

Nova Notes

The Newsletter of the Halifax Centre of the Royal Astronomical Society of Canada



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Front Page Photo: Keith Walker	



Keith Walker took this photo of NGC 6946: The 'Fireworks Galaxy' in July 2014. This face on galaxy in the constellations Cepheus and Cygnus is 22.5 million ly away. It is home to eight supernovae observed over the last century giving credence to its name. It is 11.5 x 9.8 arcmin in the sky with a magnitude of 9.6. 4 frames @ 15 min of Ha, 6 frames each @ 5 min of LRGB, Orion 200mm f/4 Newtonian, Atik 383L+

From the editor

Tony Schellinck

With some trepidation I have taken on the position of Nova Notes editor, I have big shoes to fill given the excellent job Quinn Smith did over the last seven years. However, I know I have the support of a group of active RASC members who are willing to supply me with interesting, or at least informative, material for inclusion in each issue. There were thirteen contributors to the current issue and sufficient material to warrant expanding it to 16 pages. Much of the content found on the back ten pages, is comprised of annual reports which will make interesting reading for many. However, the key article in this issue is found on page three which is a synopsis of the historical perspectives given by Roy Bishop and Paul Gray at the January meeting. I have also introduced a new column which provides a profile of a member of RASC, someone who does not appear regularly in these pages but has an interesting story to tell. In this issue, we profile Karen Hamblin who has had a long time interest in astronomy and has been a frequent visitor to Nova East.

St. Croix Observatory

Part of your membership in the Halifax RASC includes access to our observatory, located in the community of St. Croix, N.S.. The site has grown over the last few years to include a roll-off roof observatory with electrical outlets, use of the Centre's new Go-To 400-mm Dobsonian telescope and 100-mm binoculars, a warm-room, and washroom facilities.

Enjoy dark pristine skies far away from city lights, and the company of like minded observers searching out those faint "fuzzies" in the night. Observing nights (Fridays close to the New Moon or Saturday backup) are open to both members and their guests. If you are not a key holder and would like to become one, or need more information, please contact the SCO Manager, Alex LeCreux (for contact info, see below).

Upcoming Observing Nights:

February	13th	2015
March	13th	2015
April	10th	2015

Meetings begin at 7:30 p.m. at Saint Mary's

University in Room AT 101.

February 20th, 2015

Special Guest Speaker, RASC National President, James Edgar who will give a talk: Synthesis of Elements in the Stars.

March 20th 2015

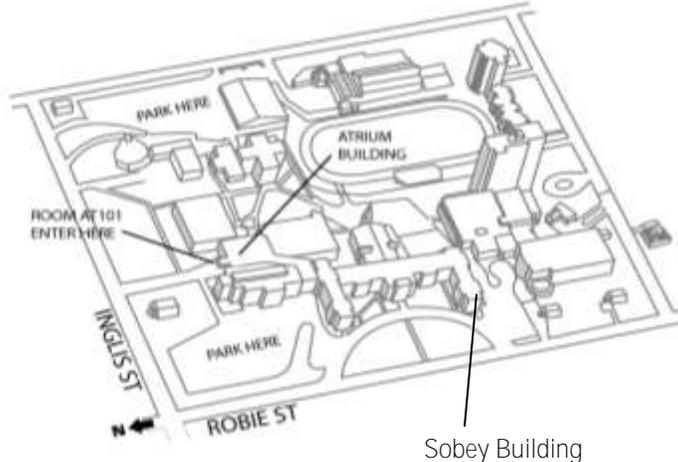
TBA

All meeting location and contents subject to change

Meeting Location: Saint Mary's University

Atrium Building
Room AT 101

The Atrium is located in front of the Patrick Power Library, between the Burke Building and Science Building.



Meetings are usually held on the third Friday of the month, except for the months of July and August, when there are no meetings.

Executive meetings begin at 6:30 p.m., usually in room AT 306, and all members are welcome.

Halifax RASC Executive, 2015:

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A Brief History of the RASC Halifax Centre

by Roy Bishop

I became President of the Halifax Centre in January 1975, and Paul Gray did the same precisely 40 years later. Paul and I spoke at the 2015 January meeting on the history of the Halifax Centre. Tony Schellinck, your new Editor of *Nova Notes*, asked us for a highlight report, and Paul told me to go ahead!

1951 – The *Nova Scotia Astronomical Society* was founded. Father Burke-Gaffney of St. Mary's University was involved, and became the Honorary President of the new society.

1955 January – The NSAS became the Halifax Centre of the RASC (with 30 members). Donald Crowdis, Director of the *Nova Scotia Museum of Science* was the central person in the Halifax Centre in the 1950s. Meetings were held in the Museum, located on Spring Garden Road, across from the old Halifax Library.

1956 – A planetarium with a Spitz model A-1 projector was added to the Science Museum. On March 5 that year I sat with my grade 11 class under the planetarium dome while Crowdis gave us a show. I was impressed. The planetarium was in active use until 1965 when Crowdis left Halifax to join the proposed Ontario Science Centre.

1967 to 1970 – The Centre was not active. It may have been a coincidence, but four remarkable astronomical events took place in the months just prior to the reappearance of the Halifax Centre:

1. The first Moon landing (1969 July 20)
2. A total solar eclipse crossed Nova Scotia (1970 March 7)
3. A bright comet: Bennett (March & April 1970)
4. A transit of Mercury (1970 May 9)

1970 – That summer, Barry Matthews re-activated the Centre by calling a meeting for September 18 at the new *Nova Scotia Museum* on Summer Street. In addi-

tion to Barry, among the 37 present were Father Burke-Gaffney, a student from Acadia University named David Levy, a prof from Acadia named Roy Bishop, and a teacher from the Valley, Sherman Williams. Barry Matthews moved to Ottawa shortly thereafter, but his initiative worked. The Halifax Centre was off and running.

1975 – The Halifax Centre hosted the first RASC GA in Atlantic Canada.



These three gentlemen were at the first meeting of the re-activated Halifax Centre in 1970. Here, 35 years later, from left-to-right: Roy Bishop, Barry Matthews, and David Levy. (Roy Bishop photo)

1977 – *Camping Observing Weekend* (later *Nova East*) began.

1978? – With help from some members of the Halifax Centre, the 1956 planetarium came out of storage and began operating in the Dunn building at Dalhousie University.

1980 – The Halifax Centre hosted the second RASC GA in Atlantic Canada, a joint meeting with the Canadian Astronomical Society.

1987 – *Nova East* established at Fundy National Park.

1993 – The Halifax Centre hosted the third RASC GA in Atlantic Canada.

1995 – Using the St. Mary’s *Burke-Gaffney Observatory*, two Centre members, Paul Gray and David Lane discovered the first supernova to be found from Canada.

1995 – Lease signed with Minas Basin Pulp & Power for the St. Croix Observatory site, and forest clearing began.

1996, night of March 24/25 – At St. Croix, Comet Hyakutake provided the sight of a lifetime.

1997 – *St. Croix Observatory* officially opened, at solar noon on the summer solstice.

1998 – Several Centre members viewed the February 26 total solar eclipse from Curacao.

1999 – Several Centre members viewed the August 11 total solar eclipse off the coast of Nova Scotia.

2000 – *Nova East* moved to Smileys Provincial Park.

2002 – Five Centre members (Roy Bishop, David Lane,



Halifax Centre Honorary President Father Burke-Gaffney shakes hands with Carl Sagan while Cyrus Eaton speaks to them. Wallace Bridge, Nova Scotia, 1972 July 9, one day before a total solar eclipse crossed the province. (Roy Bishop photo)

Greg Palman, Bill Thurlow, and Mary Lou Whitehorne) spent a week observing on the summit of Mauna Kea, Hawaii, resulting in three published papers.

2009 – The *International Year of Astronomy*. Several Centre members were active locally and nationally with public events. The *Astronomy Nova Scotia* website was created, and a radio link to astronaut Robert Thirsk on the *International Space Station* was part of *Nova East* that summer.

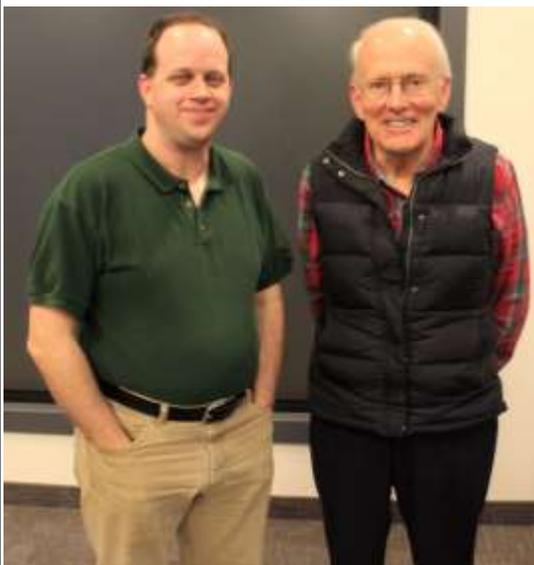
2010 – *Kejimikujik National Park* became a Dark Sky Preserve, thanks to Quinn Smith and David Chapman.

2012 – The Halifax Centre decided to host the 2015 GA.

Like any volunteer organization, the Halifax Centre could not exist without members willing to step forward and lead it. Lest they be forgotten, here are the Centre Presidents during the past 60 years:

1955 – B.J. Edwards
 1956, 1957 – James Paul
 1958 – Leonard Carrigan
 1959 – M.E. Higgins
 1960 – ?

1961 – B.W. Allen
 1962 – John Connelly
 1963, 1964 – A.A. Mills
 1965 – Robert Bagg
 1966 – Alan Whitman
 1967-1969 – (Nil)
 1970 – Barry Matthews
 1971 – John Shaw
 1972 – Walter Zukauskas
 1973, 1974 – Murray Cunningham
 1975, 1976 – Roy Bishop
 1977 – David DuPuy
 1978, 1979 – Michael Edwards
 1980 – Randall Brooks
 1981 – Peter Edwards



Paul Gray and Roy Bishop each presented their history of the Halifax RASC Centre during the January 2015 meeting. (Tony Schellinck photo)

1983, 1984 – Kathy Oakley
 1985, 1986 – Norman Scrimger
 1987 – Kathy Oakley
 1988 – Darren Parker
 1989 – Joe Yurchesyn
 1990, 1991 – Mary Lou Whitehorne
 1992, 1993 – Patrick Kelly
 1994, 1995 – David Lane
 1996, 1997 – David Chapman
 1998, 1999 – Clint Shannon
 2000, 2001 – David Tindall
 2002 – Mary Lou Whitehorne
 2003, 2004 – Steve Tancock
 2005, 2006 – Craig Levine
 2007, 2008 – Paul Evans
 2009 – Andrea Misner, followed by Wes Howie
 2010, 2011 – Richard Vanderberg
 2012 – Robert Bussi eres
 2013, 2014 – Paul Heath
 2015, – Paul Gray

and the Honorary Presidents:

1955 – 1966, 1975 – 1979 Father Burke-Gaffney
 1980 – 1984 Dr. William Holden
 1985 – 1998 Dr. Murray Cunningham
 1998 – Dr. Roy Bishop

When I was appointed in 1998, I remarked to the audience: “I feel pretty good, so you might be stuck with me a long time!”



Comet Hyakutake on the night of 1996 March 24/25. 10 minute exposure on Ektachrome 1600 35 mm film, 100 mm, f/2.8, guided on the comet nucleus. (Roy Bishop photo)



Halifax Centre Honorary Presidents Dr. William Holden (1980-84) on the left, and Dr. Murray Cunningham (1985-98). (Roy Bishop photos)

Of the 29 RASC Centres across Canada, in terms of contributions to the National Society, the Halifax Centre has a remarkable record. Our Centre has provided three RASC Presidents, one Honorary President, two Secretaries, and six Editors (one for the *Journal*, two for the *Observer’s Calendar*, and three for the *Observer’s Handbook*). A dozen Halifax Centre members have contributed nationally in roles such as webmaster, director, assistant editor or contributing editor to the *Journal*, production and design of the *Journal*, and contributor to the *Observer’s Handbook*.

Dave XVII Chapman’s recent comment on the hfxrasclist cites more evidence for this remarkable national involvement: “3/8 of all FRASCals are RASC Halifax members! Halifax rocks! Especially in 2015!”

Perhaps it is the Atlantic fog that is responsible for this stellar national performance.

Member Profile : Karen Hamblin

Tony Schellinck

A resident of Kentville and a long-time member of the Minas Astronomy Group (MAG), Karen Hamblin became interested in astronomy one night when her mom pointed out the big dipper in the night sky. She took Astronomy Physics as her science course while completing her undergraduate degree at Guelph. Her first scope was an Astroscan, one of those scopes with a large ball at the base. Karen has owned a 10 inch dobsonian for a long time and recently she gave away her 80 mm refractor to a young person who she is pleased to say is making good use of it.

Karen was always looking at the sky to pick out constellations or asterisms such as Cassiopeia. She really enjoys attending the MAG meetings as she finds the talks bring astronomy down to a level where she can understand it. As well, she finds there is a relaxed atmosphere at the meetings which are now held at Roy Bishop's house in Lower Avonport. She has yet to attend a meeting in Halifax as she finds it a long drive from Avonport.

Karen has been attending Nova East for many years off and on and has recently decided to get back into astronomy. She has competing interests however; she plays a trumpet in a band which involves rehearsal time, gigs and practice, and also a very demanding job which means that staying up late at night to view the stars is difficult. (In particular the summer nights are too short and one has to start observing too late in the night.) She also has the problem many people face as her neighbours installed security lights making observing from the back yard difficult. However, she is also reluctant to go out into the country alone to do observing. As well, going out of the town means lugging her equipment out of the garage, into the car and then

setting up; and then repeating it all when she returns. Fortunately she has a relative who lives nearby who has dark skies so she has recently decided that she has a place to go.

Nonetheless her interest in astronomy has been rekindled. What she loves about it are the dark skies, the quiet nights and in particular the search for DSOs. It is the search and discovery of those elusive faint fuzzies that gets her up and out into the dark. She has tried drawing the objects but says she is "spacey" at it and has given up on that. She has renewed working on her Beginners Observing Certificate which she first started 10 years ago. However, she needs equipment that is more portable.



The Halifax RASC monthly meeting ends with the usual round of discussion of everything astronomical. (Tony Schellinck photo)

Her children have reached the age where they are becoming interested in astronomy so she can share her interest with them. She owns property in the country and dreams of building a cottage, having a clearing where she can sit in a dark, safe and convenient location with a good pair of binoculars and search the sky doing what has become a lifelong interest.

Once again, the Halifax Centre had a great year of outreach events in 2014. I would like to thank the event organisers, volunteers and all supporters who made these events possible. The risk in thanking outreach volunteers (and naming them) is that there will be people that I have left out – so I will simply thank all of you for your dedication, commitment, and passion in sharing your joy of astronomy.

Throughout the year we had a total of 28 recorded events, mainly library talks, school talks and public observing events. These were outreach events that were either official Centre events or ones that were reported to the outreach list.

There were many other events, mainly small personal interactions between members and friends, family or the general public. In the end we estimated that our outreach efforts spread the word about astronomy and responsible lighting to over 2,600 members of the public, on top of over 3,000 people who attended planetarium shows.

In the early part of the year, the two main outreach events were the Outdoor Sports and RV show and the SaltScapes show. These were trade show type events, which did not include any observing component, but allowed us to reach over 1100 people to discuss astronomy, responsible lighting, and share the joys of the Nova Scotia skies.

There were two principal observing outreach events during the summer, starting with the annual Dark Sky Weekend at Keji. This event, hosted by the Park on the weekend of August 16/17 is supported by members of the Halifax centre who put on talks, presentations, and observing events. The Dark Sky Weekend was a great success, with over 500 members of the public participating. I would



A previous public viewing. The next is Thursday, 26 February 2015, 6:30–8:00 p.m., at Atlantic Photo Supply, 202 Brownlow Avenue, Burnside Avenue side), Dartmouth, cloud date 27 February. (Blair MacDonald photo)

like to thank Dave Chapman for his tireless work in organising this event.

The second observing event was the next weekend and was our own Nova East Star Party. Each of the observing evenings we host public observing, and year after year the attendance has been increasing. This year we estimated that over 100 members of the public looked through our ‘scopes. Thanks goes in this case to Blair MacDonald who was the Nova East Chair.

In addition to the events that were organised by the Halifax Centre, many members presented at the Halifax Planetarium, located in the

Dunn building at Dalhousie University. I would like to thank the University and in particular Stephen Payne for keeping the planetarium running and taking care of the registrations. Throughout the year there were a total of 124 planetarium shows, with 3,091 members of the public visiting the planetarium. Halifax Centre members presented 34 of these shows with a total of 943 people in attendance.

Actually these numbers are impressive when one considers that Halifax Centre presenters were mainly involved in the evening planetarium shows aimed at adults, where the Halifax Centre was responsible for most (if not all) the shows.

There is much debate about the value of public outreach. In reality it does not gain many members for the Centre, but

in my opinion that is not the main role of outreach. The main goal is to educate, inform, and inspire members of the public, and to that end, there is no question that outreach is very successful. I base this statement on the growing awareness of responsible lighting and the growing understanding by the public of the importance of well designed and correctly used outdoor lighting. This growing awareness, and consequential improvement in outdoor lighting, significantly help astronomy by reducing light pollution.

2014 President's Report

Paul Heath

It has again been a busy, but enjoyable year as the President of our Centre. The assistance of the other executive members was been invaluable in keeping our meetings on track.

I have continued to open our meetings with a FOOD FOR the SOUL poem, and the earlier start time seems to have worked well.

In the last year, we had a series of great guest speakers, who provided us with excellent presentations.

January: We began by recognizing our National Award winners Roy Bishop first Fellowship of the RASC

Mary Lou Whitehorne National Service Award

Kathryn & Nathan Gray – Ken Chilton Prize

Various Centre Members presented a number of short talks on Internet Resources and apps

February: We began by presenting 2 Beginner Explore the Moon Certificates to Jim Millar and Paul Evans. The talks were on Light Pollution – Cause and solutions as well as an overview of how the Keji DSP was developed.

March: We began by presenting a Beginner Observe the Moon Certificate to Greg Dill

Various members described the different Observing programs available through RASC

Tony Schellinck presented touring Southern African Large Telescope We had a tour of the upgraded Burke Gaffney Observatory

Also in March we had a successful and busy weekend at the Outdoor Sports and RV show

April: Dan Faulk packed the house for his talk on his new book 'Science of Shakespeare'

SaltScapes was again a success. Many thanks to Brian Giffin of At-

lantic Photo Supply for hosting RASC at his booth again this year.

SCO work party was a busy but successful day

May: Our own Lunatic Dave Chapman and Cathy LeBlanc –Acadian First Nations presented a wonderful and entertaining talk 'In Search of the Thirteenth mi'kmaw Moon'.

June: we met at the St.Croix Observatory for a social meeting at our observatory. Dave Chapman led a how to for the 16" Dob and there was a general discussion about topics for upcoming meetings, possible all sky camera, how to build our membership with younger people.

August: The summer found us busy with the 5th Keji Dark Sky Weekend, a great mix of presentations from both RASC members and Keji Park Interpreters. Nova East was again a great weekend. With the addition of the permanent kiosk building our presentations have found a dry home. See Sept/Oct NN for full details.

September: Introductory observing – Finding Your way around the sky- Chris Young

Tips for practical observing-myself.

October: David Griffith –They Came from Outer Space a great talk on meteorites and meteorite collecting.

November: Telescope clinic. Some discussion on type of scopes and how they worked and best use of each. Paul Gray went over Binoculars – their benefits and use. We had one audience member that had questions about fixing his telescope.

December: The Annual General Meeting.

All in all, we had a good mix of subjects and captivating speakers.

I would like to give special thanks to our members from the South Shore and Western Valley, who have been leading successful outreach events in Liverpool, Annapolis Royal and surrounding area. It is great to see dedicated members of RASC having fun showing others the joys of the night

sky. Thank you for all your hard work, Wayne Mansfield, Philip Bentley, Tony Schellinck, Jerry Dievaux and Melody and Bruce Hamilton.

Daniel Majaess again introduced RASC to a younger audience, by having his students at SMU and MSVU, participate in our meetings and events. It has been good to see the students participate again this year. We have had a very good turnout to



Dave Chapman peers through a pair of Celestron 15 x 70 binoculars while giving a demonstration of how a monopod could provide the required stability for observing at the January 2015 meeting. (Tony Schellinck photo)

our monthly meetings and our outreach events.

Atlantic Photo Supply again sponsored us at the Saltscapes show, hosted an Astrophoto workshop, held sidewalk observing events at their store, and helped with presentations and photo judging at Nova East. The partnership we have with Brian Giffin and Atlantic Photo Supply has been a tremendous boost for our Centre.

This year Nova East, Atlantic Canada's regional star party, gave us a treat -CLEAR SKIES! Many thanks to the Nova East Organizing Committee, Blair MacDonald, Quinn Smith, the Minas Astronomy Group, and Smiley's Provincial Park staff for their hard work in planning, organizing and holding Nova East this year. The addition of a permanent kiosk building was a great boost to Nova East. Also special thanks to this year's special guest speaker, Dr. Rob Thacker, for his talk 'Big Hopes for Big Scopes'. Brian Giffin of Atlantic Photo Supply again helped to judge the Astrophoto contest.

Our partnership with Kejimikujik, Dark Sky Preserve, has continued to be a great success. I would like to express our appreciation to Cathy, Paul, Jill, Jen, Lesley and Ashley Moffat (Supervisor) of Parks Canada who worked hard to sustain and enhance Kejimikujik National Park Dark Sky Preserve certification. In that regard, I would once again like to thank, in particular, Dave Chapman and Quinn Smith, for their continued work to maintain the DSP.

Our GA committee, chaired by Quinn Smith and Pat Kelly, is well



Dave Chapman presented Blair MacDonald with a print of the cover of the 2015 Observer's Handbook that features his photo of M33, (Tony Schellinck photo)

on its way to planning a great GA in July 2015. We gave our pitch at the GA in Victoria. We will soon be looking for volunteers to help in running our GA.

I would like to acknowledge the following organizations and people for their continue support:

- Minas Basin Pulp & Power Company for the outstanding support they provide toward St Croix Observatory; also many thanks to Jamie Carmichael for his daily security checks at SCO.
- Saint Mary's University, who provides us with meeting rooms and logistic support each month.
- Stephen Payne, Dalhousie University for running the Halifax Planetarium program.
- Brian Giffin at Atlantic Photo Supply for having graciously provided us free space and logistic support at

the Saltscapes East Coast Expo.

I would also like to recognize a few Halifax Centre members, whose presence, advice and support was greatly appreciated. In no particular order, Dr. Roy Bishop, Dave Lane, Mary Lou Whitehorne, Chris Young, Blair MacDonald, Dave Chapman, and Pat Kelly.

Personally, I have maintained a busy outreach schedule. Library talks, school presentations, park presentations, sidewalk International Observe the Moon Night, and summer camp presentations.

Before I close, I would like to thank all the Executive, Councils and the Membership, who have supported our Center and have made possible another successful year. And, of course, apologies to all the people and organizations, I have missed.



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Nova Notes is published 5 times a year, in February, April, June/July, September/October, and December.

The deadline for the next edition is March 21st, 2015

The opinions expressed herein are not necessarily those of the Halifax Centre.

Articles on any aspect of Astronomy and Allied Sciences will be considered for publication.

December Meeting Report

Editor

On December 19th the Halifax Chapter of RASC held its Annual General Meeting, hosted by our President Paul Heath. The meeting started at



Alex LeCreux looks on as the centre's new librarians, Andy and Elli Hasler examine content in their new charge. (Tony Schellinck photo)

7:30 p.m. with 21 members and one guest in attendance. Paul opened the meeting with a poem titled "TIC . . . TOC" from his series "Food for the Soul". The meeting's time was devoted to the AGM with reports presented by the executive members in attendance. Most of these reports are published throughout this newsletter. There followed the nomination and election of the 2015 Executive. Of note is the fact that we had John Higgins volunteer from the audience to take over the auditor's role from Dave Lane who had performed that function for the last six years.

There was some exchanging of positions within the executive as Paul Heath ended his term as President to become 1st Vice-President. Ian Anderson moved from Treasurer to 2nd Vice-President, and Quinn Smith moved from Nova Notes editor to

Councilor. The new faces on the 2015 executive are Paul Gray President, Jim Millar Treasurer, Tony Schellinck Nova Notes Editor, councillors Phil Bentley and Graham Rose, as well as Andy and Elli Hasler who have taken over the Librarian duties. Chris Young as Secretary, Alex LeCreux as SCO Manager, Sean Dzafovic as Observing Chair, Pat Kelly as National Representative, and Wesley Howie as Councilor retain their

previous positions on the executive, along with Roy Bishop, our honorary President. Quinn Smith and Pat Kelly continue their role as co-chairs of RASC's 2015 General Assembly to be hosted by the Halifax chapter of RASC. All contact information can be found on page 2.

As a final comment from the audience, Ian Anderson noted that the Halifax Chapter of RASC was approved by National in December of 1954 and had its first meeting January 1955. The upcoming January meeting would therefore mark the 60th anniversary of the chapter

which was active for all but four years over that time. Ian is writing a history of the Halifax RASC chapter, based in part on the Nova Notes in our archives and the older ones found in the Nova Scotia Archives.

As usual the meeting ended with a spirited discussion among the attendees about everything astronomical over cookies, chips and soft drinks.

FOOD FOR THE SOUL
(December meeting-2014)

TIC . . . TOC

The Cycle has turned and
The Sands have run down.
How have we measured
The Tic of the Clock?
A single turn from light to dark
Or Seasons ordered and passed
along our way.
We've sought many moment's
To Sift their meaning, discuss
their How's and Why's.
In the blink of an Eye
We've seen Eons pass us
by,
Moments of Time locked away,
In scattered lights across the sky.
Now once again the Cycle renews
And Sands begin to fall.
We choose a new moment locked
in time
To discuss it's meaning,
it's How and Why,
And as this Cycle begins anew
We hope to find it's reason
Between the Tic . . . Toc
Of Times Eternal Clock.
By Paul Heath

January Meeting Report

Editor

The January meeting was hosted by our new president Paul Gray who announced in February the special guest speaker will be RASC National President, James Edgar who will give a talk: Synthesis of Elements in the Stars.

There were 36 attendees at the meeting. To start the evening Dave Chap-

man presented Blair MacDonald with a reproduction of the 2015 Observer's Handbook cover which featured Blair's photo of M33 (see photo page 9).

The main events of the evening were presentations on the history of the Halifax RASC centre, first by Paul Gray (1980 to the Present) and then by Roy Bishop (see page 3 for a synopsis). Alex LeCreux then gave the monthly What's Up in the sky

presentation. Dave Chapman finished the evening's presentations with a demonstration of the value of a monopod as an image stabilizer when using binoculars for star gazing (see photo page 8).

The evening finished with celebratory cake, cut and served by Sherman Williams and Roy Bishop (see photo page 16), followed by conversation and good cheer.

RASC, Halifax Centre 2014 Treasurer's Report

Deficit of \$1,859.92 for Fiscal 2014

Any year a surplus nears \$1000 for a Centre like Halifax is a good year, so I am pleased to report a surplus of \$978 *on operations* for 2014. Nova East carried us again into "Black August" with a near record surplus. Otherwise, revenues disappointed as membership fees fell after doing better last year.

In December 2013, I stressed concern that the observatory was still overvalued despite efforts to reduce it in recent years. I resolved to take serious cuts at observatory assets, leading with a huge slash to our large scope from the 2000 era with everything else following downward but to a lesser degree. Our auditor suggested a realizable value of \$1500 for the Coulter Tancock 17" so with that amount in mind, it suffered a loss of \$994. Depreciation provisions may not be made by my successors, so I took a last kick at the D&WO category and exacted about a third the proportional deduction to other observatory items for a total of \$2,838.51 in that space. Accordingly, our bottom line for 2014 settled at a \$1,859.92 deficit. Please remember this is only an accounting adjustment. Overall we are still very solvent.

I've served as your treasurer for a total of ten years now - two terms of five years spaced about a dozen years apart. As I depart in early 2015, I offer to serve as advisor and accountant if my successor needs time to learn the ropes and restricts his or her responsibilities to cash handling, deposits, and writing cheques. I'll recommend a small % depreciation is taken on a regular basis; that excess cash be put into short-term paper. I will also recommend predictive budgeting and guidance is adhered to.

Once again, I would like to thank Dave Lane who has been our auditor for the past six years. He has diligently examined the books and has kept me honest. He has had a good overview of the Centre's affairs and has made excellent suggestions. The auditor position will also need a new volunteer in 2015.

I have tried to keep spending in check on many items over the years while opening the purse wide enough when I felt it was warranted. I have personally shown a bias in preferring to spend money on tangible items which we have something to show for and enjoy at St Croix for example. Granted, decisions were not solely mine to make, but I am gratified my guidance was widely accepted by the Centre. I am honoured being given a second run at it, and all told, I think our bookkeeping and inventory practises are a little better than in my first stint as treasurer in 1993-1997. I also believe that as we head into 2015 as hosts of a National General Assembly, our finances are positive going into and out of the GA, and that we have enough reserves to handle challenges in the years ahead.

Respectfully submitted,

Ian R. Anderson
Treasurer, Halifax Centre RASC

Highlights of the 2014 Income Statement

REVENUE:

Membership Fees \$2,799.68: By year-end, 119 regular, 3 youth, and 14 family status members had signed for the year - a bit less than in 2013 when we had 133, 1, and 13 respectively.

Donations \$83.98: 3 individuals donated to the Centre.

Interest \$208.74: Five investment certificates earned 1.578% on \$13,000 invested, plus a paltry \$0.98 was received in the bank account. In 2013, the average was close to \$16,000 at similar interest rates. That is why we made \$45 less.

Sales of Merchandise (Gross) \$805.00: These were RASC calendar and solar filter sales at Nova East.

Nova East (net) \$1,688.69: We finished with this amount after spending \$460 on a first prize 8" telescope. The secret to higher profitability is the savings in not having to rent that tent for \$890!!

Treasurer's Report (Cont.)

Ian Anderson (Treasurer)

Printed Nova Notes Subscriptions Earned \$169.87:

This is what printed newsletters earned this year from members subscribing to hardcopy. 72 printed copies were credited here. This price will increase 42% in fiscal 2015. The increase will be reflected here as printed copies are renewed at the higher price.

EXPENSES:

Meetings \$365.01: Pat Kelly did well enough to keep treat spending under \$250.00 Meeting treats cost us \$208 but our May meeting speaker cost us \$157 to get her here.

Newsletter \$243.54: NN's expenses were inline with expectations, still outpacing revenues earned here.

Cost of Goods Sold \$615.59: The cost of RASC Calendars and solar filter material sold at Nova East.

Equipment and Supplies \$196.10: Expenses associated with shipping costs and trade shows attended.

Office Admin \$254.08: PO Box rental was unchanged this year. A new batch of cheques cost \$56.28.

GA & NO Meetings \$379.70: The cost to send one of us to Victoria BC for the 2014 G.A.

Educational Activities (Outreach) \$635.15: This is up in 2014, as nearly half was gas reimbursements to participants at Keji in August. \$333.50 related to the Atlantic Outdoor Sport RV show last winter.

Insurance \$1,185.00: The first time insurance for SCO has cost less in many years. Perhaps a result of the professional assessment performed in 2013 - should pay for itself in lower premiums in 192 years!

Awards and Donations \$200.00:

We took an inaugural share of Brian Giffin's Donation Drive with the Children's Wish Foundation - an idea he

introduced to us at this year's Nova East.

Observatory - Operating \$577.84: This includes the usual gift to Mr Carmichael, a couple of work crews during the year. A BBQ, some propane, and the odd item. It also includes taxes to Hants County.

Asset Depreciation \$2,838.51: The result of a slash and burn approach to Observatory Assets. New items this year and anything pegged at \$1.00 were spared a 15.6%

RASC Halifax Centre Income Statement

For the Years Ending September 30th

	2014	2013	Change
REVENUES			
Membership fees	\$2,799.68	\$3,084.36	(\$284.68)
Donations (incl. NE)	83.98	129.53	(45.55)
Educational Activities	0.00	0.00	0.00
Interest	208.74	253.89	(45.15)
Merchandise sales (gross)	805.00	1,042.00	(237.00)
Nova East (net)	1,688.69	1,074.05	614.64
Nova Notes Pr. Sub Earned	169.87	143.91	25.96
Miscellaneous Revenues	18.29	9.30	8.99
Total Revenues	\$5,774.25	\$5,737.04	\$37.21
EXPENSES			
Meetings	\$365.01	\$186.43	\$178.58
Nova Notes	243.54	156.10	87.44
Cost of Goods Sold	615.59	871.08	(255.49)
Equipment & Supplies	196.10	65.31	130.79
Office Administration	254.08	213.54	40.54
GA & NO Meetings	379.70	230.00	149.70
Educational Outreach	635.15	206.00	429.15
Legal Expenses	30.25	28.59	1.66
Insurance	1,185.00	1,188.00	(3.00)
Awards & Donations	200.00	308.60	(108.60)
Observatory - Operating	577.84	1,563.10	(985.26)
Depreciation	2,838.51	295.39	2,543.12
Miscellaneous Expenses	113.40	109.56	3.84
Total Expenses	\$7,634.17	\$5,421.70	\$2,212.47
Net Income Deficit	(\$1,859.92)	\$315.34	(\$2,175.26)

depreciation. The CT17" saw a 40% cut to bring it to \$1500 from \$2494. These cuts received council ap-

proval in the September meeting.

Miscellaneous Expenses \$113.40: This was strictly our annual membership fee to the IDA in October.

Highlights of the 2014 Balance Sheet

ASSETS:

Cash \$4,862.03: On September 30th 2014, our TD Bank cash balance was \$4,663.31. 2 cheques were outstanding at year-end of \$237.50. Revenue from National Office for September known to be \$436.22.

Merchandise Inventory \$93.37: Estimated remainder of unsold solar filter material.

Investments and Accrued Interest \$13,131.31: The Centre held 3 GICs on September 30th, 2014:

- two 15 month GICs with the TD Bank, both yield 1.55% on principals of \$5,000 and \$4000. They mature in January and April 2015. They accrued \$73.16 and \$45.58 in fiscal 2014.

- a 36 month GIC with the TD Bank yielding 1.65% on a principal of \$4,000. It matures in July 2015 and deposited \$66.00 to our cash account on July 23rd, 2014. It has accrued \$12.57 since that date.

Estimated Library \$2,077.28: We have not spent money for the Library in a number of years.

Observatory Equipment \$11,902.07: Off by \$2,420.18, aside from depreciation deducted, this asset expanded by items totalling \$418.34 being accessories purchased this year for the new 16" telescope.

Estimated Miscellaneous \$320.05: This year includes two 15x70mm binoculars purchased for \$114.98 and stored at SCO adding to the many other purchases made over the years.

LIABILITIES:

Prepaid Nova Notes Printed Subscriptions \$96.71: Forty-one printed copies remain to be prepared before this obligation is discharged. Subscriptions to printed issues were steady in 2014.

Balance Sheet As of September 30 th			
	2014	2013	Change
ASSETS			
Cash	\$ 4,862.03	\$ 4,962.99	(\$ 100.96)
Merchandise Inventory	93.37	0.00	93.37
Investments	13,000.00	13,000.00	0.00
Accrued Interest	131.31	158.92	(27.61)
GA2015 Prepaid Expenses	343.21	0.00	343.21
Library Est'd	2,077.28	2,077.28	0.00
Observatory Capital Equ.	11,902.07	14,322.25	(2,420.18)
Miscellaneous Est'd	320.05	205.07	114.98
Total Assets	\$32,729.32	\$34,726.51	(\$1,997.19)
LIABILITIES			
Accounts Payable	\$ 0.00	\$120.75	(\$120.75)
Prepaid Nova Notes Pr.	96.71	113.23	(16.52)
Total Liabilities	\$ 96.71	\$233.98	(\$137.27)
EQUITY			
NE Working Equity	\$5,000.00	\$5,000.00	\$0.00
Common Equity	\$27,632.61	\$29,492.53	(\$1,859.92)
Total Equity	\$32,632.61	\$34,492.53	(\$1,859.92)
Total Liab & Equity	\$32,729.32	\$34,726.51	(\$1,997.19)

EQUITY:

Nova East Reserve Equity \$5,000.00: This reserve was to be capped at \$5,000.00.

Common Equity \$27,632.61: Common equity fell by \$1,859.92 or the difference of expenses over revenues. It is equivalent to about \$10.81 per member for a \$23 "investment". Conversely, the \$978 operating revenue would represent a \$ 5.69 increase in common equity if depreciation wasn't a factor.

It was a very successful year at the Halifax Centre's St. Croix Observatory (SCO). I would like to thank all those who came out and made use of this great facility in the past year as well as the many volunteers who contributed to the upkeep and maintenance of SCO throughout the year. I look forward to another great year at SCO in 2015 with many clear nights.

This year our Centre acquired an excellent quality, fitted Telegizmos scope cover to protect our 16" telescope as well as a Meade 12mm, illuminated, wireless, astrometric eyepiece for use in aligning the 16" scope. It can also serve the function of determining angular diameters and position angles of celestial objects or as a guiding eyepiece through an off-axis guider or guide scope. We also purchased a filled, spare, 20lb propane tank and some spare lighters for the warm room used to start the furnace. The extra tank will enable me to take an empty to Costco for refilling at a much cheaper cost than available locally while ensuring there is always plenty of propane at SCO to power the furnace. (Of note concerning the furnace, it works great once it's going but it can be difficult to get started, particularly when it's very cold. Pre-heating the Pilot light area with the available lighters seems to help.) Another asset we acquired was suggested and followed up on by our Nova Notes editor, Quinn S., who suggested we purchase two zero gravity chairs for use at SCO. This suggestion was very well received and the units were procured and now reside at SCO. These will no doubt come in handy for observing as well as for grabbing a nap while waiting for conditions to clear, an object of interest to rise or imaging to process. Consider bringing a sleeping bag for

maximum comfort! The Centre purchased a number of items from the Vanderburg family which will enhance our members experience at SCO. Chris Y. was heavily involved in the acquisition and I've copied his email summation of the items at the end of the report.

There were quite a few activities at SCO in 2014. A SCO and 16" Scope orientation was held at SCO on Saturday, February 1, 2014. In attendance were Dave C., providing the 16" Scope orientation, myself, Chris Y., Karl H., Jerry B, and Jeff K.

Successful Observing Nights were held on February 1st, February 28th, June 28th, July 25th, and September 26th/27th. Other nights were not favourable. Evenings consisted of imaging and viewing sessions as well as good company and conversation.

According to the logbook there were 40 visits to SCO in 2014. On 18 of those visits there was a single observer/imager. The total observers/imagers documented were 117.

Four members with the necessary membership criteria received SCO Orientation, 16" Scope orientation and were issued keys to the facility. (Jerry D., Sean W., Chris Y., and Karl H.) There are 5 keys remaining in our inventory.

A very productive Spring Work Party was held on April 26th, 2014. We were treated to a lovely day as the weather was perfect. There were a dozen or so members on site to which I pass on my sincere thanks. It was really nice seeing us all come together for this worthwhile event. Many items were addressed including weed removal from the driveway and observing area, cleaning and vacuuming of all the buildings, touch up painting of all roof securing screws and the solar panel supports, cleaning of all building siding, cutting and clearing quite a few trees

and brush that were the principal cause of grime/mildew buildup on the buildings. This had the added benefit of clearing up some view lines from the Observatory. A thorough cleanup of all buildings was completed including vacuuming of the carpet in the roll off and removal of the usual spider/squirrel residue. The Rascan was totally emptied for cleaning and then reorganized neatly keeping the Nova East items together for easy access.

An 'Exit' checklist was posted to help ensure the area is left in a secure state following observing sessions and to remind members what items needed to be addressed prior to leaving the site. We enjoyed a nice BBQ together on the observing pad area which was a welcome break. We spent about four hours in total at the site.

The monthly RASC meeting was held at SCO on June 17th, 2014 hosted by our President Paul Heath. It was a cloudy day and there were 16 in attendance.

Some items that remain on my to-do list for SCO:

- Replace securing hardware on all building doors. Hinges loose, etc...(new hardware, screws already purchased).
- Fill in warm room window and re-side. Sufficient left over siding is available that should be adequate.
- Investigate adding a circuit to power a vacuum through the inverter separate from the existing circuits.
- Come up with a better way of securing the remote for the 16" scope.
- Spray foam and seal all conduit access holes through ceiling and floors where bugs/mice can get through, including roll off corners on inside.
- Weather stripping around doors.
- Label 12 VDC outlets as such.
- Replace bent tie down bolts with

SCO Manager Report Continued	<p>SkyFi controller for remote operation of 16" scope.</p> <p>Collimation tools/Laser Collimator for 16" scope.</p> <p>Bobs Knobs</p> <p>Good quality observing chair.</p> <p>Indoor/outdoor all weather furniture</p>	<p>to replace items in warm room.</p> <p>Good quality tripod and ball mount to be kept at SCO for DSLR wide field, unguided astrophotography.</p> <p>Better quality, dimmable LED lighting for warm room.</p>
<p>new hardware (already purchased).</p> <p><u>Items to consider for potential purchase in 2015:</u></p> <p>A new First Aid Kit</p>		

GA Planning Committee Report	
Quinn Smith	
<p>The General Assembly Planning Committee has been working quietly in the background for the last year, making preparations for the upcoming RASC GA to be held between July 1st and 5th 2015. The theme for the GA is <i>Stars by the Sea</i> and we are right on target in our planning.</p> <p>We have reserved both accommodation (105 beds) and event facilities at Saint Mary's University. We have also secured our Ruth Northcott lecturer for the event, Prof. Rob Thacker from Saint Mary's. In addition we have organized a <i>Wine and Tides</i> bus tour (Friday July 3rd), a band for our <i>Pub Night</i> (The Saunders Brothers) and have recently approved the speakers and events for</p>	<p>the Sunday night banquet. The main planning is completed, but as any organization knows, 90% of the work is required for the event details, and that is what the committee will be working on in the last 6 months of the lead-up to the GA.</p> <p>I would like to acknowledge the members of the GA Planning Committee, who have worked so diligently, and we are all looking forward to a fun and successful General Assembly.</p> <p>GA committee:</p> <p>Quinn Smith, Pat Kelly, Paul Gray, Paul Heath, Chris Young, Mary Lou Whitehorne, Dave Lane, Michael Gatto, Ian Anderson, Martin Helmich.</p> <p>Consultants: Roy Bishop, Dave Chapman, Graham Rose, Wes Howie, Paul Evans.</p>

Secretary's 2014 AGM Report	Regarding Items Purchased from the Vanderburg Family																				
Chris Young	Chris Young																				
<p>Again the President in his Report has well covered all the year's events!</p> <p>The membership statistics (a moving target) at the end of the year 2014 are as follows:</p> <table style="margin-left: 20px;"> <tr><td>Life Members</td><td style="text-align: right;">22</td></tr> <tr><td>Regular Members</td><td style="text-align: right;">103</td></tr> <tr><td>Family Associate</td><td style="text-align: right;">5</td></tr> <tr><td>Youth Associate</td><td style="text-align: right;">3</td></tr> <tr><td>Youth</td><td style="text-align: right;">3</td></tr> <tr><td>Lapsing in February</td><td style="text-align: right;"><u>14</u></td></tr> <tr><td>Total</td><td style="text-align: right;">150</td></tr> <tr><td>Lapsed* Regulars</td><td style="text-align: right;">24</td></tr> <tr><td><u>Lapsed* Youth</u></td><td style="text-align: right;"><u>2</u></td></tr> <tr><td>National Office Total</td><td style="text-align: right;">176</td></tr> </table> <p>Attendance at Centre Meetings in 2014: January – 44, February – 32, March – 39, April – 70, May – 59, June – 16 (at SCO), September – 35, October – 45, November – 28, December - 22.</p> <p>Respectfully submitted Chris Young</p>	Life Members	22	Regular Members	103	Family Associate	5	Youth Associate	3	Youth	3	Lapsing in February	<u>14</u>	Total	150	Lapsed* Regulars	24	<u>Lapsed* Youth</u>	<u>2</u>	National Office Total	176	<p>The Executive purchased Richard Vanderburg's eyepieces from his estate for the use of the members at SCO. Following is a list of the equipment now available for use at SCO:</p> <p><u>Eyepieces & related gear:</u></p> <p>1 - Televue 2" 32 mm Wide Field, eye relief 20, AFOV 65</p> <p>1 - Televue 2.5x Barlow</p> <p>1 - Televue 1.25" 26 mm Plossl, eye relief 17, AFOV 50</p> <p>1 - Lumicon 1.25" UHC filter</p> <p>1 - Televue 1.25" 19 mm Wide Field, eye relief 20, AFOV 65</p> <p>1 - set of 5 filters 1.25" various shades</p> <p>1 - Televue 2/1.25" 13 mm Nagler, eye relief 10, AFOV 82</p> <p>1 - Televue 1.25" 9 mm Nagler, eye relief 12, AFOV 82</p> <p>1 - Meade 1.25" 6.4 mm Super Plossl, eye relief 3, AFOV 52</p> <p>1 - Meade 1.25" #908 O-III Nebular filter</p> <p>I did an initial cleaning of the eyepieces and Dave Chapman and I looked through all of them in Dave's 12" scope. Views were pretty good!</p>
Life Members	22																				
Regular Members	103																				
Family Associate	5																				
Youth Associate	3																				
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Lapsing in February	<u>14</u>																				
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National Office Total	176																				

Minutes of the 2014 Annual General Meeting*

Patrick Kelly

* Not yet approved, please send corrections to Patrick

Approval of the Agenda: Moved by Patrick Kelly, seconded by Jim Millar that the agenda be approved. Motion CARRIED.

Approval of the Minutes of the 2013 Annual General Meeting: Moved by Jim Millar, seconded by Quinn Smith that the minutes be approved. Motion CARRIED.

Report of the President (Paul Heath): It will be printed in *Nova Notes*.

Report of the First Vice-President: No report as this position is currently vacant.

Report of the Second Vice-President (Karl Penny): It will be printed in *Nova Notes*.

Report of the Secretary (Chris Young): Chris was not able to make the meeting. Paul Heath thanked Chris for his work in keeping the executive on track all year. His report will be in *Nova Notes*.

Report of the National Advisor Council Representative (Patrick Kelly): It will be printed in *Nova Notes*.

Report of the Observing Chair (Sean Dzafovic): It will be printed in *Nova Notes*.

Report of the St. Croix Observatory Manager (Alex Lecreux): It will be printed in *Nova Notes*.

Report of the Nova Notes Editor (Quinn Smith): It will be printed in *Nova Notes*.

Report of the GA2015 Committee: Quinn Smith gave a brief update on the plans that are unfolding for the Halifax Centre's hosting of the 2015 GA.

Report of the Nova East Committee: Blair MacDonald advised everyone to refer to the Sept.–Oct. issue of *Nova Notes* for details and more information will be in the next issue of *Nova Notes*. The dates for this coming year are August 14–16. The Kejimikujik Dark-Sky Weekend is the previous weekend, August 7–9.

Report of the Auditor (Dave Lane): As Dave was unable to be at the meeting, his report was read and will be printed in *Nova Notes*. Moved by Patrick Kelly, seconded by Quinn Smith that the auditor's report be accepted. Motion CARRIED.

Report of the Treasurer (Ian Anderson): Ian presented a condensed version of the report which will appear in *Nova Notes*. We had a surplus of just under \$1000,

however he felt that it was prudent the Coulter Telescope by about \$2800, for a net loss of about \$1,800. He is not really sure if that devaluation is realistic, but recommends a future drop

of 3% per year for the future. Moved by Judy Black, seconded by Patrick Kelly that the treasurer's report be accepted. Motion CARRIED.

Ian also felt that a listing of the status of observatory equipment would be of help. Moved by Ian Anderson, seconded by Jim Millar that the St. Croix Observatory Committee provide the centre executive with the current status of observatory equipment within the next two to three months. Motion CARRIED.

Election of the Auditor: Moved by Dave Chapman, seconded by Paul Gray that John Higgins be appointed as auditor for the 2015 Annual General Meeting. Motion CARRIED.

Call for nominations for the 2015 executive. There was some discussion on the positions that needed to be filled as some positions were opening as a result of term limits. Once a slate seemed to be in place. it was moved by Jim Millar, seconded by Dave Chapman that nominations be closed. Motion CARRIED.

The slate for 2015 is as follows: President: Paul Gray; First Vice-President: Paul Heath; Second Vice-President: Ian Anderson; Secretary: Chris Young; Treasurer: Jim Millar; Nova Notes Editor: Tony Schellinck; National Advisory Council Representative: Patrick Kelly; Librarians: Andy and Elli Hasler; Observing Chair: Sean Dzafovic; St. Croix Observatory Manager: Alex Lecreux; Councillors: Phil Bentley, Wes Howie, Graham Rose, Quinn Smith.

As there was no other business, the meeting adjourned on a motion by Tony Schellinck. Motion CARRIED



Sherman Williams and Roy Bishop cut the 60th anniversary cake. (Tony Schellinck photo)