to find nine radio foxes around the lake. Three of them were just for the newcomers, all within 100 yards of the picnic area. Once a hunter mastered the technique by finding these 2-meter boxes, he or she was ready to try a short five-fox course with international-standards timing.



*Amateur television was added to this year's Ski Country ARC transmitter hunt. They call it FoxCam. Here it shows Pete Buckley, NØECT, trying to find the fox. (Photo by Bob Cutter, K1ØG)*

ARDF on 80 meters is still a novelty to most hams, so one 80-meter fox was in the park to be found. There was plenty of RDF gear for both bands to loan to those who didn't have their own.

On the same day, another introductory ARDF session took place 90 miles to the south at Kit Carson Park in Escondido. It was staged by Joe Coronas, N6SZO, and Joe Loughlin, KE6PHB. After an exhausting week of setting out transmitters at the 2012 USA ARDF Championships at Mt. Laguna, the two Joes realized that the ARDF bug had bitten hard. They have been putting on occasional events in San Diego County parks ever since.

There is some sort of transmitter hunt almost every month in the Milwaukee area, promoted and documented by Paul Gruettner, WB9ODQ. Paul likes on-foot hunts in parks, so there are several opportunities to get exercise that way throughout the year. He is a good runner and has competed at the USA ARDF Championships, so that may explain why he attracted the attention of authorities during the hunt last November.

That day, Bernie Gratz, WA9BFH, and Alan Neitzel, N9DFE, set out four transmitters in Greenfield Park, transmitting for 15 seconds at a time in sequence on a 2-meter simplex frequency. Distance from the parking lot starting point to each one by the shortest route was 1.8 miles. Paul managed to take second place out of five starters, even though he had a major interruption.

"After finding #2, I took off running in the direction of #1," Paul wrote. "I noticed a Greenfield Police squad car coming down the bike path in my direction. I tried to ignore it and just keep running. Then I heard a voice over the car's loudspeaker telling me to stop running and come over. For a few seconds, I debated running off into the woods where the squad car could not follow. After all, I'm sure they would understand



*Bruce Hayden, NI1X, was in his car with "Sly the Fox" for the Whitman and South Shore Foxhunting Weekend event. Beside the car is Roy Logan, KB1CYV, who was first to find him. (Photo courtesy Bruce Hayden, NI1X)*

that finding the transmitter was more important than any questions they might have.

"With the arrival of a second squad car, I decided that wouldn't be a good idea," Paul continued, "so I stopped and went to talk with them. After a few minutes of explaining what a foxhunt is (I probably should have said transmitter hunt rather than fox hunt) and convincing them that I was not running away from them, I was finally released to continue hunting."

Paul and the other regular Milwaukee foxhunters sponsored a Foxhunt Clinic at the Amateur Electronic Supply (AES) Superfest in his hometown last April. There was information on equipment for RDF as well as some equipment and practice transmitters for hands-on learning on the AES property.

Almost every year, I receive a report from the Ski Country Amateur Radio Club in Glenwood Springs, Colorado. The club has an annual picnic and foxhunt which was hosted in 2013 by Pat Fitzgerald, KVØK. There were 25 hunters who participated in four on-foot hunts. As always, Bob Cutter, KIØG, gave the hunts an unusual twist. In 2012 it was a tiny transmitter in a tennis ball. In 2013, Bob brought out Fox Cam, a fast-scan TV system that sent scenes of the foxhunt back to the picnic area.

## Do It in Your Vehicle

If physical exercise isn't your thing, try

RDF contesting in your car, truck, or van. After more than a half-century, mobile "T-hunting" is still the most popular form of radio foxhunting in the USA. To win such a hunt, a vehicular team must locate one or more radio foxes before the others, or do it with least mileage added to the odometer. The winning criterion depends on the local hunt rules and so does the reward. The best team usually wins the job of transmitting next time.

It's not hard to mount a VHF Yagi or quad so you can turn it to get bearings as you drive along. You'll have a great time and you'll be learning a skill that could prove to be valuable when it's time to find interference on your favorite repeater or simplex frequency.

Over the years, the Long Island Mobile Amateur Radio Club (LIMARC) hunters have gotten lots of experience, so they welcome new challenges. On May 10, Lou Giudice, NY2H, announced that his transmitter would be within three and a half miles of the Bagatelle Road exit of Route 495. According to the hunt report by Joe Bizzaro, WJ2B, "Lou placed it in a metal storage container with the door cracked open slightly to allow RF to escape. It was in the back parking lot of an abandoned bakery outlet store. RDF readings were very confusing due to the shielding from the container and the overhead electric wires in the area."

For the Foxhunting Weekend event of the West Texas Repeater As-

sociation (WTRA), Doug Garcia, AE5HE, assembled a Kenwood mobile transceiver, a PicCon<sup>1</sup> transmitter controller, batteries, and a cooling fan into a surplus ammunition box. Martin Raue, WB5LJO, and Paul Launspach, N5FAZ, put the ammo can and a vertical dipole antenna on a chain-link fence that surrounded a vacant lot and waited for the hunters. Winner was Ed Wood, KD5MFS.

Mileage-scored hunts are favored by hams in western Michigan. Their foxhunting season got off to a late start in July with a hunt put on by Sheila Bosscher, K8AJ, better known as The Vixen (which, of course, is a female fox). In his writeup for Michigan Foxhunters,<sup>2</sup> Tom Bosscher, K8TB, wrote, "There are those who are really good at foxhunting, and then there are those who are fun to watch while they are foxhunting."

"Starting at 9 AM," Tom continued, "The Vixen went on the air from an undisclosed location. Thirty minutes later in a direct road drive, Laryn Lohman, K8TVZ, exhibited his RF nose. He tracked The Vixen to a restaurant in downtown Vriesland. She was in the air-conditioned building while her car with the foxbox was parked just outside. There was a sign on her driver's door window: 'Winner, winner, chicken dinner!' Indeed, Laryn got a free breakfast. Where else does a fox belong, but in a hen house named Chick'n Lick'n?"

"Mike Hill, W8DER, and I showed up to join Sheila and then we watched a show that should have been televised. Two foxhunters were parked across the street. For 30 very amusing minutes, they could not locate anything. Finally, with 15 seconds to spare on the 2-hour time limit, they walked into the restaurant."

Also from the Wolverine State, I heard from the Lowell Amateur Radio Club in Lowell, Michigan for the first time last year. Their beginner-level event announced for June 8 had a mobile hunt followed by an on-foot hunt.

## Ham versus Ham

When you're the hider for a mobile T-hunt, nothing is more satisfying than seeing a hunt team approach within 100 feet, stop to check their RDF gear, then turn around and drive away. That's when you know that your signal has fooled them, and it's just what happened for Bruce Hayden, NI1X, when he put his transmitter behind a dirt pile in Middleboro, Massachusetts. This was a combined foxhunt for the Whitman Amateur Radio Club and the South Shore Foxhunters on March 20, 2013.

The dirt pile was at the end of a dead-end street that comes right up to I-495. Bruce's transmitter came on for just 60 seconds every 5 minutes. Perhaps it was off when the team of Roy Logan, KB1CYV, and Larry Kenney, W1LJK, approached the dirt pile and drove off, but after checking out a nearby industrial park, they circled back and spotted NI1X to win the hunt by being first to find him out of five teams.

The Chicago FM Club<sup>3</sup> documents a mobile T-hunt almost every weekend in the Windy City. For Foxhunting Weekend 2013, Marty Squillac, KB9SMR (now K9LTE), and his friend Bill were the huntmasters. Marty wrote, "We selected the back lot of the VFW post in Naperville, Illinois. This is the organization that sponsors our Boy Scout Troop and we decided to set up shop in the Scout trailer. I had a cubical quad pointed 180 degrees away from the start point, since it was only 6.7 miles line-of-sight.

"I think reflections drove the hunters in circles until they were right on top of us," Marty continued. "Even though we had a bull's-eye posted at the parking lot entrance, no one actually entered there. They all came in from the rear of the lot, along the river. About 40 minutes into the hunt we heard the van of Mike Brost, WA9FTS, come to a squealing stop just outside the trailer. But it was the team of John Williams, WD9EXW, and Tom Geletka, N9CBA, that was first to knock on the trailer door."

CQ's Foxhunting Weekend is truly worldwide. The date usually falls very close to the Victorian ARDF Championships in Australia, where the foxhunters are as eager and intrepid as anywhere in the world. In 2013, as in recent years, the Victorian Championships featured four mobile hunts and one all-on-foot hunt in a single day and evening, with up to five transmitters to find in each hunt. Hunters needed RDF for the 80-meter, 10-meter, 6-meter, 2-meter, 70-centimeter, and 23-centimeter bands to find them all. The high intensity of Aussie mobile foxhunting is hard to describe, but you can see it for yourself in a new video<sup>4</sup> that was made for broadcast on Norwegian television.

Just a month after the 2013 Victorian Championships was another weekend of foxhunts down under, this time at Mt. Gambier in South Australia. For one of the 70-centimeter band hunts, the transmitter was in a balloon launched by Mark Jessop, VK5QI. Hunters didn't know it was in a balloon when they started out and the balloon was not intended to go to high altitude. It followed the winds southeast toward the hunt starting point and landed about 38 kilometers away. In a video animation made from their GPS tracks,<sup>5</sup> you can see the hunters driving toward it, then backtracking as it flew over them.

In other overseas foxhunting news, I received an e-mail from Peter Holthusen, DK5BD, who wrote about high-tech mobile transmitter hunts in Bremerhaven and nearby cities in northern Germany. Instead of just putting "fox" transmitters on the air and having the "hounds" race to find them, the huntmaster sets out five 2-meter transmitters within an area of 6 × 10 kilometers, first transmitting for 2 minutes each in rotating sequence, then later for 1 minute each in sequence for a total transmission time of 15 minutes. Hunters carefully mark their bearings to each on their topographical maps.

A break of about an hour follows to allow each hunter to find a second bearing-taking location of his or her own choosing. Then the transmission sequence repeats as hunters triangulate and make their best estimates of the locations of the transmitters. As they turn in copies of their marked maps at a designated checkpoint, three of the transmitters come back on the air and the hunters must go to them.

Without their carefully taken bearings and triangulations, it would be impossible to locate the three transmitters, because



Marty Squillac, KB9SMR (now N9LTE), transmitted from a Boy Scout trailer during the Foxhunting Weekend event of the Chicago Foxhunters. (Photo courtesy Mike Brost, WA9FTS)

they are now transmitting continuously on a single frequency. They effectively jam one another, except in close proximity to each one. Final scoring is done by a point system which takes into account the number of transmitters found and the accuracy of the marked maps.

The need for very accurate bearings and triangulation encourages these foxhunters to seek the highest accuracy and precision in their RDF setups. Peter is proud of his motorized long Yagi and bearing-plotting software. Read more about it at the "Mobilfuchsjagden in Norddeutschland" website.<sup>6</sup> It's in German, but it includes two videos that are quite self-explanatory.

### T-Hunters Working Together

Some hams decide to take up RDF because they have to find a source of interference. When the interference is already on the air, that's not the time to be building equipment and learning how to use it. The RACES group in Orange County, California wants members to have RDF gear and be experienced in using it before interference starts. OC-RACES also wants its members to know how to save time finding signal sources by working together.

A few months ago, OC-RACES members began holding cooperative transmitter hunts once a month. One member begins transmitting through the repeater immediately after the weekly net. The mobile T-hunters set out to find the fox while communicating with one another on the group's 70-cm repeater. Besides exchanging their bearings and locations, they encourage non-hunters to give bearings and strength reports from their homes.

After all hunters have arrived at the fox's location, they set out for a nearby restaurant to exchange stories and pointers. It's easy to tell that they are becoming better hunters, because the hunts get shorter every month.

Another place to find a cooperative foxhunt is the area around Hartford, Connecticut, where it's a tradition for Paul Gibson, N1TUP, and his wife Ginny to hide a transmitter on New Year's Day. Unlike the OC-RACES hunt where the hunters can start anywhere, these Connecticut hunters all gather in one place and wait for a signal on the input of a 2-meter repeater.

N1TUP writes, "I encourage communication between participants and any base stations that can supply helpful information to the hunters. Once you have spotted the fox, you should stop all transmissions. Pay attention; if someone says they are going to check an area and you never hear from them again, that might be a clue."

An automated foxbox is another good way for new foxhunters to gain experience. In Adelaide, Australia, you can hunt the "Travelling Radio Fox" of Mark Jessop, VK5QI,<sup>7</sup> who is studying for his Ph.D. in electronic engineering there. It runs about 100 milliwatts on the 70-cm band. In its first month, it was found and relocated 33 times.

"My hope is that we can keep this up for a few months," Mark writes. "Someone places the fox, and the next person to find it charges the batteries and moves it on. I've set a few ground-rules, the main one being that the fox must be placed in a location such that it can be received from the Adelaide plains area."

In recent years, similar unattended foxes on 2 meters have helped grow the foxhunting population in the metro areas of Los Angeles (GeoHunt) and San Francisco (RoboFox).

## Make Plans for 2014

Mobile or on-foot, attended or unattended, a radio foxhunt will definitely stir up activity in your ham club. It's time to start planning for this year's CQ World-Wide Foxhunting Weekend, which will be May 10–11.

CQ doesn't impose any rules or offer any awards for its World-Wide Foxhunting Weekend. It's all up to you and the hams in your hometown. For many clubs, Foxhunting Weekend kicks off a season of regular transmitter hunts. For others, it's a special once-a-year event, like Field Day. Since the primary objective is lots of hunt participation, we don't insist that your event be on that weekend. Any time in the spring is fine with us!

Some hams prefer formal transmitter hunts with carefully crafted boundaries, specifications for signal parameters, time limits, and so forth. Others are completely content by just having at least one signal to hunt. No need for any more regulations, they say.

Make your Foxhunting Weekend activities into a magnet for every club member. Better yet, include the whole community, especially young people. Invite a Scout troop to experience on-foot transmitter tracking or to ride along with the mobile hunters. Look for opportunities to incorporate foxhunting into Scout activities such as Camporees, Scout-O-



*Peter Holthusen, DK5BD, uses a computer for plotting bearings from this motorized Yagi during mobile foxhunts in northern Germany. (Photo courtesy DK5BD)*

Ramas, and Jamboree-On-The-Air. Seek out other youth groups that might be interested.

Whatever your club's RDF contesting style, be sure to keep safety in mind. Don't put transmitters where someone might be injured getting to them. Make sure that all transmitting and receiving antennas are eye-safe. Always be mindful of your own physical limitations and never take chances behind the wheel.

Afterwards, write up the results and send them to me. The list of information in a complete CQ Foxhunting Weekend report is posted in my website.<sup>8</sup> Besides the details of date, location, hiders, and winners, CQ's readers also want to know what was unique about your hunt and what lessons (positive and negative) you learned from it. Don't forget to include some sharp action photos. The higher the resolution, the better. I look forward to receiving your reports.

## Notes

1. <http://www.byonics.com/piccon/>
2. <http://www.michiganfoxhunter.com>
3. <http://www.chicagofmclub.org/foxhunts/chicagolandfoxhunts.html>
4. <http://www.youtube.com/watch?v=kPpWuFUIY2s>
5. <http://www.youtube.com/watch?v=IJnpUvikUac>
6. <http://www.mobilfuchsjagd.de>
7. <http://rfthead.net/?p=496>
8. <http://www.homingin.com>