

Saskatoon Skies

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

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September 2008

The Saskatchewan Summer Star Party 2008



The dark skies of Cypress Hills Interprovincial Park served up another great weekend of SSSP fun in August. Be sure to come to the next Saskatoon Centre meeting for a visual treat of photos from this star-filled event. (See page 4 for meeting details.)

Photo by George Charpentier



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To view *Saskatoon Skies* in colour, see our Website:

<http://homepage.usask.ca/~ges125/rasc/newsletters.html>

MEMBERSHIP? IT'S NEVER TOO LATE TO JOIN!

Regular: \$77.00 /year

Youth: \$41.00 /year

The Saskatoon Centre operates on a one-year revolving membership. You will be a member for the next 12 months no matter when in the year you join. If you do not want to join at this time, ask to get onto our FREE 3-month Temporary Membership list. You will receive regular mailings of our Saskatoon Skies newsletter and will be invited to participate in Centre activities. Members are encouraged to renew early to avoid disruption in publications. Renew through the membership coordinator, Mike Clancy, or renew through the National Office and let Mike know that you did!

Benefits of Membership in the Saskatoon Centre

- knowledgeable & friendly amateur astronomers
- use of the Sleaford Observatory
- use of the U of S Observatory (after training)
- Saskatoon Skies Newsletter
- Observer's Handbook
- The Journal of the RASC (electronic format)
- SkyNews Magazine (bimonthly)
- use of the Centre library
- rent the Centre's Telescopes
<http://homepage.usask.ca/ges125/rasc/telescopes.html>
- discounts to Sky & Telescope Magazine*
- free, no-cost, no-obligation, 3-month temporary membership if you don't want to join right now!

*New subscription or renewal of Sky & Telescope? Send new info or renewal notice, plus credit card # to Norma Jensen, 128 – 4th Street East, Saskatoon, SK S7H 1H8, or email her at njensen@scs.sk.ca .

U OF S OBSERVATORY

The U of S Observatory is open to the general public every Saturday of the year. Admission is free. The observatory is located on campus, one block north of the Wiggins Avenue and College Drive entrance. On clear nights, visitors may look through the vintage 6-inch and tour several displays. Current events are recorded on the Astronomy Information Line at 966-6429.

Observatory Hours:

January-February	7:30-9:30 pm
March	8:30-10:30 pm
April	9:30-11:30 pm
May-July	10:00-11:30 pm
August	9:30-11:30 pm
September	8:30-10:30 pm
October-December	7:30-9:30 pm

SASKATOON CENTRE'S MAIN OFFICERS:

President – Garry Stone, 857-4707
Secretary – Al Hartridge, 373-0034
Vice-President – Barb Wright, 249-1990
Treasurer – Norma Jensen, 244-7360

Bottle Drive & Canadian Tire \$

By Darrell Chatfield

If you cannot make it to a meeting but would like to contribute your Canadian Tire money please call me at 374-9278.

Newsletter Editors –Tenho Tuomi, Christine Kulyk

Copy & Collate – Les & Ellen Dickson

Labels & Temps – Mike Clancy

Web Posting – Gord Sarty

Saskatoon Skies is published monthly by the Saskatoon Centre of the RASC. Distribution is approximately 100 copies per issue. Saskatoon Skies welcomes unsolicited articles, sketches, photographs, cartoons, and other astronomy or space science material. **Articles can be sent by mail in any format to the Centre's mailbox.** Submitted materials can be returned upon request. Submissions may also be sent by e-mail to the editor at clkulyk@sasktel.net – preferred as plain unformatted ASCII text files without line breaks. Images sent by e-mail should be attached files.

A separate by-mail subscription to Saskatoon Skies is available for \$15.00 per year. Saskatoon Skies is also posted on our Saskatoon Centre homepage as a .pdf file and can be downloaded free-of-charge. Members may choose to receive the newsletter by regular mail or via the Internet. Articles may be reprinted from Saskatoon Skies without expressed permission (unless otherwise stated), but source credit is requested. DEADLINE for submissions is the 26th of each month. Saskatoon Skies accepts Commercial advertising. Please call the editor 306-858-2453 for rates. Members can advertise non-commercial items free of charge.

LIGHT POLLUTION ABATEMENT
WEBSITE AT:
www.ras.sk.ca/lpc/lpc.htm

RASC CALENDAR OF EVENTS

Sep 15	RASC Executive Meeting - 6:30 pm, 175 Physics, U of S.	Garry Stone	857-4707
Sep 15	RASC General Meeting - 7:30 pm, 175 Physics, U of S.	Garry Stone	857-4707
Sep 25 – 28	Alberta Star Party , Starland Recreation Area Campground, Drumheller, AB	http://www.calgary.rasc.ca/asp2008.htm	
Sep 26	Observers Group - 7:30 pm, Sleaford Observatory	Larry Scott	934-5801
Oct 20	RASC Executive Meeting - 6:30 pm, 175 Physics, U of S.	Garry Stone	857-4707
Oct 20	RASC General Meeting - 7:30 pm, 175 Physics, U of S.	Garry Stone	857-4707
Oct 24	Observers Group – 7:00 pm, Sleaford Observatory	Larry Scott	934-5801
Nov 17	RASC Executive Meeting - 6:30 pm, 175 Physics, U of S.	Garry Stone	857-4707
Nov 17	RASC General Meeting - 7:30 pm, 175 Physics, U of S.	Garry Stone	857-4707
Nov 21	Observers Group – 7:00 pm, Sleaford Observatory	Larry Scott	934-5801



Murray Paulson of Edmonton chased the Arctic eclipse by airplane and caught a good shot of the diamond ring



The August 1 eclipse at totality
Photo by Murray Paulson



Sky-Watcher Collapsible Dob
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Tel Vue 101is
Ethos & Naglers



William Optics Megrez & FLT



New Equinox 120
Equinox 80



Celestron 130 SLT
Regular - \$439.95
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Sky-Watcher
MAK180mm ED PRO & HEQ6 PRO

All-Star Telescope

31020 Hwy. 2A, Didsbury, AB
1-866-310-8844
www.All-StarTelescope.com



MONDAY, SEPTEMBER 15, 7:30 PM
Room 175, Physics Bldg., U of S

There will be an Executive Meeting at 6:30 pm.

How We Spent Our Astro-Vacations:
Pictures and Reports From the SSSP and
Other Summer Doings

International Year of Astronomy, Exhibition Proposal

by Kathleen Houston

It's time to show our stuff! The theme is **Celebrating the Night Sky**. The 2009 exhibition proposal will be submitted to the Frances Morrison Gallery at the downtown library in Saskatoon.

1. I am looking for work for the September 14 gallery deadline.
2. And any work after that deadline that you wish to submit for the selection process, in the event that the proposal is accepted.

I envision a show that includes:

- Painting • Drawing • Mixed media (collage, etc.) • Photography •

The broad range of media is unified by our passion for the night sky.

Simply contact me by e-mail or by phone if you wish to participate. For new work, describe the work you want to create. Normally not all work will be shown that is submitted. Format size is unlimited; works on paper and photographs are framed by you. We do not have a budget for shipping, so you will need to be in charge of drop-off and pickup, or make arrangements with someone in town.

CONTACT: Kathleen Houston: 306-665-3392

E-mail: e.b.a@sasktel.net

127 Maple Street, Saskatoon, SK S7J 0A2

The proposal is open to everyone: children, teens, and adults.

1. Explore personal and universal ideas around experiencing the night sky; include imagination and stories.
2. Observation sketches at the eyepiece.
3. Digital and SLR photography; guided, tripod, and time-lapse.
4. Star trails and traditional astrophotography welcome.

PROPOSAL STAGE: I will need 2 samples of work from you by September 14.

1. Works on paper: scanned from the original, medium resolution.

Digital images: medium resolution.

2. Each image should be labelled:

Your first and last name • Title • Dimensions • Date (Year)

3. Include a written list with the same information.

4. Write two lines that describe your career and connection to the night sky

If you prefer to loan me a CD, drop it off at the address above.

I plan to create a compilation CD of the work. These specific works may not be selected for the exhibition itself, but it gives an idea of the style of your work.

SELECTION STAGE: Please let me know NOW if you plan to create something for the exhibition. When the status of the exhibition is determined, I will set new deadlines for the work submission and selection process.

At the Mount Kobau Star Party

by Tenho Tuomi



The Mount Kobau Star Party was on for eight days from August 2 to 10. Velma and I decided to make it part of a general trip to British Columbia where we had not been for 21 years. We would stop there Tuesday evening and leave on Thursday morning, for two nights of observing before continuing on to Vancouver.

The road from Highway 3 is a 20-kilometre gravel trail that zigzags its way up, a climb of 927 metres from Osoyoos to the top of Mount Kobau at 1,837 metres. They recommend allowing 30 to 45 minutes for the trip. Several times, we had to stop for cattle that range free on the mountain. The camp is on several levels from a larger lower level to the actual tower site on top. We set up our tent on the lower level with my 8-inch Newtonian beside the tent. There are enough trees on the mountain that there did not seem to be a place anywhere where the horizon would be visible on all sides, except perhaps at the very top. The site has no power, so telescopes have to be driven by batteries, though I saw one generator and one set of solar panels. In fact the only service provided is several porta-potties. Campers have to bring all their own food and water.

As night fell, I looked at the Earth's shadow rising in the East, a sight which can best be appreciated from a mountaintop. I looked at several Messier objects to

evaluate the condition of the skies and decided that it was no better than the best nights I have at home. Later, I was told that the nights had been super on Sunday and Monday night and I had missed the best nights of Mt. Kobau. I could not take any

deep-sky pictures with my Rebel camera, for I had left my good mount at home. Instead, I took several wide-angle pictures of the sky for souvenirs.

I was fortunate to be camped beside Guy Mackie from the Okanagan, who is one of the Star Party organizers. He allowed me to use his 10-inch Dobsonian to confirm an observation of one Herschel 400 object that I had trouble seeing with my 8-inch. It was a pleasure to see a real astronomer in action who sketches every object that he looks at. His goal seems to be to duplicate the work of William Herschel by sketching every NGC object the famous astronomer catalogued. In the Herschel 2500 list, he is already up to 1489.

Wednesday evening was cloudy with some rain, and everybody turned in early. However, after midnight, holes appeared in the clouds and the parts that were clear were really clear. I could easily see the North America Nebula with my 9x spotting scope. Rather than unpacking my scope that I had put away before the rain, I looked around for someone else to observe with. I found someone who was testing out what in the dark looked like a 20-inch Dobsonian on a motorized GoTo platform. While standing on a high stepladder, I had a view of M13 like I had never seen before, with individual stars visible to the core.

North Pole/Solar Eclipse Expedition: July 19-Aug 3, 2008

by Sharon & Dale Johnson

We flew from Saskatoon to Helsinki, Finland, and then to Murmansk, Russia, 250 kilometres north of the Arctic Circle. There, we boarded the icebreaker *50 Years of Victory* on July 20 at 4:00 pm.



Arctic eclipse-chasing by icebreaker

Ice-golfing: a future Olympic event?

Photos courtesy of Dale Johnson

For the remainder of our trip, the sun did not set...it circled the sky about 25-30 degrees above the horizon. The temperature was -2°C, and *every* direction was south! Aboard the icebreaker, we travelled 2,200 kilometres to the North Pole. We were breaking ice as much as 2 metres thick for the last 800 kilometres.

On board with us was a geologist, a biologist, an ornithologist, an Arctic historian, and two astronomers — S&T's Rick Fienberg and John Parkinson (an internationally renowned solar expert from Sheffield Hallam University in the UK) — who gave lectures during the voyage. The expedition leader was Laurie Dexter, who cross-country skied from Russia to the North Pole and then to Canada about 20 years ago. It took him three months. We saw some polar bears and lots of seals on the polar ice, but we could not get very close to the seals...they are too suspicious of polar bears.

We arrived at the North Pole on July 25 at 3:00 am and just stopped in the ice and drank some champagne! At 10:00 am, we walked off the icebreaker onto the polar ice. Both of us joined in the Polar Plunge into the Arctic Sea (temperature -1°C). We then had a BBQ on the ice followed by helicopter rides (the icebreaker carried its own helicopter).

We took a golf club with us, and there is a good chance we were the first people to hit a golf ball at the North Pole. Yes, we retrieved the ball.

We then headed back through the ice until we arrived at Franz Joseph Land, which was not discovered until about 1850. We took helicopter trips to various islands (Ziegler Island, Wilczek Island, Hall Island, Hooker

Island with its 1914-vintage Science Station) and spent a couple of hours on each one. As we travelled south from there, we eased up to an iceberg (about the same size as the icebreaker) and pushed it for about 15 minutes.



We then headed towards Novaya Zemlya. On August 1 at 11:56 am in the Barents Sea west of this large island, we viewed the total solar eclipse. It was awesome!

About an hour before first contact, the icebreaker maneuvered into a position on the track of totality where the skies were mainly clear. By the time of first contact (about 11:00 am ship time), the skies had started clouding over and the clouds in the north were pretty much solid and moving south. It did not look good. We were wondering why the Captain was not moving the icebreaker towards the south where we could see clear skies. Apparently, Rick Fienberg and Laurie Dexter were trying to convince the Captain to get the icebreaker going.

About a half-hour before totality, the Captain finally agreed, and he went as fast as the icebreaker could go (about 22 knots). We reached open sky about 2 minutes before totality. We were very lucky! I told the Captain he was now a true eclipse chaser. We then travelled back to Murmansk, and our expedition was over.

Starry Nights, Summer, & Saskatchewan Parks

by Mike Clancy

Photo by Jeff Swick, 2006



travel scope with us (that blasted tripod takes up way too much space in the Korean Cadillac), we did bring our binoculars and stargaze as often as possible.

We also took the time to speak with various park managers, and one recurring theme came across: a lack of amateur astronomers willing to offer short “What’s in the Sky Tonight” sessions. Cabri Regional Park was very interested when I offered to do an impromptu guided “binocular walk”; they placed a notice on their bulletin board, and Presto! we had 40 campers show up beside the boat trailer parkade to take in the fine, soft summer night and the stunning north view across the bottom end of Lake Diefenbaker.

I showed people the Mirfak star fields, the Perseus Double Cluster, and the Andromeda Galaxy, as well as how to differentiate among the prominent constellations in the northern view — about a half-hour in total. All of these were naked-eye or binocular views, and folks were very interested. I took the liberty of passing on information about light pollution, the RASC, and the fact that expensive equipment is not required to enjoy the hobby of astronomy. By the way, I’d invested \$42 off of eBay for a Green Laser star pointer, which made the tour much better for all, particularly the children, who were suitably “wowed.”

We stopped at Saskatchewan Landing Provincial Park in the midst of the hottest day in June and an Elks golf tournament. Here, one needs to walk up the north hill to get out of the tree line for suitable viewing, or one could drive over to the parking lot beside Goodwin House for views to the north and east (the western

As is our usual wont, Anna and I spent the summer travelling about our beautiful province and staying at several of our nearly 150 parks. Although we didn’t bring even Anna’s

view is occluded by tall hills for the most part). If given enough notice, they will turn the yard lights off at Goodwin House. The Elks were all tired from a long day’s “golfing,” but various family members were quite interested in the night sky. The only fly in the ointment was the lateness of dusk and the short night.

Provincial parks can pay a per diem (usually \$150-\$250) to speakers, plus free camping. As there are 37 from Lac La Ronge to the Cypress Hills, one will certainly suit your summer holiday plans. Regional parks operate on a cost-recovery basis and use a lot of volunteers to get by, so they rarely have money budgeted for speaker stipends; but they generally offer free park entry and camping as compensation. There are 110 of them, so you do have better variety! You’ll have to contact the parks individually to make arrangements for dates and compensation. You might consider Dunnet, Wood Mountain, Thompson Lake, and Cabri Regional Parks as places to begin. I’d also like to put in a plug for Saskatchewan’s second Dark-Sky Preserve down at Rockin’ Beach Regional Park near Rockglen.

If you’re interested, contact the park authorities (my book has all the pertinent data) and offer yourself as an amateur astronomer willing to give guided “binocular walks,” weather permitting. If the park agrees, they can advertise it for you and print off sky charts for the evening. All you’ll need to bring is your binoculars or scope(s), a laser pointer if you’ve got one, and a supply of sky charts if the park is unable to print them for you.

You might have a wonderful summer of restful parks and planned observing for a much reduced cost. You might even wind up ahead of the game, expense-wise, if you get enough provincial parks lined up! Buffalo Pound Provincial Park, Duck Mountain Provincial Park, and of course Cypress Hills Interprovincial Park already have a history of including some astronomical aspect in their interpretive programs (some more than others); and places like Greenwater, Moose Mountain, and Rowan’s Ravine Provincial Parks would be good places to expand on that theme.

Dark Sky Plan Welcome in City

Editorial from *The StarPhoenix*, August 18, 2008
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Starting about mid-July and reaching a crescendo around this time in August, sky-watchers hooked on cosmic thrills are treated annually to a prolific meteor shower known as the Perseids. Humankind has been observing this phenomenon for about 2,000 years, with northern hemisphere residents enjoying an especially good vantage point because of the path of the Swift-Tuttle comet that's associated with the Perseids.

However, we are gradually losing the ability to observe and enjoy such natural phenomena as the Perseids and even the northern lights because among the collateral damage to the environment from our increasing urbanization is light pollution. Simply described, light pollution is light that shines where it's not needed or wanted. And one place that light certainly doesn't need to shine is the sky.

Those lucky enough to live near the Cypress Hills or to spend some time there would have had the great opportunity to enjoy the night sky, as it is one of seven dark sky preserves created in Canada. The others are the Beaver Hills in Alberta, Point Pelee, Torrance Barrens and Manitoulin Island in Ontario, McDonald Park in B.C. and Mt. Megantic in Quebec. However, lights from nearby cities are starting to encroach even these areas.

As anyone who made the mistake of driving out to the Beaver Creek area last week hoping to find a suitable spot to catch the Perseids show that hit its peak on Aug. 12 can attest, among the biggest light polluters around Saskatoon is the Dakota Dunes Casino development, whose glaring lights are visible for more than 50 kilometres.

Not to single out the casino, it should be mentioned that many of Saskatoon's street lights fall into that category of wasted and unneeded light, with the Royal University Hospital's absurdly over-lit parkade notable for being a literal as well as a figurative eyesore. To its credit, Saskatoon city council heeded advice from its environmental advisory committee last week and asked city hall to draft a policy that will require existing street lamps to be eventually replaced with those that aim light only where it's needed.

Even though the committee's report to council suggests that adopting a dark-sky policy for Saskatoon to take it beyond street light to include outdoor lighting in all areas would cut energy and maintenance costs, reduce complaints about glare and "trespassing" light, bring national recognition for environmental consciousness and move the city toward compliance on greenhouse-gas emissions, Mayor Don Atchison isn't about to rush ahead. "If anyone thinks it's going to happen that quickly, they're going to be disappointed," he said. "Reality sets in when you hear what the numbers are."

Even though it's understandable coming from someone who has to face the electorate every three years, what's needed on the issue is leadership. Calgary, which spent \$7.5 million to retrofit most of its conventional street lights, is saving \$2 million a year from not wasting electricity to light up the sky needlessly and from reducing the number of people it takes to service the new flat-lens lights. The outlay for a smaller Saskatoon would be less and the payback from the savings would recover the cost over time.

Even a commitment to eventually require the replacement of all lights, not just in residential areas, would be welcome. Even though a policy adopted by Saskatoon last year says the current light-polluting cobra-head fixtures with drop lenses continue to be used on arterial streets and major thoroughfares, Edmonton has installed full cutoff (FCO) light fixtures on Whitemud Drive and Calgary has installed the FCOs, which direct little or no light upward, on its Calgary Trail. With communities from Victoria, Langley and Prince George in B.C., to Banff, Canmore, Calgary and Okotoks in Alberta to cities such as Ottawa in Ontario adopting environmentally friendly lighting policies that cut down on light pollution, it isn't as if Saskatoon is being asked to blaze a new trail.

What's needed is to stop pandering to myths about brighter lights (not well-situated ones) preventing crime, to equating brighter lights with better visibility (subdued, glare-free lights make it easier to see, especially for older people) and take seriously the advice from knowledgeable sources and learn from the experience of others. If the result from shielded and

dark-sky friendly lighting allows us to gaze in wonder at a living sky that's little changed from the one that

awed our ancestors 2,000 years ago, so much the better.

Saskatoon's Dark-Sky Policy Begins to See the Light

By Rick Huziak

At the City Council meeting on August 11, councillors voted to adopt the Dark-Sky Comprehensive and Integrated Outdoor Lighting Policy which was brought forward by the Saskatoon Environmental Advisory Committee (SEAC). This means that Saskatoon Light and Power can now formulate outdoor lighting policies that include the use of shielded, properly directed lights for *all* city facilities – building decorative lights, grounds lighting, city parking lots, parks, pathways, security and wall-pac lighting, and streetlights. The new policy comes from an expansion of a policy passed in September 2007 that pertained only to nonarterial streetlighting. The streetlighting policy came from a test project in the Hampton Village subdivision that began in October 2005.

The Saskatchewan Light Pollution Abatement Committee (SLPAC) has, of course, been fully involved throughout the entire process. Our lobbying convinced the city to try the Hampton Dark-Sky Project as a test of full cut-off lights (the same ones that are being used in Calgary) for their suitability. That project received exactly zero public complaints over the lighting. The success led to a lobby by SLPAC that passed the streetlight policy through Council. However, the streetlight policy was limited by several factors: it was limited to nonarterial streetlights, did not apply to neighbourhoods with “decorative” fixtures, had no effect on any other type of lighting, and did not cover lighting installed by other jurisdictions such as SaskPower or the Department of Highways, who are responsible for about half of the lights within Saskatoon.

In anticipation that the City would indeed pass only a limited streetlight policy, the SLPAC lobbied in parallel for a Comprehensive and Integrated Policy, presenting our case to SEAC in January 2007. SEAC was impressed and made it the Number One environmental policy goal of their 2007-08 term. By March 2008, we had created a boilerplate report that we handed off to SEAC. SEAC then reauthored the

report to their liking and submitted it in July to the Administration and Finance Committee, who passed it and forwarded it to the August meeting of City Council.

Just because we have a policy passed by Council doesn't mean we have policy. We only have permission to proceed with writing the policy. The policy is a multilevel document that Saskatoon Light and Power and hopefully other City architects and planners will use to guide their future design. The policy overview is simple in principle, but at the engineering level, it is complex and will have to state all electrical requirements of zone lighting, ground level illumination, and fixture choice criteria. We expect the policy to take in excess of a year to be written and a few years to be implemented fully. Recommendations in the report also request that all civil lighting within the boundaries of Saskatoon fall under the plan no matter who erects it, which would reel in SaskPower lighting.

In the meantime, a few councillors asked why the policy should pertain only to the City and not to businesses and residents. We avoided this topic in the report because this would mean the creation of a bylaw. Although we'd love to see a bylaw (which would take lighting complaints out of nuisance/tort law and make them the responsibility of the City), we thought it best to just let the City get used to good lighting for a time, before they impose it on others. But since the councillors asked, we now have a chance to accelerate the bylaw process, which we had planned to begin lobbying for in early 2009.

So here we have it. Saskatoon is developing a Dark-Sky Policy, and one day it may even be possible to see the Milky Way from your backyard in the city as you could only a few decades ago! Today, from Hampton Village, you can. The City has given the Land of Living Skies a bit of a reprieve! Now, if we can just get SIGA to turn off those ugly Teepees of Light!

The Messier, H-400 & H-400-II, FNGC, Binoc & EtU Club

Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or 400 Herschel II, Explore the Universe, or 35 Binocular objects and earn great OBSERVING CERTIFICATES!

MESSIER CLUB

Certified at 110 Objects:

R. Huziak, G. Sarty, S. Alexander, S. Ferguson, D. Jeffrey, D. Chatfield, B. Christie, K. Noesgaard, M. Stephens, B. Hydomako, T. Tuomi, L. Scott, G. Charpentier, B. Johnson, M. Clancy, L. Dickson, Brent Burlingham

Donna-Lee May	Done!	110
Ken Maher		109
Ron Waldron		105
Norma Jensen		100
Brent Gratias		96
Mike Oosterlaken		93
Lorne Jensen		89
Kathleen Houston		85
Margo Miller		77
Wade Selvig		75
Garry Stone		57
Ellen Dickson		30
Jeff Swick		24
Barb Wright		23
Brian Friesen		15
Bruce Brandell		5
Katelyn Metanczuk		4



FINEST NGC CLUB

Certified at 110 Objects:

R. Huziak, D. Jeffrey, G. Sarty, D. Chatfield, T. Tuomi

Larry Scott	Done!	110
Scott Alexander		97
Bill Hydomako		55
Sandy Ferguson		23
Mike Oosterlaken		20
George Charpentier		13
Ken Maher		10
Mike Clancy		7

Chatfield BINOCULAR CERTIFICATE

Certified at 35 Objects:

M. Stephens, T. Tuomi, M. Clancy, R. Huziak, K. Maher

Brent Gratias	Done!	36
Mike Oosterlaken		32
Anna Clancy		24

The Binocular List will be available at each general meeting or can be mailed out on request to distant members.

On-line Messier and Finest NGC lists, charts and logbooks – check out:

<http://www.rasc.ca/observing>

On-line Herschel 400 List – check out the official site at:

<http://www.astroleague.org/al/obsclubs/herschel/hers400.html>

EXPLORE the UNIVERSE

Certified for Certificate:

M. Clancy, T. Tuomi, K. Maher, B. Gratias
Katelyn Metanczuk 15

HERSCHEL 400 CLUB

Certified at 400 Objects:

D. Jeffrey, R. Huziak, D. Chatfield

Tenho Tuomi	Up!	350
Gord Sarty		251
Scott Alexander		117
Mike Oosterlaken		68
Sandy Ferguson		18

HERSCHEL 400-II CLUB

Certified at 400 Objects:

Darrell Chatfield	304
Rick Huziak	211

The Messier & Finest NGC lists can be found in the *Observer's Handbook*. The Explore the Universe list is available on the National website.

Observer's Group Notes

by Larry Scott



Well, we missed our date for the Observers Group in August due to weather conditions. However, there were some really good nights at Sleaford. We made it out on August 4, 6, and 23 under truly excellent viewing conditions. Caught some early Perseid meteors as well as the usual summer viewing fare. Our viewing on the 6th was soured somewhat by the presence of a very bad smell courtesy of a local skunk. Best of all, the lawnmowing fairies showed up and knocked down the grass in the schoolyard. Yahoo! The site looks great right now.

Dark skies will be available again from September 23 to October 7. The September Observers Group is scheduled for the 26th.

Okay, so you've read all the reviews and you're ready to buy something. Sadly, the bank account is lagging behind your requirements for some quality equipment. Welcome to <http://www.astrobuysell.com/index.php>. Used equipment from across Canada is listed here. I've found most of our fellow amateurs are quite fastidious when it comes to their equipment, and generally speaking this is true of the equipment sold here.