

Saskatoon Skies

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

Vol. 44, No. 4

April 2013



After several foiled attempts by members to view and to photograph COMET PAANSTARS from Saskatoon and area (including this editor), Tenho Tuomi was successful in taking these two shots from Lucky Lake – the left one on Tuesday, March 12th and the right on April 1st. Several other members also managed to see it clearly from our Sleaford Dark Site (see Observer's Group Notes – page 5 of this issue)



Saskatoon Centre
The Royal Astronomical Society of Canada
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To view *Saskatoon Skies* in colour, see our Website:
<http://homepage.usask.ca/~ges125/rasc/newsletters.html>

MEMBERSHIP? JOIN TODAY!

Regular: \$80.00 /year

Youth: \$41.00 /year

Associate: \$33 /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 National Office at <national@RASC.ca>!

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
- 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 norj@sasktel.net.

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 – James Gorkoff, 644-1343
Secretary – Tenho Tuomi, 306-858-2453
Vice-President – Jim Goodridge, 370-8530
Treasurer – Norma Jensen, 244-7360

**Bottle Drive &
Canadian Tire \$**
By Colin Chatfield

If you cannot make it to a meeting but would like to contribute your Canadian Tire money please call me at 934-7046.

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

Newsletter Editor – Ron Waldron
Copy & Collate – Les & Ellen Dickson
Labels & Temps – Mark de Jong
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 rmwaldron@shaw.ca as a .doc, no indents, no tabs, one line between paragraphs. Images: .jpg please, no larger than 1 – 1.5 MB, sent by e-mail as attached files. **Deadline for submission of all articles for an upcoming issue is the first Friday of the month!**

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 indicated), provided that proper source credit is given. **DEADLINE for submissions** for each month's issue is the 1st of the month. Saskatoon Skies accepts commercial advertising. Please call the editor 306-665-3392 for rates. Members can advertise non-commercial items free of charge.

RASC CALENDAR OF EVENTS

| | | |
|----------|---|-------------|
| April 13 | STARLAB at Children's Discovery Museum | Ron Waldron |
| April 15 | Executive and General Meetings-175 Physics - UofS | Jim Gorkoff |
| April 19 | Stargazing at Lakewood Civic Centre – 8:00 PM | Barb Wright |
| April 20 | Stargazing at Beaver Creek – 8:00 PM | Barb Wright |
| May 4-11 | Observer's Group-Dusk-Sleaford Observatory | Larry Scott |
| May 20 | Executive and General Meetings-175 Physics-UofS | Jim Gorkoff |
| May 25 | Solar Observing at Farmer's Market | Barb Wright |
| June 8 | Observer's Group-Dusk-Sleaford Observatory | Larry Scott |

For a complete list of club events, please check out: <http://www.usask.ca/rasc/activities.html>

General Meeting for all members

April 15th at 7:30 PM

Room 175 Physics Building
University of Saskatchewan

PROGRAM

Dr. Erica Bird

of the
CHILDREN'S



<http://www.museumforkids.sk.ca/dash/index.html>

Note: there will be an executive meeting at 6:30 PM



March Executive Meeting Minutes *by Tenho Tuomi*

1. Chairman Jim Gorkoff opened the meeting at 6:30 PM.
2. Approval of the February 11 Executive meeting minutes, moved by Jeff Swick and seconded by Les Dickson. Carried.
3. Committee Reports:
 - a) Vice-President's report by Jim Goodridge – speakers available.
 - b) Treasurer's report – Nil.
 - c) Membership report – Nil.
 - d) Fundraising report by Jim Goodridge -- \$4000 worth gift cards purchased, earning \$240 for the Centre.
 - e) Newsletter report by Ron Waldron – April 5 deadline, send in reports about events.
 - f) Sleaford site report by Darrel Chatfield – warm-up shelter needs finishing by June.
 - g) Events Co-ordinator report by Barb Wright,
 - March 23, Earth Hour at the Centre Mall with public viewing from 8:30 to 9:30 PM.
 - April 13, Children's Discovery Museum at Market Mall starting at 9 AM, with a Starlab by Ron Waldron.
 - April 19, Astronomy Day, public viewing at the Lakeview Civic Centre.
 - h) SSSP report by Barb Wright – arrangements coming along well.
 - i) Saskatchewan Light Pollution Abatement Committee report by Rick Huziak
 - Concern about BHP Billiton activity near Sleaford.
 - April 16-19 Environmental Film Festival showing "City Dark" which we should co-sponsor. March 21 meeting regarding the new Saskatoon urban dark sky preserve.
 - Work continuing with Cypress Hills lights.
 - j) Centre Rep report by Rick Huziak – new by-laws will be approved at the March 23 meeting, all centres will have to update to them by December 31. Family membership proposed.
4. Other Business – discussion regarding donations and our charitable status
5. Meeting adjourned at 7:30 PM

March General Meeting Minutes *by Tenho Tuomi*

1. Chairman Jim Gorkoff opened the meeting at 7:50 PM – three visitors were acknowledged.
2. Approval of the February 11 General meeting minutes, moved by Mike Clancy and Tenho Tuomi. Carried.
3. Committee Reports.
 - a) Vice-President's report by Jim Goodridge – speakers arranged for the following.
 - April – Dr. Erica Bird from the Children's Discovery Museum
 - May – Dr. Tom Field of Field Tested Systems – simple spectroscopy.
 - June – Sharing the Passion / Living the Dream - Ron Waldron
 - b) Observing Co-ordinator report by Larry Scott – 5 came to Sleaford for the Messier Marathon.
 - c) Fundraising report by Jim Goodridge -- \$4000 worth gift cards purchase, earning \$240 for the Centre.
 - d) Newsletter report by Ron Waldron – April 5 deadline, send in reports about events.
 - e) Sleaford site report by Darrel Chatfield – warm-up shelter needs finishing by June.
 - f) Events Co-ordinator report by Barb Wright,
 - March 23, Earth Hour at the Centre Mall with public viewing from 8:30 to 9:30 PM.
 - April 13, Children's Discovery Museum at Market Mall starting at 9 AM, with a Starlab by Ron Waldron.
 - April 19, Astronomy Day, public viewing at the Lakeview Civic Centre from 8:30 to 10 PM.
 - April 20, Astronomy Day, public viewing at Beaver Creek, talk by Ron Waldron at 7:30 PM.
 - May 25, Astronomy Day, display at the Farmers Market with the Nature City Festival from 8 AM to 2 PM.
 - Volunteers need for all.
 - g) SSSP report by Barb Wright and Les Dickson
 - Book rooms before the end of April
 - Most speakers are arranged.
 - Photography workshops by Alan Dyer and Tenho Tuomi.
 - SSSP Facebook page by Jeff Swick.
 - h) Centre Rep report by Rick Huziak – Next National Council meeting March 23.

- i) Saskatchewan Light Pollution Abatement Committee report by Rick Huziak
 - NE Swale Dark Sky Preserve.
 - Work continuing with Cypress Hills lights.
- 4. Other Business.
 - a) Nominations were opened for a Centre Rep to replace Rick Huziak who is resigning from the position. Tenho Tuomi was nominated. Moved by Mike Clancy and Jeff Swick that nominations cease. Tenho declared elected effective August 1.
 - b) Darrel Chatfield made a presentation on behalf of the Sleaford Site Committee regarding the proposed garage package and alternatives, a garage package to cost about \$34,000, and a tool shed about \$7000.
 - c) Discussion continued about the future of the Schoolhouse, Patterson Dome and the U of S Roll-off.
 - d) Moved by Mike Clancy and Ron Waldron that we go ahead with the proposed garage package for Sleaford for \$34,000. Motion was defeated.
 - e) Moved by Mike Clancy and Jeff Swick that up to \$12,000 be set aside for a tool shed, site to be determined in conjunction with the U of S, and design and type to be determined by the Sleaford Site Committee. Twelve voted in favour, none against. Carried.
- 5. Meeting adjourned at 9:30 PM.

Observer's Group Notes *by Larry Scott*

The Observers Group for March 2nd was cancelled due to weather conditions. Then there were a few cracks in the impenetrable shield that's been covering us these many months.

On March 4th two members went to Sleaford and had several hours of good skies during a Moonless evening. Other than finally getting a decent night to observe, one of the highlights that night was listening to a herd of deer walking down the road beside us. On March 9th five members went to Sleaford under average (or slightly below average) skies for the Messier Marathon. And on April 1st three members enjoyed decent skies and got a good look at Comet C/2011 L4 (PANSTARRS) as it approached M31. Also got to observe this very nice comet several times under various conditions from Saskatoon.

Next Observers Group is scheduled for May 11th with Moonless evenings from about April 28th till May 12th. Although I've scheduled the Observers Group for the 11th, the previous weekend should be good for deep-sky observing as well. I'd like to encourage everyone to try and make it out now as we will soon be in the dreaded midnight twilight of summer.

Astronomy Day and "Week" Activities *by Jim Goodridge*

Please plan to support the following events which will kick off International Astronomy Day and "week" for our Centre.

As outlined in a previous newsletter, Ron Waldron will be the main attraction with the STARLAB sponsored by the Saskatoon Public School Division. Plan to attend and bring your children, grandchildren, neighbors and anyone else you can find.

Also the "Queen of astronomical sketching", Kathleen Houston (if you don't believe me that she is the queen of sketching check out the back cover of the 2013 Observers Guide) will be leading an art activity at the Children's Discovery Museum on the 13th. Participants will create their favourite constellations by piercing construction paper, and borrow from an Inuit legend that stars are "holes in the night sky". Artwork will be completed with pastel and their imaginations, to make pictures from the points of light.

Later that night you can come to the U of S Observatory where I will be trying my best to find something to look at with the classic T Cooke and Sons refractor.

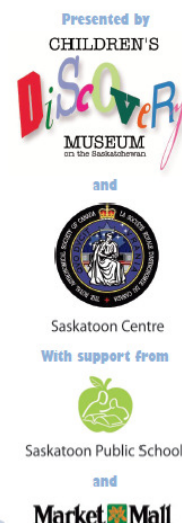
Both Kathleen and Ron Waldron will be devoting a great deal of time to the event at the Children's Discovery Museum so make sure to thank them when you see them.

We will be at the Farmer's Market on May 25th for the Nature City Festival, so that is when you should bring your solar filter.

Also we are looking at co-sponsoring a showing of the documentary "City Dark" during the Environmental Film Festival April 16 to 19th. We should have information on that soon.

Jeff Swick will be on CTV the week of April 15 to promote the events; I will try to give you all a heads up so that you can watch it.

See you there, and at the Children's Discovery Museum.



Celebrate International Astronomy Week with us!
STARLAB is an amazing inflatable planetarium. Come and see the stars on Saturday, April 13 at one of our FREE shows for all ages! Due to limited seating, we are pre-booking shows. Please call 306-683-2555, or go to www.museumforkids.sk.ca and pre-book via Picatic.

Astronomy Day 2013 *by Jeff Swick*

Our annual Astronomy Day events this year are on April 19th at the Lakewood Civic Center and April 20th at the Beaver Creek Conservation Center.

The Lakewood Civic Center is a fabulous location for us to engage in some Sidewalk Astronomy. The Civic Center allows us to set up on the front lawn so one can just drive up, unload your gear and park in a paved lot. The venue itself has a couple of gyms, an indoor pool and a public library. This alone guarantees a steady stream curious folks who stop by for a look. It's also a great night for our new members to come out and visit and look through the various scopes and socialize in a relaxed setting.



Photos by the author



We set up around 8:00 while it's still twilight to give the various visitors time to see the 'scopes

Our public star night at Beaver Creek the next night has traditionally been a big draw for us as well. The venue features an auditorium and Ron Waldron will be giving a talk on astronomy at 8:00 followed by public viewing.

This will be a rain or shine event.

Over the course of the two nights we put through roughly 300 folks, many of them having a look through a telescope for the first time.

Much of the success of this event it attributed directly to our members. Although we do get some media coverage, it's never a sure thing.

I encourage all of our members to talk up the event, print and post our posters .

There will also be a jpeg version of our poster that you will be able to post to facebook and email around to friends, family, co-workers etc.

More details, discussion etc will come via our Yahoo Group.

See you out there.

Summary of the National Council Meeting #131

Telecon, March 23, 2013, 8:06 a.m. – 3:02 p.m. CST

Richard Huziak, National Council Rep, Saskatoon Centre

All of the 18 executive and committee reports for this meeting can be found in the *Members Section* of the National web page at <http://www.rasc.ca/council/reports/2013> Below is a summary of the important items from the meeting that pertain to the Saskatoon Centre.

Family and Affiliate membership types of are being instituted, and Associate membership rescinded. Details are in the Reports section. Current Associate members and what fees the Centres want to have for this needs to be reported to National by the end of April. Centres are to make changes to the membership types by July. All members, Regular and Family are now members of the National organization, having the rights of RASC members, including voting. Differences have to do with duplicate publications not being sent. Centre bylaws must mirror National bylaws for fee structures guidelines and membership types.

A Transition Board of Directors will be elected at the 2013 GA to transition into the *Canada Not-for-Profit Corporations Act* (CNCA), and at the 2014 GA the first Board, as defined by the CNCA, will be elected and appointed according to By-Law #1. All eligible RASC members will be able to vote. Centre Representatives will become the National Advisory Council.

Travel Policy for attending council meetings and the General Assembly has been adjusted to allow a sliding rate for coverage beyond 1000 kilometres travelled.

Newly reprinted membership brochures are available on request. There are 25,000 starfinders still available; more will be printed when they are required. The Beginner's Observing Guide is being updated for new release in 2014.

Articles of Continuance and By-Law #1, rewritten in response to requirements of the Canada Not-for-Profit Corporations Act (CNCA), was carried by Special Resolution, as amended during the meeting. (See the National website under Governance/National Bylaws.) Members may still submit concerns to the council as required. The Bylaw is in a form now that allows Centres to begin their equivalents now and concluding before the end of 2013.

A new RASC Policy Manual has been created (from the old RASC Manual) that summarized the workings of the RASC beyond the Articles and Bylaw, though information for the Board of Directors and Committees is included. Input for this manual is requested from Centres by May 31 so that the manual can be adopted at the 2013 GA.

A special committee was formed to resolve how the two francophone centres that have co-memberships with other astronomy clubs can be reworked to conform under the CNCA rules.

The Light-Pollution Abatement Committee & Council approved the designation of the Cattle Point Urban Star Park in Victoria, BC.

Dr. John Percy, Professor of Astronomy at U of T, was approved as the Honorary President of the RASC and Dr. Sara Seager, Professor of Planetary Science and Physics at the MIT, as an Honorary Member.

Registration is open for the 2013 General Assembly at Thunder Bay. The 2014 GA is in Victoria. The 2015 GA was awarded to the Halifax Centre, July 2 – 5.

Earth Hour and Astronomy at Circle Park Mall

by Tim Goodridge

Thank you to all of the members who came out the evening of Saturday, March 23rd to the Centre at Circle and Eighth to participate in Earth Hour. We had several newer members helping out last night so an extra thank you to them.

There were at least 8 scopes in attendance ranging in size from 3 to 10 inches and we had refractors, reflectors and an SCT so we were able to give people quite varied views. Ellen Dickson deserves a big thank you because she stayed inside at this event looking after the table inside, and there was lots of activity there. Barb Wright co-ordinated the event and everything ran smoothly as usual. The Star Phoenix sent a photographer so hopefully the event will be in the paper tomorrow morning. Attendance wasn't as good as last year (we estimated approximately 60 people), but we also have a lot more snow and it was colder so the weather probably explains that. We had



Photo by Ron Waldron

clear skies and the atmosphere was pretty steady so the views were really good and we had the appropriate number of oohs and awes.

The Centre at Circle and Eighth was really good to us, keeping the lights off for an extra period of time and providing convenient reserved parking. The Centre at Circle and Eighth also had some really nice posters promoting the event. A big thank you to them and please shop at the Centre at Circle and Eighth the next time you need something or want to attend a movie.



Photo courtesy of Saskatoon Star Phoenix



Photo by Bob Johnson

The Planets This Month

By Murray Paulson

Spring is here and the daylight is swelling up to take over the skies. Unfortunately the dreaded spring morning ecliptic is here ready to swallow up the inner planets. At the beginning of April, the ecliptic projects out of the horizon at a meager 12.5 degrees, which means our inner planets are never far from the horizon before sunrise, and that is where **Mercury** is at the beginning of this month. Despite its greatest western elongation, March 31, it rises shortly before the sun, and is lost in the twilight glare. You can watch Mercury in the daytime sky with a well placed telescope as it progresses to a thicker and thicker gibbous phase as it shrinks and recedes from us. At the beginning of the month it shines at magnitude 0.5 and will show you a 7" half disc in the eyepiece. By month's end it will sit at an elongation of only 15 degrees from the sun and it shines at magnitude -0.7. A small 5.4" disc will greet the viewer.

As Mercury came to Greatest Western Elongation, **Venus** came to its superior conjunction on March 28th, and sat 1.3 degrees below the sun. If you **could** have seen it, you would have seen a 9.7" disc on the far side of the sun. It will now work its way into the evening sky as we progress into summer. By month's end, Venus will sit 8 degrees from the sun and will shine at magnitude -3.9. It should be visible in a well placed scope by then.

Mars finally passes the sun this month on April 17th, at only 7.5 minutes of arc below it. **Mars** moves very slowly when at the extremities of its orbital position relative to us, so it will be quite a while before we see it again. The positive thing to note here is that it now is more than half way to its next opposition.

Jupiter is way over into the evening sky, only 60 degrees elongation from the sun. It shines at magnitude -2.1 and will show you a 35.7" disc in the eyepiece. It will hang about for Astronomy days later this month and then assisted by the expanding summer twilight, drop oblivion. By the end of April we will see it shining at magnitude -1.9 with its 33.5" disc. Still impressive but it will be gone fast! We have one more on the moon conjunction series on April 14, when the moon will pass 2.7 degrees below Jupiter. Here in Alberta, we will see the pair after they have separated to a 4.5 degree spacing, not quite so tight! But worth the view.

The end of the month marks the return of **Saturn**, as its opposition occurs on the 28th. At the beginning of April, Saturn rises at 10:33 pm, shines at magnitude 0.2 and will show you an 18.6" disc in the eyepiece. Saturn's rings are tipped way up at 18.7 degrees to our line of sight and are absolutely magnificent. By Astronomy day, we will see Saturn rise at 9:11 pm so it will be high enough for your late night participants to view. By the end of April, Saturn will rise at 8:30 pm and will brighten to magnitude 0.1 and display a 18.9" disc in the eyepiece. Ahh, grand! If you check the Handbook, you can find a listing of passages of Iapetus over the north and South poles of Saturn. The first one was April 1st which you missed, but the next one is May 10th, so go for it.

Uranus dropped into conjunction with the sun on March 28, exactly in synchrony with Venus, only 42' away. I have seen the pair together in a high power eyepiece before, but not this time! Uranus will have to wait till the summer star parties to find itself in my eyepiece again.

Observing Clubs and Certificates

Join the Club! Observe all 110 Messier, 110 Finest NGC, 400 Herschel I or II, 140 Lunar, 154 Sky Gems or 35 Binocular objects, or Explore the Universe 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. Hydromako, T. Tuomi, L.
Scott, G. Charpentier, B. Johnson, M.
Clancy, L. Dickson, B. Burlingham, K.
Houston*

| | |
|------------------|-----|
| Norma Jensen | 109 |
| Ron Waldron | 105 |
| Wade Selvig | 75 |
| Garry Stone | 57 |
| Bernice Friesen | 45 |
| Wayne Schlapkohl | 43 |
| Barb Wright | 40 |
| Ellen Dickson | 34 |
| Jeff Swick | 24 |
| Graham Hartridge | 9 |

Chatfield BINOCULAR CERTIFICATE

Certified at 35 to 40 Objects:

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

| | | |
|---------------|-----|----|
| Jim Goodridge | Up! | 12 |
|---------------|-----|----|

FINEST NGC CLUB

Certified at 110 Objects:

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

| | | |
|--------------------|-------|-----|
| Larry Scott | Done! | 110 |
| Scott Alexander | | 97 |
| Norma Jensen | | 61 |
| Sandy Ferguson | | 23 |
| Kathleen Houston | | 23 |
| George Charpentier | | 13 |
| Mike Clancy | | 7 |

EXPLORE the UNIVERSE

Certified at 55 to 110 Objects:

*M. Clancy, T. Tuomi, K. Maher,
B. Gratias*

| | | |
|------------------|------|----|
| Wayne Schlapkohl | Done | 55 |
| Sharon Dice | | 31 |
| Jim Goodridge | Up! | 35 |

Isabel Williamson Lunar

Observing Certificate

Certified at 140 Objects:

T. Tuomi

| | |
|--------------|-----|
| Norma Jensen | 133 |
| Jeff Swick | 29 |

HERSCHEL 400 CLUB

Certified at 400 Objects:

*D. Jeffrey, R. Huziak, D. Chatfield, T.
Tuomi*

| | |
|-----------------|-----|
| Gordon Sarty | 251 |
| Scott Alexander | 117 |
| Sandy Ferguson | 18 |
| Larry Scott | 20 |

HERSCHEL 400-II CLUB

| | | |
|-------------------|-------|-----|
| Darrell Chatfield | Done! | 400 |
| Rick Huziak | | 246 |

LEVY DEEP-SKY GEMS

Certified at 154 Objects:

| | |
|-------------------|-----|
| Tenho Tuomi | 149 |
| Darrell Chatfield | 70 |



The Messier, Finest NGC and David Levy's Deep-Sky Gems lists can be found in the *Observer's Handbook*.

The Explore the Universe list is available on the National website.

On-line Messier and Finest NGC lists, charts and logbooks: <http://www.rasc.ca/observing>

On-line Herschel 400 List: <http://www.astroleague.org/al/obsclubs/herschel/hers400.html>

Binocular List is at: http://homepage.usask.ca/%7Eges125/rasc/Chatfield_Binocular_List.pdf

Copies of the Isabel Williamson Lunar Observing Program Guide can be purchased at meetings.

Program details can be found at: <http://www.rasc.ca/williamson/index.shtm>