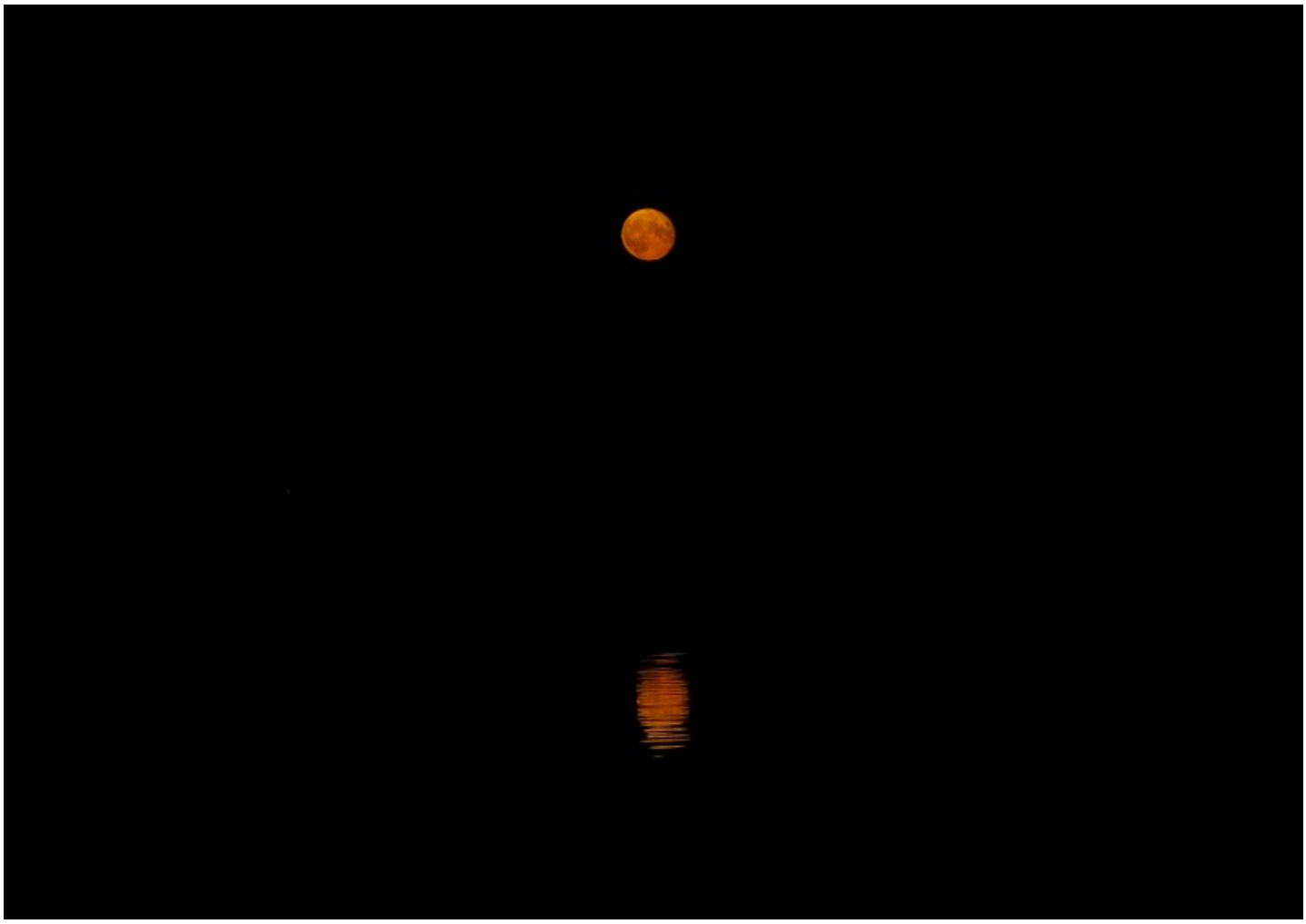
STARDUST

Newsletter of the
Royal Astronomical Society of Canada
Edmonton Centre

October 2022 **Volume 69 Issue 2**



One day past the August Sturgeon Moon, smoke and dust made it a ruddy disk over Wakaw Lake, SK, 2022-08-12. Image by Michael Ward.

Inside this Issue

RASC Edmonton Centre Contact Information *see also https://edmontonrasc.com/contact*

Council Positions	Name	email @ edmontonrasc.com
Honourary President	Doug Hube	
President	Tom Owen	president
Past President	Geoff Robertson	past_president
Vice President	Jay Lavender	vice_president
General Secretary	Sukrit Ahluwalia	secretary
Treasurer	Florin Sabac	treasurer
National Council Representative	Alister Ling	national_rep
National Council Representative	Sharon Morsink	national_rep
Public Education Director	Clayton Knoll	public_education
Fundraising Coordinator	Luca Vanzella	fundraising
Councillor	James McNeice	councillors
Councillor	Mike Szelewicki	councillors
Councillor	John Woolley	councillors
Internal Communications Officer	Michael Ward	internal_communications
Observing Group Director	Jon Stolte	observing_group
Membership Secretary	Sharon Morsink	membership
New Member Advisor	Murray Paulson	new_member_advisor
Appointed Officers		
Dark Sky Preserve Coordinator	Geoff Robertson	dsp.coordinator
Equipment Director	Kent Martens	equipment
Library Coordinator	Mark Zalcik	library
Public Relations Officer	Geoff Robertson	public_relations
Social Media Director	Bruce McCurdy	socialmedia
Stardust Editor	Michael Ward	editor
Loaner Program Coordinator	James McNeice	rentals
Volunteer Coordinator	Clayton Knoll	
Web Site Coordinator	Ryan May	webmaster

Mailing address
RASC Edmonton Centre
788, 10301 104 St.
Edmonton, AB, T5J 1B9
Canada

RASC Observatory at TWOSE
780-452-9100 x2249

On the web
https://edmontonrasc.com
https://www.facebook.com
https://twitter.com/EdmontonRASC
https://www.youtube.com/user/edmontonrasc
https://groups.io/g/astro

Stardust submissions: Submit articles **by email** to the editor (see above). **Please include STARDUST or RASC in the subject so your email doesn't end up in the spam bin.** Submission **deadline** is the 2nd Sunday before the monthly meeting; see following page for dates. Any standard document file type is acceptable (MSOffice, OpenOffice, LibreOffice, et al.) but **plain** text is preferred. **Do not layout and format your article.** Your labour will only be discarded. Submit clearly identified images/graphics as **separate files**, **do not** embed them in the document; indicate captions and references to them within the text. **Do not consider your article successfully submitted until you receive a confirmation email from the editor.**

Events, Meetings, Announcements – see https://edmontonrasc.com/meetings/ for details

Regular Meetings are held monthly (see below) from September to June at 7:30pm in TELUS World of Science, 11211 – 142 St. **Admission is free**, and **everyone is welcome** to attend, member or not. Follow the signs from the main entrance. **Edmonton Area Astronomy Discussions** To subscribe, visit https://groups.io/g/astro	**Council meetings** are held monthly (see below) from September to May at 7:15 in room 5-003 of the CCIS* Building on the U of A campus. Any RASC Edmonton member may attend. * Centennial Centre for Interdisciplinary Science **Public meetings are in-person AND on-line as of 17 Oct 2022** **See https://edmontonrasc.com/meetings/**

MEETINGS

			What's Up?	Obs Group	Astro Café	Intro Stars
2022	Regular Mtg	Council Mtg	Wednesday Meeting Series			
Jan	10	24	5	12	19	26
Feb	14	28	2	9	16	23
Mar	14	28	2	9	16 AI	30
Apr	11	25	6	13	20	27
May	9	30*	4	11	18	25
Jun	13	—	1	8	15 AI	22
Jul	—	—	6	13	20	—
Aug	—	—	31	10	17	—
Sep	12	26	—	14	9,21	28
Oct	17*	24	5	12	19 AI	26
Nov	14	28	30	9	16	23
Dec	12	—	—	14	21 AI	—

***** Indicates date bumped because of statutory holiday
AI = Astroimaging Community Café

Northern Prairie Star Party, September 20 to 25, 2022 *by Rick and Susan Bramm*

This year's NPSP created quite the "buzz" and enthusiasm. We came back with a "full-featured" star party that included clear skies on four of the five nights, observatory tours, solar observing, Saturday afternoon presentations in the big tent, BBQ and sky tours for nighttime visitors. There were more people camping earlier in the week than ever before; taking advantage of the fine night skies for observing and astrophotography as well as warm daytime solar viewing – and lots of opportunity to learn from each other. We had 67 registered attendees, with 21 coming out to take in the Saturday program. We also had an estimated 15 people arrive after dark, many by the north gate, to take in sky tours and various views of the sky. There was lots of great camaraderie, learning, enthusiasm about the talks and many door prizes!

We had a steady line of people touring the Black Nugget Lake Observatory (BNLO) on Saturday morning. Photo by Luca Vanzella.

View from inside the 14-foot dome, looking out through its open shutter. Photo by Rick Bramm.

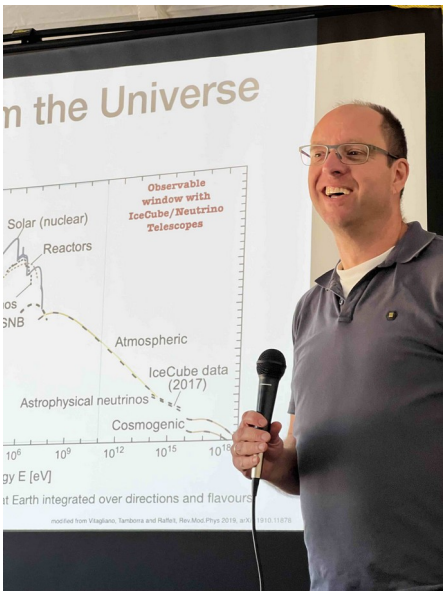
Warren Finlay, Chair of the BNLO Committee and fellow member Luca Vanzella were on the first observatory tour guide shift; other members followed. Photo by Rick Bramm.

Solar viewing was also popular. Photo by Susan Bramm.

Saturday's afternoon program in the big event tent included presentations on three very different topics.

In the first session, Black Nugget Lake Observatory (BNLO) Committee chair Warren Finlay screened a short documentary he produced on the development of the BNLO so far. Following the showing of "Opening a New Window on the Universe: Black Nugget Lake Observatory," he and telescope maker Roman Unyk answered questions.

The BNLO Committee members were acknowledged (from left to right): Kent Martens, Susan Bramm, Roman Unyk, Alan Hobbs, Warren Finlay (chair), Luca Vanzella and Rick Bramm. Photo by Colin Bramm.



Carsten Krauss, Associate Professor and Director, Centre for Particle Physics, Department of Physics, University of Alberta discussed how neutrinos from distant galaxies can be detected and the work that Canadian researchers are doing to expand the high energy neutrino astronomy in the depths of the Pacific Ocean. Photo by Rick Bramm.

Keynote speaker Eric Donovan, Professor, Department of Physics and Astronomy, University of Calgary presented his research that uses ground-based imaging of the aurora to better understand the physical processes occurring in Earth's magnetosphere. Photo by Rick Bramm.

We took a few moments to remember fellow astronomer and regular NPSP attendee, Patrick Heinz, who passed away earlier this year.

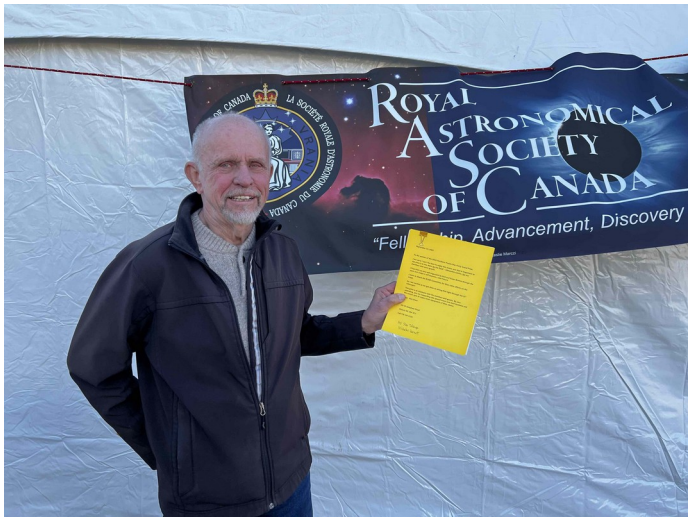
Amanda Heinz, wife of the late Patrick Heinz, presented RASC-Edmonton Centre with a hand-crafted memorial observer's chair for use at BNLO. Here is Amanda presenting the chair to Vice President Jay Lavender and BNLO Committee chair Warren Finlay. Photo by Rick Bramm.

Two attendees submitted completed Level 3 observing list: Luca Vanzella and Jeff Wyton – our congratulations to them. Thank you to Warren Finlay for putting these observing lists together over the years. We are planning to engage members of our Observers Group to prepare lists for future NPSP events.

A big thank you goes out to our presenters and the many volunteers who helped with organizing the event, buying supplies, setting up, cleaning up and barbecuing, handling the door prize draw and registration, selling t-shirts and running the AV equipment. Our volunteers were: Marion Hobbs, Alan Hobbs, Luca Vanzella, Kathryn Vanzella, Yusuf Hussain, Denis Boucher, Kent Martens, Chris Meerveld, Carol Mussell, Dave Mussell, David Fielder, Vincent O'Brien, Jeff Wyton, Barton Satchwill, John Cliff, Abby Bramm, Ray Wiens, Barry Delano, Brian Fehr, Beck Heinz, Arnold Rivera, Abdur Anwar, Warren Finlay, Roman Unyk, Carsten Krauss and Eric Donovan.

We distributed more than 40 door prizes. A special thank you to All-Star Telescope (Nicholas Kennett) and Fervent Astronomy (Darren Wynnyk) who generously donated a total of 20 items. Bob Drew donated this year's Grand Prize of a $500 All-Star Telescope gift card and Amanda Heinz provided a beautiful observer's chair in memory of her late husband, Patrick. RASC-Edmonton Centre and 11 of its members came forward with a wonderful variety of door prizes. Thanks to Amanda Heinz, Frances and Mike Szelewicki, Kathryn and Luca Vanzella, Janey Hu, Berta Beltran, Vincent O'Brien, Warren Finlay, Doug Hube and Dan Kulak.

Barton Satchwill and John Cliff, with help from Abby Bramm, worked together to display and award the prizes. Photo by Susan Bramm.



Grand Prize Winner Chris Meerveld. Photo by Rick Bramm.

Abdur Anwar won the observer's chair donated by Amanda Heinz (to left) in memory of Patrick Heinz. Photo by Rick Bramm.

The 2022 NPSP t-shirt, "New Windows onto the Universe", was designed by Rick Bramm. It featured a backdrop of the first deep field image by the James Webb Space Telescope as well as an illustration of the telescope itself and a photo the Black Nugget Lake Observatory building.

No Northern Prairie Star Party is complete without a group shot – taken by Rick Bramm.

Thanks again to everyone who attended and participated in so many ways! Feedback has been positive and several attendees have been busy posting their astrophotos on the RASC-Edmonton Centre astro discussion group.

Mark your calendars for next year's Northern Prairie Star Party: September 12 to 17, 2023. Planning is underway. If you have suggestions or would like to lend a hand with organizing this fun event, please get in touch with us by email at: npstarfest@shaw.ca.

Susan and Rick Bramm
Northern Prairie Star Party Coordinators
RASC - Edmonton Centre

The Continuing Adventures of the Centre's 18 inch Dobsonian Telescope *by Warren Finley and Luca Vanzella*

An Interview with Warren Finlay and Luca Vanzella

The following is an interview with Warren and Luca about a recent adventure on the last night of Northern Prairie Star Party (NPSP), Sept. 24-25, 2022, using the Centre's 18" **Barry Arnold Memorial Telescope** (**BAMT**) located at the Black Nugget Lake Observatory (BNLO) area.

Warren: I have been working on observing the approximately 2500 deep sky objects discovered by William Herschel, and often referred to as the Herschel 2500 list. There are a half dozen objects that transit in the fall that are too low down to rise above the trees in my normal observing location. So I thought I'd try to observe them out at BNLO with the BAMT during Northern Prairie Star Party.

	Declination	V mag.	Max. altitude	Transit time
NGC 686	-23°47.9'	11.9	13°	3:11 am
NGC 723	-23°45.4'	12.5	13°	3:16 am
NGC 922	-24°47.4'	12.1	12°	3:47 am
NGC 1331	-21°21.3'	13.4	15°	4:49 am
NGC 1482	-20°30.1'	12.2	16°	5:17 am
NGC 1366	-31°11.6'	11.1	5°	4:56 am

The six targeted low lying Herschel 2500 galaxies, with their declination, magnitude, maximum altitude off the horizon at the transit time shown for Sept. 25, 2022.

The 18" BAMT used by Luca and Warren in their adventure.

Luca: Having completed the Herschel 400 list in October 2019, I have been working on the Herschel 400 II list. Based on Warren's comments about his pursuit of the Herschel 2500 list, I was thinking that I probably wouldn't contemplate continuing with another 1700 objects. But since Warren was going to go after some tough targets this night, I thought it would be interesting to join him in bagging these six horizon huggers!

Warren: I didn't think we'd be able to see these objects from the BNLO group site area. So I suggested we should consider wheeling the BAMT over to a spot with a low horizon. Originally I thought we'd have to roll it over to a spot that overlooks the lake, which would involve wheeling the scope about 400 metres on the gravel campground road.

Luca: After scouting locations in the daytime, we decided to instead try a closer low horizon spot 200 meters away east of the old cook shack or maybe on the road that goes up a hill to a higher spot since that would involve only another 100 metres of pushing the scope, although the latter meant pushing the scope up a pretty steep incline.

Warren: The six objects we wanted to see all had transit times really late in the night; well actually, early in morning. One of the objects, NGC 1366, transited just before 5am and would only be 5 degrees above the horizon at its highest. So we wanted to time our observing to catch it at that time. The other five objects had maximum altitudes a little higher, so we figured we had a little more leeway as to when we could observe them.

Luca: The maximum altitude of four of the objects was 12-15° so these had a bit of leeway in terms of having the time to find them at or near their transit times. The toughest object, NGC 1366, had a maximum altitude of 5° but not the latest transit time, so I suggested we hunt for the higher objects first even if well before transit time, so that all we had left was the toughy just before 5am, about 30 minutes before the end of astronomical darkness. For added fun and excitement, I remarked that even if most of the sky is clear, there are often clouds below 5° altitude. Even if it's clear down low, these are relatively dim objects. And oh yeah, finding them would be difficult due to the lack of stars due to atmospheric dimming. But, paraphrasing someone a long time ago in a galaxy far, far away, we had the firepower of the fully armed and operational BAMT!

Warren: I wasn't very optimistic that we'd actually see the objects. But, we collimated the BAMT the night before when it was cloudy. Just as we finished collimation, a surprise rain shower had us hustling to get the scope away before it got more than a few raindrops on it. The next evening, we set up the BAMT at dusk and aligned the Telrad and finder, since we knew the star hopping would be really tough at such low altitudes, and we wanted to be sure we had good alignment on the finder.

Luca: We agreed to meet at 9pm to do some tourist observing with the BAMT and show star party attendees some interesting objects. We had quite a bit of fun showing many bright objects we put in the scope to many people who came by. M13 and the usual suspects wowed people. The Crescent and the Veil through the OIII filter particularly wowed a first-time attendee, so much so that they subsequently inquired about joining the Centre and obtaining authorization to use the BAMT.

Warren: I should mention that Amanda Heinz donated an observing chair during NPSP this year. It was made for Patrick Heinz, who passed earlier in 2022. Patrick was a passionate observer and NPSP attendee. The observing chair was quite helpful that evening since it allowed people to sit comfortably with their eye at the eyepiece when the scope was pointed lower down.

Warren on Sept. 24, 2022 trying out the observing chair donated to BNLO by Amanda Heinz in memory of her husband Patrick Heinz.

Warren: I knew it was going to be a real challenge to find the six objects, so we figured we should probably get a nap in before we did our observing run. So around 1am we both headed off for a nap, agreeing to meet at the BNLO site at 3am. I had a hard time sleeping, so I was back at the scope by 2:30am, but clouds were making it look pretty unlikely we would even get a chance to try observing our objects. So we decided to try seeing the Horsehead Nebula while we waited to see if the clouds would dissipate.

Luca: I have yet to the see the Horsehead Nebula because every time I've looked for it, I did not have an H Beta filter. I have seen the star field in my scopes several times, but never even a hint of the bright nebulosity required to see the outline of the dark nebula. I found the field in the BAMT + H Beta filter and nada. Nothing. Just the correct stars. Warren gave it a go without success as well. Orion was still kind of low in the east, so maybe that was it?

Warren: With no luck on the Horsehead, and the clouds still not looking good down near the southern horizon, Luca suggested we just try finding something relatively dim fairly low down from the BNLO site. If we found a dim and low object from there, then maybe we could think about moving the scope and giving our objects a try. So I decided to just try the first of our six target objects. Surprisingly, I was able to find NGC 686 and we both observed it. The star hopping was a little challenging due to the dimming of stars at that low altitude, but doable.

Luca: Since the next four objects were at about the same altitude as NGC 686, we then decided to try for them from the BNLO site. One by one, we hunted them down and bagged them! But time was ticking.

Warren: The last object was the one that had a maximum altitude of 5 degrees, which was below the treeline at the BNLO site. It was around 4am by now, so we needed to move the scope over to one of the spots we had previously chosen with a low southern horizon. Wheeling the scope over wasn't actually too bad. Once we got over to our first spot, we realized that the light at the campground office on the other side of the lake was going to be quite close to where we needed to point the scope. So we put the scope where a small bush shielded us from the light, while still leaving a gap beside the bush where we could get right down to the horizon.

Photo of the ground where NGC 1366 was observed. The arrow marks the gap in the bushes where NGC 1366 cleared the treeline. The bush to the right of the arrow blocked the campground office light on the far side of the lake.

Luca: As we wheeled the telescope along the gravel road in the dead of night, walking through the star party grounds with almost everyone else gone to bed, we both laughed at how odd this might seem. Two mad astronomers wheeling an 18" Dob, with the mirror cover and mount rattling away, trying to find the perfect spot to view a faint smudge in the low southern sky. As we trekked down the road, the scope pivoted on its azimuth bearing and leaned towards the target like a bloodhound. "There's NGC 1366 – let's go see it!" I remarked that this jaunt gave a new definition of the term "travel scope"!

Warren: I was still pretty unsure if we'd even find NGC 1366, since it was so low I was expecting it to be hard to find stars to hop between in the eyepiece. Some of the other five target objects required hopping over entire eyepiece widths where there were no stars to guide the hop, so I had to take a good guess which way to push the scope until I'd see another star and then find my way from there. But this last object had some fairly bright stars quite nearby that I was able to quickly hop between.

Luca: After Warren confirmed seeing the dim galaxy, I had a hard time figuring out the field for myself since I wasn't used to comparing the BAMT's field of view and the Sky Safari screen on my tablet. But eventually I confirmed it, and despite the horrible seeing that low down, I was able to see the final object with averted vision. A VFF if there ever was one!

Warren: I still can't really believe we managed to nab all six of these objects. It was a great way to end the star party, and just a really fun deep sky adventure with a scope that performed admirably. It's amazing that the Centre's scope is still up to such a task and it's a testament to the quality of its optics and structural components. It was a real treat to be able to use it for this interesting little project.

President's Report *by Tom Owen*

We human beings are relationship-driven animals. As one psychologist once described it, our relationships depend upon our mental health, and our mental health depends upon our relationships.

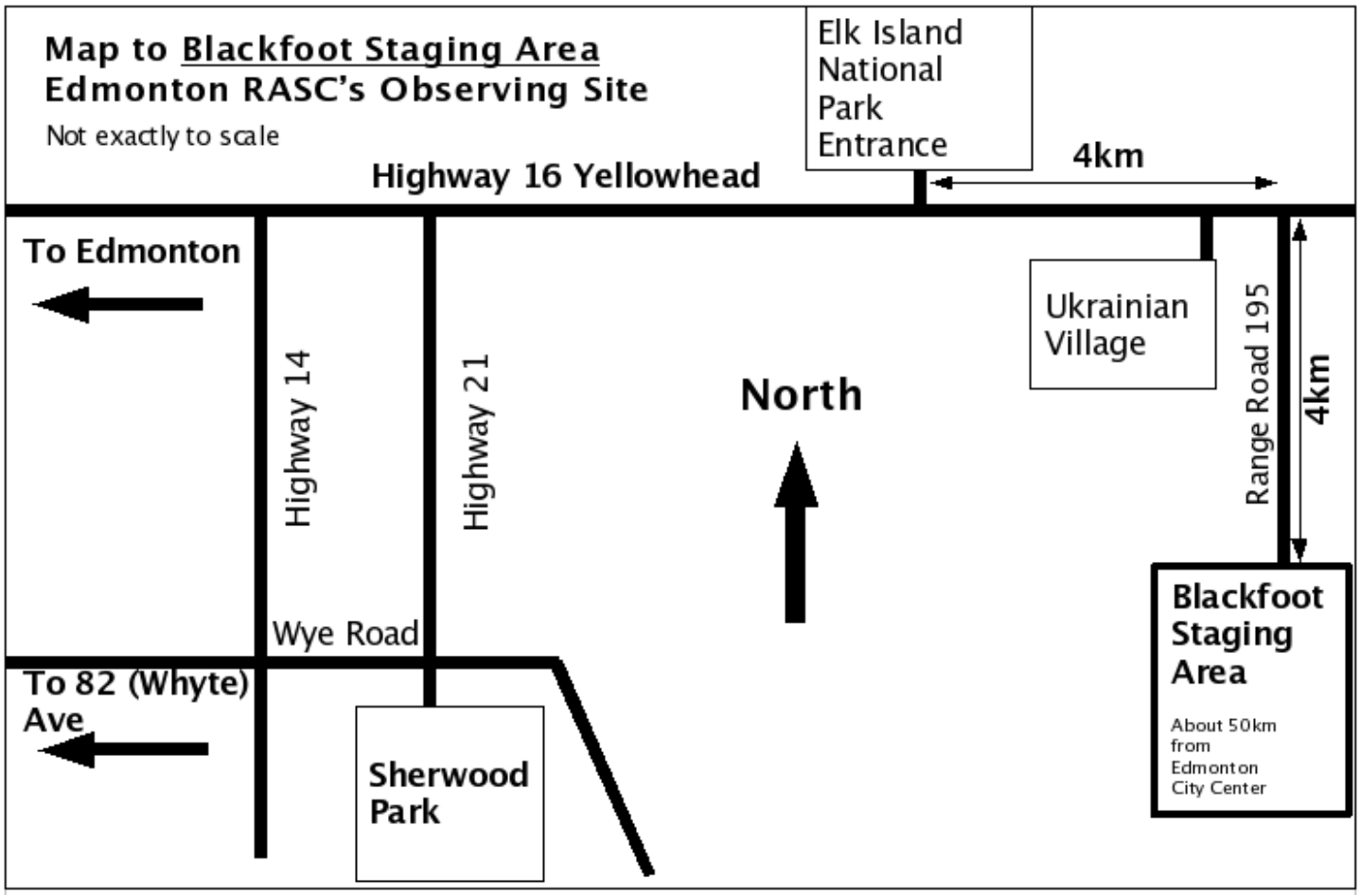
Astronomy is in many respects an isolating pursuit. The darkness of the night isolates us from each other. Peering through an eyepiece isolates us from ourselves. And yet we seek to come together in society, in the Royal Astronomical Society, to share our knowledge, our astronomical experiences, ourselves. To have and build relationships. Until April 13, 2020 we came together regularly, once a month, in person. Of course in person! Relationships are personal. But then came the pandemic, and that all stopped.

Since April 13, 2020 our Centre has been holding its regular monthly meetings solely by Zoom, and we've done well to overcome the limitations inherent in such a medium. In my assessment, we have been able to maintain previously established relationships, notwithstanding having to see and talk in turn through little boxed windows. But it has been damn hard to form and advance new relationships with new members.

Finally - finally! our regular meeting October 17th, 2022 will be a hybrid, both in person and by Zoom. This was where I was going to conclude by saying that I look forward to seeing so many of you in person. But as the times would have it, I recently came home from travels abroad, and have tested positive for COVID, so it will be the little window for me, unfortunately. I am envious of those of us who will be able to come together, and shake hands, and talk freely, and share a laugh. Alas, not for me.

But (as the saying goes) we will meet again.

Enjoy!


Map to Blackfoot Staging Area
Edmonton RASC's Observing Site
Not exactly to scale
Elk Island National Park Entrance
4km
Highway 16 Yellowhead
To Edmonton
Highway 14
Highway 21
North
Ukrainian Village
Range Road 195
4km
Wye Road
To 82 (Whyte) Ave
Sherwood Park
Blackfoot Staging Area
About 50km from Edmonton City Center