

# Nova Notes

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

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## FEATURING:

ASTEROIDS WITH A NOVA SCOTIA CONNECTION BY DR. ROY BISHOP AND JUDY BLACK	5
SUPPORT THE SCOPE FUND BY BLAIR MACDONALD	7
MOONSCAPES: MARE NUBIUM BY DAVID HOSKIN	8
2024 ANNUAL GENERAL MEETING (AGM) REPORTS	16
RASC HALIFAX AUDITOR'S REPORT FY OCTOBER 2023 – OCTOBER 2024	41



PLUS ALL YOUR FAVOURITE REGULAR FEATURES!

## In this issue:

From the Editor	2
Centre Information	3
A Message From the President	4
Asteroids with a Nova Scotia Connection by Dr. Roy Bishop and Judy Black	5
Support the SCOPE FUND By Blair Macdonald	7
Moonscapes: Mare Nubium by David Hoskin	8
Members' Universe	10
Food For the Soul: The Poetry of Paul Heath	11
Members' Universe	14
Puzzle Corner	12
January & February Meetings	13
2024 AGM Annual Reports	16
RASC Halifax Auditor's Report FY Oct 2023 – Oct 2024	41

### Cover Photos:

#### Main Photo:

M81, Bodes Galaxy and M82, the Cigar Galaxy.

Total image time was 14.67 hours.

Exposure 12x20 min.ISO 3200

Nikon Z7 [8856 x 5504]

120mm Skywatcher Esprit on a Celestron CGX mount

Guiding ZWO ASI224MC using Phd2

Controller Kstars on MeLe Quieter 3C

Filter Triad Quad Ultra

Processed in PixInsight using Dynamic

Background Extractor, BlurXTerminator,

NoiseXTerminator, ScreenTransfer

Stretch, StarXTerminator,

CurvesTransformation on the starless

image and PixelMath recombination.

Lower Sackville, Nova Scotia

by **Jerry Black**

#### Thumbnail:

St. Croix Observatory  
drawing by

**Mary Lou Whitehorne**

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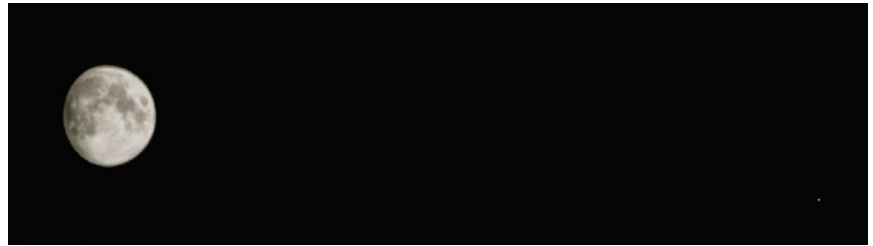
# From the Editor

It's a frigid February night and I'm trying not to slip on the icy snow that's accumulated on our balcony.

The Moon and Mars are up there. Waaaay up there. I have to edge close to the balcony rail and crane my neck up for the view.

The things we do for the love of the night sky.

And hey, there they are. The Moon is a bright waxing gibbous pretty much at the zenith. Mars is a rusty dot a little to the right - not especially eyecatching but still easy to pick out in my light-polluted skies.



Moon and Mars by John McPhee

The Red Planet can be an outstanding celestial sight when it gets relatively close to Earth - I say relatively because we're still talking tens of millions of kilometres. The closest Mars and Earth have come together in this century was in 2003 at 55.6 million kilometres.

This time around Mars is about 60 million kilometres away. So even at "opposition," when it's opposite the Sun in its orbit and therefore brightest, it's not very conspicuous.

We'll have to wait until the 2030s for Mars to swing back toward the Earth and it gets more impressive in the eyepiece and to the naked eye.

As for the Moon, it's a more dependable astronomical pleasure but as I noted, it can be hard on the neck at this time of year unless you catch it soon after rising.

The winter moon flies high for the same reason it's so cold out: the Earth's 23.5 degree axial tilt. The northern part of the Earth begins to tilt away from the Sun after the autumnal equinox in late September. The more indirect sunlight drops the temperature for us poor northern saps and also moves the Moon's apparent path higher in the sky.

But huzzah, warmer nights are just around the corner. Come March 20 at 6:01 AST, we'll bathe in the radiant glow of the spring equinox. No more snow, ice or frigid tushies!

Yeah I know. Don't put away the bum warmers yet. (Looks up time and date for summer solstice...).

John McPhee

## Upcoming Meeting Dates

March 1 - Robyn Foret - RASC Awards

April 5 - Dr. David Turner - Indian Point Meteor Crater

May 3 - Tony Schellinck - Women in Astronomy

June 7 - Blair MacDonald - Black Holes

Sept. 6 - David Hoskin - All-in-One Smart Telescopes

Oct 4 - TBD

Nov 1 - Pat Kelly - Telling time in Scotland: From Stones to Sundials

Dec 6 (+AGM) TBD

We are now hosting hybrid live/Zoom Members' Meetings. Halifax Centre meetings are usually held on the first Saturday of the month, except for July and August.

Come join us in-person in Room AT101 at Saint Mary's University or by pre-registering for the meeting on Zoom.

For information about the meeting and how to register for the Zoom session, please visit <https://halifax.rasc.ca/index.php/activities/rasc-events>

For past meeting replays, visit our YouTube Channel <https://www.youtube.com/c/raschalifax>



## St. Croix Observatory

Part of your membership in the Halifax RASC includes access to our observatory, located in the community of St. Croix, NS. The site has expanded over the last few years and includes a roll-off roof observatory with electrical outlets, a warm-room, and toilet facilities. We welcome you to bring your own equipment or to use the Centre's 400-mm Dobsonian telescope, 100-mm binoculars, and the recently acquired SCT and gear for astro-imaging.

Enjoy dark pristine skies far away from city lights and the company of like-minded observers searching out those faint "fuzzies" in the night. Most clear Moon-free nights, you will find our keen observers out there! Announcements of members visiting SCO are made on the Centre's Discussion List. If you are not a key holder and would like to become one or need more information, please contact the SCO Manager, Tony McGrath, at [scomanager@halifax.rasc.ca](mailto:scomanager@halifax.rasc.ca).

### SCO is Open!

Go to our website (<https://halifax.rasc.ca>) for the latest SCO usage guidelines and conditions.



St. Croix Observatory drawing by Mary Lou Whitehorne

**NOTE: As of Fall 2023, the building has lights again!** (Thanks to Tony McGrath and Peter Hurley, the lights have been connected to 110v AC power.)

## Halifax RASC Board of Directors, 2025

### Elected

President	Tony McGrath
Vice-President	Peter Hurley
Secretary	Judy Black
Treasurer	Gregg Dill
Director	Jeff Donaldson
Director	Matthew Dyer
Director	David Hoskin
Director	Vincent Vallée

### Appointed

Honorary President	Patrick Kelly
Auditor	David Chapman
Communications Committee, Chair	TBD
Dark-Sky Preserve Committee, Co-Chair	Peter Hurley
Dark-Sky Preserve Committee, Co-Chair	Tony Schellinck
Education & Public Outreach (EPO) Chair	David Hoskin
Governance Committee, Chair	Judy Black
Librarian	TBD
National Council Representative	Judy Black
Nominating Committee, Chair	Peter Hurley
Nova Notes, Editor	Lisa Ann Fanning
Nova Notes, Copy Editor	John McPhee
Observing / EPO Chair	David Hoskin
St. Croix Observatory, Manager	Tony McGrath
Webmaster	Jerry Black

## SAVE THE DATES FOR 2025!

**Dark-Sky Weekend**  
August 15-17, 2025

**New Moon August 23, 2025**

**Nova East Star Party**  
August 22-24, 2025



# A Message from the President

On behalf of the board of directors, I would like to extend best wishes to all for a healthy and happy new year.

The new year is typically a time for resolutions and establishing new goals, and in keeping with that spirit this is the time when the board reviews the current plan and establishes its priorities for the year. As such it is a great time for the membership to reach out to the board with ideas or suggestions on things that you would like to see implemented or improved at RASC Halifax Centre. So if there is anything that you would like to share in terms of your expectations of membership in RASC Halifax, please let us know.

At the December AGM, Michelle Lane announced the Dave Lane Memorial St. Croix Observatory Property Endowment (SCOPE). In addition to the \$10,000 donated to establish the fund, the bequest includes a fund-matching component that shall match dollar for dollar any donations made to the SCOPE between Jan. 1, 2025 and Dec. 31, 2025 up to a maximum of \$5,000.

The purpose of this fund is to create a sustainable financial foundation to ensure the upkeep of SCO into the future. We shall be launching this fundraising drive at the members' meeting on March 1 so stay tuned.

For those folks new to astronomy and RASC Halifax Centre, the board is particularly interested in hearing from you. We actively encourage everyone, but particularly new members, to reach out to us with any requests you might have for workshops on any aspect of our hobby. Workshops are a great way to meet others and learn about a particular aspect of astronomy.

For those new to the hobby, some typical workshops that can be organized are:

- Telescope Basics – How to choose, set up, and use different types of telescopes (refractors, reflectors, and compound telescopes)
- Navigating the Night Sky – Learning to identify major constellations, bright stars, and seasonal changes
- Observing the Moon & Planets – Tips on lunar and planetary observation, including what features to look for
- Understanding Star Charts & Astronomy Apps – How to read star charts and use apps like Stellarium, SkySafari, or Star Walk
- Eyepiece & Accessories Workshop – Understanding magnification, field of view, and choosing the right eyepieces, filters, and mounts

If you are interested in a particular topic, in all likelihood there are others with similar interests so do not hesitate to reach out.

Best Regards,  
Tony McGrath  
[president\\_AT\\_halifax.rasc.ca](mailto:president_AT_halifax.rasc.ca)

Email the Centre Executive:  
[president@halifax.rasc.ca](mailto:president@halifax.rasc.ca)

## ***Nova Notes: The Newsletter of the RASC Halifax Centre of the RASC*** **PO Box 31011, Halifax, Nova Scotia B3K 5T9**

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

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

Articles on any aspect of astronomy and related activities will be considered for publication.

# Asteroids with a Nova Scotia Connection

By Dr. Roy Bishop & Judy Black

## Introduction

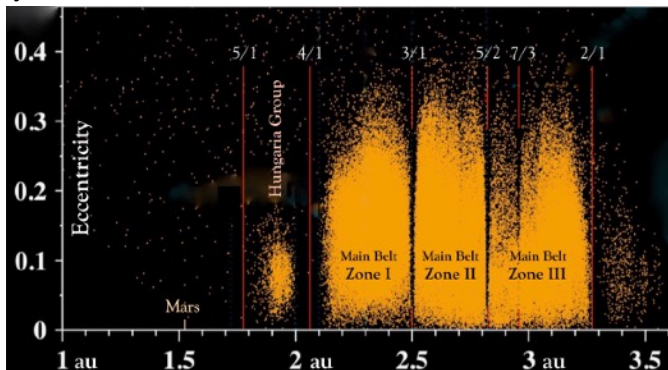
Judy Black approached Dr. Roy Bishop to suggest co-authorship of a Nova Notes series about asteroids with a Nova Scotia connection, to which he agreed. Roy is the lead author with Judy providing the non-science information. Also want to extend much gratitude to Peter Jedicke (London Centre) who was of great assistance in locating the citations (even during a London Knights hockey game – thanks, Peter!).

This is the third in a series of 6 articles being published in the RASC Halifax Centre newsletter. To find this and previous instalments, go to the Halifax Centre website (<http://halifax.rasc.ca/index.php/publications/17-nova-notes-newsletter>). Hope you enjoy and learn from the series.

## The Inner Main Belt (Instalment 3 of 6)

In the first two instalments, we gave brief introductions to the millions of asteroids residing between Mars and Jupiter. With that background, our readers will now better understand and appreciate the circumstances to be presented concerning the fifteen Nova Scotia Asteroids (NSAs).

Descriptions of the NSAs now follow, arranged in order of their increasing distances from the Sun, and grouped together in four remaining articles according to the four, well-populated sections of the asteroid belt where they reside: the Inner Main Belt, and the Main Belt Zone I, Zone II, and Zone III.



Two NSAs reside in the Inner Main Belt, a region occupied by the Hungaria Group, named after the largest asteroid (diameter about 10 km) in the group: 434 Hungaria. The collisional Hungaria family dominates the Hungaria Group. (27810) Daveturner and (6901) Roybishop are members of that family, as revealed by similar orbital data:

	a	e	i	T	diameter
(434) <u>Hungaria</u>	1.945 au	0.0736	22.51°	2.712 y	9 km
(27810) <u>Daveturner</u>	1.935 au	0.0540	18.40°	2.691 y	—
(6901) <u>Roybishop</u>	1.943 au	0.1114	23.14°	2.708 y	5 km

"a" is the size of the semi-major axis. "e" is eccentricity (how much the ellipse deviates from a circle). "i" is the inclination of the orbit. "T" is orbital period.

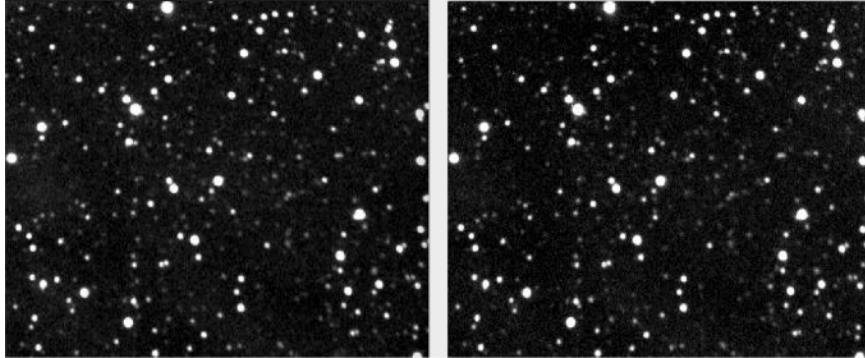
Of the fifteen NSAs, not only are Daveturner and Roybishop the nearest to Earth and the Sun, but also they are the most inclined to the ecliptic, with Roybishop having an even larger tilt (23°) than Daveturner (18°).

There is a reason for their large inclinations. The Inner Main Belt asteroids are the group nearest the orbit of Mars, and Mars significantly perturbs their orbits, particularly those of small inclination as they remain near the plane of the Martian orbit (inclination 1.85°). Not only is the Hungaria group hemmed in by the 5/1 (1.78 au) and 4/1 (2.06 au) resonances with Jupiter (see the above diagram), but nearby Mars also restricts this group with 4/5 (1.77 au) and 2/3 (2.00 au) resonances. Most low inclination Inner Main Belt asteroids have long since been scattered out of the Hungaria group by

## Asteroids (con't)

Mars, leaving only the high inclination members that do not pass as close to Mars, including (27810) Daveturner and (6901) Roybishop.

One night in April 2002 with the 0.61-m Cassegrain telescope on the 4200-m summit of Hawaii's Mauna Kea, David Lane took a sequence of photos of (6901) Roybishop. Here are two of those photos (look carefully below the bright star in the centre):



If you stereo the pair of photos (use a stereo viewer or train your left eye to look at the left photo while your right eye looks at the right photo), the photos merge and the dot that is **(6901) Roybishop** will leap into the foreground in front of the background stars. In 1989 at Palomar Observatory, Carolyn Shoemaker used that technique to spot the asteroid that the Minor Planet Centre of the International Astronomical Union subsequently labelled 1989PA. In 1997, she and Gene Shoemaker proposed to the IAU that it be named Roybishop.

**(27810) Daveturner** has the smallest semi-major axis (1.93 au) and thus the shortest orbital period (2.69 y) of all the NSAs. However, **(6901) Roybishop** (semi-major axis 1.94 au, orbital period (2.71 y) has a sufficiently greater eccentricity than **(27810) Daveturner** (0.111 versus 0.054), that Roybishop has the smaller perihelion distance (1.73 au versus 1.83 au) and thus comes closer to Earth and the Sun than all the other NSAs.

**(6901) Roybishop** possibly has another distinction not shared by any other NSA — Roy Bishop has actually seen his namesake asteroid. When near an autumn opposition well north of the ecliptic, 16<sup>th</sup> magnitude Roybishop is just visible in the 0.44-m Newtonian telescope at Roy's Maktomkus Observatory as it drifts slowly past the background stars.

To conclude this instalment, in the order of increasing semi-major axes, here are the original citations that accompanied the naming of:

**(27810) Daveturner** (discovered 1993, named 2004)

David G. Turner, editor of the *Journal of the Royal Astronomical Society of Canada* between 1996 and 2000, is an enthusiastic professor of astronomy and physics at Saint Mary's University in Nova Scotia. By means of photoelectric photometry and CCD imaging, he has pursued a study of Cepheid variable stars.

[*Minor Planet Circ.* 50464]

**(6901) Roybishop** (discovered 1989, named 1997)

Named in honour of Roy L. Bishop, retired professor of physics at Acadia University, Nova Scotia. Since 1982 Bishop has edited the *Observer's Handbook of The Royal Astronomical Society of Canada*, a vital reference for professional and amateur astronomers. Bishop is also known for his unique photographs, especially one of a double rainbow over Isaac Newton's birthplace. Citation provided by Carolyn and Eugene Shoemaker and Wendee and David Levy.

[*Minor Planet Circ.* 30477]

Next instalment: The Main Belt, Zone I

# Support the SCOPE Fund

By Blair MacDonald

As many members know, Dave Lane was instrumental in the design and construction of the RASC Halifax Centre's St. Croix Observatory (SCO). Dave was a passionate observer and frequent user of the SCO facility and wanted to see it properly maintained for use by Centre members.



**Support SCO with the Dave Lane Memorial St. Croix Observatory Property Endowment (SCOPE) Fund: Matching Fund Opportunity**



Michelle Lane has made a very generous donation to start the St. Croix Observatory Property Endowment (SCOPE) Fund in memory of Dave and has offered an additional matching funds donation. Tony Schellinck has generously offered an additional matching fund donation. If you are able, please help us build the fund and honour Dave's wishes by donating to ensure the viability of SCO, now and into the future.

Donations may be made via e-transfer to [treasurer@halifax.rasc.ca](mailto:treasurer@halifax.rasc.ca). In the comments field of the transfer, please indicate that your donation is for the Dave Lane Memorial SCOPE fund.

For more information about the fund please visit <https://halifax.rasc.ca/index.php/observing/85-st-croix-observatory-property-endowment>.



## Save the Dates: Observing at SCO

Members may be found observing at the [St. Croix Observatory](#) on almost every clear, dark night. Once a month, we encourage members and their guests to congregate at SCO, at which time new members are particularly welcome.

Members are advised to sign up to the [email discussion list](#) to keep up to date on gatherings of fellow observers. The proposed dates for SCO Observing nights 2025 are below.

- Friday 31 Jan. Punamujuik'us (Tomcod Spawning/Frost Fish Moon)
- Friday 28 Feb. Apuknajit (Snow Blinding Moon)
- Friday 28 Mar. Siwkewiku's (Spring/Maple Sugar Moon)
- Friday 25 Apr. Penatmuiku's (Birds Laying Eggs Moon)
- Friday 30 May Sqoljuiku's (Frogs Croaking Moon)
- Friday 27 Jun. Nipniku's (Trees Fully Leafed Moon)
- Friday 25 July Peskewiku's (Birds Shedding Feathers Moon)
- Friday 22 Aug. Kisikewiku's (Berry Ripening Moon)
- Friday 19 Sept. Wikumkewiku's (Mate Calling Moon)
- Friday 17 Oct. Wikewiku's (Animal Fattening Moon)
- Friday 21 Nov. Keptekewiku's (Rivers Starting to Freeze Moon)
- Friday 19 Dec. Kesikewiku's or Kjiku's (Winter/Chief Moon)

\* Check the email discussion list or our website ([halifax.rasc.ca](http://halifax.rasc.ca)) for changes in schedule.

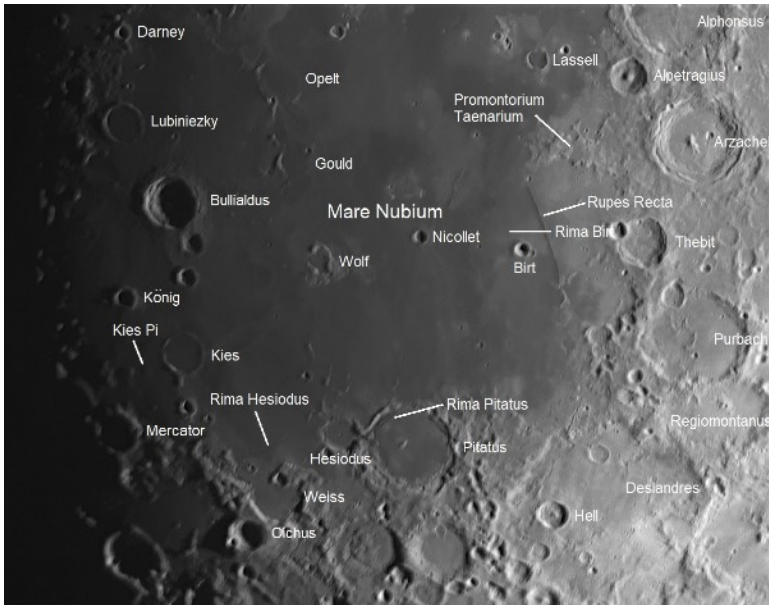
# Moonscapes: Mare Nubium

By David Hoskin

Mare Nubium (Sea of Clouds – the circled area in the above image of a waxing gibbous Moon) has an irregular but roughly circular shape with a diameter of about 750 kilometres. The mare is located east of Mare Humorum and southeast of Mare Cognitum, while the southern and eastern shores of Mare Nubium abut the crater-rich southern lunar highlands. The ancient basin that contains Mare Nubium is thought to be the result of multiple impact events that occurred 3.9 to 4.5 billion years ago, followed by the upwelling of lava from the young and geologically active Moon. Mare Nubian, like many of the Moon's other maria, was named by Giovanni Riccioli, a 17th century Italian astronomer and member of the Jesuit order. Early telescopic observations of Mare Nubium revealed numerous ghost features



and ejecta-associated areas of higher albedo. Mare Nubium is best observed when illuminated by sunrise on days 8 and 9 of the lunar cycle. However, features revealed by the low evening Sun on day 22 of the lunar cycle will reward early risers.



The image to the left was captured on day 8 of the lunar cycle when the western edge of Mare Nubium is still in shadow. Mare Nubium is the location of several so-called “ghost” craters, which are impact craters that have been flooded and largely buried by lava flows so that only the crater rim remains visible. “Ghost” craters Opelt and Gould are challenging to observe as they are only visible when the Sun is shining very low above the local horizon. Kies crater, with a diameter of 44 kilometres, is a more easily seen example of one of these lava-flooded craters. Immediately to the

west of Kies look for 10-kilometre-wide Dome Kies Pi, which is revealed to be an extinct volcano by the hole at the dome's summit.

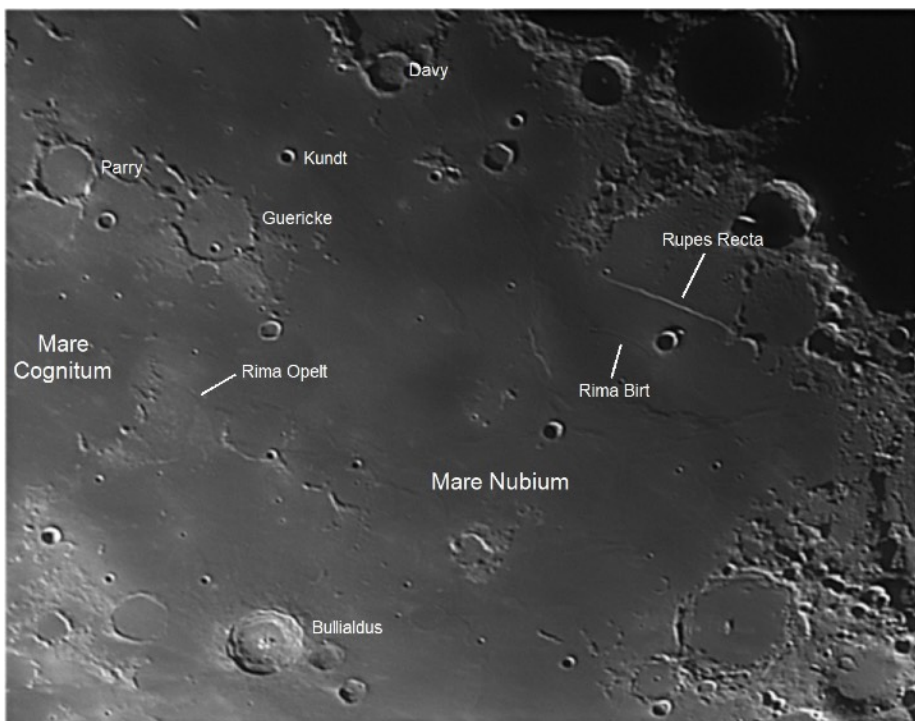
Located south of Kies, Rima Hesiodus crosses over the rough ridge on the southwest edge of the mare near Mercator crater and ends close to 43-kilometre-wide Hesioidus crater. Rima Hesiodus is a geologic feature known as a graben. This linear rille was formed by the subsidence of land between two faults. Next to Hesioidus lies the small crater, Hesioidus A (16-kilometres wide), which is noteworthy for its relatively rare structure consisting of concentric rings. To the east, Hesioidus abuts an ancient crater, the 98-kilometre-wide Pitatus, often referred to as a



walled plain, with its prominent offset peak rising above the crater and interior system of rilles that includes Rima Pitatus.

Two of the most striking features of Mare Nubium are the imposing 61-kilometre-wide crater Bullialdus on the western side of the mare and the 121-kilometre-long fault known as Rupes Recta on the mare's eastern side. Prominent radial ridges run from the sharp rim of Bullialdus across the mare's lava plain for up to 50 kilometres. The cliff face of Rupes Recta, also known as the "Straight Wall", casts a dark shadow when it is illuminated by the rising Sun. This feature of Mare Nubium is easily seen as it appears in the telescope eyepiece as a straight dark line. North of Rupes Recta is Promontorium Taenarium, a 70-kilometre-long hilly peninsula that extends from Arzachel crater into eastern Mare Nubium.

The image to the right was captured on day 22 of the lunar cycle when the entirety of Mare Nubium is fully illuminated. Note the sunlight on Bullialdus, revealing the crater's wide inner walls and extensive terracing, as well as the prominent central mountain mastiff. The low evening Sun also illuminates the scarp face of Rupes Recta, which now appears as a light line near the 17-kilometre-wide bowl-shaped impact crater Birt. Close by and parallel to Rupes Recta is a rille known as Rima Birt.



Another rille, Rima Opelt, is located to the north of lava-flooded Opelt crater. The lava plain that forms the northern extension of Mare Nubium is bordered on the west by the large lava-flooded impact craters Guericke and Parry, and on the east by 35-kilometre-wide Davy crater. Note the bowl-shaped crater (Davy A) on Davy's southeastern rim and the absence of a central peak on Davy's floor.

Mare Nubium has many fascinating features that make the Sea of Clouds a rewarding target for observers with a telescope of modest aperture. Of course, a larger aperture instrument will reveal even more of the mare's amazing structures!

## Sources

Dome Kies Pi by Astroavani, Sky & Telescope

Mare Nubium - Wikipedia, en.wikipedia.org

Moon Observer's Guide by Peter Grego, Firefly Books Limited

The Nubium Whisker by Stephen O'Meara, Astronomy Magazine.

# Members' Universe: David Hoskin's Universe



**David Hoskin** took this image of the Daylight waxing crescent Moon on February 2, 2025 with 200mm f5 SkyWatcher reflector and ZWO ASI533MC camera.



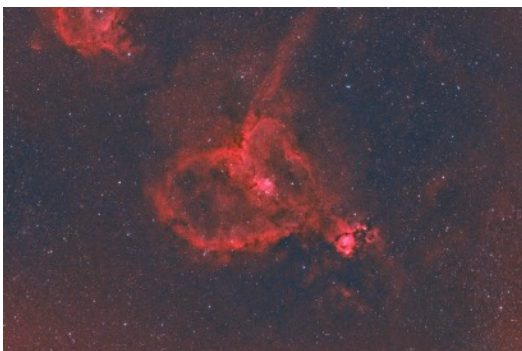
Full Snow Blinding Moon  
February 12, 2025 Image by **David Hoskin**



Mars one day after opposition  
Image by **David Hoskin** 200mm f10 Celestron SCT, 2x Explore Scientific focal extender and ZWO ASI533MC camera.



Jupiter with GRS and Io transiting on January 25, 2025  
Image by **David Hoskin**  
200mm f10 Celestron SCT, 2x Explore Scientific focal extender and ZWO ASI533MC camera.



**David Hoskin** captured the Heart Nebula with Fish Head Nebula in Cassiopeia

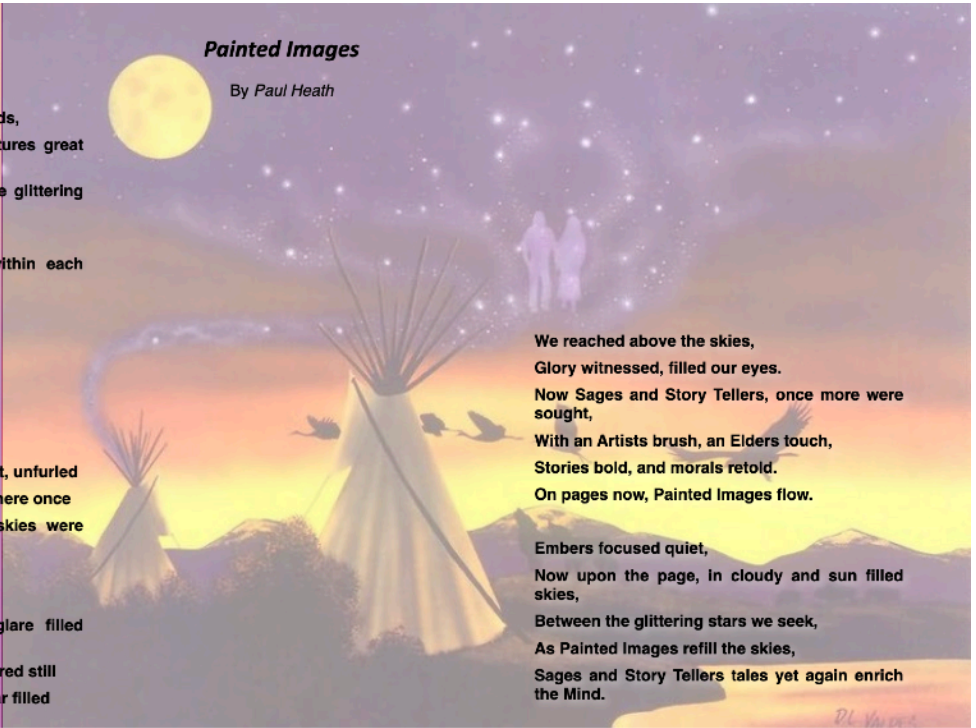


Owl Nebula in Ursa Major  
Image by **David Hoskin** 200mm f5 SkyWatcher reflector and ZWO ASI533MC camera.

# Members' Universe

## Food for the Soul: The Poetry of Paul Heath

Paul Heath reprised his poem *Painted Images* from November 2022 in honour of Charles Ennis' presentation on his World Asterism Project. As at the time it was his tribute to the project and everyone involved in the Two Eyed Seeing such as Dave Chapman and Cathy LeBlanc's *Mikmaw Moons* book.



**Painted Images**  
By Paul Heath

In ages long past,  
Sages and Story Tellers paced  
The embers fading glow.  
In villages scattered across the lands,  
Upon the stars, heroes, and creatures great  
and small,  
Were Painted Images across those glittering  
skies.

Woven as they paced, morals within each  
vision  
Were held up by the Stars.  
Retold through ages long,  
As embers faded before the dawn.

In ages past,  
With patient measure,  
Motion of the glimmering firmament, unfurled  
On papyrus and stone recorded, where once  
Only grand images, across the skies were  
realized.

Then the fires, were not left to die,  
Embers focused quiet, lost in glare filled  
skies.  
Yet Sages and Story Tellers whispered still  
Of heroes and creatures upon a Star filled  
firmament.

We reached above the skies,  
Glory witnessed, filled our eyes.  
Now Sages and Story Tellers, once more were  
sought,  
With an Artists brush, an Elders touch,  
Stories bold, and morals retold.  
On pages now, Painted Images flow.

Embers focused quiet,  
Now upon the page, in cloudy and sun filled  
skies,  
Between the glittering stars we seek,  
As Painted Images refill the skies,  
Sages and Story Tellers tales yet again enrich  
the Mind.



**Gaia's Scars**  
by Paul Heath

Gaia shivers,  
Stung by Jove's angered toss.  
She shifts her crust  
To hide her wounds, as skies  
Fill with swift and angry swords.

Gently, she wraps herself in greens and flowing blues  
To hide her unjust scars from Jove.  
She rests, and knits a new tapestry of brightened hues,  
Interwoven within her vibrant greens and blues.

Her Sun lit countenance,  
Enraged, Jove's dull angered hues  
Again he heaves inward, the brightness to dispel.

Gaia writhes in pain, at  
Jove's greatest-angered toss.  
Her crust, pierced deep, wrenches apart,  
Her vibrant tapestry, to fire and flood succumb.  
In agony she twists and shakes,  
Her tears a mask, her wounds to conceal.

With growing anger, Her crust, she shifts anew,  
Pulled and reshaped, high fangs skyward break.  
About herself, she wrapped glittering shawls,  
Their Sun bright, blue-white glistening, a Blinding flash  
To Jove's eye did stab.

Till calm, the great scars, reduced she found had been,  
Belts of Fire and Ice she kept,  
A warning to his tantrums toss.  
But anew, she wrapped herself,  
With radiant colours and deep rich greens and blues.  
Jove still ill-tempered tossed, to mar her cape,  
But Gaia, calmed had grown.  
With Waters gentle flow, and Winds shifting sands,  
She hid Jove's angered blemishes,  
Then with slow and patient shakes,  
She shifts, and sews her colourful tapestry anew.

Gaia still a shiver gives, at Jove's petulance,  
With rain and wind she shakes her attire free,  
To present, in a slightly altered display.  
But crowned by glittering Ice, and wrapped by fiery rings,  
Her vibrant coloured robes, a smile,  
Now to Gaia brings.

# PUZZLE CORNER – NORTHERN LIGHTS

## Unscramble

By Lisa Ann Fanning

Can you unscramble these terms related to Northern Lights? Solution will be in the next edition of *Nova Notes*.

A A A B E I \_ L O O R R R S U  
 A G H I L \_ L O P R S T  
 A C D E E \_ M N R R R S Y  
 A A A L L O O \_ R R U V  
 A D I L N \_ O R S W  
 A E E E G H M N O P R S T  
 A C C I R T  
 N O P S S T U  
 A C E E G I \_ I N O R T V  
 A C E E G G I M N O T  
 A C N O O R  
 B M O R S S T U

## Answers to Last Edition's Puzzle

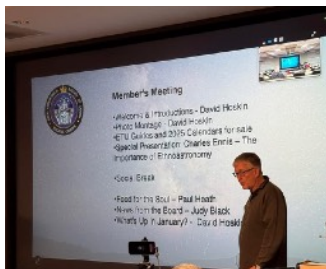
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# January 11, 2025 RASC Halifax Centre Meeting:

(28 attendees)

To watch a replay of the meeting, please visit: [https://www.youtube.com/watch?v=WBcrGpvTd\\_k](https://www.youtube.com/watch?v=WBcrGpvTd_k) on the RASC Halifax YouTube Channel.

## Welcome - David Hoskin



RASC Halifax Director, Observing / EPO Chair and program emcee David Hoskin welcomed everyone to the monthly meeting, shared the Indigenous Land Acknowledgement and read the Centre's inclusivity and diversity statement.

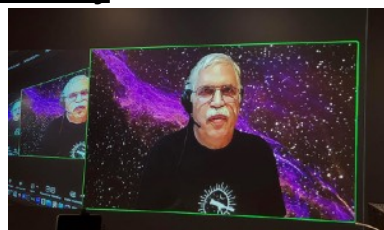
David Hoskin, host  
Photo by Dave Chapman

## David Hoskin - Photo Montage

David presented photographs and sketches from Centre members Jerry Black, Michael Boschat, Barry Burgess, Stuart Cameron, David Chapman, Jeff Donaldson, Tim Doucette, Paul Gray, David Hoskin, Blair MacDonald, David McMullin and Gary Weber

## Special Guest - Charles Ennis - The Importance of Ethnoastronomy

Judy Black introduced Charles Ennis, who is the Past National President of the RASC and a member of their Sunshine Coast Centre. He is the founder of the World Asterisms Project. He is a very active astronomy educator and ethnoastronomer and the writer/host or director/producer of astronomical videos such as Eastlink TV's Night Lights, the RASC's Insider's Guide to the Galaxy, the short Bravo documentary Starry Nights, and various other YouTube videos on astronomy.



Charles Ennis presents  
Photo by Dave Chapman

Charles discussed the ongoing, "living project," World Asterism Project. He emphasizes that "We are stewards of these records" regarding the World Asterism Project, highlighting the crucial role of preserving and documenting diverse cultural perspectives on the night sky through ethnoastronomy, which is the study of how different cultures interpret and understand astronomical phenomena across the globe.

As a thank you for his presentation, Dave Chapman presented Charles with a copy of *Muin and the Seven Bird Hunters* by Murdena Marshall (Nimbus Publishing) autographed by a number of people on the local committee.

## Paul Heath - Food for the Soul - Painted Images

Paul presented his latest poem, *Painted Images*, which can be read on page 11 of this edition of Nova Notes. His poem was based on impacts to the Earth.

## Update from the Board presented by Judy Black

By-Law No. 1

- Members approved amendments at AGM, December 3, 2024
- RJSC approved amendments December 12, 2024

Change in terminology - meetings now referred to as "public" versus "member" meetings to encourage more people to attend meetings.

Astroimaging Contest winners were announced in December.

- Special thanks to Allen Sutherland of APS for prizes.
- Winners:
  - Wide Field - Jeremy Kuzub: Shields Down!
  - Deep-Sky - Jerry Black: NGC 2175/Monkey's Head Nebula
  - Solar System (tie) David Hoskin: Petavius Crater, Total Solar Eclipse Photo Montage
  - People's Choice - Jason Dain: Comet C2023 A3 & the Milky Way

### Elections & Appointments

Appointed positions approved as presented at AGM

- SCO Manager: Tony McGrath
- Needed: Chair/Leads for Communications, Nova East

### Board Appointment

- Vice-President: Peter Hurley
- Needed: 2 Directors

Nova East Reminder - Public welcome - August 22-25 (New Moon = August 23) at Smiley's

Dark-sky weekend (DSW) - all welcome - August 15-18 Details TBD on our website & Kejimikujik National Park and National Historic Site

### Next Meetings:

Board of Directors - January 28, 2025

Public Meeting - February 1, 2025

National Council - February 9, 2025

RASC National Council - Halifax Centre has one representative (Judy Black.) Centres have one representative for every 200 members. It is the linkage between all 30 centres and the RASC.

### **David Hoskin (EPO/Observing Chair) - What's up in the January Night Sky**

David reviewed highlights of the January sky. He highlighted the Sun, solar activity, the Moon, and targets needed to check off for Explore the Universe, and when they can be viewed. He also highlighted planetary positions, constellations, stars (including double and multiple) and deep sky objects. Each month, you can find David's presentations on the homepage at <http://halifax.rasc.ca>.

## **February 1, 2025 RASC Halifax Centre Meeting:**

**(39 attendees)**

**To watch a replay of the meeting, please visit: <https://www.youtube.com/watch?v=DWJRW9aPk4Q> on the RASC Halifax YouTube Channel.**

### **Welcome - David Hoskin**

RASC Halifax Director, Observing / EPO Chair and program emcee David Hoskin welcomed everyone to the monthly meeting, shared the Indigenous Land Acknowledgement and read the Centre's inclusivity and diversity statement.

### **David Hoskin - Photo Montage**

David presented photographs and sketches from Centre members Jerry Black, Michael Boschat, David Chapman, Jason Dain, Jeff Donaldson, Tim Doucette, Lisa Ann Fanning, David Hoskin, Peter Hurley, Pat Kelly, Blair MacDonald, David McMullin, and Gary Weber

## **Special Guest - Dave Chapman - *Celestial Birds, their Lore & Wonder***

Dave presented a light review of the bird constellations, provided lore surrounding them along with observing suggestions. He also highlighted stars and constellations in various RASC observing programs



Dave Chapman presents  
Celestial Birds  
Photo by Judy Black

## **Paul Heath - Food for the Soul - *Gaia's Scars***

Paul presented his latest poem, *Gaia's Scars*, which can be read on page 11 of this edition of Nova Notes. His poem was based on impacts to the Earth.

## **News from the Board presented by Centre Secretary, Judy Black**

New Board Appointment - David McMullin  
Still Needed - one Director.

Appointed Positions approved:

Chair, Communications Committee: Jeff Donaldson  
Still Needed - Chair/Lead for Nova East

Update from the Board - new Business Cards for Outreach - contact David Hoskin  
outreach@Halifax.rasc.ca. Big thanks to Wayne Harasimovitch.

Outreach event - Atlantic Photo Supply Public Observing - February 4 at 6:30 (backup February 5)

SCO Observing Nights

Tony McGrath, SCO Manager

Dates of New Moon Observing Sessions

Click on "Observing"

List of dates below "Observe With Us"

Other dates for special nights TBD

Nova East is back at Smiley's Provincial Park!

Chris Young confirmed we will be returning to Smiley's August 22- 24, 2025 (new Moon is August 23)

Gary Weber announced there will be a discussion for planning and generating ideas via Zoom (to be announced via the announce list)

Ideas are welcome!

Dark-Sky Weekend - all welcome

August 15-18

Details TBD on our website and Kejimkujik's website

RASC Awards - <https://rasc.ca/rasc-awards>

Deadline for Submission for 2026 Awards: December 31, 2025

To see past recipients, visit the our website "About Us" section.

Upcoming Meetings:

- Board of Directors - February 25, 2025
- Public Meeting - March 1, 2025  
Speaker Robyn Foret, Calgary Centre RASC Awards and Fund-raising Launch
- National Council - February 9, 2025

## **David Hoskin (EPO/Observing Chair) - What's up in the February Night Sky**

David reviewed highlights of the February sky. He highlighted the Sun, solar activity, the Moon, and targets needed to check off for Explore the Universe, and when they can be viewed. He also highlighted planetary positions, constellations, stars (including double and multiple) and deep sky objects. Each month, you can find David's presentations on the homepage at <http://halifax.rasc.ca>.

# 2024 Annual General Meeting (AGM) Reports

## 2024 Annual Report: President

### Highlights & Achievements

**Membership Survey** - Completed in January 2024, the survey was designed to better understand the expectations of the RASC Halifax membership.

**RASC Halifax Centre Plan** - Based on data from the survey, a plan was developed to guide the Board of Directors in their annual goal setting. RASC Halifax Centre will use this plan to provide its members with opportunities to fulfill their astronomy expectations. I encourage all members to familiarize themselves with the document, and to provide feedback and suggestions on how things can be improved. The plan is available on the RASC Halifax website.

**New Members Welcome Package** - Halifax Centre now has a welcome package for new members designed to help those joining our centre better understand and take part in the various activities of the Centre.

**Howard Telescope & Kstars** - A huge debt of gratitude is owed to Jerry Black for the wonderful work that he has done in getting the Howard 200mm EdgeHD Hyperstar telescope up and running. This telescope now provides interested members the opportunity to start Astroimaging with an amazingly fast f1.9 instrument and CCD camera. All the equipment and software needed is in place and operational. With post-processing, all members now have the opportunity to create stunning images with absolutely no investment in equipment. This is a huge benefit to the members, and I encourage any who have an interest in astroimaging with this equipment to get in touch with Jerry who would be happy to set you on a learning pathway.

**Monthly Observing Nights @ SCO** - Monthly members nights have been restarted at SCO. A number of successful observing nights were held. The enthusiasm demonstrated by the participants speaks to the desire of members to get out under a dark sky with like-minded individuals.

**SCO BBQ** - The event was held on 14 September 2024, International Observe the Moon Night. It was a lovely evening at SCO with food, friends and observing.

**RASC Halifax Laser Pointer Certificate Program** - RASC Halifax Centre now has a program to provide training to interested members on the safe usage of laser pointers for astronomical outreach. Anyone interested in receiving this training and certification should contact the board.

### **Recognition & Awards**

The Qilak Award is a national award that recognizes those who have made an outstanding contribution to the public understanding and appreciation of astronomy in Canada. This year's award recipient was Halifax member Tony Schellinck. Congratulations, Tony!



**Acknowledgements** - I would like to extend my sincere thanks to:

- **Mary Lou Whitehorne**, who has completed her tenure as Honorary President. Mary Lou has been a member of RASC Halifax since 1985. She is a former president of the RASC, is a Fellow of the RASC, an author, educator and recipient of numerous awards. Our board was extremely fortunate to be able to take advantage of her insight and knowledge.
- **Peter Hurley**, our outgoing Secretary. Peter has served the board with distinction in the key role of secretary for the past 5 years. His commitment to the role has been invaluable, keeping things organized and pointed in the right direction.
- **John Liddard**, our outgoing SCO Manager. John has filled this very important role for many years, and I would like to thank him for his dedication and commitment to the St. Croix Observatory. Bringing 120-volt utility power to the observatory is one of John's projects that was pivotal in keeping SCO well placed to support the needs of the RASC Halifax Centre.
- **John Nangreaves**, outgoing director. John was my predecessor serving as president of RASC Halifax in 2023. I would like to thank him for his service in taking on that roll, and then continuing as director in 2024.
- **Dave Robertson**, outgoing director. Dave is a new member of RASC Halifax, having joined in 2024. Dave stepped in to fulfill a vacant director position and became a valuable member of the board, always willing to help and an enthusiastic supporter of the RASC.

**Dave Lane, 1963 - 2024**

Finally, I would like to remember our friend and colleague Dave Lane, whom we lost in March this year. Dave was a significant contributor to the RASC and the broader astronomical community. His legacy is one of inspiration, innovation, and discovery. His contributions to astronomy were not just technical or organizational, they were human, driven by a passion for sharing the wonders of the universe with others. Dave's pioneering work, whether automating observatories or co-discovering supernovae, was grounded in the belief that the stars are for everyone. His spirit will live on in every curious gaze turned skyward at SCO, in every student inspired to explore the cosmos, and in the enduring work of the RASC and the observatories he helped transform.

Respectfully submitted,  
 Tony G. McGrath  
 President RASC Halifax Centre

***Board of Directors & Committees of the RASC Halifax Centre***

<p><b>Board of Directors</b></p> <ul style="list-style-type: none"> <li>• President: Tony McGrath</li> <li>• Vice-President: Judy Black</li> <li>• Secretary: Peter Hurley</li> <li>• Treasurer: Gregg Dill</li> </ul>	<ul style="list-style-type: none"> <li>• Directors: Jeff Donaldson, Matthew Dyer, David Hoskin, John Nangreaves, Dave Robertson</li> </ul>
<p><b>Appointed Positions</b></p> <ul style="list-style-type: none"> <li>• Honorary President: Mary Lou Whitehorne</li> <li>• Editor, Nova Notes: Lisa Ann Fanning</li> <li>• Copy Editor, Nova Notes: John McPhee</li> <li>• Communications: Judy Black</li> <li>• Governance Review Committee: Judy Black</li> <li>• Librarian: Jerry Black / Wayne Harasimovitch</li> </ul>	<ul style="list-style-type: none"> <li>• Editors, Nova Notes: Lisa Ann Fanning</li> <li>• National Council Representative: Judy Black</li> <li>• Observing Chair: David Hoskin</li> <li>• Education &amp; Public Outreach (EPO) Chair: David Hoskin</li> <li>• SCO Manager: John Liddard</li> <li>• Webmaster: Jerry Black</li> </ul>
<p><b>Auditor 2023-2024</b>          Dave Chapman (appointed Nov. 28/23)</p>	<p><b>Nominating Committee</b></p> <ul style="list-style-type: none"> <li>• Chair: Peter Hurley</li> <li>• Members: Tony McGrath, Judy Black</li> </ul>

<p><b>Governance Review Committee</b></p> <ul style="list-style-type: none"> <li>• Chair: Judy Black</li> <li>• Members: Patrick Kelly, Gregg Dill</li> </ul>	<p><b>Nova East Planning Committee (NEPC)</b></p> <ul style="list-style-type: none"> <li>• Chair: Chris Young</li> <li>• Members: Gregg Dill (Treasurer), Dave Chapman, Lisa Ann Fanning, Patrick Kelly (Registrar), Kathy Walker, Jerry Black (webmaster), Judy Black, Paul Gray, Tony McGrath</li> </ul>
<p><b>Halifax Centre Astroimaging Contest</b> Adjudicators: Blair MacDonald</p>	<p><b>Website Maintenance &amp; Updates</b> SMU: Tiffany Fields RASC &amp; Nova East: Judy &amp; Jerry Black</p>
<p><b>Education &amp; Public Outreach (EPO) Committee</b></p> <ul style="list-style-type: none"> <li>• Chair: David Hoskin</li> </ul>	<p><b>Observing Committee</b></p> <ul style="list-style-type: none"> <li>• Chair: David Hoskin</li> <li>• Members: Dave Chapman (past Chair), Melody Hamilton, Stephen Payne</li> </ul>
<p><b>Dark-Sky Preserve Committee</b></p> <ul style="list-style-type: none"> <li>• Co-Chairs: Peter Hurley, Tony Schellinck</li> <li>Members: Judy &amp; Jerry Black, Dave Chapman, David Hoskin, Chris Young, Wayne Mansfield</li> </ul>	<p><b>Nova Notes</b></p> <ul style="list-style-type: none"> <li>• Editor: Lisa Ann Fanning</li> <li>• Copy Editor: John McPhee</li> </ul>

## 2024 Annual Report: Vice-President

As Vice-President, I chaired one meeting of the Board of Directors on behalf of President Tony McGrath. I kept the Board apprised of key activities that were required by the Registry of Joint Stock Companies (RJSC) and those required as stated in our By-Law No. 1.

I coordinated the recruitment of speakers for our Centre with the assistance of members and fellow directors. I happily served as a proof-reader of *Nova Notes* content, as the Board liaison to the web master (Jerry Black) to keep him apprised of approved changes to our website, and as a consultant to Nova East. I also served as the Centre's Representative to the National Council (and served as its Chair for the third year) and as Chair of our Centre's Governance Review Committee.

One of the goals I was unable to fulfill this past year was the revision of our communications plan. Given our need to attract younger members and to keep current members engaged, it's important to provide mechanisms for all to access information about our Centre and to become engaged in its activities. If you have some communications experience and can assist us in the short or long term to identify shortcomings and needed improvements, please contact one of the Executive.

I look forward to continuing serving our Centre in the coming year.

Respectfully submitted,  
Judy Black, Vice-President

## 2024 Annual Report: Secretary

Duties of the Secretary include provision of minutes, agendas and meeting announcements to the Board of Directors and the members of the Centre. An additional duty is to book meeting rooms through St. Mary's University (SMU) Conference Services. SMU has generously provided us with access to room AT101 for our Members meetings and we are grateful to SMU for their support.

Member's meetings were held on the first Saturday of the month from January to June and September to December, although the April meeting was cancelled to allow for those travelling to view the Solar eclipse and the Annual Centre BBQ at SCO was held in place of the September meeting. Meetings generally consisted of a welcome and introductions, a photo montage of astrophotography images posted by members during the preceding month presented by David Hoskin, a monthly installment of *Food for the Soul* by Paul Heath, *What's Up?* for the coming month presented by David Hoskin, *News from the Board*, a guest speaker, other news items and announcements, and discussion of upcoming Centre events. Presentations by our quest speakers included:

- Pat Kelly (*New ESA Probe Launched to Survey Europa*)
- Chris Curtis (*Outreach by the Bay*)
- Paul Gray (*Eclipse 2024! Be there!*)
- Ian Short (*Student Spectrography at the BGO*)
- Members' eclipse stories
- Tiffany Fields (*BGO Astronomy Technician*)
- Luigi Gallo (*JAXA's XRISM X-Ray Observatory*)
- Martin Connors (*100 Years Ago, Galaxies Did Not Exist*)
- Lisa Ann Fanning (*Seeing Double: Art & Practical Application of Stereoscopy in Space*)

Members meetings were again "hybrid meetings" – held in person at SMU AT101 and streamed simultaneously using the video conferencing application Zoom so that those choosing not to attend in-person or unable to travel from a remote location could still participate. Recordings of the Members meetings can be streamed from the Centre's YouTube channel at <https://www.youtube.com/@RASCHalifax> and minutes can be found in *Nova Notes*. Thanks to Jerry Black and Bob Russell for applying their amazing skills in computer and audio-visual technology to make these hybrid meetings happen.

Meetings of the Board of Directors were usually held on the Tuesday evening preceding the Member's meeting. There was a total of 11 Board meetings in 2024; no Board meetings were held in July or August. The Board continues to use the video conferencing application Zoom to conduct its meetings.

Minutes from Board meetings can be found on our website (<https://halifax.rasc.ca/index.php/about-us/halifax-centre-board-minutes>) and in issues of the Centre newsletter *Nova Notes* also in the Centre website (<https://halifax.rasc.ca/index.php/publications/17-nova-notes-newsletter>).

This has been my fifth year serving as Secretary of the Centre. I would like to thank the Board for being such a great team to work with, and to thank them and Centre members for their support and for being such a great Society. It has been a pleasure.

Respectively submitted,  
Peter Hurley, Secretary  
RASC Halifax Centre

## 2024 Annual Report: Treasurer

Royal Astronomical Society of Canada, Halifax Centre  
Comparative Income Statement  
Years Ending September 30, 2023 and September 30, 2024

	Years Ended September 30		Amount of Increase or (Decrease) during 2024
	2024	2023	
<b>Revenue</b>			
Membership Fees	\$3,463.88	\$3,364.77	\$99.11
Donations	\$704.00	\$350.00	\$354.00
Observatory Donations	\$140.00	\$0.00	\$140.00
Education & Outreach	\$0.00	\$0.00	\$0.00
Interest	\$449.81	\$63.14	\$386.67
Sales of Merchandise	\$1,325.00	\$340.00	\$985.00
Nova East (Net)	\$430.38	\$1,190.00	(\$759.62)
National Processing Fees (Income)	(\$12.87)	(\$4.91)	(\$7.96)
Miscellaneous	\$122.00	\$0.00	\$122.00
<b>Total Revenue</b>	<b>\$6,622.20</b>	<b>\$5,303.00</b>	<b>\$1,319.20</b>
<b>Expenses</b>			
Meetings	\$411.51	\$230.00	\$181.51
Depreciation and write offs	\$951.18	\$1,056.23	(\$105.05)
Equipment and Supplies	\$0.00	\$0.00	\$0.00
Purchase of merchandise	\$675.73	\$490.51	\$185.22
Office Administration	\$329.33	\$0.00	\$329.33
Educational Activities	\$0.00	\$35.80	(\$35.80)
Insurance	\$1,966.00	\$1,837.00	\$129.00
Awards and Donations	\$120.00	\$120.00	\$0.00
National Office Processing	\$96.92	\$106.53	(\$9.61)
Operating Expenses SCO	\$30.15	\$710.76	(\$680.61)
Miscellaneous (NE refunds)	\$70.00	\$1,190.00	(\$1,120.00)
<b>Total Expenses</b>	<b>\$4,650.82</b>	<b>\$5,776.83</b>	<b>(\$1,126.01)</b>
<b>Operational Surplus (Deficit)</b>	<b>\$1,971.38</b>	<b>(\$473.83)</b>	<b>\$2,445.21</b>

Royal Astronomical Society of Canada, Halifax Centre  
Comparative Balance Sheet  
Years Ending September 30, 2023 and September 30, 2024

September 30, 2024 Activity to: September 30, 2024	Years Ended September 30		Amount of Increase or (Decrease) during 2024
	2024	2023	
<b>Assets</b>			
Cash	\$11,783.33	\$10,175.49	\$1,607.84
Investments	\$8,000.00	\$8,000.00	\$0.00
Accounts Receivable	\$485.97	\$282.22	\$203.75
Library Estimated	\$1,147.61	\$1,183.11	(\$35.50)
Observatory Equipment	\$8,263.10	\$9,178.78	(\$915.68)
Miscellaneous Estimated	\$13.00	\$0.00	\$13.00
<b>Total Assets</b>	<b>\$29,693.01</b>	<b>\$28,819.60</b>	<b>\$873.41</b>
<b>Liabilities</b>			
Accounts Payable	\$1,013.33	\$2,111.30	(\$1,097.97)
<b>Capital</b>			
Nova East Working Equity	\$5,000.00	\$5,000.00	\$0.00
Common Equity	\$23,679.68	\$21,708.30	\$1,971.38
<b>Total Capital</b>	<b>\$28,679.68</b>	<b>\$26,708.30</b>	<b>\$1,971.38</b>
<b>Total Liabilities and Capital</b>	<b>\$29,693.01</b>	<b>\$28,819.60</b>	<b>\$873.41</b>

## 2024 Annual Report: National Council

In June 2024, I was re-elected as Chair of the National Council (NC). It has been a busy year building on the momentum of the previous two years.

National Council met six times in 2024 – February 11, April 21, June 9, September 15, October 27, and the upcoming December 8. Centre Presidents were invited to attend the February meeting at which a financial update was provided.

Election of the officers was held June 9, 2024. I offered to have my name stand for the Chair position. Charles Ennis (Sunshine Coast) volunteered for Vice-Chair. Both were elected by acclamation. At the September 15 meeting, Adriana Jones (Calgary Centre) volunteered her name for the NC Recorder position and was elected by acclamation.

National Council no longer meets in person in conjunction with the General Assembly; both are now held independent of each other via Zoom. In collaboration with my fellow National Council Representatives, we have worked on the following projects in 2024.

- The draft revisions to the *RASC Policy C11: National Council Terms of Reference* were approved by the NC for forwarding to the RASC Board of Directors for their consideration. Comments have been received and will be discussed by the NC and Board for final approval by the Board before the end of the year.
- The welcome package for new National Council Representatives is being implemented in 2024 and amendments made as required.

### **Clarification of the National Council Role with the RASC**

Much activity in the past two years has centred around redefining the role of the National Council within the RASC. The National Council and the RASC Board of Directors have worked to improve the working relationship between them, and to continue strengthening the three pillars – communication, collaboration, and transparency. As noted above, *Policy C11* that was drafted by the NC was forwarded to the Board for their approval; this should be achieved later this year.

### **Work with the RASC Board of Directors**

The RASC President (Michael Watson), Treasurer (Stuart Heggie), RASC Executive Director (Jenna Hinds) and other Board members have attended meetings to provide guidance when needed and to update on Board activities for which they requested input.

The Board has 40 minutes of every 2-hour meeting to present the RASC financial statements and other updates (such as the *RASC Observer's Handbook* and the *RASC Observer's Calendar* publication and mailout timelines), and to inform members of services of which they may not be aware (such as liability insurance for Centre Executive). NC Representatives asked questions and provided suggestions at the meeting and, after presenting the information to their Council/Board, were invited to provide further comments.

One thing instituted this year as a result of a suggestion from the National Council was having the financial statements reviewed by the Board every month at their meetings. The need for membership fee increases was discussed with the NC prior to implementation.

### **Work with the RASC Committees & Task Forces**

Collaboration with Board committees and task teams continued into 2024. The Eclipse Task Force, chaired by Randy Attwood, provided regular updates at meetings prior to the Eclipse. An Eclipse Planning Guide was produced for municipalities and public facility managers to help prepare them with what to expect with an eclipse. They also held a webinar with educational eclipse presentations which were geared to help municipalities and organizations manage the logistics of an eclipse event.

The question of digital versus print versions of publications was raised by the National Council. The Board of Directors and the Editorial Board discussed this and determined it would be completely impractical for the Society to venture into an electronic version of the *Observer's Handbook* because of the complexity of having both electronic and printed, the cost of producing an interactive versus PDF version, and the additional work it would impose on head office staff. C. Gainor, Chair of the Editorial Board, noted the digital version had been offered before and there was no significant pick-up of that version.

The need to reprint education/ outreach materials was identified. A special report produced by two Toronto Centre members was discussed at length by the NC. Consequently, *Moongazers* will be reprinted in the coming months; there are sufficient quantities of *StarFinders* for Centres.

Task Forces are being formed to address office space, to investigate membership management programs and to simplify the *RASC Policy Manual*. NC input and participation are ensured.

### **Centre Operations Manual (COM)**

The Centre Operations Manual (COM) was completed and published on the RASC website <https://rasc.ca/centreopsmanual>. It is a highly recommended read for all RASC Centre Council/ Board members and serves as a guide for all Centres.

### **Laser Pointer Training**

Laser Pointer training was developed through the work of NC member Dennis Lyons (Winnipeg Centre) and Jenna Hinds with much input from fellow NC members. A training program comprising a PowerPoint slide deck, complementary print materials, course completion cards, and multiple choice exams had input from the NC in the course of the program development.

### **2024/2025 Priorities**

Priorities for 2024/2025 were determined at the September meeting.

- Ongoing consultation with the RASC Board of Directors regarding the RASC financial position.
- Policy C11 should be approved by the end of December 2024.
- Our three pillars are transparency, collaboration and communication. We want to make sure the mechanisms are in place for these to occur, especially communications with the Board. Improved communication mechanisms will be addressed and includes ongoing revision of the NC welcome package (when needed) and an improved communication strategy for the NC.
- RASC Committee consultation will continue.
- Other business would be prioritized as it arises.

Respectfully submitted,

Judy Black

NC Representative, RASC Halifax Centre

Chair, RASC National Council

## **2024 Annual Report: Dark-Sky Preserve Committee**

Tony Schellinck and Peter Hurley served as co-chairs of the RASC Halifax Centre Dark-Sky Preserve (DSP) Committee in 2024. Activities involved interacting with Kejimikujik Park staff, planning and delivery of the annual Kejimikujik Dark-Sky Weekend, reviewing activities within the Park that might impact the DSP designation, preparing for a lighting audit of the Park, and corresponding with the RASC Light Pollution Abatement Committee and the RASC Dark-Sky Sites Program. Planning and scheduling of events were assisted by Dave Chapman, Chris Young, Jerry Black, Judy Black, David Hoskin and Wayne Mansfield.

## Lighting Audit Activities

There were plans to complete a lighting audit of the Park this year and discussions of changes in lighting within the Park occurred in planning meetings and during the Dark-Sky Weekend.

Unfortunately, Tony and Peter were unable to complete a lighting audit before the Park closed for the season. They plan to complete a lighting audit in early 2025.

## Maintenance of Park Telescope

Andrea Misner and Kevin Mogk used the Park telescope, a 10" Sky-Watcher Dobsonian, in the Sky Circle field on Friday evening during DSW and it was obvious that there were a few issues with the telescope operation. Dave Chapman and Chris Young will get the telescope back into proper working order and they plan to train Park staff in its use and care next season.

## August 2 – 4, 2024 Dark Sky Weekend

This year presented us with a new Moon on Sunday, August 4 and Moon set each night before the evening programs began. The weather was variable all weekend, with cloudy periods and intermittent rain, and some heavy rain. But there were dark skies when we could see them. On Friday evening, the clouds cleared off and provided mostly clear skies. An SQM reading of 20.8 was measured in the Sky Circle field.

Although the peak of the Perseid meteor shower wasn't until August 11/12, many meteors were spotted throughout the programs on Friday evening to thrill the audience. Saturn rose shortly after 10pm and cleared the trees before we finished for the evening but that was the only planet available for viewing. The weather on Saturday and Sunday was mostly cloudy and often rainy and we had to be adaptable and creative with our activities.

Because we were using laser pointers (LPs) for the evening programs this year, we had several spotters when an LP was in use and there was a presentation by Chris Young at the beginning of the program each night about the regulation of laser pointers in Canada and the reasons for the regulations. By the end of the programs, members in the audience were helping our spotters spot aircraft in the sky.

### Friday, August 2

9:30 pm – 10:00 pm (Sky Circle): Introductions by Colleen Andersen (Park staff) and Chris Young. *Tour of the Night Sky* by Chris Young. Chris was using a laser pointer and Peter Hurley and Gary Weber spotted for Chris.

10:00 pm – midnight (Sky Circle field): Jerry Black, Judy Black, Gerry Brosky, Matt Dyer, Paul Gray, David Hoskin, Wayne Mansfield, Andrea Misner, Kevin Mogk, and John Read were in the field with telescopes. Tony Schellinck was at the binocular table and Peter Hurley was his LP spotter. Tony did two shows and signed many *Ace Amateur Astronomer* certificates. Chris Young and Park staff answered questions in the Sky Circle. It was a wonderful night, and we were all packed up by 12:30am.

### Saturday, August 3

1:00 pm – 4:00 pm (Merrymakedge Beach): At 1pm, there was a severe thunderstorm watch in effect so only a handful of us set up our *Ask-an-Astronomer* table under a canopy provided by the Park but others joined over the course of the afternoon. Judy Black, Jerry Black, Gerry Brosky, Matt Dyer, David Hoskin, and Wayne Mansfield participated. Telescopes and binoculars were set up on display at the Merrymakedge Beach Canteen. The skies cleared briefly about 3:40pm and 10 guests were able to do some impromptu solar observing with Gerry, David and Peter.

4:00 pm – 4:45 pm (Sky Circle field): *Walk the Solar System* with David Hoskin was cancelled, due to rain.

9:30 pm – 10:00 pm (Sky Circle): Introduction by Colleen Anderson and Chris Young.

10:00 pm – 10:30 pm. Park interpreters Marlene Lebel and Alex Balkam presented the *Muin and The Seven Bird Hunters* story in a new and truly imaginative and participatory performance that involved children from the audience carrying glow-in-the-dark painted cardboard props around the Sky Circle. The introduction was in English, French and Mi'kmaq and the narration of the story was in English and Mi'kmaq. It was an amazing experience.

10:30 pm – midnight (Sky Circle field): Telescope & binocular observing. The same volunteers were involved as on Friday night, but viewing wasn't great.

**Sunday, August 4**

1:00 pm – 4:00 pm (Merrymakedge Beach): *Ask-an-Astronomer* table crewed by Judy Black, Jerry Black, Matt Dyer, David Hoskin, and Peter Hurley. Between the clouds, solar viewing by Gerry Brosky, Peter Hurley and Wayne Mansfield.

4pm – 4:45pm (Sky Circle field): *Walk the Solar System* with David Hoskin, assisted by Matt Dyer.

9:30 pm – 10:00 pm (Sky Circle): Introduction by Colleen Anderson and Chris Young.

The clouds didn't part Sunday evening, but we had been expecting this and had got a bit creative in our planning. Those that had astroimages with them and a tablet or laptop that they could be viewed on and the telescope that it had been used to capture the images, set up in the Sky Circle field and talked to audience members about the images, the targets in the images, and about the equipment they had used. This proved to be quite successful and the people that had come out weren't disappointed.

Despite the clouds and rain, it was a very successful Dark-Sky Weekend with great attendance.

The final attendance numbers tabulated with assistance from the Parks staff are listed below.

<b>Friday, August 2</b>	
Sky Circle	362
<b>Saturday, August 3</b>	
Astronomy Drop-in	50
Walk the Solar System	n/a
Sky Circle	89
<b>Sunday, August 4</b>	
Astronomy Drop-in	44
Walk the Solar System	4
Sky Circle	60
<b>Total</b>	609

We want to recognize the amazing work put in by Parks staff, in particular Colleen Anderson, in organizing this event on behalf of Parks Canada. This involved months of preparation and planning, numerous meetings, and lots of emails to make this happen as smoothly as it did. Other Parks Canada staff including Ashley Moffat, Sam Shepard, Oryan Currie, Brooke Dickie, Jonathan Oickle, and Jonathan Riley also assisted and we thank them all for their efforts on our behalf.



Thank you to all the RASC volunteers who made this happen. There were 14 volunteers actively involved in the weekend. Their names are mentioned above, and we apologize if we have forgotten anyone. We hope you enjoyed this weekend event and will consider participating again next year.

Photographs and a time-lapse video (see below) were taken by various DSW participants and Jerry Black respectively. Here is a link to a video produced by Jerry Black to highlight the 2024 Kejimikujik Dark-Sky weekend. <https://vimeo.com/manage/videos/1030328267>

Respectfully submitted,  
Peter Hurley, DSP Committee Co-chair  
Tony Schellinck, DSP Committee Co-chair



An image of the Milky Way captured with an iPhone 15 Pro Max from the Sky Circle field at Kejimikujik National Park Dark-Sky Weekend – 1am, Saturday, August 3, 2024



An astroimaging setup at demonstration on Sunday evening



Wayne Mansfield Sunday evening with a telescope demonstration



Jerry and Judy Black and two members of the public Sunday evening with an astroimaging demonstration



David Hoskin on Sunday evening with a Dwarf 2 demonstration



Peter Hurley, Matt Dyer, Colleen Anderson and Daphne Themelis on Sunday evening with a ZWO SeeStar S50 demonstration

## 2024 Annual Report: Education and Public Outreach (EPO)

2024 was an active year for education and public outreach by 20 RASC Halifax Centre members. Dark-Sky Weekend on August 2-4 at Kejimikujik National Park was a great success. Over 2 nights there were 609 registrants for Sky Circle events that included Night Sky Tour and Sky Lore presentations by Dave Chapman and Chris Young, guided binocular tours with Tony Schellinck, eyepiece observing, and electronically assisted astronomy that allowed registrants to view several celestial objects on a tablet screen. The Astronomy Drop-in sessions on Saturday and afternoon at Merrymakedge Beach engaged with a total of 40 interested individuals for each day. Unfortunately, *Walk the Solar System* on Saturday was cancelled due to rain; 4 attended this event on Sunday. There were 12 volunteers from RASC Halifax Centre who assisted with program delivery.

On January 14, Peter Hurley and David Hoskin provided 2 members of the Dalhousie University Astronomy Club with a tour of the St. Croix Observatory. On January 19, Tim Doucette hosted 36 students from Maple Grove Elementary School, teaching them about the *Counting Stars* project, telescopes, and getting a view of the Sun through the hydrogen-alpha telescope at Deep-Sky Eye Observatory.

On February 8, David Hoskin used his smart telescope to provide 20 students and staff at Halifax Independent School with a live view of several large sunspots on the Sun. On February 9, David Hoskin met via Zoom with a librarian from Advocate Harbour to advise on setting up a public stargazing program.

On February 10, David Hoskin hosted a stargazing session at Benjamin Bridge Winery in Wolfville. Approximately 20 attendees were treated to eyepiece views of Jupiter and the Great Orion Nebula. A laptop computer was used to show event attendees solar, lunar, planetary and deep sky images to event attendees. Questions concerning amateur astronomy and the upcoming total solar eclipse were answered. On February 26, David Hoskin distributed RASC *Starfinders* and *Moon Gazer Guides* to 6 Cubs and 4 adults at Joseph Giles Elementary School in Dartmouth. *Starfinders* were used to explain rotation of the stars around the north celestial pole, as well as the seasonal change in visible constellations. Attendees also enjoyed some sky lore.

On March 18, Jerry and Judy Black, and Peter Hurley attended the last Space Camp session at Discovery Centre and provided 8 campers with live views of the Sun. On March 20, David Hoskin hosted a Zoom presentation on the upcoming total solar eclipse to 6 members of the Association of Dalhousie Retirees and Pensioners.

On April 8, Wasundara Fernando and Lauren Westhaver assisted Discovery Centre staff with their solar eclipse event, providing many members of the public with safe views of the eclipse through telescopes equipped with solar filters. About 800 attended the event at Discovery Centre. Paul Heath and Wayne Harasimovitch assisted with eclipse viewing by many members of the public at Saint Mary's University. David Hoskin was at Rogersville, New Brunswick, where he explained the eclipse process and related phenomena, as well as showing filtered images throughout the total solar eclipse to 9 members of the public. On April 30, David Hoskin and Stewart Cameron hosted a stargazing event at York Redoubt for 5 members of the Association of Dalhousie Retirees and Pensioners. M3, M44, M51, and M109 were observed using telescopes.

On May 15, Dave Chapman and David Hoskin talked about the Sun, its features, the effect of space weather on the Earth, and how to safely observe the Sun to 75 grade-11 students and 3 teachers at Dartmouth High School. Students were treated to white light and hydrogen-alpha views of the Sun. On May 18 (International Astronomy Day), Michael Boschat, Gerry Brosky, Matt Dyer, Wayne Harasimovitch, David Hoskin, and Peter Hurley manned a RASC Halifax display at the Discovery Centre, which engaged with about 200 members of the public (mostly in family groups). Many astronomy-related questions were answered and RASC *Starfinders* and *Moon*

Gazer Guides were distributed. On May 31, David Hoskin talked about the Sun, its features, and the effect of space weather on the Earth with 12 students and 3 staff at Grosvenor Wentworth Park Elementary School in Halifax. RASC Starfinders and Moon Gazer Guides were distributed.

On July 19, David Hoskin and Wasundara Fernando met with 17 grade 7-9 campers and 2 staff members at Acadia University's Women in Science and Engineering Camp. Campers observed sunspots and other solar features using a white light solar filter and hydrogen-alpha solar telescope. Campers participated in "Walk the Solar System" and RASC Starfinders were distributed. On July 27, David Hoskin and David McMullin hosted a stargazing event at the United Church Camp in Berwick. Attendees (50, mostly family groups) learned about summer stars and constellations and asterisms and viewed M13 through a telescope.

On August 25, David Hoskin talked about the Sun, its features, and the effect of space weather on the Earth with an audience of 16 at Chicory Blue General Store in Blockhouse, Nova Scotia. The audience was treated to white light and hydrogen-alpha views of the Sun.

On September 6, David Hoskin joined members of RASC New Brunswick Centre at the Kouchibouguac Fall Starfest at Kouchibouguac National Park in New Brunswick where he provided eyepiece views of Albireo, M31 and Saturn.

On October 5, Dave Chapman and Stephen Payne hosted a binocular astronomy workshop and talked about Explore the Universe to 20 members of the public at the Deanery Project, Nova Scotia.

On October 18, Rob and Lissa Fanning hosted a lunar observing session for 14 attendees at Bayshore Waterfront Park (Port Monmouth, New Jersey).

On October 22, David Hoskin and Stewart Cameron hosted a stargazing session at York Redoubt for 12 members of the Association of Dalhousie Retirees and Pensioners. Saturn, Comet C/2023 A3, and several deep sky objects were viewed through binoculars and telescopes.

Respectfully Submitted,



David Hoskin  
Education and Public Outreach Chair  
RASC, Halifax Centre

## 2024 Annual Report: Governance Review Committee

I would like to thank my fellow members on the Governance Review Committee, Patrick Kelly and Gregg Dill, for the work accomplished in the past year, and for the interesting discussions we had during our deliberations.

No changes were recommended for *Policy G2: RASC Halifax Centre Objectives*, *Policy G3: Signing Authority*, and *Policy G10: Commercial Activities* at this time.

On June 18, 2024, minor changes were proposed and approved for the position descriptions of the five elected positions (President, Vice-President, Secretary, Treasurer, Director) and the eight appointed positions (Honorary President, National Council Representative, *Nova Notes* Editors, Observing Chair, EPO Chair, Librarian, SCO Manager, and Web Master).

On September 3, 2024, the Board of Directors approved proposed revisions to the following RASC Halifax Centre policies and guidelines:

- a) **B1: Terms of Reference – Board of Directors** – (Adopted November 2, 2019; Revised September 3, 2024).
- b) **B2: Terms of Reference – Ordinary Committees of the RASC Halifax Centre** – (Adopted October 19, 2018; Revised September 3, 2024). Addition of *Communications Committee* and *Education & Public Outreach (EPO) Committee*. Clarification of the various methods for meetings. Addition of *Communications Committee*. Thanks to David Hoskin for input.
- c) **G4: Policy Regarding Speaker Reimbursement for RASC Halifax Centre Events** – (Adopted April 20, 2018; Revised September 3, 2024). Increases to the reimbursement amount.
- d) **G5: Halifax Centre Privacy Policy** – (Adopted October 19, 2018; Revised September 3, 2024). Handling of personal information collected as part of EPO and Observing program registrations.
- e) **G6: Procedures Regarding Nomination, Elections & Appointments** – (Adopted October 19, 2018; Revised September 3, 2024) Deleted specific references to By-Law No. 1.
- f) **G7: RASC Halifax Centre Website Standard Operating Procedures (SOP)** – (Adopted November 2, 2019; Revised September 3, 2024) Correction of the login for the Centre and clarification of passwords for our Centre and Nova East. Thanks to Jerry Black and Tiffany Fields for input.
- g) **G8: RASC Halifax Centre Astro-imaging Contest** – (Adopted May 4, 2019; Revised September 3, 2024). Addressed the use of AI to generate images in part or in whole. Thanks to Blair MacDonald for input.
- h) **G9: RASC Halifax Centre Guidelines Regarding In-Camera Sessions** – (Adopted May 4, 2019; Revised September 3, 2024). The method of exclusion of a Board member from the discussion and/or decision making is clarified. Thanks to Tony McGrath and Peter Hurley for input.
- i) **G11: Policies Regarding RASC Halifax Centre Membership & Conflict Resolution** – (Adopted June 1, 2021; Revised September 3, 2024). Removed references to specific policies and changed wording to more general terms. No suggested changes to the actual process.
- j) **G12: Policy Regarding Expulsion from RASC Halifax Centre Membership** – (Adopted May 3, 2022; Revised September 3, 2024). Removed references to specific policies and changed wording to more general terms. No suggested changes to the actual process.
- k) **G13: Policies & Recommendations Regarding the Use of Laser Pointers (LPs) at Halifax Centre Event** – (Adopted May 2, 2023; Revised September 3, 2024). Clarification of the process for an ‘event’ to be considered a “RASC Halifax Centre event”.
- l) **G14: Policies Regarding Donations to the RASC Halifax Centre** – (Adopted October 30, 2023; Revised October 1, 2024). Added section regarding bequests and legacies.

The Governance Committee will continue to review all Halifax Centre policies and position descriptions annually and when situations dictate a change. In the new year, recommendations regarding handling historic documents will be developed.

Based on changes made to our policies and position descriptions and given some changes to the RASC policies and By-Law in the past year, the Committee proposed some changes to our Centre By-Law No.1. Documentation was sent to the membership regarding the rationale for the changes for which approval from the RASC Halifax Centre membership will be sought at the AGM.

Respectfully Submitted,  
Judy Black, Chair  
Governance Review Committee  
RASC Halifax Centre

## 2024 Annual Report: Nova East Star Party



**STARS AND BIRDS** was the theme for our star party held at Blomidon Provincial Park during the weekend of August 9th to 11<sup>th</sup>, 2024. This was the 36<sup>th</sup> Nova East (N.E.). The Theme “Birds & Stars” was originally proposed for the cancelled 2023 Nova East and we were pleased to be able to proceed with it.

Many thanks to Lisa Ann Fanning for the 2024 logo design for printing on the Nova East t-shirts (all the while knowing she would not be able to attend) and to Gregg Dill (Centre Treasurer) for setting up the printing of the T-shirts at Pro Design Cresting Ltd. in Truro.

### **2024 NE Planning Committee (NEPC):**

Members and supporters included Chris Young (Chair), David Chapman (presenter), Lisa Ann Fanning (artist), Kathy Walker, Patrick Kelly (Registrar), Jerry Black (webmaster), Judy Black, Paul Gray, and Tony McGrath. Meetings were on Zoom with planning meetings held in May and June. The success of Nova East 2024 was because of their input and work. The Committee’s goal was that this event should be an observing weekend and a social event. All activities and decisions considered for previous NE’s were reviewed and updated.

### **Task Chart:**

The 2022 N.E. Task Chart acted as a guide for the 2024 Nova East Planning Committee and provided the timeline for planning the event. This document was used throughout the planning process and revised as required. Many thanks to Judy Black for making our planning easy with her Schedules, Minutes and Task Lists from NE’s gone by!

Planning for the 2024 N.E. had been largely done for the 2023 event which was cancelled due to flooding. The Committee was able to carry on using their earlier work by re-branding it to Blomidon, with many thanks to Jerry and Dave C. for their work on this. Insurance from National was in effect for the event.

### **Weather:**

The weather predicted for the weekend was overcast and wet. We considered cancelling the event but felt it was important to provide a social event. In the past NE has been held in bad weather except during hurricanes. We are pleased that we carried through.

### Speakers and Events:

The wet weather made it necessary to cancel most of the outdoor public events including: “*The Sky Tour*” (Gary Weber) and “*Walk the Solar System*” (David Hoskin). The public did join in for the presentations.

The weekend events which proceeded indoors were:

- **Friday evening** - Tony Schellinck received his Qilak Award Plaque, presented to him by Dave Chapman.
- **Friday evening** - Dave Chapman gave his presentation: “*Celestial Birds, their Lore and Wonder*” (attendance 32).
- **Saturday noon** – Michelle Lane hosted “*Lane’s Book Mart: Books for sale from Dave Lane*”, and at the same time the members “*Nova East Swap: Equipment and Books*” took place.
- **Saturday afternoon** - David Hoskin gave a presentation on “*All-in-One Smart Telescopes*” (attendance 16).
- **Saturday night** Keynote speaker Tony Schellinck provided the talk: “*Women in Astronomy*” (attendance 24).
- **Sunday morning** the Sun came out and Pat Kelly led the “Sherman Williams Walk - Birding at Blomidon” along with sharing much natural plant lore with us. (attendance 9).
- **Sunday night** we shared the clear sky with several of the Park’s Campers. They joined us first in the shelter for a tutorial with Tony Schellinck, and then in the field (attendance 10). All those who remained, are now certified “*Ace Amateur Astronomers*”. Green laser pointer rules were maintained with a brief announcement of Transport Canada’s rules for RASC using them. The Aurora Borealis at 3:00 AM Monday morning was a bonus for those of us that could be woken up. Monday the members packed up in the sunshine and headed home.

### Door Prizes:

Dave Chapman and Chris Young, with assistance from Lisa Ann Fanning, and other donors, had collected Door Prizes. 15 Prizes were given away and there are several put away for NE 2025. The Centre provided a budget of \$600.00 and the prize list was supplemented with donations.

### Door Prizes:

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### Other Highlights:

An ***Astro Breakfast***, always popular, was provided Saturday and Sunday morning with coffee, juice, muffins, donuts and fresh whole fruit.

The ***Astronomer’s Lounge*** was scaled back, with tea, coffee and hot chocolate always available in the shelter. The Park requested that the regular Park visitors have some access to the shelter as they needed. This was provided and we all got along well.

**Date of 2025 Nova East:**

As approved by the Board of Directors and now included in the 2025 RASC Calendar, Nova East 2025 will be held the on August 22-24 of 2025. The New Moon is on Saturday 23<sup>rd</sup> August. Smiley's facilities are available for N.E. in 2025. At present, the shelter there is being used for maintenance equipment and its availability next year is important consideration for NE planning. Discussion with the attendees is that while Blomidon worked out well, Smiley's is a better fit for our event (i.e. travel distance, location of the shelter and WR). The Blomidon staff were helpful and the facilities there are well maintained. We are grateful for their assistance with our event.

**Finances**

A summary of Nova East finances are as follows:

	<u>Revenue</u>	<u>Expense</u>
1. Camping, 3 nights	\$400.00	\$600.00
2. Registration	\$1,440.00	
3. Astro Breakfasts/snacks		\$300.00
4. T-Shirts	\$600.00	\$360.24
5. Door prizes (15)		\$650.00 (includes \$180. worth of prizes for 2025)
Total	<u>\$2,440.00</u>	<u>\$1,910.24</u>
PROFIT		<u>\$529.76</u>

This is my second year as N.E. Chair and I will not be re-offering for 2025. I will, however, volunteer to be on the Committee in any capacity the new Chair requests.

I would be pleased to discuss any part of this Report at the AGM.

Respectfully Submitted,  
Chris Young  
Chair, Nova East Committee 2024  
RASC Halifax Centre



Photo: © Gary Weber



## 2024 Annual Report: *Nova Notes*

To date four issues of *Nova Notes* have been published, with the fifth and final issue (Vol 55 No 5) for 2024 to be published at the end of December (content deadline is December 15, 2024.)

*Nova Notes'* editorial staff consists of Lisa Ann Fanning (Editor) and John McPhee (Copy Editor). Additional review is provided by Judy Black.

Jerry Black assists with posting to the Halifax Centre website.

Once posted, editions are promoted with a Member Announcement (via email), and announcements on the RASC Facebook page and Listserv.

### Edition Sizes:

- Jan/Feb 2024 (Vol 55 No 1) issue was 28 pages total
- March/April 2024 (Vol 55 No 2) issue was 21 pages total
- May/June 2024 (Vol 55 No 3) issue was 22 pages total
- Sept/Oct 2024 (Vol 55 No 4) issue was 24 pages total
- Nov/Dec 2024 (Vol 55 No 5) is TBD

### Regular features include:

- *From the Editor* (Lisa Ann Fanning or John McPhee)
- Halifax centre Information page
- *From The President* (Tony McGrath)
- *Food for the Soul* (poetry by Paul Heath)
- *Puzzle Corner* (some were reprints from prior editions and others newly authored by Judy Black or Lisa Ann Fanning)
- *Member News* (Members being featured in other media)
- *Members' Universe* (member news and submitted work)
- Member's Meetings reports
- *Moonscapes* is a feature where David Hoskin highlights a region or feature on the Moon.

Main cover photos were provided by: Jerry Black (M1, The Crab Nebula), Jason Dain (The Great North American Eclipse), Michael Gatto (Aurora over Shubenacadie) and Blair MacDonald (The Boogie Man Nebula)

In 2024, contributors of articles, features, photos and sketches include: Dr. Roy Bishop, Jerry Black, Judy Black, Michael Boschat, Barry Burgess, David Chapman, Jason Dain, James Edgar FRASC, Lisa Ann Fanning, Tiffany Fields, Michael Gatto, Paul Heath (Poetry), David Hoskin, Jeremy Kuzub, Blair MacDonald, John McPhee, Tony McGrath (From the President), John A. Read, Gary Weber and Mary Lou Whitehorne.

2023 Annual Reports not published in the Nov/Dec 2023 edition appeared in the Jan/Feb 2024 edition.

### Highlights:

- *A Brief History of SCO* by Dr. Roy Bishop appeared in the Jan/Feb 2024 edition.
- The March/April 2024 edition had a theme of *The Great North American Eclipse*.
- Qilak Award winner Tony Schellinck was showcased in the May/June 2024 edition.
- A new series of articles, *Asteroids with a Nova Scotia Connection*, by Dr. Roy Bishop and Judy Black premiered (the first of six) in the Sept/Oct 2024 edition.
- Tributes to Dave Lane appeared in the March/April 2024 and Sept/Oct 2024 editions.

Once again, we extend our sincerest thanks to the many folks who help make *Nova Notes* a success!

Respectfully Submitted,  
Lisa Ann Fanning and John McPhee  
*Nova Notes, RASC Halifax Centre*

## 2024 Annual Report: Observing Committee

The Chair of the Observing Committee is David Hoskin. Committee members include Dave Chapman (past Chair), Melody Hamilton, and Stephen Payne. Melody Hamilton and Dave Chapman are past members of the Society-wide RASC Observing Committee, which is involved in reviewing applications and guiding policy. Stephen Payne organizes Planetarium events at Dalhousie University.

RASC Halifax Centre was actively involved in observing events this past year. RASC Halifax Centre members Wasundara Fernando and Lauren Westhaver assisted Discovery Centre staff at the 8 April solar eclipse event, providing the public with safe views of the eclipse through telescopes equipped with solar filters. RASC Halifax Centre members who volunteered at Kejimikujik Dark Sky Weekend engaged in and offered eyepiece views of night sky wonders to the public on Friday evening. Binocular observing of deep sky objects was organized and hosted by Tony Schellinck. A brief break in the clouds allowed for some solar observing at Saturday's Astronomy Drop-in. Because clouds prevented any eyepiece observing Saturday evening, RASC Halifax Centre members set up telescopes and explained their function to campers, as well as using electronic media to display images of various deep sky objects. Unfortunately, observing events on Sunday were cancelled due to rain.

Nova East 2024 was held at Blomidon Provincial Park due to the ongoing repairs to Smiley's Provincial Park in response to 2023 flood damage. Unfortunately, extended periods of rain, wind, and fog prevented any observing until the weather cleared on Sunday. Tony Schellinck organized and hosted a binocular observing session Sunday evening.

At the conclusion of Discovery Centre Space Camp on March 18, several RASC Halifax Centre members provided campers with filtered views of the Sun. Unfortunately, poor weather prevented RASC Halifax Centre members from offering public viewing on the boardwalk behind the Discovery Centre on International Astronomy Day (May 18). Public observing by RASC Halifax Centre members on International Observe the Moon Night (September 14) was not offered due to a conflict with the Fall SCO BBQ date.

Activity at the Halifax Centre's Saint Croix Observatory continues to increase, in large part because of relocation of the key needed to unlock/lock the road gate to a readily accessible location. The Fall SCO BBQ on September 14 was a great success. Clear skies allowed for eyepiece observing of the Moon, Saturn, and other celestial objects.

David Hoskin prepared and presented *What's Up?* at monthly members' meetings to highlight observing opportunities for the coming month. *What's Up?* presentations for 2024 are available on the Halifax Centre's You-Tube Channel and the Halifax Centre's website.

There were no Observing Certificates awarded in 2024.

Respectfully submitted,



David Hoskin  
Observing Committee Chair  
RASC, Halifax Centre

## 2024 Annual Report: Manager, St. Croix Observatory

### Road Improvements by Minas Energy

Minas Energy has made significant progress in repairing the road damaged by flooding last year. These ongoing improvements are crucial for ensuring safe and easy access to the Saint Croix Observatory, especially during adverse weather conditions.

### Main Gate Key Relocation

In March, Harden Wile from Minas Energy relocated the key to the main gate to a much more convenient location, making it easier for members to access the road to the observatory.

## **Video Tour for the RASC GA**

In April, a video tour of the Saint Croix Observatory was produced for the RASC General Assembly (GA). The video creation was great fun, with a fantastic script written by John MacPhee and Judy Black, and expert videography and editing by Jerry Black. The resulting video was a great success and provided a comprehensive look at the observatory for the GA participants.

## **Successful Observing Nights**

There were several successful observing nights hosted by Tony McGrath and Judy and Jerry Black. These events provided excellent opportunities for members to gather and observe the night sky in good conditions, and they continue to be well received by members and their guests.

## **Small Repairs and Maintenance**

A number of small but necessary repairs have been made, including:

- Fixing the driveway gate lock
- Repairing the roll-off door knob lock
- Addressing the southwestern GFCI outlet issues
- Additionally, new GFCI breakers have been obtained to replace the need for GFCI outlets, which will enhance the safety and functionality of the facility.

## **Upgrades to the Celestron Edge HD SCT Astrophotography System**

Jerry Black has done an outstanding job transitioning the Celestron EdgeHD SCT astrophotography system from relying on a dedicated laptop to a more user-friendly setup where members can connect their own computers via Wi-Fi. This improvement has expanded the accessibility and versatility of the system, and Jerry has already captured some stunning astrophotography images with it.

## **Celebration of Life for Dave Lane**

A private celebration of life was held at SCO in honor of Dave Lane. During this event, Michelle Lane generously donated several Adirondack chairs to the observatory, creating a beautiful and peaceful space for members to relax and reflect.

## **InOMN-Themed BBQ**

In September, we held a well-attended BBQ in celebration of International Observe the Moon Night (InOMN). The skies were clear, and attendees had the opportunity to capture stunning images of the Moon and other celestial objects. It was a wonderful event with great food, conversation, and skywatching.

Respectfully Submitted,  
John Liddard  
SCO Manager  
RASC, Halifax Centre

## **2024 Annual Report: Webmaster**

Our websites (Halifax RASC and Nova East) hosted by St. Mary's University have been based on the Joomla content management system for some time.

Since the last report, Joomla4 has been updated as security/feature updates are made available from version 4.4.3 to the current version 4.4.9. Although Joomla5 has been released, neither website has been migrated to Joomla5. This would provide additional features and security updates as Joomla 4 has entered security only update mode. Support ends 16 October 2025. Upgrading requires SMU staff to perform the update, for which time constraints have made this difficult.

The website is generally not updated as frequently as might be beneficial. Meeting notices and *What's Up?* and *Nova Notes* are updated when available.

## Recommendations:

1. Upgrade to Joomla5 for both websites when time permits Tiffany Fields is the person able to do this.
2. Consider purchasing PDF Indexer (\$34.99 US) to provide for search results from the contents of PDF documents stored on the server.
3. Review the content informally and update web content where appropriate.

Respectively submitted,  
Jerry Black, Webmaster  
RASC Halifax Centre

## 2024 Annual Report: Nominating Committee

The Nominating Committee this year consisted of Peter Hurley (chair), Judy Black and Tony McGrath. The following is the list of nominations being put forward to all members as of November 21, 2024, through the Announce List. The call for further nominations will be made at the AGM on December 7, 2024.

President	Tony McGrath
Vice-President	<b>VACANT</b>
Secretary	Judy Black
Treasurer	Gregg Dill
Director	Jeff Donaldson
Director	Matthew Dyer
Director	David Hoskin
Director	Peter Hurley
Director	Vincent Vallee
Director	<b>VACANT</b>

The following appointments will be discussed at the Board of Directors meeting of December 3, 2024. The positions will be appointed by the newly elected Board at their meeting in January 2025. The call for further nominations will be made at the AGM on December 7, 2024.

Honorary President	Pat Kelly
Auditor 2023-2024	Dave Chapman
National Council Representative	Judy Black
Education & Public Outreach (EPO) Chair	David Hoskin
Observing Chair	David Hoskin
Communications Committee Chair	<b>VACANT</b>
Nova East Planning Committee Chair	<b>VACANT</b>
Dark-Sky Preserve (DSP) Committee Chair	Peter Hurley, <b>co-chair VACANT</b>
Nova Notes Co-Editors	Lisa Ann Fanning, John McPhee
St. Croix Observatory (SCO) Manager	<b>VACANT</b>
Governance Committee Chair	Judy Black
Nominating Committee Chair	<b>VACANT</b>
Webmaster	Jerry Black
Librarian	<b>VACANT</b>

**Policy G6: Procedures regarding Nominations, Elections and Appointments** can be found on the RASC Halifax centre website ([https://halifax.rasc.ca/images/documents/G6\\_Nominations\\_Elections.pdf](https://halifax.rasc.ca/images/documents/G6_Nominations_Elections.pdf)).

Respectfully Submitted,

Peter Hurley  
Nominating Committee Chair  
RASC Halifax Centre

## Proposed Changes to RASC Halifax Centre By-Law No. 1

Suggested changes to the January 2019 version of By-Law #1 were made to reflect changing terminology, technology and decisions made by the Centre.

### Notes:

- 1) Throughout the document, the attempt was made to remove gender references; for example, “his or her” was replaced by “their” or the actual position they are replacing. This was done throughout and has not been highlighted as a change.
- 2) “Bylaw #1” changed to “[By-Law No. 1](#)” to match the Society spelling and to reduce confusion with the “hashtag”/# symbol. This has been changed throughout and has not been highlighted as a change.

### **Section 1: Definitions:**

**Add** - Since COVID, our Centre has used electronic means for our meetings as well as allowing for in-person meetings. Simultaneous use is “hybrid” and the added clause clearly define what it means.

[1.1.7 “Hybrid Meeting” refers to meetings in which there is a mix of in-person participants and those attending remotely through an electronic means](#)

**Change** - The term utilized by the Society to describe those members not wishing to attach themselves to a specific Centre was changed from “Unattached” to “National”. Where the term “unattached” was used, it has subsequently been changed to “National” throughout the document.

[1.1.12 “National Member” means a member of the Society who is not also a member of a Centre](#)

### **Section 5: Membership**

#### **5.1 Membership Conditions:**

**Clarify** – Fees are no longer paid directly to the Centre via the Treasurer; they are paid directly to the Society who forwards the Centre portion of the fee to the Centre.

[5.1.2.4 those members who pay the annual fee to the Society in an amount under the terms and conditions determined by the Board and the Society.](#)

**Clarify** – The qualifier “in good standing” was added for clarification that members’ annual fee had to be paid up.

[5.1.5 Every member of the Centre in good standing has the right to and is welcome to attend all meetings of the Board, unless, in exceptional circumstances, the Board declares, by ordinary resolution, a meeting or part of a meeting to be closed to the membership.](#)

### **5.3 Termination of Membership:**

**Clarify** – The phrase was changed from “a vote of the majority of members of the Centre....at a meeting duly called” to “a majority vote of members of the Centre.... at a meeting duly called”. Our Centre has yet to get the majority of members attend a meeting or respond to a questionnaire or poll. Therefore, the statement was changed to reflect those in attendance at a meeting duly called, whether it be the members meeting or a Board meeting.

5.3.3.3 if, by a majority vote of members of the Centre or a majority vote of the directors of the Centre at a meeting duly called and for which notice of the proposed action has been given, the member's membership in the Centre has been terminated.

## **Section 6: Board of Directors**

### **6.3 Meetings of the RASC Halifax Centre Board of Directors**

**Change** – The title of this subsection was changed to properly cite the official name of our Centre.

**Change** – The clause originally stated, “at least three times in each membership year”. For the past few years, there have been 10 meetings per year; however, we could stipulate six meetings per year but there would be nothing to prevent the Board from having additional meetings per year as required. Consequently, this has been changed to “at least 6 times in each membership year”. The Board agreed it should meet on the Tuesday before each member meeting and additionally when a specific topic required discussion at a meeting by Requisition.

6.3.1 The Board shall meet as often as the business of the Centre shall require, but at least six (6) times in each membership year.

## **Section 7: Officers and Directors**

### **7.6 Duties of the President**

**Change** – The clause currently states the President shall “preside as chair at all meetings of the Centre and the Board”. The President does not preside over committee meetings. The change in wording specifies which meetings the President oversees.

7.6.1.2 preside as chair at all meetings of the Centre Board of Directors and Members' Meetings unless other arrangements have been made and agreed upon by the Board.

**Add** – Policy G5: RASC Halifax Centre Privacy Policy states the President is the Centre's Privacy Officer. This was added to the President's responsibilities.

7.6.1.3 act as the Privacy Officer in matters relating to the RASC Halifax Centre Privacy Policy.

### **7.8 Duties of the Secretary**

**Delete** – It currently states the Secretary is responsible for records relating to “the register of members”. The Society is responsible for this, not our Centre nor its Secretary; therefore, the phrase has been removed.

7.8.1.4 be responsible for the preparation and custody of all books and records including the accurate minutes of Board meetings and the filing of the annual requirements with the Registry of Joint Stock Companies (RJSC) and with the Society.

### **7.9 Duties of the Treasurer**

**Add** – We wanted to ensure the Treasurer was aware of their responsibility to submit annual reports to the Nova Scotia Registry of Joint Stock Companies.

7.9.1.3 Submit annual financial reports to the Society when requested and to the Registry of Joint Stock Companies (RJSC) as required.

## **Section 8: Committees**

### **8.2 Committee Membership of the President**

**Add** – Provision has been added to allow the President to determine if they want to be an active member of any given Committee *except* the DSP where they potentially could be an arbiter as cited in the agreement with Parks Canada.

8.2.3 The President may choose to be an official member of any committee except Dark-Sky Preserve (DSP) Committee. The President may be considered a member of that committee for the purpose of reckoning the number of members of the committee or a quorum of the committee and has the rights thereof.

## **Section 9: Meetings of the Centre**

### **Delete – 9.5 Proxies**

#### **Rationale:**

- 1) The members attending via an electronic means have the right to vote and controlling the voting electronically is easily done.
- 2) Proxy voting is not allowed at the national RASC meetings nor is it mentioned in any of their policies. (Refer to [RASC By-Law No. 1](#), 4.3 Absentee Voting at Members' Meetings, 5.8 Votes to Govern at Members' Meetings, 5.9 Participation by Electronic Means at Members' Meetings, 5.10 Members' Meeting Held Entirely by Electronic Means).
- 3) Our Centre in the past 10 years or more has not had anyone represented by proxy.

With removal of proxy voting, the following changes are recommended:

### **9.1 Annual General Meeting (AGM)**

**Change** – Voting by proxy was removed from 2 clauses as we are proposing that references to proxy voting be removed.

9.1.8 Every member who is personally present or attends through a telephonic, electronic or other communication facility shall have one vote and no more.

9.1.9 Quorum shall consist of 15 members who are personally present or present through a telephonic, electronic, or other communication facility. No business shall be conducted at any meeting unless a quorum is present to open the meeting and, upon request, before any vote.

### **9.2 Halifax Centre Members' Meeting**

**Change** – Voting by proxy was removed from 2 clauses as we are proposing that references to proxy voting be removed for the same rationale provided in the section above regarding the AGM.

9.2.8 Every member who is personally present or attends through a telephonic, electronic, or other communication facility, shall have one vote and no more.

9.2.9 Quorum shall consist of 15 members who are personally present or attends through a telephonic, electronic, or other communication facility. No business shall be conducted at any meeting unless a quorum is present to open the meeting and, upon request, before any vote.

### **9.3 Members' Meeting on Requisition**

**Change** – Voting by proxy was removed and clarification of how a person may be considered "present" at a meeting. References to "proxies" removed for the same rationale provided in the section above regarding the AGM.

9.3.5 Every member who is personally present or attends through a telephonic, electronic, or other communication facility shall have one vote and no more.

9.3.8 Quorum shall consist of 15 members who are personally present or attends through a telephonic, electronic, or other communication facility.

### **9.4 Conducting of Business**

- Add** – The following two statements were added to allow for attendance other than in person.
- 9.4.1 If the Directors or members of the Centre call a meeting of members, those Directors or members, as the case may be, may determine that the meeting shall be held in person or in part or entirely by telephonic, electronic, or other communication facility that permits all participants to communicate adequately with each other during the meeting.
- 9.4.2 If the Centre chooses to make available a telephonic, electronic, or other communication facility, any person participating in a meeting by such means is deemed to be present at the meeting.

**Change** – The current clause provides a descriptor of how votes are cast. With the addition of the above 2 statements, this now becomes 9.4.6 and has been changed to better define how a vote is cast and what happens in the case of a tie vote. The latter was not explained in the previous version. It was also felt that the Chair should not vote except in the case of a tied vote.

9.4.6 At any meeting of members every question shall, unless otherwise provided by the By-Law or provincial legislation, be determined by a majority of the votes cast on the question. In case of an equality of votes either on a show of hands or on a ballot or in the results of electronic voting or any combination thereof, the chair of the meeting may vote only to cast a deciding vote in the event of a tied vote.

### ***Special Resolution of Members***

**WHEREAS** it is recognized that from time-to-time RASC terminology changes and advances in technology affect how RASC Halifax Centre business is being conducted, and  
**WHEREAS** the RASC policy changes may influence change; and  
**WHEREAS** the By-Law Review Committee completed their mandate to revise the RASC Halifax Centre By-Law No. 1 on 29 October 2024; and  
**WHEREAS** the RASC Halifax Centre By-Law No. 1 (2024) and the rationale or the changes were pre-circulated to RASC Halifax Centre members on 29 October 2024, 22 November 2024 and 3 December 2024 for consideration;

Be it resolved as a **Special Resolution of Members** that:

- RASC Halifax Centre By-Law No. 1 (2024) as presented in the revised By-Law No. 1 supported by the Rationale for Changes document be approved;
- RASC Halifax Centre By-Law No. 1 (2024) with the aforesaid revision be forwarded to the Registry of Joint Stock Companies (RJSC) for approval prior to enactment.



# RASC Halifax Auditor's Report FY October 2023 – October 2024

## Preamble

This is my second year as auditor. I reiterate that I have no training in accounting or auditing beyond balancing my personal chequebook. What follows is more of a “reality check” on the RASC Halifax Treasurer's report presented in December at the 2024 AGM. I trust this fits the need.

## Statement

**I have reviewed the Treasurer's Report and find that it is a faithful account of the Centre's financial dealings in the Hme period.**

Luckily, I recalled enough of last year's audit so that I was not starting “from scratch.” I note that this fiscal year was more than an average challenge for the Treasurer, owing to 2 sets of unusual transactions:

- Cancellation of the 2023 Nova East star party involved multiple refunds for many pre- paid registration fees and camping charges.
- The solar eclipse of 8 April 2024 created an opportunity to sell eclipse viewers, involving deposits from multiple volunteer sellers.

FY 24/25 will likely be a quieter year.

Regarding the annual donation to Attila Danko in support of the SCO Clear Sky Chart (note: not Dark Sky Chart), be aware that Attila Danko passed away in 2024, but the CSC program is being continued.

I see a single expense for flowers, which I assume were in condolence for the passing of a member's family member. I have no issue with it, but I wonder whether the Centre has a policy or guideline, or if such matters are considered by the Board on a case-by-case basis.

## Depreciation of Assets

The annual depreciation of assets is acceptable, based on previous practice, but I am disappointed that there has been little progress on reviewing and revaluing the assets. Perhaps this will change with the new SCO Manager in place. I repeat my recommendations from last year:

- The current Capital Equipment Depreciation document should be discontinued and archived.
- In spring 2025, a sub-committee consisting of the SCO Manager, the Treasurer, and other members should perform a fresh inventory and valuation of the assets. This would be the starting point for the 2025 Financial Report with no depreciation in 2025; in following years the depreciation rate should be 10%.
- Systems no longer in use or not expected to be used should be liquidated.
- Endowed systems such as the Thurlow binoculars and the Celestron XLT are rarely used, but rather than liquidate them, the Board should create initiatives to encourage their use, with training opportunities offered. I note that considerable work was done to prepare the Celestron XLT for member use.
- There are at least three collections of eyepieces in our assets that are under-documented. These should be consolidated and inventoried. Surplus eyepieces should be liquidated; the remainder should be stored properly at SCO for the use of members on site. Perhaps individual eyepieces should be identified as RASC-owned to prevent accidental disappearance.

Respectfully submitted,  
David M F Chapman FRASC

*DMF Chapman*

2025 January 22