

In the woods or on the streets, fun and adventure with radio direction finding (RDF) awaits you. Medals, too! Try it during CQ's World-Wide Foxhunting Weekend.

Announcing:

The Thirteenth Annual CQ WW Foxhunting Weekend

May 22–23, 2010

plus

Results of the 2009 CQ WW Foxhunting Weekend

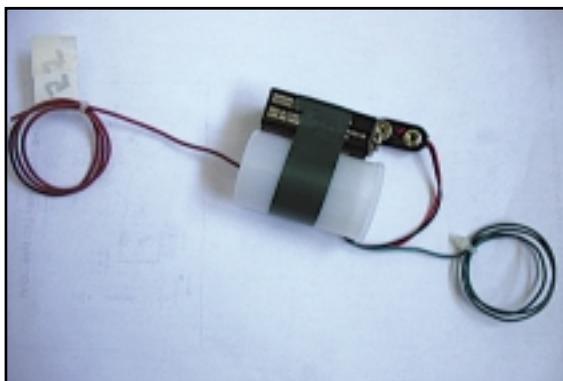
BY JOE MOELL,* KØOV

“Hear ye, hear ye! Announcing the next transmitter hunt! At 7 PM, a signal from an unknown location will emanate on 145.53 for 30 seconds every 5 minutes. Your job, if you think you can handle it, is to find the source of that ether-filling RF.”

That was the challenge made by Sheila and Tom Bosscher, K8AJ and K8TB, to members of the Holland Amateur Radio Club of Michigan. Their tongue-in-cheek announcement continued, “You do not have to be a member of the club to participate. However, if you are not and you find the fox first, you have to buy everyone a late dinner!”

HARC is just one of the many ham radio organizations that have discovered the fun of tracking down radio transmitters for sport. They call it many names, including “T-hunting” and “bunny hunting” for vehicular hunts. “Radio-orienteeing” and “ARDF” (for Amateur Radio Direction Finding) are monikers for formal all-on-foot events. However, “foxhunting” has become the generic term that describes it all, even though no furry animals are harmed in the process.

Hidden transmitter hunting has gained so much popularity in recent years that CQ magazine has added it to



This tiny fox transmitter provided a day of fun for the Ski Country Amateur Radio Club. (Photo submitted by Bob Cutter, K1ØG)

the contests that it promotes. The first time was back in 1998 and the obvious choice for a name was the National Foxhunting Weekend. Now it's the annual CQ World-Wide Foxhunting Weekend, renamed because reports come in from all over the globe. This year, it will be May 22–23.

As always, the 2009 Foxhunting Weekend announcement brought a big batch of reports about hams having fun. Hunt rules were determined locally, so few events were alike. Most were on 2 meters, where almost every ham has receiving equipment. A directional antenna and an RF attenuation system are all that it takes to join in. Both are easy to build or inexpensive to buy.

A Real Fox Sighting

What is it like to participate in a mobile transmitter hunt? Read the following

report from the Xerox Amateur Radio Club to get an idea:

The 13th annual Xerox Spring Foxhunt was Saturday morning May 9 to dovetail with the CQ Foxhunting Weekend. Eleven intrepid hunters gathered at Wegman's Cafe in Webster, New York for sign-in at 9 AM. They didn't know that we (Fred Miller, WO2P, and Judy Stonehill, N2KXS) had placed two foxes in Ellison Park Wetlands Center, approximately 2 miles from the meeting location.

The park is 1.5 miles long, very narrow, and runs along the eastern bank of the backwaters of Irondequoit Creek. It has a very well marked north entrance and a concealed south entrance. A number of hiking and nature trails meander through the park, along the creek's edge and up into the hills. The very steep cliff faces, carved out by glacier action and the flow of the creek for a hundred centuries, very effectively reflect 2-meter fox signals and provide false bearings.

The first fox, running 1 watt, was on a hill overlooking the park entrance. It was intend-

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Neil Robin, WA7NBF, of Port Angeles, Washington hosted an international fox-hunt which included a transmitter that was controlled by the hunters themselves. He is on the left in this photo, taken at the 2-meter starting line of the 2007 USA ARDF Championships near South Lake Tahoe, California. To the right are Scott Moore, KF6IKO, of Santa Barbara, California and Emily DeYoung, K4MLE of Alexandria, Kentucky. (Photo by Joe Moell, K0OV)

Announcing: 2010 CQ WW Foxhunting Weekend May 22–23

CQ *Amateur Radio* magazine has designated May 22–23 as the 2010 CQ World-Wide Foxhunting Weekend and is encouraging all hams and radio clubs to hold hidden transmitter hunts. Since the primary objective is more hunt participation, we don't insist that your event be on that weekend. Any time in the spring is fine with us!

CQ doesn't impose any rules or offer any awards for the 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.

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

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 at my website: <www.homingin.com>. 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.

73, Joe Moell, K0OV
Foxhunt Weekend Moderator

ed to be straightforward to locate, but proved to be quite elusive. Signal bounces kept most of the teams busy for an hour or more. A note attached to the first fox told the hunters that it had been for practice and instructed them to change frequency to find a second fox, which was at the south end of the park. The trail system would have taken the hunters to the area, but it would have taken a good bit of time. Some of the hunters walked south while other teams went back to their vehicles to get a good bearing and decide whether to drive.

Reflected signals near fox #2 also proved to be a challenge, so only one of the five teams found it. The hunt was extended 20 minutes past the planned ending time of noon to allow the closest team (Brian Donovan, K2AS, and Greg Donovan) to locate the fox and be the clear winner. The post-hunt lunch and awards ceremony was at a restaurant just west of the park entrance. The day's hunting experiences and past hunt stories were eagerly exchanged and good humor and laughter prevailed.

As we walked the path to place the south transmitter early on the morning of the hunt, we came across a very young fox pup playing on the path in front of us! Surprised to see each other, we briefly made eye contact before he jumped off the path into the bushes. When I made a quiet squeaking sound, his curiosity got the best of him and he stepped back into the path. A second pup also showed himself. From a hole in the cliff face, the mama fox briefly appeared to check us out. It occurred to us that we must have



It was yet another well-concealed transmitter for the Gallatin Ham Radio Club foxhunt in Bozeman, Montana in April 2009. Cyrus Smith, NU7Q, has just pulled the foxbox out of a pile of wood chips. The beautiful aluminum Yagi with flexible element tips was designed by Harley Leach, K1TXF. (Photo by AB5CK)



Tom Lewis, AB5CK, buried his hidden transmitter in the snow for an early May transmitter hunt in Bozeman, Montana. Apparently he didn't run much power, because the snow didn't melt and give away the secret. (Photo by Tom Lewis, AB5CK)



Chuck Kemmer, AC7QN of Fox Island, Washington looks for fox #7 at the RAC transmitter hunt. Notice the handle on the measuring-tape beam, which is just right for horizontally polarized signals but not for vertical ones. Google satellite maps mounted on cardboard were given to each hunter. (Photo submitted by KR7W)

picked an excellent hiding spot if it was good enough for a real fox!

Another good example of mobile T-hunting is the Portage County Amateur Radio Service in Ohio, which held hunts on the first, third, and fifth Wednesday of each month last summer, beginning at 7 PM from a church in Silver Lake. Beginners with simple equipment were especially welcome. Club members with no RDF gear were encouraged to ride along with competing teams. Rather than declare an ending time in advance, Portage County hams kept their hunts going until all teams had found the fox.

In case you doubt that the CQ WW Foxhunting Weekend is truly worldwide, just surf the web to the North-East Radio Group site in Australia¹ and read about the Victorian Foxhunting Championships last May. It was a "fair dinkum" event with foxes to find on the 160-, 80-, 10-, 6-, 2-, and ³/₄-meter bands. Imagine the directional antennas for all those frequencies on each hunt vehicle! The organizers served a hearty lunch, a sumptuous supper, and a tea time in between.

Vehicle-Free Foxhunting

In the Victorian championships, the hunting teams start off in vehicles. When they get close to a fox, all of the team members except the driver jump out of the vehicle and take off on foot to close in with portable RDF sets. Mobile hunts with on-foot "sniffing" at the end are popular here in the states, too, but no-vehicle transmitter tracking is gaining in popularity. In 2009, there were more all-on-foot events than ever, ranging from simple to very challenging.

The Ski Country Amateur Radio Club of Colorado held its second Foxhunting Weekend event as part of a picnic at the home of Pat Fitzgerald, KVØK, in Glenwood Springs. Bob Cutter, KIØG placed a miniature transmitter in a small animal burrow (not a fox's den, he says) and 20 attendees headed out to find it. Chris Fortensky, KCØOCV got to it first, but the "under 16 age scoring factor" gave the prize, a tape-measure antenna, to 14-year-old Liam Kelly, KDØHDF.

There was still some snow in early May in Bozeman, Montana, where Tom Lewis, AB5CK, was fox hider for the Gallatin Ham Radio Club. He put his little rig in a baggie and buried it in shallow drifts in a local park. That's living dangerously, because the transmitter could have gotten soaked or even stepped on! The mud that he put on top of the snow to mark the location looked a lot like

something a dog had left. That was enough to keep anyone from tramping on his rig.

Two weeks later was the official Bozeman Foxhunting Weekend event, with four hidden transmitters to find on foot in a park. "The newer hunters were assisted by those with more experience," AB5CK wrote. "One of the hunters was quite successful with body shielding and a hand-held radio with no directional antenna. We do not keep score because just finding the cleverly hidden transmitters is more than enough fun."

It's a yearly tradition for foxhunters from Port Angeles, Washington and elsewhere in the northwest to get together with their friends from across the Strait of Juan de Fuca in Victoria, BC Canada for a day in the woods. The 2009 event was hosted by Neil Robin, WA7NBF, with three 2-meter transmitters to find. One was unusual because it was controlled by the hunters themselves, all of whom were licensed hams. They could demand a brief fox transmission by sending it a DTMF tone.

WA7NBF figured that the hunters would try to make it hard on one another by bringing up the fox only when they were at an ideal location for a bearing or triangulation. However, it turned out that this fox was commanded on almost continuously during the first 15 minutes. Everyone enjoyed the hunt and the food, agreeing that it was definitely worth the early morning ferry ride.

Neil doesn't do any running when he hunts radio foxes, but his RDF skill was good enough to win a prize at the annual Radio Amateurs of Tacoma event. The site was Fort Steilacoom Park in Lakewood, Washington. Hosts were Alan Ferguson, N7OMS, Chuck Kemmer, AC7QN, and Rich Patrick, KR7W. The park encompasses 340 acres with a large lake in the middle.

There were eight foxes, but only #8 counted for the prize. It was intended to be especially difficult because its antenna was a four-element Yagi aimed toward a large chain-link baseball diamond backstop. The starting point was in the side null of the antenna, but Neil told everyone it was pretty easy for him.

Top Foxhunters Gather near Boston

The annual USA Championships of Amateur Radio Direction Finding bring together the best on-foot foxhunters from all over the states, plus visiting competitors from around the world. Our 2009 national championships took

place at Blue Hills Reservation, a 2000-acre site south of Boston. The organizer was Vadim Afonkin, KB1RLI, who learned ARDF as a youth in his native Russia. It would be hard to find a state-side ham who is more knowledgeable and skilled in the sport.

The roster of competitors included representatives from Australia, Canada, Germany, Japan, Russia, Sweden, United Kingdom and Ukraine. Among the starters were eight Massachusetts residents, none of whom had participated in a large-scale ARDF event before. Five of them were members of the New England Orienteering Club (NEOC). Their experience with map-and-compass navigation gave them a good start in the sport. Beginning in March, Vadim helped them achieve RDF skills by putting on practices and "dry runs."

KB1RLI's world-class 2-meter and 80-meter courses were about 3.5 miles point-to-point from start to each of the five transmitters in optimum order and then to the finish. Actual routes of the competitors were considerably greater than that, of course.

At every USA championships, there is friendly rivalry between the OH-KY-IN (Ohio, Kentucky, and Indiana) group in the Cincinnati area and the foxtailers from California to see who will get the most medals. In 2009, the battle almost ended in a draw with one of each color medal won by each group. For California, Bob Cooley, KF6VSE, took gold in M60 category on 80 meters and bronze on 2 meters. Jay Hennigan, WB6RDV, got silver in M50 on 80 meters. For the Cincinnati group, Dick Arnett, WB4SUV, captured gold in M60 on 2 meters, Matthew Robbins, AA9YH, picked up silver in M40 on 2 meters and Bob Frey, WA6EZV, took home bronze in M60 on 80 meters.

However, there was a new team member from OH-KY-IN. Addison Bosley of Erlanger, Kentucky is the grandson of Dick Arnett. At age 11, he was the youngest competitor present. Addison earned gold medals in the M19 category on both bands. Congratulations!

The USA ARDF Championships led to a resurgence of all kinds of foxhunting activity in the Bay State. On-foot hunts now take place about once a month when the weather is warm. Many of the newcomers are training for this year's USA championships in Ohio² and for possible positions of ARDF Team USA 2010 at the World ARDF Championships in Croatia.³

Interest in mobile T-hunting has picked up near Boston, too. The Minuteman Repeater Association (MMRA),



Larry Jacobs, WA7ZBO, always comes up with a unique transmitter hunt for ham-fests in Utah. In April 2009, he placed 26 Styrofoam™ containers on the lawn, with little transmitters in five of them. Participants had to determine which containers had transmitters in them without touching any of them. (Photo by Larry Jacobs, WA7ZBO)

which was famous for its regular hunts a decade ago, has started them again under the leadership of Bob Evans, N1BE. In July, MMRA joined forces with the Quannapowitt Radio Association for a joint mobile hunt on the MMRA repeater in Weston. Nearly twenty hunters found N1BE at the Concord Field Station of Harvard University within two and a half hours of his first transmission.

Larry Jacobs WA7ZBO, is one of the most creative transmitter hiders in the USA. Remember his "smoked fox" idea in last year's report? This year, he tried something completely different for the Utah State ham convention. "I knew there wouldn't be many attendees bringing their own RDF gear," he wrote, "so I came up with a hunt in which hand-holds by themselves would suffice.

"I took 26 Styrofoam™ containers and marked them A through Z on the outside," Larry continued. "Five of them had little transmitters inside, squawking on different 2-meter frequencies. The other 21 were weighed down with bottles of water inside. Without opening any, hunters had a maximum of 30 minutes to turn in a card with the right letters next to the frequencies. The first to finish with the right answers would win. Charles Johnson, WA7JOS, turned in a perfect card in 12 minutes."

Help Your Fellow Hams

Lest you think that ham radio foxhunting is only about fun (as if that weren't enough reason to do it), you should keep in mind that foxhunters are also learning skills that could be of great service to other hams and to the public. It's far easier to find interference sources after a few practice hunts. Just ask the members of the Genesis Amateur Radio Society (GARS) in the Cape Cod area. According to a report of Eastern

Massachusetts Section activities on the ARRL website, an interfering signal locked up the GARS repeater for three days last July. Club members traced the signal to the intersection of Routes 28 and 58 in Wareham, but could not make further progress.

Then Bruce Hayden, N11X, of the South Shore Foxhunters volunteered the members of his T-hunting group to try to find the QRM after their next Saturday morning hunt. They quickly traced it to one unit of a mobile-home park. The homeowner was contacted and soon the interference disappeared. Afterwards, he told the hunters that some visiting children must have pushed down the transmit lock bar on his desk mic.

A more difficult interference case confronted the experienced T-hunters of southern California last April. Hams in central and northern Orange County began hearing conversations on 146.025 MHz, the output of K6SOA/R, which is owned by the South Orange Amateur Radio Association (SOARA). The transmissions were clearly for business and appeared to be related to construction work. SOARA has regular hidden transmitter hunts, so some members were already equipped to go into action to find the source. Strong signals were reported in the cities of Orange and Costa Mesa. However, the strength and direction of bearings were not the same from one day to the next.

Next came reports of strong signals in the cities of Anaheim and Yorba Linda. The search wasn't simple because the activity wasn't daily, and it was sporadic on the days when it occurred. From the sometimes-salty conversations, T-hunters concluded that they were listening to the hand-talkies of a concrete supplier at various job sites.

Two weeks after Foxhunting Weekend, one hunter hit pay dirt at a construction site in the city of Yorba Linda. Photos and recordings were sent to the FCC and within a week the interference was gone. The concrete supply firm had obtained its handie-talkies from a commercial two-way radio supplier, which had mistakenly programmed them to transmit and receive on 146.025 MHz instead of 156.025 MHz. With no frequency readout and with tone squelch operational in their receivers, the concrete workers could not hear the SOARA repeater and had no idea that they were using an amateur radio frequency.

Hunt Anytime

Some hams would like to get involved in foxhunting but aren't available on the days and times of the local hunts. Others aren't fans of the local hunt rules, wanting them to be either more stringent or more lenient. Newcomers may stay away because they don't have the self-confidence to compete against the local experts.

For these folks, a no-pressure hunt-anytime option is attractive. From time to time, Barry Fox, W1HFN, puts an unattended 50-milliwatt transmitter in a park or nature area in Massachusetts.⁴ It transmits a voice message and ID for 20 seconds every 3 minutes. Batteries last about 10 days, after which Barry picks it up and publishes the log of sign-ins.

In the next-door state of Connecticut, Dean Whitsett, N1SXL, deploys his small 2-meter transmitter in local parks during warm months.⁵ His foxbox is normally asleep but can be activated by a hunter's DTMF command, after which it sends a brief CW message every 5 minutes for the next hour and a half.

Even more sophisticated is the 50-milliwatt GeoTran by Bob Thornburg, WB6JPI. It sends a 15-second enticement in Bob's voice every 3 minutes, 24 hours a day. A 1.5-watt solar panel provides power, which is stored for cloudy days and nighttime in a 3-ampere-hour pack of Nickel-Cadmium batteries, the inexpensive type sold to radio-controlled car enthusiasts. The panel sits atop a copper-pipe J antenna. Transmitter and batteries are inside a rugged and weather-proof plastic case.

When WB6JPI first put GeoTran on the air, he didn't publish any hunt boundaries. All that anyone was told at first was to listen for an intermittent signal on 146.565 MHz, which is coordinated for transmitter hunting by the Two Meter Area Spectrum Management Association. It wasn't long before the first hunter announced he had found it, adding to the interest.

Bob puts on a fresh GeoTran hunt every few weeks. A commotion ensues on the GeoHunt Internet Forum⁶ as everyone tries to figure out where to hear it in southern California. After that, it's an individual effort as they mount their mobile RDF gear, track it down when they can, and sign in. Bob considers GeoHunt a success because it has brought out some new T-hunters and brought back a few who have not been on a regularly scheduled hunt for a long time.

I am eager to read your reports of 2010 foxhunting activities, both scheduled and hunt-when-you can. Happy hunting!

Notes

1. <http://www.nerg.asn.au/foxhunt/foxindex.htm>
2. <http://www.usardf2010.com>
3. <http://www.ardf2010.com>
4. Send e-mail to <foxbw@comcast.net> for current information
5. Send e-mail to <n1sxl56@yahoo.com> for current information
6. <http://www.thunter.org/geohunt/>