



SPECTRUM



The Voice of the Humble Electron

Founded 1962

PRESIDENT'S MESSAGE: This is **John KB1SVY** – Our next Whitman Club project is staffing the Marshfield Fair Amateur Radio Exhibit Booth and Special Event Station **NN1MF**. A special thanks to all those who have already volunteered to help with the set-up and volunteered to take one or more of the 96 - four hour - shift positions over the 10 day period the Fair is in operation.



John Duprey
KB1SVY

LABOR DAY FLEA MARKET: The Club Labor Day weekend Flea Market is scheduled for September 4th and 5th at a new location – the Knights of Columbus property on Rt. 18 in Whitman. We need your help to pick a new name, staff the Club table and help put the Club Station **WA1NPO** On-The-Air.

HAVING FUN: **Roy Logan KB1CYV** volunteered to be the Fox on Saturday, July 23RD and reported only 1 other Fox Hunter participating. **Jeremy Breef-Pilz KB1REQ** reported that he operated portable while on a radioactive vacation with his family, again this year.

PUBLIC SERVICE: **Bruce Hayden N1X** reported on the statewide Hurricane Drill that was held on August 8TH with at least 19 Whitman Club members participating.

PINE STREET CLIPPERS: We all owe a special thanks to **Paul Moss KB1MTW** for maintaining the Club House property and mowing the grass on a regular basis. With support from **Bill Hayden N1FRE** and **Paul Burbine N1VTI** - **John Chase KB1ODS** joined the ranks of the **Pine Street Clippers** by volunteering to bring his own lawnmower and cut the grass in **Paul's KB1MTW** absence.

PACKET RADIO PRESENTATION: **Jim Tovet W1JT** gave an introductory level presentation on PACKET radio at the Whitman Club August meeting that included a brief explanation about some of the new features installed on his PACKET Bulletin Board System (BBS) in Holbrook. There is a renewed interest in PACKET radio thanks to the enthusiasm of the South Shore Hospital Amateur Radio Club members.

73 – From: John Duprey KB1SVY

Bruce Weir N1XZD -- SILENT KEY

Bruce Weir N1XZD became a **Silent Key (SK)** in August at the age of 68. **Bruce N1XZD** had been part of the morning coffee crew in Whitman with **John Coombs WQ1L**, **Frank Hayes N1OGP** and **Vic Kairis N1OEH**.

As **Bruce Weir's N1XZD** health failed **Vic N1OEH** would stop by on a regular basis, bringing coffee, and offering to bring **Bruce N1XZD** to the coffee shop when he felt up to it and to the Saftler's Flea market where this photo was taken. **Bruce N1XZD** held a General Class license until it lapsed a short time ago.



Our condolences to **Bruce's N1XZD** family and friends.

Bruce Weir N1XZD
Silent Key

Secretary's Notes of the Meeting of August 3, 2011 de KB1UBX

Opening: The meeting was called to order at 6:30 p.m. by President *John Duprey KB1SVY* at the Whitman Public Library.



Karen Trask
KB1UBX

Attendance: 44 members / guests were present, including three elected Officers and three Directors. A quorum was present.

KB1SVY	John Duprey	N1PRK	John Wittey (Guest)		
KB1QEM	John O'Neill	KB1TEE	Rick Emord (Guest)		
N1CVI	Roy McKim	KB1VIY	Lou Stone (Guest)		
KB1UBX	Karen Trask	KB1TEI	Jeanne Spalding (Guest)		
N1SOM	Jeff Tracy	SWL	Mike Murphy (Guest)		
KB1TEB	Lisa Krance	KB1UHV	Anthony Attaya-Harris (Guest)		
N1JBG	Doug Hart	KB1SRO	Judy Attaya-Harris (Guest)		
KB1CYV	Roy Logan	KB1REQ	Jeremy Breef-Pilz		
W1JT	Jim Tovet	W1EKG	Ross Hochstrasser		
KB1IKH	Elayne Tovet	KB1TEH	Richard Metcalf		
KC1JET	James Tynan	AB1NA	Dave Elsner	N11X	Bruce Hayden
KA1PJX	Don Keene	WG1L	Jim O'Rourke	N1FRE	Bill Hayden
KB1PHN	John Murphy	K1AWB	Steven Laroe	KC1ML	Mark Loring
N1LQK	Dave Kaplan	N1OYH	Carl Davis	KB1MJL	Al Marshall
N1SON	Bill Tracy	K1WN	Bill Needham	KB1ODS	John Chase
W1ICU	Tom Wilson	W1AXB	Matt Paine	N1IQI	Loren Pimentel
N1VTI	Paul Burbine	K1VU	Bob Johnson	KB1OEQ	Ron Stundze
KB1MOC	Kevin Dykes	W1GQN	Jim Havens	WA1ZKK	Al Craddock

Treasurer's Report: The treasurer's report for July was read by *Jeff N1SOM*. *Bruce N11X* made a motion seconded by *Jim KC1JET* that the treasurer's report be accepted as read. The motion was approved.

Secretary's Report: A motion was made by *Bruce N11X* seconded by *Roy KB1CYV* that the July secretary's report be accepted as published in the newsletter. The motion was approved.

Health and Welfare: *Barbara K1MRH* reported via email that *Gil Follett W1GMF* was in the hospital for rehab for leg issues. *Byron Piette K1YCQ* was noted to be in the hospital for unknown medical problems but should be OK. With sadness it is noted that *Larry Leblanc's W1MWF* father passed.

Old Business: *Jim W1JT* and *Ross W1EKG* reported that a new location for the fall Flea Market has been procured. We will be holding the event at the Knights of Columbus which is located close to the clubhouse. We will have full use of the facility from 5:00 a.m. on Sunday until 4:00 p.m. on Monday afternoon.

There are restrooms available inside the hall and we have the option of moving indoors in the event of inclement weather. The cost of renting the hall will be \$125.00. A motion was made by *Bruce N11X* and seconded by *Jim W1JT* to appropriate funds for the rental. The motion was passed.

PRESENTATION ON PACKET RADIO By: Jim Tovet W1JT



Jim Tovet W1JT
Speaker



Some of the 40+ Whitman Club members and guests
who learned all about PACKET Radio 101

Jim Tovet W1JT explained that PACKET Radio is a visual experience. You use a computer to send and receive messages. The information is sent in PACKET bursts (128 bits of information at a time – about one sentence in length).

PACKET radio was developed in the 1980's and is error correcting - providing error free communication. PACKET provided for storage and forwarding - now called E-Mail. Other digital modes of operation, RTTY for example, are not error free and effected by static crashes.

Home stations have a small mailbox. Regional Bulletin Board Systems (BBS) were developed that have larger computer hard drives and mail storage (like a Post Office). Some Bulletin Boards were linked together. Now they are linked by the Internet and HF.

Your range is limited to your antenna and your power situation. To send a message beyond your limited range you can DIGI (a digital REPEATER) through another home station. For instance you hop from Quincy to Whitman to Plymouth to someone on Cape Cod. **Jim W1JT** illustrated this point by having **Tom W1ICU** (in Quincy) tossing a tennis ball to **Ross W1EKG** (in Whitman) who tossed it to **Paul N1VTI** (representing a Ham in Plymouth) who tossed it to **John KB1SVY** (representing a HAM on Cape Cod).

Special NODES (dedicated to DIGI only) have been established in various locations (usually better antenna location for wide area coverage). You can ask the NODE to list (L) the other stations heard by that NODE to aid you in deciding where to connect to next as you HOP towards your final destination.

PACKET radio started as individual user's connecting key board to key board and now we have chat rooms for multiple users. Newer version TNC's can even scan for messages with topics of interest to you in their subject line.

EQUIPMENT NEEDED: You need a device called a Terminal Node Controller (TNC) to connect your computer to your 2-Meter transceiver, load a PACKET program into your computer and get On-The-Air with PACKET radio. **Jim W1JT** has experience with a Kamtronics KPC3 TNC that sells for \$75.00 - \$100.00 on E-Bay. A dedicated computer is usually leftover and free. The radio is a 2-Meter transceiver. Specific packet frequency is 145.010 and 155.090 in this area.

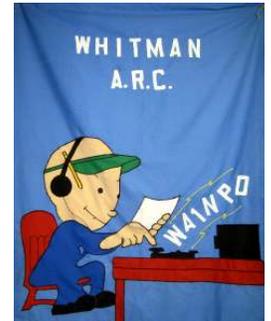
PRESENTATION ON PACKET RADIO Cont: By: Jim Tovet W1JT

Jim W1JT is using the WinLink packet program. The Public Service Served Agencies are interested in PACKET radio with programs that can send a somewhat secure PACKET message to their internet E-Mail account from a remote shelter. To demonstrate this point **Jim W1JT** sent a message via HAM radio (handheld) that arrived as a text message on his cell phone a few minutes later.

WHITMAN AMATEUR RADIO PUBLIC SERVICE NET (WARPSN)

The **WARPSN** NET meets every Sunday morning at 8:30 a.m. on the Whitman REPEATER 147.225 MHz (PL 67). Come join in and share your amateur radio related activities with the other area HAMS and short-wave listeners as well. We need your updates for the newsletter.

In July we had 5 sessions with an average of 19 area HAMS checking in each week and 15 messages were sent. **Jim Wolf N1JCW** checked in from Wareham via EchoLink. **Tom Wilson W1ICU** reports that he checked in with his handheld, while Maritime Mobile and anchored off Spinnaker Island in Hull, enjoying a weekend of sailing and radio with his wife **Barbara SWL**



Sending N1X
an update

SEPTEMBER 10TH -- RUN TO THE ROCK ROAD RACE By: John O'Neill KB1QEM

The South Shore Hospital Amateur Radio Club (SSHARC) has volunteered to provide communication support for the Run to The Rock 5K, 10K and ½ Marathon Road Races in Plymouth on Saturday, September 10, 2011. **John O'Neill KB1QEM** reports that there will be 1500 – 1800 runners over the three routes that cover 20 miles of Plymouth. Check out the website at <http://runtotherock.webs.com> The race benefits the Boys and Girls Club of Plymouth.

The SSHARC is reaching out to the Whitman Club and Genesis Amateur Radio Society for additional support. **John KB1QEM** also reports: “This is an excellent opportunity to provide a Public Service. Don’t worry if you do not have a portable radio. We can possibly get you a loaner or pair you up with someone who does. Some locations are better served by 2 people. If you have never participated in a road race before we can pair you up with an experienced HAM. This is a great opportunity to get your feet wet and sharpen already existing skills”.

This needs to be a definite commitment. **John KB1QEM** is looking for “an absolute yes only”. Contact **John KB1QEM** at E-Mail SSHARC@gmail.com

SEPTEMBER 25TH -- D. W. FIELD PARK TRIATHLON By: Carl Aveni N1FY

The Massasoit Club has volunteered to provide communication support for the D. W. Field Park Triathlon and **Carl Aveni N1FY** has extended an invitation for all area HAMS to participate. The D. W. Field Park Triathlon (bike, boat, and run) will be held on September 25, 2011 at 9 a.m.

Carl N1FY reports: “We will meet at the Oak Street entrance parking lot at 7:30 a.m. for assignments and to get in place before the race starts. The park will be closed for the race so you will need to identify yourselves as RADIO TEAM members. We will need at least 10 HAMS to safely cover the course”.

MEMA COMMUNICATIONS EXERCISE – AUGUST 8, 2011

HURRICANE HANNAH

The Massachusetts Emergency Management Agency (MEMA) Region II conducted a Hurricane Drill on August 8, 2011 to test the communication capabilities and decision making skills of the local cities and towns Emergency Management Agency teams.

The local city and town Radio Amateur Civil Emergency Service (RACES) HAMS were participating with MEMA Region II headquarters located in “The Bunker” on the State Prison property in Bridgewater. There were SKYWARN Observers participating with the National Weather Service – Taunton and there were Amateur Radio Emergency Service (ARES) HAMS participating with the ARES Command Center located at the town of Bridgewater EOC.

Mike Leger N1YLQ, the newly appointed MEMA Region II Radio Officer, said that the purpose of the drill was to identify failures and develop workarounds like simplex operation and use relay stations to pass emergency traffic, test other communication modes like VOiP, and practice damage assessment information gathering much like the SKYWARN Observers do.

MASS. EMERGENCY MANAGEMENT AGENCY REGION II HEADQUARTERS CREW



Shown at MEMA Region II headquarters, following the Hurricane Hannah Drill, were - back row L. to R. - **John Miller N1UMJ**, **Chuck Cotnoir KB1IHU**, **Carl Sawejko WA1PQT**, **James Mannion – MEMA Region II Manager**, and **Bruce Hayden N1X**. Seen - front row L. to R. **Mike Leger N1YLQ**, **Doug Forbes Jr. – MEMA Region II Local Coordinator**. and **Rick LaTour MEMA Regional Planner**.

MEMA Region II headquarters had four 2-Meter NETs operating at the same time covering South Eastern New England along with PACKET and other modes of communication like Web EOC and other VHF and HF frequencies.

The four Net Control Operators were **John Miller N1UMJ**, **Bruce Hayden Ni1X**, **Carl Sawejko WA1PQT** and **Mike Leger N1YLQ**. They were handling both formal and tactical traffic to gather disaster intelligence and situational awareness from the local cities and towns. Low power was used to prevent intermod.

MASS. EMERGENCY MANAGEMENT AGENCY REGION II HEADQUARTERS Cont:

Some of the amateur radio goals and objectives of the MEMA Communication Drill, as observed first hand by “**The Bruce**” **NI1X**, acting as a Region II Net Control Operator, are as follows:

BACKUP NET CONTROL OPERATORS were assigned. For example, **Frank O’Laughlin WQ1O** (Off site – on the Cape) was Net Control Operator for the Cape and Islands Net while **Carl Sawejko WA1PQT**, a Region II Net Control Operator, operated PACKET radio at MEMA Region II..

LIAISON STATIONS were established. For example **Jeff Lehmann N1ZZN** was asked to provide liaison between the local SKYWARN Net and Region II.

HOSPITAL COORDINATION: For example South Shore Hospital was put in direct contact with the town of Marshfield EOC to ascertain more detail about the condition of patients on route to the South Shore Hospital.

BACKUP REPEATERS were utilized: For example - Whitman EOC messages were relayed to MEMA Region II by the Hanson EOC by first relaying the messages to the Hanson EOC by utilizing the backup Whitman REPEATER.

RELAYS were established. For example the Brockton EOC was able to relay SIMPLEX messages from the Whitman EOC to MEMA Region II. A home station could have provided the same relay service and free up the City of Brockton EOC. For example – **Jeff Lehmann N1ZZN** tried but found he could not contact the Whitman EOC by SIMPLEX.

SIMPLEX operation was tested when the participants were told all REPEATERS were off line and instructed to go the REPEATER output frequency and operate SIMPLEX. Used to identify weak links.

UN-SUBSTANTIATED REPORTS were handled by instructing local town’s to check it out

MUTUAL AID was evaluated with the intention of sharing resources.

STAFFING AVAILABILITY was assessed with the intent of assigning some of the available volunteers to a second shift or rotating shift.

MANSFIELD EMERGENCY OPERATIONS CENTER

Jeremy Breef-Pilz KB1REQ reports: “ I was coordinating the effort from the Mansfield Emergency Management Agency under the call sign **KB1JJE**.

We were active mostly on the RACES NET, where we found that everything worked very well. Mansfield has some newly minted operators who used this drill as a valuable Emergency Communications training exercise.

Along with myself (**KB1REQ**), the HAMS present at the Mansfield EOC were:”



**Jeremy
KB1REQ**

**AA1TI Rick Cantin
KB1UGE Bob Allen**

**NM1B Matt Brennan
KB1UGH Mike Allen**

**KB1UGG
KB1UMC**

**Val Allen
Ron Bokleman**

TAUNTON EMERGENCY MANAGEMENT AGENCY (TEMA)

EMERGENCY OPERATIONS CENTER



Don Burke KB1LXH

Barry Kennedy N1EZH

Rudy Burer KB1LXI – Assistant Director of TEMA reports that the Taunton Emergency Management Agency office has been relocated and is operating out of a trailer ever since a fire forced the evacuation of the Taunton City Hall building.



Rudy Burer KB1LXI

Temporary portable antennas had been tested on the trailer roof and on vehicles but did not work well in the current trailer location.



Portable tower

PROBLEM SOLVED: The TEMA Amateur Radio volunteers rose to the challenge for the Hurricane Drill. **Greg Glynn W1VFB** supplied a portable tower and Diamond X50A 2-Meter / 440 MHz vertical antenna. **Don Burke KB1LXH** secured the portable tripod mast stand in his truck bed and the amateur radio volunteers were able to set up a portable tower with a 2-Meter antenna, about 30 feet high, beside the TEMA Emergency Operations Center trailer. This arrangement provided for good signal reports and good simplex operations. For TEMA personal safety - It is understood that the TEMA trailer would not be occupied until after the Hurricane passes by and the tower would require additional storm guying. Following a major Hurricane - HAM radio has been one of the first modes of communication to get back on the air.

NATIONAL WEATHER SERVICE -- TAUNTON

Greg Glynn W1GMF reported that he volunteered to help out during the Hurricane Drill at National Weather with **Phil McLaughlin KB1CYO**, **Joanne McLaughlin KB1FVN** and **Rob Macedo KD1CY**.



Greg W1VFB



Phil KB1CYO



Joanne KB1FVN



Rob KD1CY



SOUTH SHORE HOSPITAL AMATEUR RADIO VOLUNTEERS



John O'Neill KB1OEQ reported 12 South Shore Hospital amateur radio volunteers responded for the Hurricane Drill. The participants were:

N1VTI	Paul Burbine	KC1JET	Jim Tynan	KB1QEM	John O'Neill
KB1SVY	John Duprey	W1JT	Jim Tovet	KB1TEG	Jeff Boltz
KB1UBX	Karen Trask	WA1ZKK	Al Craddock	W1SM	Al Drollett
KB1UBZ	Joan Cooper-Zack	KB1UCA	Robert Keaney	K1BBM	John Barbuto

John O'Neill KB1QEM reported that the South Shore Hospital amateur radio volunteers tested both 2-Meter voice and PACKET radio during the Hurricane Hannah drill. A remote shelter was set up and volunteers dispatched to set up communication at the remote location. An E-Mail message was sent via PACKET radio, from the South Shore Hospital, to test and demonstrate this somewhat secure mode of operation.

LESSONS LEARNED: **John KB1QEM** reports that the South Shore Hospital is in a unique position – because of its high elevation - to provide SIMPLEX RELAY support for MEMA Region II.

HANSON EMERGENCY OPERATIONS CENTER

Kevin Dykes KB1MOC improvised and provided a RELAY for the Whitman Emergency Operation Center (EOC) from the Hanson EOC when they experienced local internal interference problems blocking the reception of all but very strong signals.

Kevin KB1MOC used the Local Whitman REPEATER as a backup REPEATER and was able to communicate with the Whitman EOC and relay messages to the MEMA Region II Net Control Operator who was operating on the designated Norwell REPEATER frequency.

Kevin KB1MOC reports: "At the Hanson EOC There were just two of us. **Bob Brown SWL**, the Highway Dept. foreman, and myself. The Emergency Management Agency Director was unable to make it but he called me and told me to "do what ever it takes". **Bob SWL** was there last year and was able to realistically give me facts for the AR-2 form this year. The relaying for Whitman was a lot of fun".



Kevin Dykes
KB1MOC

WHITMAN EMERGENCY OPERATIONS CENTER

Whitman Club members **Bill Hayden N1FRE** and **Ron Stundze KB1OEQ** participated with the town of Whitman during the Hurricane Hannah communications drill.

Fire Chief and WEMA Director **Timothy Grenno** utilized **Ron Stundze KB1OEQ** and other Community Emergency Response Team (CERT) members by sending them to various locations in town where envelopes were pre-positioned containing descriptions of damage at that location. The reports were then radioed in to the Emergency Operations Center (EOC). A complete write up can be found on Pg. 9 of the August 11, 2011 Whitman Times where this photo of **Bill N1FRE** came from.



Ron KB1OEQ
(old photo)

Bill Hayden N1FRE established communication with MEMA Region II Headquarters by first overcoming a Comcast interference problem blocking the receive function at the Whitman EOC.

Messages were relayed through the Hanson EOC by utilizing the Whitman REPEATER as a backup REPEATER during the initial phase of the Hurricane scenario. During the SIMPLEX scenario, with REPEATERS off line, messages were relayed through the Brockton EOC. This demonstrated two workarounds, utilizing **BACKUP REPEATERS** and **RELAYS**, that were objectives of this exercise.



CHECK LIST: Bill Hayden, CERT member and radio officer the for town of Whitman, sets up portable radios prior to the drill.

Bill Hayden N1FRE

BRIDGEWATER EMERGENCY OPERATIONS CENTER

AND AMATEUR RADIO EMERGENCY SERVICE (ARES) COMMAND CENTER

Carl Aveni N1FY reports: " We performed a dual role at the Bridgewater EOC; one as the RACES communication aspect; and one as the Eastern Mass. ARES Command Center.

As the RACES component of the drill, we received the various messages from National Weather and MEMA Region II and responded appropriately for the town of Bridgewater.

As the Eastern Mass. ARES Command Center, we were monitoring various frequencies to remain situationally aware of what was happening in Eastern Mass as well as what support might be needed from the Amateur Radio Emergency Service. As such, we had established contact with the National Weather Service through the New England Gateway (EchoLink), with MEMA Region II through 2-Meters and the MEMA VHF radio network, with the ARES sub-regional command centers at the Acushnet EOC and the Clay Center in Brookline, by means of 2-Meters and our Internet phone system, and with the various amateur radio operations in EOCs around Eastern Mass (including but not limited to Taunton, Mansfield, Brockton, Whitman, and South Shore Hospital)".



Mike Neilsen W1MPN

Carl Aveni N1FY

BRIDGEWATER EMERGENCY OPERATIONS CENTER Cont:

Carl N1FY further reports that they “were a bit limited because of antenna issues that will need to be addressed, but felt the drill went well. **Mike Neilson W1MPN**, Special Consultant to Eastern Mass ARES was present to assist me during this drill” The picture is from a prior year Hurricane drill.

RADIO-ACTIVE VACATION By: Jeremy Breef-Pilz KB1REQ

HF operating is one of the things that I enjoy most about amateur radio, and it is something I try to experience as much as I can. Each area has different characteristics that effect propagation and make portable HF operating infinitely interesting.

This summer I was again able to set my station in a great spot for HF radio, on Massachusetts' south coast in Onset. This is the same place I operated from last year with similar success. It continues to be one of the best geographic locations I have operated from, thanks to its proximity to coastal waters. Being close to water, especially the salt water of a bay or ocean, helps in two ways: providing an unobstructed path for the radio waves and creating an enhanced ground plane. I am able to take full advantage of these properties by using the Whitman ARC's OutBacker Vertical antenna, an antenna that has a low take-off angle and thrives on a broad ground plane. I have been continually tweaking the antenna's configuration and this how it was set up this year: using the matching tripod, I placed the antenna on the front edge of the lawn, then coupled the tripod with the earth using three 8 inch lag bolts. Also this year I used three wire radials, two of 100 foot length that ran along either side of the yard and one of fifty foot length that ran onto the beach. From the reports I received on the air, using the longer radials helped me effectively rival last year's performance.

I was on the air within an hour of beginning setup and started calling “CQ” on 20-Meters, which would be my main band for the entire week. The first night the band was very short for a change, while surprising it was nice to work some of the stations we cant usually work on that band. I kept a similar schedule for most of the week, getting on the air around 8:00 in the evening each night and operating for a few hours. I had some great QSO's and was able to work many stations that were portable themselves and even some that were running QRP! All my contacts were made in Single Sideband, I brought my Signalink USB interface but I had some issues implementing it and never got it to work.

In total, from Sunday to Saturday, I made 131 QSO's. I was able to work 'coast to coast' each night working mostly domestic stations, though I did work fifteen different DX entities. My favorite QSO came at 1:26 AM local time with **VK7NET/P, Wayne**, who was also operating portable with 100 watts and a vertical from Tasmania.

The entire vacation was a lot of fun with some fantastic weather, and it was great to get in some great HF operating in the mix too.



Jeremy KB1REQ



Onset, MA. QTH



OutBacker



Portable Rig

73 From: Jeremy KB1REQ



WHITMAN AMATEUR RADIO CLUB, INC.

A Non-Profit Corporation Serving the Public in Time of Emergency



Post Office Box 48
Whitman, MA 02382

ARRL Club #0082
Club Call Sign: WAINPO

MEETING SCHEDULE

Meetings are held on the first
Wednesday of each month

The next meeting will be held at the
Whitman Public Library, which is
located at 100 Webster Street
in Whitman, Mass.

NEXT MEETING

Wednesday, Sept. 7th at 6:30 p.m.
Whitman Public Library

CLUB OFFICERS

President	John Duprey	KB1SVY
V. President	Paul Moss	KB1MTW
Secretary	Karen Trask	KB1UBX
Treasurer	Jeff Tracy	N1SOM
Director 2012	Barbara Rice	K1MRH
Director 2013	John Murphy	KB1PHN
Director 2014	Roy Logan	KB1CYV
Director - Past Pres.	Paul Burbine	N1VTI

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Club REPEATER 147.225 MHz PL 67

Club IRLP Node 8691

Club EchoLink WA1NPO-R Whitman MA USA -- Club EchoLink Node 484193

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