NVARC
Nashoba Valley
Amateur Radio Club

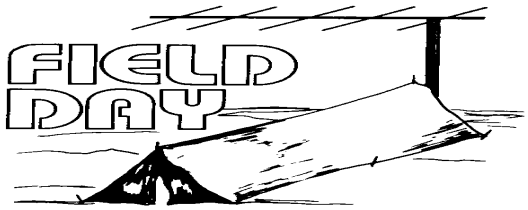
SIGNAL

SPECIAL SERVICE CLUB
ARRL

June 1998 Volume 7 Number 6

This Month's Meeting

This month's meeting will revolve around Field Day. A number of members have been preparing for the event constructing antennas and working on the logging equipment, etc. I hope everyone is giving some thought to what they are going to do so that this years Field Day can be as successful and as much fun as last years. Many hands make it a lot easier.



For the meeting we will be doing a brief presentation on the CT logging program we will be using for Field Day. We will have the networked computers that we will be using for everyone to try out the systems. We should also have copies of the CT Primer that Bruce K1BG wrote.

Last Month's Meeting

Last month our speaker was Terry Stader KA8SCP who is Communications/RACES Officer for MEMA Area 1. Terry will talked about emergency communications as it related to the ARES/RACES/SKYWARN organizations in Massachusetts.

We had a mini fox hunt on the Town Field prior to the meeting and the following people (in no particular order) took part in the hunt. Karen KA1JVU, Bob W1XP, Bob K1QT, Ralph KD1SM, William K1WD. Everyone found the foxes lair prior to the meeting. After the meeting the fox was opened up and put on display for everyone to see its inner workings.

Field Day is coming upon us quickly so Craig announced the activities that were now underway preparing for it. He also said he will be looking for help to make this year another great one for NVARC

Public Service

NVARC members took place in a number of public service activities in the past month.

The NVARC road crew took to the highways on May 24th for our second cleanup of the 1998 season. Thanks to Earl WR1Y, Herm KE1EC, Ralph KD1SM, Den KD2S, and Stan KD1LE for helping out. We are planning to do the cleanup the weekend after the club meeting (in the Summer after it would have been) to make it easier. The typical cleanup with eight people takes a little over an hour to complete.

One May 31st NVARC provided communications support to the Parker School Road Races at Devens. Thanks to the following members who participated; Don N1HVA, Bob K1QT, Karen KA1JVU, Bob W1XP, Ralph KD1SM, Joseph N1QDZ, Bill NZ1D, Stan KD1LE, Tom WA1RHP, and Bob N1DVC/BM (bicycle mobile).

In July the Longsjo Bike Race takes place and the Red Cross has asked for help with communications. The races take place in Fitchburg, Princeton and Westminster. Anyone interested should contact Ralph KD1SM.

NVARC FoxBox

At the last meeting we had a hunt and showed off the new FoxBox. For the Summer and Fall we will be putting the Fox out on a Friday through Monday Schedule for anyone who wants to hunt.

The FoxBox transmits on a frequency of 145.63 with a PL of 146.2 for thirty five seconds then takes a five minute rest. Besides the voice ID it generates a CW transmission with the number of transmissions it has made, Its internal temperature in degrees, and its battery voltage under load in milivolts. The CW sequence is; NNN X NNN F

NNNN V but the numbers may be shorter as it drops leading zeros.

We welcome all hunters and only ask that if you find it you sign in on the 'log' and don't tell anyone where it is/was until we bring it in. Since people will be hunting on different schedules we wouldn't want to take away anyone's fun.

Congratulations to the hunters that found the fox the first weekend the FoxBox was out. It was within ½ mile of the center of Groton. Although many hunters were looking for it only the following four were able to find the exact spot.

16 May KD1SM/N1QIT
17 May N1ZOX/N1NUS

The second weekend 23-24 May the fox was found by KB1FJ, W1XP, KA1JVU, N1NOM, N1ZCB, N1NUS, N1ZOX. By the way the last four calls listed are from the MMRA group that Ralph, Stan, and Wolfgang often hunt with.

The third weekend was a tough one as the fox was only transmitting with a power of 14 mw due to an equipment problem. No one was able to find it although several hunters were able to find places from which it could be heard.

The fourth weekend, June 6-7 many hunters were heard in the area. Barry W1HFN and KD1SM found the fox on the 6th. Half a dozen others were heard in the area on the Saturday and Sunday though no one else logged in.

If someone would like to try hunting but doesn't know how to get started or doesn't have any equipment give us a call and we'd be glad to help.

Ralph KD1SM/Stan KD1LE

National Weather Service

May 30th the National Weather Service (NWS) had an open house in Taunton. NWS put on many presentations such as ones on; Hurricanes, Tornado's and other severe weather. There were tours of the facility and demonstrations showing the types of data they receive and their computer facilities. There were weather balloon launches. There were also booths and equipment on display from USGS, FEMA, and MEMA to name a few. There were displays by various weather related organizations such a amateur weather forecasters and as well as displays by amateur radio operators on SKYWARN and RACES.

KD1LE and KD1SM made the trek down to check out the activities. If you have never been to NWS it's worth the trip. They usually have an open house each year in the late Spring or early Summer.

Stan

From The ARRL Letter

ARRL ASKS FCC TO DENY LMCC 70 CM GRAB

The ARRL has asked the FCC to immediately dismiss efforts by the Land Mobile Communications Council to gain primary access to 420 to 430 MHz and 440 to 450 MHz as well as other UHF allocations. The LMCC recently petitioned the FCC to reallocate the two 70-cm segments from the federal government to the Private Mobile Radio Service. Amateur Radio enjoys the use of 420 to 450 MHz on a secondary basis. In comments filed on RM-9267, the League said the LMCC proposed the switch; "without establishing technical compatibility between PMRS operation and incumbent radio services in any of the bands sought";

The League said that existing federal government use of the spectrum precludes PMRS operation at 420 to 450 MHz. According to the ARRL, the petition fails to demonstrate any basis to withdraw the two band segments from federal use, nor any compatibility between PMRS operation and either federal government or amateur use. In addition, the League said, the petition fails to justify displacing established amateur operations. The League pointed out that the amateur community uses the band for public service and public safety functions and that hams have "substantial personal investment" in equipment that's in regular use there. The ARRL urged the Commission to throw out this portion of the LMCC petition "without further consideration."

The League backed up its arguments by citing documents from the National Telecommunications and Information Administration (NTIA), which manages federal spectrum. "NTIA has made it quite clear that there is no possibility of additional sharing of the 420-450 MHz band, and the unique relationship between Federal radiolocation uses and the Amateur Service cannot be duplicated by PMRS" the ARRL said.

The ARRL said that the LMCC petition was premature because it did not take adequate account of the benefits of spectrum refarming already initiated. The League suggested that PMRS users adopt available spectrum-efficient technologies to maximize their use of existing allocations before seeking additional spectrum at the expense of other users. The League also said that PMRS users should look into using the Commercial Mobile Radio Service (CMRS).

A copy of the League's comments is available at http://www.arrl.org/news/bandthreat/RM-9267/arrl-cmt.html

MORE LMCC DEVELOPMENTS: SUPPORT FROM APCO; AAA ADMONISHED

The Association of Public Safety Communications Officials-International (APCO)--an LMCC member—has come down on the side of Amateur Radio to oppose reallocating 420 to 430 and 440 to 450 MHz from the federal government to the Private Mobile Radio Service (PMRS). APCO said it otherwise supports the rest of the LMCC petition, which sought additional spectrum elsewhere.

In comments filed with the FCC June 1, APCO cited "a long history of cooperation between public safety agencies and the amateur radio community, especially in coordinating disaster relief and other emergency efforts." APCO said ham radio "often provides the most effective and reliable on-scene and wide-area communications" after an emergency or disaster. Adding users to the spectrum would make it less useful for Amateur Radio, APCO said.

Meanwhile, in a letter to another LMCC member, the American Automobile Association (AAA), ARRL Executive Vice President David Sumner, K1ZZ, took Triple-A to task for misinforming its membership on the issue. Sumner said letters from AAA to ARRL members who wrote about the LMCC petition mischaracterized the role of the Spectrum Planning and Policy Advisory Committee (SPAC), of which Sumner is a member, and the positions of the SPAC and NTIA. The AAA's letters to members said that SPAC, cooperating with NTIA, worked up a plan that included changes to government spectrum that is shared by amateurs. Not so, Sumner told the AAA's Gary Ruark. "I can tell you that at no time during my service on the committee has SPAC made recommendations or developed a plan such as you describe," he wrote. "Neither has the NTIA endorsed a reallocation of frequencies in the 420-450 MHz range" as the AAA had said. The Secretary of Commerce appointed Sumner to SPAC in 1994.

Sumner insisted that the AAA "correct the impression that your letter has left on those to whom it has been sent." An AAA member since 1974, Sumner said he joins those who have asked the AAA to disassociate itself from the portion of the LMCC petition affecting 420 to 450 MHz.

FCC NIXES EDAP TECHNOMED WAIVER REQUEST

The FCC has turned down a waiver request from EDAP Technomed Inc to operate its Prostatron medical device at 1.296 GHz at emission levels that exceed Part 18 of the Commission's rules. The Prostatron is used to treat benign hyperplasia of the prostate.

The FCC said that while it's "sensitive to the need to facilitate the availability of medical equipment and reduce costs," it decided to turn down the waiver "because of the threat of interference to aviation and Amateur Radio services." The 1.24 to 1.3 GHz band is allocated to the federal radiolocation service on a primary basis and is used for air traffic control radars. Ham radio is a secondary user.

EDAP got the NTIA (which administers federal spectrum) to agree to the waiver approach, if EDAP coordinated each installation with the FAA and got the agency's approval. But the FAA now seems to have squelched that approach. It submitted comments to the FCC last month opposing the waiver.

In a May 22 letter to EDAP, the FCC's Richard M. Smith called EDAP's arguments "unpersuasive" that there would be little risk of interference to hams. Smith, who's chief of the FCC's Office of Engineering and Technology, said EDAP had only addressed moonbounce communication and had not responded to concerns about interference to amateur propagation beacons and calling frequencies.

The FCC said the Prostatron can comply with the FCC's rules "when installed with proper shielding." Smith's letter advised that no rules waiver is necessary to install and operate the device in a shielded environment. But, Smith emphasized, "EDAP is responsible for ensuring that the equip-

ment it markets and installs complies with the existing rules."

MANY COMMENT ON LMCC PETITION

Hundreds of formal comments have been filed in the wake of the Land Mobile Communications Council's rulemaking petition (RM-9267) seeking primary access to 420 to 430 MHz and 440 to 450 MHz for the Private Mobile Radio Service (PMRS) at the expense of the federal government. The petition also seeks other UHF spectrum. It's now expected that the FCC will extend the comment deadline on the LMCC petition.

Among formal commenters, those weighing in on the side of Amateur Radio—at least in terms of preserving the current secondary (shared) allocation on 70 cm for ham use—included the ARRL (see "ARRL asks FCC to deny LMCC 70 cm grab," The ARRL Letter , Vol 17, No. 23); the National Telecommunications and Information Administration (NTIA), which manages federal spectrum; the Quarter Century Wireless Association (QCWA); the Amateur Television Network; the Sarpy County, Nebraska, Emergency Management Agency; the Washtenaw County, Michigan, Emergency Management Division; the DiPaolo Timber Corporation; AMSAT-NA, and the Association of Public-Safety Communications Officials-International (APCO). All cited the public service benefit derived from volunteer Amateur Radio operations in the event of emergencies and disasters.

Washtenaw County Director of Emergency Management Marc Breckenridge called 440 to 450 MHz "a priceless resource to emergency management organizations" and said its reallocation would not be in the public interest. DiPaolo Timber CEO Carl DiPaolo, W7EXH, likened the sharing arrangement by hams and the federal government to "multiple use of the forests, many citizen users sharing a resource." DiPaolo went on to day, "Once the PMRS users get to the frequency area, it is lost forever." There's "no way" amateurs could be secondary to PMRS, he concluded.

AMSAT-NA President Bill Tynan, W3XO, mentioned use of 70 cm for the upcoming Phase 3D satellite and pointed out that the International Space Station is expected to make "heavy use" of the band for Amateur Radio. Ham radio is an official ISS payload. In all, AMSAT-NA cited more than a dozen examples of current and future amateur use of 70 cm (see http://www.amsat.org/amsat/regs/rm9267c1.html

But it was the NTIA that spoke the loudest in favor of retaining the current federal-amateur sharing arrangement on 70 cm. The NTIA said it supports amateur operation at 70 cm and other bands "as an important adjunct to the National Communications System and the National Weather Service, and with general recognition of the valuable public service performed" by hams. Amateur operations "share well" with military radiolocation radars because hams can tolerate the restrictions involved. But, the NTIA's bottom line was that "critical Federal operations in the 420-450 MHz band" make it inappropriate to consider reallocation. The NTIA also noted that Wind Profiler Radar operations at 448 to 450 MHz—which the LMCC had suggested be "discouraged"--are operational, not experimental. The NTIA said it "consulted extensively" with the amateur community to coordinate WPR operation and said plans for an extensive WPR network at 449 MHz were proceeding.

Annexed to the NTIA comments were individual comments from members of the Interdepartment Radio Advisory Committee. These include federal agencies ranging from USDA, the National Weather Service, and the Department of Defense to NASA. All opposed reallocation from the federal government. Some, such as the NWS, specifically cited the value of Amateur Radio public service and the network of 150,000 weather spotters on call for emergencies. On a more practical level, the Department of Defense said that interference from its radars and communication activities—including "very high power critical safety-of-life command destruct, flight termination and drone control"--would preclude sharing with PMRS.

Several commenters were altogether silent on amateur issues. A few challenged the FCC to address the larger issue of private wireless spectrum allocation policy or urged the FCC to issue a Notice of Inquiry to initiate a dialogue on spectrum needs. The Industrial Telecommunications Association (ITA) encouraged the Commission to respond "with a publication of its own views on the character and needs of the private wireless community." The ITA said the petition "makes a compelling case" for additional PMRS spectrum. Other commenters said they felt the needs of the private radio community had been subsumed by demand for consumer wireless services. Some debunked the notion that commercial services

could satisfy private wireless needs.

Some organizations indicated full and wholehearted support for the LMCC petition. These included the UTC, The Telecommunications Association, an LMCC member that, itself, represents other commercial spectrum users. Motorola declared that private wireless users "are in dire need" of new spectrum. The American Petroleum Institute urged the FCC to "move forward as soon as possible" on the LMCC petition.

A copy of the League's comments is available at http://www.arrl.org/news/bandthreat/RM-9267/arrl-cmt.html
Selected comments on RM-9267 also have been posted to the ARRL Web site.

MORE ON LMCC PETITION: HAMS FLOOD FCC WITH LMCC LETTERS; AAA CHANGES TUNE

The June 8 issue of Wireless Week reports that hams "flooded the FCC with letters" opposing RM-9267, "often in vehement terms." The article, "Hams Oppose Spectrum Sharing," by Caron Carlson, says that hams "warned the FCC that any further loss of their spectrum would be debilitating to the services they provide to the public free of charge," including help in natural disasters and emergencies. Carlson quoted as a typical comment one from John Kovac, K0VAC, a medical doctor from Hermosa Beach, California who's involved in disaster communication. "The reallocation of these frequencies would be a disaster in its own right," Kovac told the FCC.

In a related matter, the Automobile Club of America says it got incorrect information from the LMCC about how amateur frequencies came to be identified as targets for reallocation. Triple-A had told some correspondents that the Spectrum Planning and Policy Advisory Committee (SPAC) worked with the NTIA to identify 70 cm for reallocation (see More LMCC developments: support from APCO; AAA admonished, The ARRL Letter, Vol 17, No 23). "We now know that was incorrect and that it was the LMCC that initiated the plan without support from either SPAC or NTIA," the AAA's Gary Ruark said in response to a letter from ARRL Executive Vice President David Sumner, K1ZZ. Ruark said AAA's future correspondence would "reflect the correct information."

Ruark also said AAA would contact the LMCC secretary and other Council members to discuss the status of the petition. "We are aware that the Association of Public Safety Communications Officials (APCO) has withdrawn its support and that may have a bearing on how the remaining LMCC members perceive the value of the petition," Ruark wrote.

NEXT WRC TO BE IN 2000

It's settled. The next World Radiocommunication Conference—until now referred to as WRC-99 for planning purposes—actually will take place in 2000. The ITU Council decided the question when it met May 20-29 in Geneva. What's now likely to be called WRC-2000 tentatively is set to be held May 8 to June 2 of that year in Istanbul, Turkey. The agenda and final schedule are subject to confirmation by the ITU Plenipotentiary Conference this fall in Minneapolis. Since 1993, the worldwide conferences have taken place every two years. However, this time, members of the international community felt they needed more time to prepare. The change also means the following WRC won't happen until at least 2002.

Still expected to be lurking in the wings at WRC-2000 and hoping for an allocation of additional spectrum will be the low-Earth orbiting satellite industry, the infamous "Little LEOs." The industry seeks an additional 7 to 10 MHz of spectrum below 1 GHz.

Another potentially hot ham radio topic at the next WRC is a technology called "fixed wireless access." FWA—sometimes called wireless local loop—uses radio instead of wires to connect user telephone or data equipment to an access point in the public switched telephone network. FWA proponents are looking at the suitability of more than 100 frequency bands between 27 MHz and 66 GHz—some of which involve amateur bands.

An ITU task group has also been studying the topic of "unwanted emissions," which includes both spurious emissions and out-of-band (OOB) emissions. OOB emissions include splatter and key clicks. A plan to replace current spurious emission limits with more stringent standards was

adopted at WRC-97 (see "WRC-97--An Amateur Radio Perspective," QST, Feb 1998, pp-33-34). Still under consideration are new spurious emission limits for spacecraft and mandatory OOB limits for all radio services.

One issue of concern to hams may be postponed to WRC-2002 or later. The Earth Exploration Satellite Service has been eyeing the 430 to 440 MHz band for use by synthetic aperture radars (SARs). These systems are capable of penetrating the upper canopy of a rain forest to monitor ecological changes. The ARRL and the IARU already have introduced papers expressing concerns with respect to the use of the 420 to 450 MHz band. However, it now appears that the ITU will not take up the issue at the next conference due to a lack of funding.

For more information on WRC-99 preparations, see http://www.fcc.gov/wrc-99.

WB6BYU TO LEAD US ARDF TEAM

Dale Hunt, WB6BYU, of Yamhill, Oregon, will lead the US fox-hunting team at the ninth World Championships of Amateur Radio Direction Finding (ARDF) this fall. The competition of radio orienteers will be held in Hungary during the first week of September. The US foray will mark this country's first effort at the World Championship of foxhunting.

The aptly named Hunt, 45, is experienced in the sport of international-style foxhunting. He competed last year against Russian, Canadian and Japanese hams at the Friendship Radiosport Games near Tokyo, Japan.

Under WB6BYU's leadership, four other West Coast hams are expected to compete on Team USA at the City of Nyiregyhaza, 150 miles east of Budapest. Team USA will be up against hundreds of the best foxhunters from more than two dozen European and Asian countries in a pair of two-hour sprints through a large forest. "There are two separate transmitter hunts, each on a different day," Moell says. One hunt is on 80 meters (CW foxes) and the other hunt is on 2 meters (MCW AM foxes). "Each hunt has five fox transmitters hidden in a forested area," he explains.

Some spaces remain on the Team USA roster, especially in the Junior Division (boys under 18 years of age), Veteran's Division (men over age 55), and Women's Division (any age, nobody asks!). For information, contact ARRL ARDF Coordinator Joe Moell, K0OV, PO Box 2508, Fullerton, CA 92837; e-mail homingin@aol.com.

For a look at the official invitation to the championships and for more information about ARDF rules, equipment and techniques, see http://members.aol.com/homingin/.

SOLAR UPDATE

Solar seer Tad Cook, K7VVV, Seattle, Washington, reports Solar activity was up again last week. Average solar flux for the previous 90 days rose one point to 110, and flux values were above this level on every day, which indicates an upward trend. Geomagnetic indices showed fairly unsettled conditions, particularly on June 7 when planetary K indices went as high as four and five.

The predicted solar flux for June 12-14, is 115, 120 and 122, and the planetary A index is expected to be 10, 8 and 12. Beyond that the solar flux is may peak for the short term around 126 on June 16 or 17, then drop below 120 by June 20, below 115 by June 24, and bottom out above 110 for June 26 through July 6. Somewhat unsettled geomagnetic conditions may appear again June 19-21 and July 2-4. Old region 8226 appeared to be growing as it left the west limb of the sun near the end of May, and it could produce some flares between June 12-25.

Dr. Dick Altrock of the US Air Force released a statement in conjunction with the National Solar Observatory about the peak of this solar cycle. He is looking at long-term variation of solar emission features that move toward the solar poles prior to solar cycle maximum. Since this emission feature already appeared over a year ago at 55 degrees north latitude and is continuing to move toward the poles, the solar maximum earlier believed to be slated for 2000 is now predicted for next year.

On VHF, GJ4ICD reports fantastic conditions on 6 meters, and N7EIJ near Portland, Oregon, reported working N7ML in Montana on aurora and backscatter on the same band over the weekend. On the same date VE6XT in Calgary reported incredible auroral E conditions on 6 meters with stations all across Canada and Alaska. Also on Saturday K2SPO in New York worked EH7KW (Spain) on 6.

N1BUG has a wonderful site on the Web to monitor auroras. It's at http://www.mint.net/~n1bug/prop/aumon/aufr.html http://www.qsl.net/n1bug/prop/aumon/aufr.html

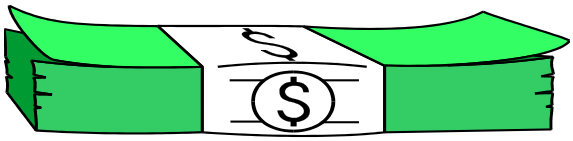
Sunspot numbers for June 4 through June 10 were 92, 99, 110, 96, 104, 101 and 103 with a mean of 100.7. The 10.7 cm flux was 111.7, 115, 115.1, 113, 116.9, 112.3 and 112.4, with a mean of 113.8. The estimated planetary A indices were 12, 13, 14, 18, 12, 10, and 15, with a mean of 13.4.

Dayton attendance up! Attendance at this year's Dayton Hamvention was up slightly over last year's attendance. Convention General Chairman Dick Miller, N8CBU, reports that 28,120 attended this year's Hamvention. That tops the 28,000 attendance figure from 1997 and reverses a trend of declining attendance. The ARRL National Convention in 2000 will be at the Dayton Hamvention. --thanks to Dave Coons, WT8W

Filing deadline extended: The FCC has extended the deadline to receive reply comments on its rulemaking petition to implement the Universal Licensing System (ULS), Docket WT 98-20. The new deadline is June 16. FCC

$The June Treasurer's Report $

For the month of May/June income was $130.93 from dues, an ARRL renewal, and bank interest. Expenses were $51.75 for newsletter postage and outgoing QSL bureau. Current balances are:



General Fund:	$674.34
Community Fund:	$440.92

The Annual Report in last month's newsletter had two errors: the correct figure for total expenses for the 97-98 year is $648.26 and the figure for total expenses for the 96-97 year is $741.45.
The net income figures for both years were correct as given.

Have a good Field Day!
73-Ralph kd1sm

NVARC QSL BUREAU

The NVARC Bureau has sent out all the cards that have been received as of June 6th.

CW Practice Nets

The NVARC slow speed net meets Tuesday and Thursday at 7:30 p.m. on 28.123 MHz. Except the third Thursday of the month. That being the club meeting night.

Calendar of Events

Saturday Aug 8th Gardner Mohawk ARA Flea
August 28-30 Boxborough ARRL NE Convention

NVARC
Nashoba Valley
Amateur Radio Club
PO Box # 900
Pepperell Mass 01463-0900

Pres.: Erik Piip KA1RV
V Pres.: Den Connors KD2S
Secretary: Bob Crews K1VA
Treasurer: Ralph Swick, KD1SM
Editor: Stan Pozerski KD1LE
PIO: Earl Russell WR1Y
Meetings are held on the 3rd Thursday of the month - 7:30 p.m. - Pepperell Community Ctr.
Talk-in 146.490 simplex
442.90 + 100Hz Repeater
This newsletter is published monthly. Submissions, corrections and inquiries should be directed to the newsletter editor. Articles and graphics in most IBM-PC formats are OK.
You can leave items on PEPMBX or at Packet address: KD1LE@N1FT.NH