



Eclipse Science at the Club Level

A local radio club's experiences in and around the eclipse

J.W. "Skip" Youngberg, K1NKR

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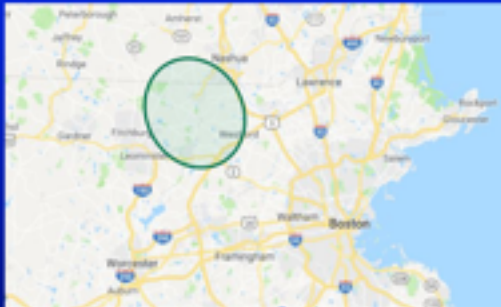
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(includes notes)

Following the announcement of HamSCI activities for the 2017 solar eclipse, the Nashoba Valley Radio Club (NVARC) undertook a significant effort to participate. The experience was positive for the club and—we hope—contributed to the overall science effort. This presentation reviews various aspects of the club's participation and notes lessons for future HamSCI activities.

Author's biography. *J.W. "Skip" Youngberg, K1NKR, of Tyngsboro MA, has been licensed since 1960. Although primarily a VHF/UHF/SHF operator, he has dabbled in many areas of the hobby. Now retired, he spent his US Air Force and civilian careers developing systems for communications, navigation, intelligence and electronic warfare. Skip can be reached at K1NKR@arrl.net.*

Club Profile

- Nashoba Valley Amateur Radio Club
 - Serves about 18 communities around Pepperell and Groton, Massachusetts
 - One of six clubs in the immediate area
 - ARRL affiliate, Special Service Club



As a bit of introduction, NVARC, the Nashoba Valley amateur Radio Club is “just your typical club—medium sized and serving a local population.

Notes:

There are 149 ARRL affiliated clubs in the New England Division;
38 in Eastern Massachusetts;
10 in Western Massachusetts;
16 in New Hampshire.

Club Profile *(continued)*

- A “local, multi-interest, full-service association.”
- About 60 members
 - About 40 paid-up at any time
 - Typical meeting attendance: 24
- One formal meeting per month *(third Thursday evening)*
 - Informal Saturday breakfast
 - *Ad-hoc* special interest groups
- Meetings and activities, but no assets.
 - 3-band repeater. *Owned by a member.*
 - Trailered 100-foot tower. *Owned by a group of members.*



The club intentionally stays away from being “a contest club,” “a repeater club,” a “public service club,” or a “science club.” It seeks to serve all members of the local Radio Amateur community.

Club Profile *(continued)*

- A multi-interest association
 - 10% participation rule

"Except for Field Day and major public service events, 10% is a successful showing."

- Field Day
- ILLW (Lighthouse Weekend mini-DXpedition)
- Girl Scout Thinking Day On The Air
- National Parks On the Air
- Tech Night
- Groton Road Race
- Boston Marathon
- Lantern Battery Challenge
- Annual W1 Bureau QSL Sort
- SEQP



Satisfying a multi-interest club can be challenging (often prompting the “how do we light a fire under a wet blanket” conversation). We’ve learned that any activity which involves 10% or more of the club is a success.

Notes:

International Lighthouse Lightship Weekend. Three years (1999-1999), 4-6 participants. Three-plus hour ride, plus overnight accommodations in a high-cost vacation area.

TDOTA. Three years so far (2015-2018+), 6 participants. Immense publicity.

Tech Night. Three years (2012-2016), 6-10 participants. Activity/Elmering sessions. Copied (to satisfy other goals) by other local clubs.

Groton Road Race. Principal source of inter-town police/EMT communications.

Many years (1993-2017+), 20-30 participants. High-interest public service activity with guest clubs.

Lantern Battery Challenge. (How many QSOs can you make with one 12-volt “lantern battery” stack?) Three years (2014-2017), 6-8 participants. Operating event with ceremony.

W1 QSL Sort. Many years (1999-2017+), 20-30 participants. High-interest service meeting with guest clubs.

Genesis

Haystack Observatory

It's not just a cool place to visit

- Geographic neighbor
- Spectral neighbor

New NVARC members
in 2016-17 season



We live in the shadow of the MIT Haystack Observatory. We also coexist with its 440MHz and L-band emissions. Until recently though, it was just the place for an irregularly occasional visit.

In 2016, Phil Erickson, W1PJE, and his colleague Will Rogers, KD4FOV, came to a meeting and joined NVARC.

Haystack's New Outreach

Pepperell MA, 20 April 2017. The Nashoba Valley ARC (NVARC) was hosted for its April meeting by member Dr Phil Erickson, W1PJE, at the MIT Haystack Observatory. Highlights of the meeting included a talk on E-skip by club member Joe Dzekevich, K1YOW, discussions with the Haystack staff and 25 visiting students from the University of Pennsylvania, and a tour of the Haystack radiotelescope.

Also at the meeting Dr Erickson and Stan Pozerski, KD1LE, announced a new cooperative arrangement between NVARC and Haystack which will encompass (among other things yet to be proposed) mutual outreach to youth, the possibility of joint EME activities, and the conduct of "HamSCI" experiments.





So, what did NVARC do in association with the eclipse?

SEQP/Eclipse Schedule

- Initiation April
- Talk-up June club meeting
(and at other clubs in June and July)
- Preparation months of June, July, August
- Activity 21 August
- Breather zzzzz...



Leadership

- Bob Reif, W1XP
 - Early WSPR adopter
 - Tech talks on propagation surprises, "sound card" modes
- Stan Pozerski, KD1LE (club president)
 - Led the charge within NVARC
 - Briefed five other Massachusetts and New Hampshire clubs
 - Elmered/troubleshoot station configurations
 - Introduced WSPR to general use



Bob, W1XP, had discovered the utility of WSPR some time in the past and talked it up among the club. There was a little interest, but no real movement.

When he heard of the HamSCI eclipse activity, Stan, KD1LE, started an in-club activity to participate—hoping to satisfy the 10% rule.

Note:

NVARC, Billerica (MA) ARS, PART of Westford (MA), Contoocook (NH) Valley RC, Granite State (NH) ARA

Participation

- Locations
 - Massachusetts
 - Missouri
 - New Hampshire
 - North Carolina
 - South Carolina



On 21 August we had members deployed at various sites in the eastern US. Most, admittedly, were at or near home. But some had the opportunity to travel, either prompted by the eclipse itself or just conveniently to visit relatives.

Participation

Call	QTH	Grid	WSPR	Observe	Other	Equipment
AB1WC	Greenville, SC	EM84su		Observe		
AB1RB	Columbia, MO	EM18	WSPR-T (80m)	Observe		dedicated
K2NKR	Tyngsboro, MA	FN42gp	WSPR-T/R (10m)	Observe	SEQP (40m)	primary station
K2NKR	E. Wakefield, NH	FN43mo	WSPR-R (40m)			primary station
K2SMD	Hollis, NH	FN42fs	WSPR-T/R (75m)			primary station
K2SMD			WSPR-T/R (40m)			primary station
K2SMD	Salmon, NH	FN42js	WSPR-R (40m)			public demo
K2YQW	Haverd, MA	FN42fk			FT8 (10m, 6m)	primary station
K2LHFT	N. Chelmsford, MA	FN42hp	WSPR-T/R (10m)			primary station
K2LHVV	Raymond, NH	FN43js		Observe		
ED1LE	Pepperell, MA	FN42eq	WSPR-T/R (160m)			primary station
			WSPR-T/R (80m)			primary station
			WSPR-T/R (40m)			dedicated
			WSPR-T/R (10m)			dedicated
ED1SM	Liskenburg, MA	FN42do	WSPR-T/R (10m)			primary station
KK1X	Ayer, MA	FN42en	WSPR-T/R (80m)			primary station
			WSPR-T/R (40m)			primary station
			WSPR-R (6m)			primary station
W2HBS	Pepperell, MA	FN42eq	WSPR-T/R (40m)			primary station
W2XP	Hampstead, NC	FM14bi	WSPR-R (150m)	Observe		primary station
WY1X	Groton, MA	FN42fo	WSPR-T/R (80-10m hopping)			primary station
KW2T	Shirley, MA	FN42eo	WSPR-T/R (20m)			primary station
KW2T	Eastley, SC	EM84		Observe		
NRVIM	Pepperell, MA	FN42fs	WSPR-T/R (40m)			primary station
15 participants	16 locations		20 (+2) stations			

All in all, we had 15 participants activating more than 20 stations in 16 separate locations, and/or observing, and/or operating in the SEQP.

We beat 10-percent.

Results

- Activity, excitement
- New indigenous capabilities and skills
- Reports



Observations

*Our feedback
to future
research sponsors*

- Flag waving is necessary.
 - Things don't just happen on their own merit.
- Motivation.
 - What's the reward? Contesting? Achievement? Remuneration? Fame?
- Displacement versus permanence.
 - Hams have a great inventory of usable equipment, but it may be otherwise committed in the long run.



The reason for this talk is to provide feedback to research sponsors who might be considering other HamSCI campaigns.

Observations *(cont.)*

- Feedback from sponsors
 - Needs to be more active.
- Duration, longevity *(a personal prediction)*
 - Without feedback - once and over
maybe even negative critique
 - With feedback - maybe three years



Contact

- Address all:
 - Skip Youngberg, K1NKR
K1NKR@arri.net
 - Dr Phil Erickson, W1PJE
pje@haystack.mit.edu
 - NVARC_Board@N1NC.org

