

Natural Radio

News, Comments and Letters About Natural Radio

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Dog Days & Whistlers The Dog Days of summer seem to have heated up whistler activity, with the magnetosphere being especially cooperative for the Summer Coordinated listening weekend. I recorded some great two-hop diffuse whistlers on the morning of July 24. I went out to my usual forest preserve location that opens at 8am hoping to hear some chorus, but was treated to some loud 2-hop whistlers against an almost continuous background of sferics. Looking at the maps, the nearest thunderstorms were in Kentucky and South Dakota, both at least 300 miles away. They must have been quite intense because some of the crashes were blanking my receiver even with the 60-inch whip. I would typically hear a loud whistler 2 or 3 seconds after each of these loudest sferics. During peaks, I was probably hearing 7 or 8 per minute, and I'm sure I missed many more due to the heavy thunderstorm activity.

My homework prior to the Coordinated Listening Weekend paid off. I discovered a park near the Wisconsin border that opens at 6am, and is only about a 45-minute drive north. Chain O' Lakes State Park is surrounded by lakes, so fortunately the power grid was routed well away on higher ground. AC for lighting and park offices is underground so the hum on my receiver is low to non-existent.

Saturday morning had steady whistlers until about 10 am local time. As was the case earlier in the week, I would hear a loud sferic and then the whistler. There was occasionally a little chorus in the background but not much. The whistlers were diffuse and of weak to moderate strength. On Sunday, there was less activity with very weak whistlers occasionally audible on some of the loudest sferics. I'll probably try a camping trip here in the fall.

Sean Korgan had excellent results on August 29th. (See correspondence) I wasn't hearing the chorus and discrete emissions that he heard, nor was the whistler activity as strong. It's possible that the heavy sferics here in the Midwest masked some of this activity. Mike Mideke missed the weekend due to car problems.

I took an early morning ride up to the park today, August 18, knowing that a geomagnetic storm that was in progress. Again, I was hoping to record some chorus that is often the result of geomagnetic disturbances; but instead of chorus, against the background of sferics, were some strange whistlers. Some started with risers, and others seemed to start with a pure tone and then get very diffuse. Unfortunately, they were weak and the sferics were loud, but I did catch a few decent ones on tape.

Progress on CD Project New member George McCormick and I were swapping stories back and forth by E-mail this past month and reminisced a bit about the *Carl & Jerry* series that appeared in *Popular Electronics* between 1954 and the late 60's. These stories, written by John T. Frye, W9EGV, were the inspiration that got many of us, growing up in the 50's and 60's, interested in electronics. They also gave us encouragement when our peers looked us at as eggheads. After thinking about it a bit, a story about Carl & Jerry building a whistler receiver is probably what started my interest in Natural Radio. That original spark stayed alive and was re-ignited twenty-five years later when I joined the LWCA. A search

for *Carl & Jerry* on the Internet brought up a few stories of other people who had had their interest in electronics fired by those stories. Now how does this relate to our CD project?

By its nature, Natural Radio listening requires that one go out into nature. You can't do it sitting at home or in front of the TV. That, I think, is a point of attraction – it engages us with nature as well as science. I read a story this week that somewhat shocked me.

The Tucson, Arizona-based International Dark-Sky Association conducted a field study program, designed to acquaint students with stargazing. Elizabeth Alvarez of that organization related how a group of California students responded to the Dark-Sky field study program. "There were 58 respondents," she said. "Forty wrote back that until they did this they had never looked up at the stars before. The most tragic thing was that they ... were 16 and 17 year old students. Whether they're going to be poets or physicists, it doesn't matter. To have a generation growing up without seeing the stars would be tragic."

We live in a time when the scientific knowledge of our universe is exploding, yet the scientific knowledge of the average person is appalling. We decry our low test scores compared to other countries, but how do we entice young people into scientific fields?

Mike Mideke and I discussed the project a bit via E-Mail and Mike expanded my original concept to include stories from members about their Natural Radio exploits. What a great idea. And what better way to catch the interest of the next generation than to hear those with experience tell of their adventures and to also hear the struggles of new listeners to hear that first whistler. So if you have stories to share, record them and send them in, I'll edit out the pertinent excerpts and put them on the CD. Most cassette machines will make a decent recording, but if you're not sure how to do it, drop me a line and I'll send you a list of tips for getting a good recording.

Mike Mideke and Mike Thompson, KG4JYA have already sent in files for the CD, but we can always use more so please let me know if you have something to include. I envision a section of the CD where an example of each type of phenomenon is on a separate track to help new listeners identify what they are hearing.

Fall Equinox Coordinated Listening The Fall equinox is upon us and the coordinated listening weekends are September 15 & 16 and September 22 & 23.

As a minimum, please monitor and record, if possible, the first six minutes of the hour beginning at 6:00 AM local time. This should be very close to local sunrise. You are encouraged to monitor up to two hours before and three hours after local sunrise. If you are recording, begin each segment with an announcement of your name, date and location. Follow the announcement with a recording of WWV or CHU with their top-of-the-hour time announcement and marker tone. If you are not recording, it is important to keep an accurate log. The data will be most useful if it is timed accurately. Use WWV time signals and a stopwatch. (See this year's March issue of *The Lowdown* for detailed logging instructions.)

Natural Radio Log Natural Radio reports seem to have dropped off a bit lately -- maybe it's just the summer doldrums. We do appreciate your reports, and they are useful to try to figure out which solar and geomagnetic phenomenon relate to what sounds. It would save me large amounts of time if you would get the reports roughly in the form that we publish them in and convert your times to UTC. Also, give me the name of a town near your listening spot so I can figure out the grid square. Thanks.

Your Much Appreciated Correspondence

•**George McCormick AA1UM, Belchertown, MA (rock1time@juno.com)** I am a new member of the LWCA with a longstanding interest in ULF, but never had any equipment on until now. Due to the timing of my joining up, I didn't get the Lowdown in quite enough time to be ready for this weekend 's coordinated listening.... I missed it.... just barely. As soon as I saw your proposal, I pulled out a circuit that I had from a 1959 Popular Electronics that I had saved as a kid, and had been threatening to build all these years. Now seemed the time, but it took longer than I expected, and I wasn't operational (and not optimally at that!) until last night (July 30).

The rig is updated somewhat from its 1959 configuration, but is essentially still just a 2 stage, hi-gain audio amp fed by a fixed tuned loop, about 12 ft in circumference. The loop called for 200 turns of wire with a .02 cap across it, giving a claimed resonance of about 5 kHz. Unfortunately, I couldn't come up with enough wire in time to complete it, so it is currently configured with just 25% of the turns, and .1 mfd. across it.... not an effective situation. However, I did manage to hear numerous "tweaks", ranging in duration of 1/2 to 1/3 sec....these occurred during a listening period from about 11pm to local midnight (EDT) Sunday over Monday. Not a very glamorous report, but mainly wanted to let you know that another natural radio guy has joined the fold.... hope to contribute more, and better, stuff in the future... 73

•**Shawn Korgan, Gilcrest, Colorado (VLFKorgan@aol.com)** This is a quick report about this mornings' (July 29th) recording session for the LOWDOWN journal. I have to admit that I was not expecting to hear anything spectacular this morning. I have been out numerous times over the last several months only to be disappointed with the seeming lack of activity recently (compared to March & April). I was beginning to assume that only the months from November until April had any promise for really great activity. I was very surprised and amazed by the flood of activity I heard this morning. I believe the current electron event, which is bombarding our earth, may have had a part to play in bringing back to life the VLF band.

This morning (July 29th), there was some early morning activity (moderate strength whistlers, half a dozen of the more rare ricochet sounds and also continuous loud tweeking that was rather more of an annoyance with its loud ringing sound than anything). This activity peaked around 5:00 am local time (about 45 minutes before sunrise). There was a "morning surprise" awaiting me around 6:00 am. I refer to it as the "morning surprise" because I never know what strange sounds will greet me in the sunrise time slot. Each morning I hear something different. This morning I was greeted with fairly decent low frequency dawn chorus mixed with many breathy, wispy sounding discrete emissions. On several occasions, I could have sworn that someone was breathing in my receiver! There was another peak in activity with many nice sounding whistlers (some of them fairly loud) near 7:30 - 8:00 am (two hours after sunrise).

I've spent most of the day just reviewing the tapes of today's activity and I'm still amazed as I'm typing this email by what I heard this morning. The depth, detail and clarity were incredible. I'll make up a few .wav files, time permitting, and send them off to those that regularly receive them.

I hope that several other enthusiasts were out to capture some of the beautiful sounds of nature this morning. I look forward to comparing logs and notes with those who participated

in the Sunday morning session and to hear any reports on how the Saturday morning session went as well. Unfortunately, I was not able to participate in the Saturday morning session.

• **Michael Mideke, WB6EER, Magdalena, NM (mideke@gilanet.com)** Sorry to report I missed the whistler weekend. Had everything ready to pack into the Ford Explorer on Thursday afternoon when I decided to crawl underneath and take a look at stuff. Found the rear U-joint in a bad way. Cancelled my plans and called the mechanic instead. I'll get it fixed Monday morning....

Just read Shawn Korgan's report and feel sad that I missed a good session. Not half as sad as I would have been in the middle of nowhere with a busted U-joint though!

Natural Radio Log

Month Day	Time UTC	What Heard (whistlers/hour where applicable)	ID Grid Sq.
07/24	1330-1400	Heavy sferics and many 2-hop diffuse whistlers (8/min)	MK-EN52
07/28	1200-1206	Strong to weak 2-hop diffuse whistlers (1/min)	MK-EN52
-	1300-1306	Strong to weak 2-hop diffuse whistlers (2/min)	MK-EN52
-	1400-1406	Strong to weak 2-hop diffuse whistlers (2-3 /min)	MK-EN52
-	1500-1506	Whistler activity tapering off	MK-EN52
07/29	1100-1106	Heavy tweeking	SK-DM79
-	1200-1206	Heavy Sferics	MK-EN52
-	1200-1206	Chorus & discrete emissions	SK-DM79
-	1300-1306	Heavy Sferics and weak diffuse whistlers	MK-EN52
-	1400-1406	Whistler activity tapering off	MK-EN52
-	1400-1406	Many whistlers	SK-DM79
07/30	0300-0400	Sferics & Tweeks	GM-FN32
08/17	2045-2100	Very Heavy Sferics Kp=6	MK-EN52
08/18	1230-1300	Sferics and strange weak whistlers, some with risers	MK-EN52
-	1315-1330	Sferics and strange weak whistlers, some with risers	MK-EN52

GM - George McCormick AA1UM, Belchertown, MA Equipment – 4 ft. loop with homebrew receiver. (FN32)

MK - Mark Karney, N9JWF, Barrington, IL. Equipment - WR-3, LF Engineering loop, homebrew receiver with 60” whip and -24db/octave hi-pass active filter, 350 Hz. cutoff. (EN52)

MM - Michael Mideke, Benson, WB6EER , Magdalena, NM (mideke@gilanet.com) Equipment - Twin loop receiver, G.W. Forgey Mark III receiver. Marantz PMD 430 cassette recorder, and Sony DAT recorder. (DN42)

SK - Shawn Korgan, Gilcrest, CO. Equipment - Homemade e-field receiver I refer to as the SK-1 with 8 ft. whip. (DM79)