



# ARES COMMUNICATOR

## Information for Scott County Amateurs



June, 2014

Accurate, Reliable Emergency Communications for our Community

Volume 14, Number 6

## Field Day 2014

It's HERE! June 28th

The Field Day 2013 emergency communications exercise will take place the last full weekend this month on June 28 - 29. All amateur radio operators in Scott County are invited to join the fun! The local media have also been sent a media release previewing the event.

Scott ARES volunteers have reserved the park shelter at Trost City Park, 5455 137th Street West in Savage for the exercise. You can find details and directions to the site on the Scott ARES website: [www.scottares.org](http://www.scottares.org). Click on the Field Day notice.

The goal of the Field Day exercise is to contact as many other portable emergency stations as possible within the 24 hours of the exercise and enjoy the company of other ARES members. Scott ARES members will be developing their plan for the exercise during their monthly breakfast on the second Saturday of the month.

Scott ARES will be operating during the park hours on Saturday, June 28<sup>th</sup>. Set-up will begin around 10 AM to be prepared for the starting gun at 1:00PM on Saturday. The Field Day operation will conclude with the close of the park at 10:00 PM on Saturday evening.

All Hams are invited to stop by and make some contacts if they want to jump in the contest. Non-hams are welcome to come and learn about amateur radio and emergency communications activity in Scott County. Of course people who just happen to be driving down Vernon Avenue and wonder what is going on in the park are also welcome to stop by! If you plan on visiting, be aware, ham radio can be infectious. You just might leave with a new hobby.

There is additional information on the Scott ARES website including pictures from last year's Field Day. Plan now to stop by the park on Saturday the 28<sup>th</sup> and see what is going on.

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The ARES COMMUNICATOR is published for the benefit of Amateur Radio Operators in Scott County and other interested individuals.

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## ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)

Breakfast Saturday, June 14th

Digital Monday, June 16th

### ARES Nets

MN ARES Phone Net

6:00PM Sunday Freq: 3.860 mhz

ARRL MN Phone Net

12:00p, 5:30p CST Daily Freq: 3.860 mhz

ARRL MN CW Net

6:30p, 9:50p CST Daily Freq: 3.568 mhz

### NETS WITH OUR NEIGHBORS

North Dakota: Daily 3.937 mhz 6:30pm

South Dakota: Daily 3.860 mhz 6:00pm

Wisconsin: Daily 3.985 mhz 5:30pm

Iowa: Daily 3.970 mhz 12:30/5:30pm

## Test Your NIMS Knowledge

This month we will continue our review of ICS-700a: National Incident Management System (NIMS) An Introduction. Check your recall of the course material with this question.

Select the NIMS term that is defined as “the architecture to support coordination for incident prioritization, critical resource allocation, communications systems integration, and information coordination.”

- A. Multiagency Coordination System
- B. Incident Management Team
- C. Command and Control Center
- D. Incident Operations Network

Check next month's ARES Communicator for the solution

## May NIMS Knowledge Solution

Select the TRUE statement:

- D. Typically requests for resources flow from the on-scene incident command through the local and State Emergency Operations Centers to the Federal Government.

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## Field Day 2014 Location



## NBEMS Current Versions

The current version of the Fldigi manual is available at NBEMS Info page at [www.scottares.org](http://www.scottares.org). Look under the 'Help Sheets' heading.

Be sure to check to make sure you have the current software on your thumb drive.

Now is a good time to check to your digital software to make sure you are running the newest versions. You can find the most recent versions posted at both: [www.w1hjk.com/download.html](http://www.w1hjk.com/download.html) and <http://www.scottares.org/NBEMS.htm>

Here are the most recent releases as of June 12, 2014.

Software	Version
Fldigi	3.21.82
Flwrap	1.3.4
Flmsg	2.0.3
Flamp	2.1.02

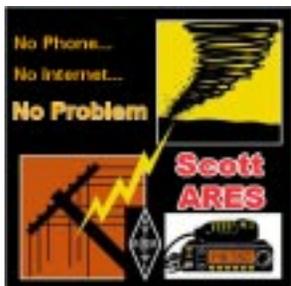
The Monday evening training net is a great place to have your digi questions answered and problems solved! Join the Scott ARES group on 146.535 mHz simplex at 7:00pm on Monday evenings.



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### Scott County ARES Contacts

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## United States Citizenship!

Have you ever thought about your United States citizenship? Probably not since that Civics course a long time ago! Foreigners who want to become a United States Citizen must pass a short exam that covers some key concepts important to America. Test your knowledge on the citizenship test.

Check next month for the answer to this month's question.

What is **one** promise you make when you become a United States citizen?

- A. never travel outside the United States
- B. give up loyalty to other countries
- C. disobey the laws of the United States
- D. not defend the Constitution and laws of the United States
- E. to register to vote

## May Citizenship Exam Answer

What was **one** important thing that Abraham Lincoln did?

- A. saved (or preserved) the Union.

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*"The best thing about the future is that it comes one day at a time."*

Abraham Lincoln



PACIFIC OCEAN (June 11, 2014) Sailors participate in a scrubbing exercise on the flight deck of the aircraft carrier USS Carl Vinson (CVN 70). Carl Vinson is underway conducting unit level training off the coast of Southern California. (U.S. Navy photo)

## Take a Dip in the General Pool

Time to test your knowledge of the information covered by the General Class license exam. Each month we'll take a look at a selection from the question pool. Here is this month's sample:

1. Which of the following effects can a geomagnetic storm have on radio-wave propagation?
  - A. Improved high-latitude HF propagation
  - B. Degraded high-latitude HF propagation
  - C. Improved ground-wave propagation
  - D. Improved chances of UHF ducting
  
2. Approximately how long is the typical sunspot cycle?
  - A. 8 minutes
  - B. 40 hours
  - C. 28 days
  - D. 11 years
  
3. What is a possible benefit to radio communications resulting from periods of high geomagnetic activity?
  - A. Aurora that can reflect VHF signals
  - B. Higher signal strength for HF signals passing through the polar regions
  - C. Improved HF long path propagation
  - D. Reduced long delayed echoes

(Check next month's issue of the ARES Communicator for the answer.)



## May General Pool Answers

1. At what point in the solar cycle does the 20 meter band usually support worldwide propagation during daylight hours?
  - D. At any point in the solar cycle
  
2. What causes HF propagation conditions to vary periodically in a 28-day cycle?
  - C. The Sun's rotation on its axis
  
3. Which of the following applies when selecting a frequency for lowest attenuation when transmitting on HF?
  - A. Select a frequency just below the MUF

## Free Exam Review Website

### ARRL Announces Free Exam Review Website

The ARRL has launched a new online resource that allows users to take randomly generated practice exams using questions from the actual examination question pool. ARRL Exam Review for Ham Radio™ is *free*, and users do *not* need to be ARRL members. The only requirement is that users must first set up a site login (this is a different and separate login from your ARRL website user registration). You will find the new site here: <http://arrlexamreview.appspot.com>

“The ARRL’s online Exam Review is designed to help license examination candidates review their progress as they study,” said ARRL Marketing Manager Bob Inderbitzen, NQ1R. “As you complete a chapter or section of a license manual, you can turn to the online program to review all of the related questions taken directly from the examination question pool. After answering each question — right or wrong — the correct answer is shown, and a page reference to the license manual is displayed for further review.”

Inderbitzen said that when you’re close to completing your study, you can take as many practice exams as you like. “The practice exams can be taken on-screen or printed. You won’t have any surprises on exam day!” he added.

Inderbitzen said users are encouraged to share feedback and suggestions for improvement with the development team, using the online feedback form linked from the Exam Review site. ARRL Exam Review was designed for ARRL by DHF Systems, the creator of ARRL’s *TravelPlus for Repeaters*™ software.

Education Services Manager Debra Johnson, K1DMJ, pointed out some of ARRL Exam Review features that are intended to help Amateur Radio instructors and schoolteachers. “Instructors have a new online resource at their fingertips,” she said. “They can print practice exams anytime and encourage students to review between classes. The site is also mobile-browser friendly, so it can be used on a laptop, tablet, or smartphone, at home or in the classroom.”

While ARRL Exam Review is being introduced with the new, third edition of the popular Technician study guide, *The ARRL Ham Radio License Manual*, the site also supports practice examinations for General and Amateur Extra. An updated Technician class examination question pool becomes effective July 1, and Exam Review will automatically transition to the new question pool on that date.

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## Focus on the “Served Community”

### New Focus on the “Served Community”?

By: John Sheats, WD4V, Loxahatchee, Florida  
ARES Newsletter

*(Ed Note: The concept of ARESMAT, ARES Mutual Assistance Teams, serves the goal the letter writer promotes. Scott ARES members are available to assist Carver and Dakota and vice versa.)*

I appreciate the focus you have been bringing in recent QST articles. I was active in leadership in Palm Beach County (Florida) ARES during our calamitous 2004-2005 hurricane seasons when we activated for four different storms. Based on that experience, we encountered challenges under the then-current ARES model, which focused on served agencies. Staffing was a major issue for us. Based on this experience, I came to the conclusion, further reinforced in the years that followed, that the ham community needed to turn its focus toward their own individual neighborhoods and communities.

Now, I am more convinced than ever that the future utility of Amateur Radio in public service lies in the individual ham’s immediate community - the “served community” as opposed to the traditional served agency model. The public still has little recourse when cell phones stop working. A ham can organize a communications system in his neighborhood, make it known that his is the door to knock on to get a message out, and when an incident happens, he can do what he is most likely to do anyway: hunker down with his family and protect them and his property, instead of being asked to make accommodations to leave all that is precious to him behind to drive through potentially hazardous conditions to a distant service point like an EOC or shelter to serve somebody else’s needs.

Of course, there will always be a need/opportunity for well-equipped, well-trained, well-organized self-sufficient teams of communicators to travel to areas affected by worst-case scenarios, and that should be part of planning efforts, but they should come from operators with personal situations that have been unaffected by the disaster effects. Asking a ham to leave his family and property who are clearly out of harm’s way to go help others is much more reasonable and rational than asking him while he and his family are personally affected by the incident.

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## Growing Problem ID'ed

### Pot Cultivators' "Grow Lights" Tracked Down

ARRL Letter June 12, 2014

*(Ed's Note: Perhaps your local Police Chief or Sheriff might be interested in any persistent RFI.)*

The ARRL already has complained to the FCC that so-called "grow light" ballasts can generate severe interference on the HF bands. According to a recent article in *The Coloradoan*, retired electrical engineer Tom Thompson, W0IVJ, first noticed interference on 40 meters at his location in Boulder a couple of years ago. So, he coupled his own portable receiving loop with a direct-conversion receiver that he could use to walk around his neighborhood and pin down noise sources. In at least one instance, the problem emanated from a domestic marijuana-growing operation — a "grow house."

"With the increase in legalized medical and recreational marijuana comes an increase in RFI due to electronic grow light ballasts," Thompson explained on his website, where he describes how he constructed a filter that considerably reduced interference from the devices. "These ballasts are usually switching power supplies, capable of lighting 600 to 1000 W high-pressure sodium or metal halide lamps," Thompson said. "The switching frequency is usually 50 to 70 kHz and is rich in harmonics."

Thompson said that because the light fixture is separated from the ballast by about 25 or 30 feet of wire — approximately a quarterwave on 40 meters — the RFI may be strongest on that band. "I have heard radiations from these systems up to about one-half mile away," he said. "When the [marijuana] plants are young, the lights are on 24/7. After about 2 weeks, the lamps are on for 12 hours, and off for 12 hours." Thompson said that since most systems are on a timer, it's possible to predict when the RFI will start, once you have determined the initial "on" time.

Thompson said one of the interfering growers was nice enough to loan him a lamp ballast for testing, and he was able to get a used lamp for free from a local grow shop. He gives away the common-mode choke filters to owners of offending lighting systems.

As the article in *The Coloradoan* pointed out, with 22 states and the District of Columbia now allowing medical marijuana, and Colorado and Washington permitting its recreational use, "there's been an explosion in the number of people growing their own pot, much of it indoors." The noise problems are reported to be worst in Colorado and California.

Thompson told *The Coloradoan*, "If I can track this down, anybody can track this down. If I listen long enough, I can tell when they turn the lights off...you can tell exactly when the harvest is."

Thompson has written an article on the topic of tracking down and resolving such interference. It is scheduled to appear this fall in *QST*.

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## Hams in Space Uncertain

Three International Space Station crew members returned to Earth May 13 after 188 days in space. The NASA reported that the Expedition 39 crew members, Cosmonaut Mikhail Tyurin, RZ3FT, of Russia, and Astronauts Koichi Wakata, KC5ZTA, of Japan, and Rick Mastracchio, KC5ZTE, of the US, all appeared to be in good condition. Their Soyuz TMA-11M spacecraft landed in the steppe of Kazakhstan, borne by parachute for the final part of its descent. Helicopters carrying Russian recovery teams and NASA personnel reached the landing site shortly afterward to assist the crew and to conduct medical examinations.

The undocking marked the end of Expedition 39 and the start of Expedition 40 under the command of NASA astronaut Steve Swanson. Wakata, the first Japanese ISS commander, passed the baton to NASA Astronaut Steve Swanson during a change-of-command ceremony on May 12. During their time aboard the ISS, Wakata and Mastracchio conducted Amateur Radio on the International Space Station school contacts from NA1SS onboard the station. Wakata also helped to commission the Ham Video digital amateur television system. Mastracchio performed three contingency spacewalks during his stay.

Swanson and his crewmates, Alexander Skvortsov and Oleg Artemyev of Roscosmos, will operate the station as a three-person crew for 2 weeks until the scheduled arrival of three new crew members — Reid Wiseman, KF5LKT, of NASA, Max Suraev of Russia, and Alexander Gerst, KF5ONO, of the European Space Agency. Although the trio is scheduled to launch to the station from Kazakhstan on May 28, increasing political tensions between Russia and the US stemming from the situation in Ukraine have cast doubts on Russia's willingness to continue to ferry US crew members to the ISS.

On the day of Expedition 39's return, Russia announced that it would deny US astronauts transportation to the station. Russia said its action was in response to US-imposed sanctions on Russia. Since the space shuttle program ended, the US has depended on Russian space vehicles to carry its astronauts into orbit.

According to media accounts, Russian Deputy Prime Minister Dmitry Rogozin said US involvement was not necessary for continued use of the station. Rogozin said the Russian ISS segment can exist independently from the US segment, while that's not the case for the reverse situation. — Thanks to NASA, media accounts.

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## Hams Train Guardsman on HF Comms

SAT, Cell phones – not so much!

ARES E-Letter for May 21, 2014

Eight Prattville (Alabama) Army National Guard members from the 231st Military Police Battalion armory traveled to Fort McClellan (Anniston, Alabama) for specialized training in [Amateur Radio] earlier this month. The military is trying to bring back the use of HF communications in the service rather than having sole dependence on satellite communication.

With today's email and cellphone communication, radios now are used primarily during natural disasters and emergency situations such as 9/11, Hurricane Katrina and Hurricane Sandy when high cellphone use can overload the satellite system. Special radio frequencies can [be used to] communicate with emergency management agencies during such times.

Joel Black, a member the Region 4 Army Military Auxiliary Radio Service, or Army MARS, said [HF] radio is much more efficient than satellite communications. "Today's military has started to depend more on satellite communication. However, HF communications is a more rapidly deployable communication system," Black explained. "You can set up an antenna, tune into the right frequency and start talking within minutes. It takes much longer to set up a satellite system."

Trying to set up a satellite communication unit in the field can be cumbersome for military members, Black said. Oftentimes, two men are needed to set up a 20-foot or 8-foot satellite dish, transponder and other equipment. The whole process can take up to two hours.

Three ham radio operators at McClellan taught the soldiers from Prattville how easy it could be. The licensed Army MARS trainers shared their expertise in proper use and selection of radio frequencies, how radio waves work, communications technology, safety and techniques of antenna installation.

Those in charge of the three-day course included Alabama Army MARS State Director Wade Brock, Alabama Army MARS Training Officer John Briscoe and Georgia Army MARS State Director Jerry Lofstead. Army MARS, which began in 1925, is a Defense Department organization of Amateur Radio operators that train on a daily basis for providing incident communication for both military and government agencies.

Ham radio operators are most associated for their contributions as part of the U.S. Army Signal Corps sending messages between troops during the Korean and Vietnam Wars with HF radio-telephone. Parts of this story appeared in the Montgomery Advertiser, Montgomery, Ala.

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## Thinking About an Antenna?

Or a Tower?

*(The following is an excerpt from a discussion regarding the process of obtaining approval from the local authorities for your dream installation.)*

Like any workplace, 20% of the employees do 80% of the work. I don't see much difference in the public vs. private sector. Most government employees realize that their position is contingent upon providing customer service. Adverse interaction with citizens can dramatically affect one's career - but so can approval of structures that don't meet code requirements.

Generally, denial of permits that are of questionable merit is exactly what the public wants. It is up to us, amateurs, the federally licensed "experts", to bring the facts AND the law to light to the government employees. If you don't do a good job with that, you're going to get denied - every time. Typically, they're not engineers and not lawyers, so they are not going to allow something unless there's sufficient data that they should.

If you go in to the building department, fill out a form and submit it without appropriate documentation, you're almost certain to be rejected. Be happy that your next door neighbor can't build a pig barn or explosives factory by filling out a form and yelling about their property rights. Complaining loudly happens more frequently than you'd imagine and it does nothing to advance your cause.

Before I got my permit for my tower in an urban neighborhood, I was denied three times for three different reasons. Each time, a cordial meeting with a different level of government official ended with an pass through one gate.

Be nice, be respectful - typically government employees are underpaid as compared to the private sector.

Get your ducks in a row, find out what you need, appear prepared, contrite and with proof of the legality and safety of your project and you'll get a permit.

Fred Hopengarten has written a great guide to doing exactly that. If you're considering putting up an antenna support, check out: [http://www.antennazoning.com/main/page\\_amateur\\_radio\\_main\\_menu.html](http://www.antennazoning.com/main/page_amateur_radio_main_menu.html)

And buy his book with the first \$50 of your project funds. It will be worth every penny. The book is available from the ARRL Store at: <http://www.arrl.org/shop/Antenna-Zoning-for-the-Radio-Amateur/>

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**CONGRATULATIONS!**  
**GRADUATES**

## RFID on 70cm: Petition Withdrawn

WHEW! Band saved – for now

ARRL Bulletin ARLB009

The FCC has dismissed without prejudice a Petition for Rule Making (RM-11651) by Lockheed Martin that would have amended the Commission's Part 15 rules to expand deployment of the company's radio frequency identification (RFID) system in the 433 MHz band (433.5-434.5 MHz). Lockheed Martin sold its RFID business 2 years ago, but the company only this month requested that the Petition be withdrawn and the proceeding terminated.

The ARRL had staunchly opposed the Lockheed Martin petition, which the firm filed on behalf of its subsidiary, Savi Technology. The League locked horns with Savi years ago, when the company successfully petitioned the FCC to amend its Part 15 rules governing periodic radiators to permit high-power, near-continuous duty RFID tags in the 433 MHz band. As a concession to opponents, the FCC limited deployment of the devices to "commercial and industrial areas" and allowed their use only for tracking "commercial shipping containers." Lockheed Martin acquired Savi Technologies in 2006.

The now-dismissed petition would have expanded the frequency range of the RFID tags to 433.05-434.79 MHz, required listen-before-transmit protocols to avoid interference to Amateur Radio, eliminated a manufacturer registration requirement, and dropped rules that prohibited deploying the devices outside "commercial or industrial areas" and limited their application to "commercial shipping containers."

The ARRL filed vigorous opposition to the Lockheed Martin Petition in January 2012, saying that Lockheed's petition "seeks to undo virtually all of the few interference protections" the FCC had adopted in 2004, "solely on the basis of vaguely stated advances in RFID technology." Other Part 15 device manufacturers also opposed any expansion of the high-power application.

A May 14 Commission letter from FCC Office of Engineering and Technology Chief Julius P. Knapp said that on the basis of Lockheed Martin's Petition and the comments filed on it, "we do not find sufficient basis to propose rules," and determined that the original petition "does not warrant" FCC consideration. Knapp added, however, "Any party interested in pursuing changes to the rules for RFID operations in the 433 MHz band may file a new petition."

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## SKYWARN Location-Tracking System

APRS used to track Spotters

Okmulgee County, Oklahoma, Emergency Management (OCEM) has been awarded a grant of nearly \$3700 from Operation Round Up and the ECE Foundation that will allow the agency to purchase a Amateur Radio-based location-tracking system for SKYWARN storm spotters. The Operation Round-Up program is part of the East Central Oklahoma Electric Cooperative. Cooperative members have the option to round up their electric bill to the next dollar and the accumulated funds are used for projects within the community. The Operation Round Up funds are allocated by an Operation Round Up Board made up of Cooperative members. ARRL Oklahoma Section Emergency Coordinator Mark Conklin, N7XYO, and several area radio amateurs helped county emergency managers in planning the project.

"This grant award will allow for the installation of an Automatic Packet Reporting System (APRS) I gate, several APRS digipeaters, and several portable APRS beacons," Conklin said. "Working with as partners, together we are able to serve our community through Amateur Radio."

In Oklahoma most SKYWARN storm spotters report their observations via Amateur Radio to local emergency management. Tracking and guiding storm spotters to safe observation locations during severe weather events can be a challenge, however. APRS, which permits a station to report its location as it moves, is a useful tool, both for SKYWARN storm spotters and those involved in emergency communication. Accurate position information is crucial when reporting information during severe weather events or other emergencies. In disaster scenes, APRS can prove especially helpful to emergency managers when known landmarks have been damaged or removed.

OCEM said it plans to construct and maintain several APRS digital repeaters systems and an APRS base receiving station for its Emergency Operations Center, add APRS systems to several key OCEM vehicles, and develop several portable APRS tracking systems.

You can learn more about the Automatic Position Reporting System here: <http://www.aprs.org/>



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## Public Service Events

Grab that HT and have some fun!

*(Editor's Note: Contact the individual listed with each event for more info or to volunteer.)*



**July 19<sup>th</sup>, Saturday - Belle Plaine BBQ Days - Parade & Staging** 10 am til 2 pm. Looking for 20+ Operators. Volunteer contact info: [KC0QNA@yahoo.com](mailto:KC0QNA@yahoo.com) or cell phone 612-578-7561.

**July 20<sup>th</sup>, Saturday - Annandale - Heart of the Lakes Triathlon** - Need 15 Operators or so in the City of Annandale, MN in Wright County. If you can help, please e-mail: Lee at [WB0TRA@Gmail.com](mailto:WB0TRA@Gmail.com) his cell phone is 320-223-1354.

**July 27, Sunday Waseca Triathlon** The triathlon is run out of the park/fair grounds in Waseca and the bike route was west and north of town. To volunteer contact: Jon WB0ZFH, activity coordinator at the Viking Amateur Radio Club in Waseca. Jon's email address is: [wb0zfh@hotmail.com](mailto:wb0zfh@hotmail.com)

**August 9<sup>th</sup>, Saturday - Gaylord, MN - Eggstravaganza** - Need 20+ Operators for: 5K Run at 9 am, Parade from 12 - 3 PM, then 10 radio operators for Fireworks Safety Patrol from 8 pm til 11 pm. Volunteer contact info: [KC0QNA@yahoo.com](mailto:KC0QNA@yahoo.com) or cell phone 612-578-7561.

**Sept 20, Saturday - Cystic Fibrosis Foundation Cycle for Life** Need 6+ operators to provide communications for a 30/15 mile dual route bicycle event held in southern Scott County. Volunteers contact [N0BHC@scottares.org](mailto:N0BHC@scottares.org) to volunteer of for more info.

**October 11<sup>th</sup>, Saturday - Belle Plaine, MN - Scenic Half Marathon** - Need 20+ Operators for Half Marathon...same course as in years past. 0700 - 1100 AM. The MN-ARES Portable Repeater is planned to be used again, unless city approves us on the town water tower by then. Volunteer contact info: [KC0QNA@yahoo.com](mailto:KC0QNA@yahoo.com) or cell phone 612-578-7561.

**December 6<sup>th</sup>, Saturday - Arlington-Arlidazzle Parade** - Need 20+ Operators for 5K Run at 9 AM, Closing & Maintaining safety on Main street from 11 am til 7 pm & Parade at 5:30 PM. Operations will be on Green Isle UHF Repeater. Volunteer contact info: [KC0QNA@yahoo.com](mailto:KC0QNA@yahoo.com) or cell phone 612-578-7561.

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## Mosquito Myths

**Bats eat up to 600 mosquitoes an hour.** This one may have gotten started with a study in which mosquitoes were released into a room full of bats while researchers counted how many they ate. The bats consumed about 10 per minute, or 600 per hour. But mosquitoes were the only insects in the room for the hungry bats to eat. Since then, studies have found that mosquitoes make up less than 1 percent of bat diets.



**Electronic mosquito repellents work.** Researchers have consistently found that these devices have absolutely no effect on mosquitoes at all. They don't repel, attract or in any way change mosquito behavior or effect the number in a given area.



### ARES Breakfast

Saturday June 14th  
7:30AM  
Perkins Restaurant  
Savage, MN

## NECOS Schedule May 2014

The first Monday or the month the net is held on the WB0RMK repeater, Carver. You will find WB0RMK here: 147.165/765 PL 107.2

Jun 23	N0BHC Bob
Jun 30	KD0UWZ Chad
Jul 7	KC0YHH Tony
Jul 14	KB0FH Bob
Jul 21	N0BHC Bob
Jul 28	KD0UWZ Chad
Aug 4	KC0YHH Tony
Aug 11	KB0FH Bob