
Put together by
Rich DeMidio

The NHAS Observer

Newsletter of the New Hampshire Astronomical Society



Vol. 2023 No. 11

"All the news that fits in print"

November 2023

Northern Lights



Photo by Lyn Peterson

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Editor's Message

November is nomination time for NHAS officers and board. Paul has already sent out requests for nominations. Serving in any position can be scary and is a perfectly normal feeling. It's also an opportunity for great satisfaction and sense of accomplishment. Over my tenure, I have served in many positions and enjoyed all of them. Yes, it can be stressful at times but your part of a team to get things done. Particularly in leadership positions. Surrounding yourself with great people passionate in their beliefs is the best place to be. So, if you are passionate about something in the club, it might be effectively addressed by serving. Just ask yourself that question and see where it takes you. It may not be an officer or board position which is fine. Pursue that passion by other means that contribute to the overall health of the club.

NHAS has, in my opinion, been going through a changing of the guard in the last five years. We have lots of new members, many of them young and passionate. This is great to see and signals continued growth. We have a new generation of people complemented by some old timers that can provide guidance and sometimes useless trivia 😊

Rich DeMidio

Northern Lights Report

A strong CME hit New England the weekend of November 4th with many club members imaging the event. From what I can tell, it was much stronger than anticipated. Here are some reports from club members.

From Rob Mack: I went out around 6PM and took some pics. There was a pervasive pinkish area above the NW horizon area that was barely visible to the naked eye, but pretty bright on the images



Photo by Rob Mack

From Nico Carver: The whole sky is pink now in Lempster, NH. All sky pic I just took attached. Can't see it by eye, but I have trees all around



Photo by Nico Carver

From Donald Smith: It did inspire me to finally try the astro mode on my Pixel 6a, and I'm generally blown away by what a "mere" cell phone camera can capture these days.

Does anyone have tips on aurora captures specifically using a cell camera? I do have the Open Camera app, which will allow ISO up to 6400 and 10 second exposures.

Editor's Note: This might be a good start. It was part of a shop talk that Deb Slocum and I delivered to the club. If others have suggestions, please respond to Donald's email or post in slack.

Wide Field

- Camera mounted on tripod or telescope mount
- Settings to use
 - Infinity, Manual Mode, RAW nef or cr2 (Canon), start low fstop, then increase to bring stars in focus,
 - 500 rule for computing maximum exposure time.

$$\text{Exposure Time} = (500 / \text{focal length of camera lens}) / \text{crop factor}.$$

- *50mm lens 500/50 = 10 secs*
- *Crop factor 10 / 1.3 = 7 seconds*
- Some point and shoot cameras have a star mode (i.e. Canon G9X)
 - My experience is very positive

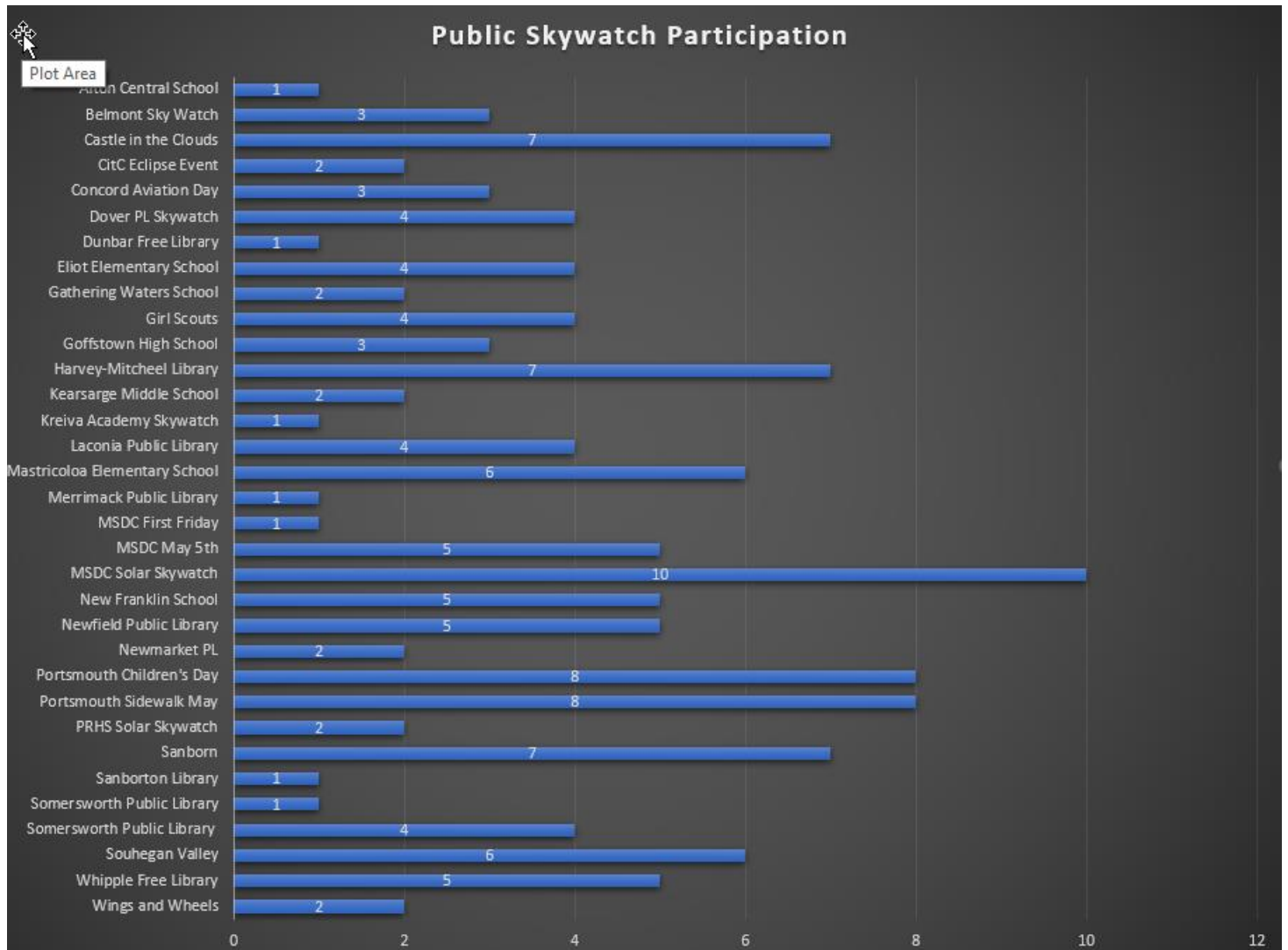


Experiment as they are just bits!

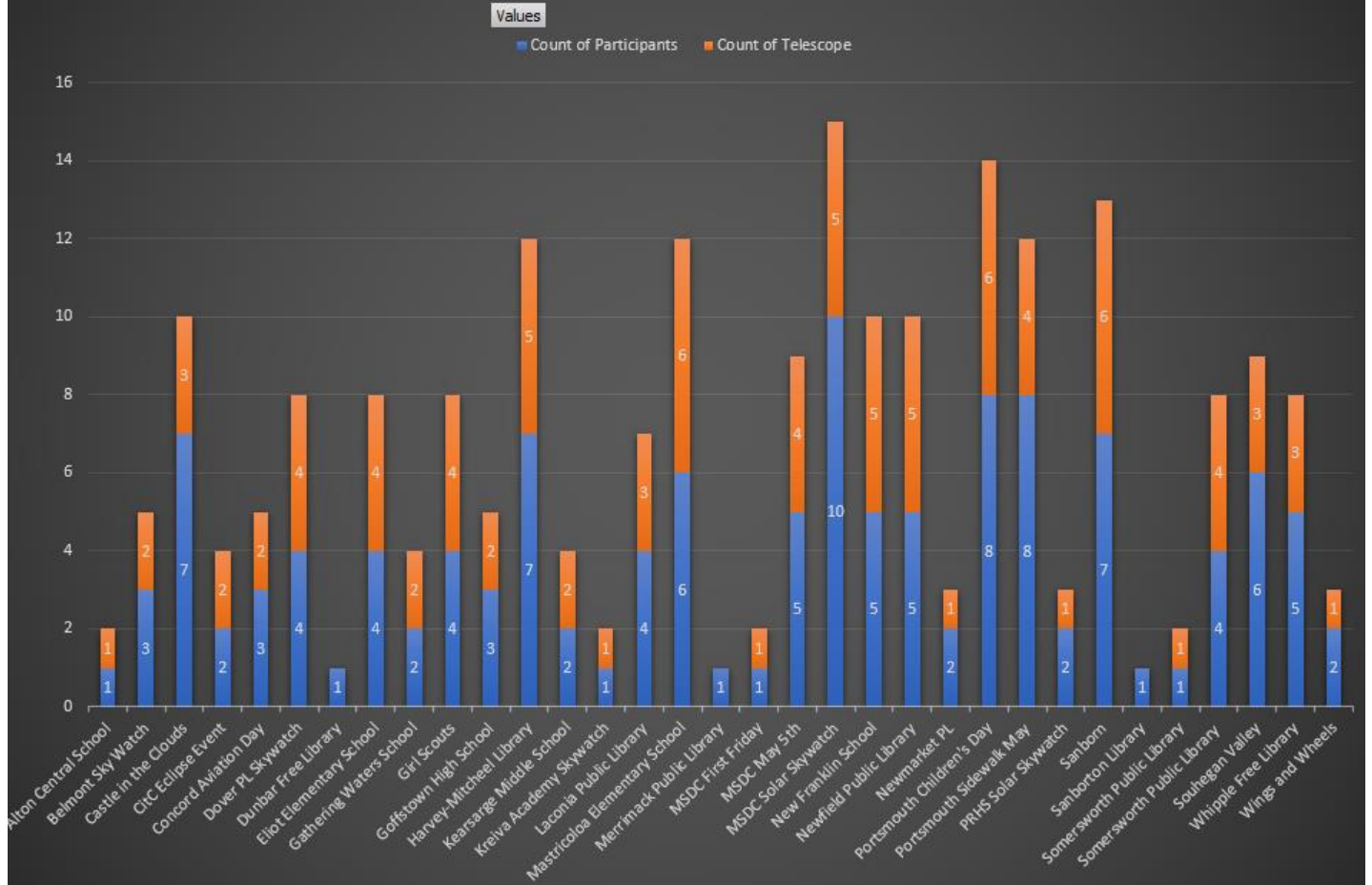


Public Skywatch summary

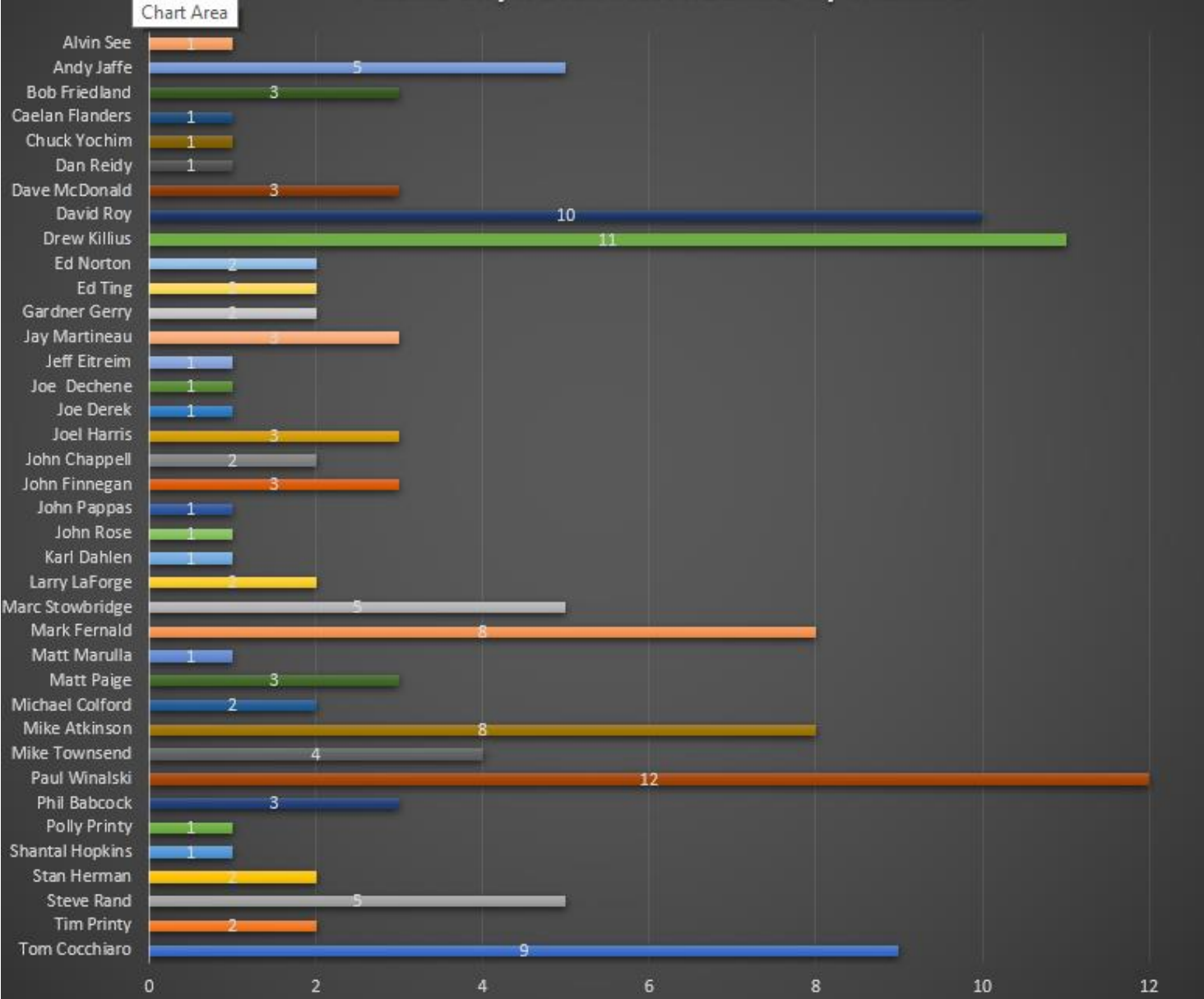
Latest tally from our events. As a reminder, if you have data for a 2023 skywatch not shown, please send to me so that I can add to the list. Please email me if I missed some entries. I will update for the publication. *All charts are sorted alphabetically.*



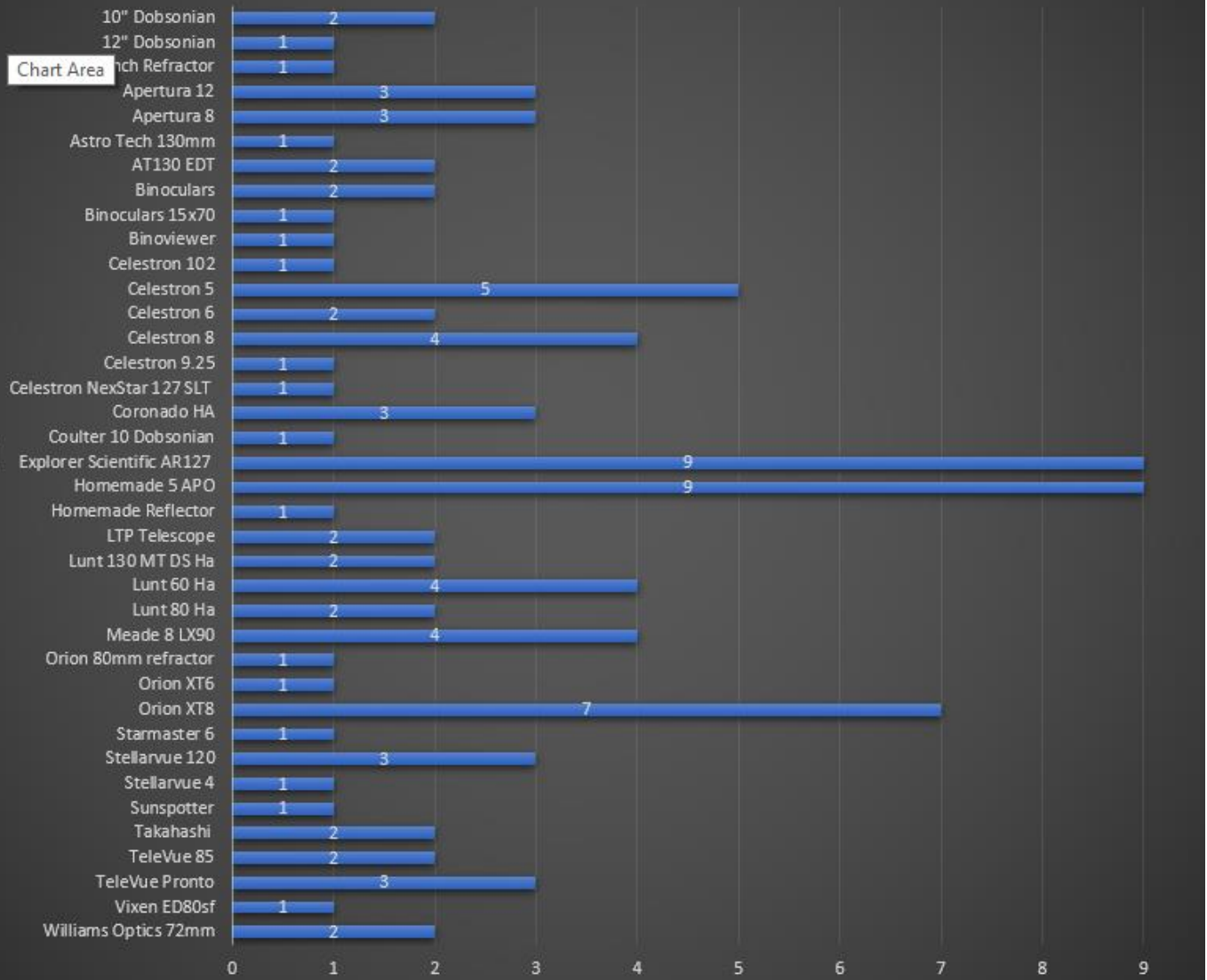
Participant and Telescope Breakdown per Event



Public Skywatch Attendance by Member



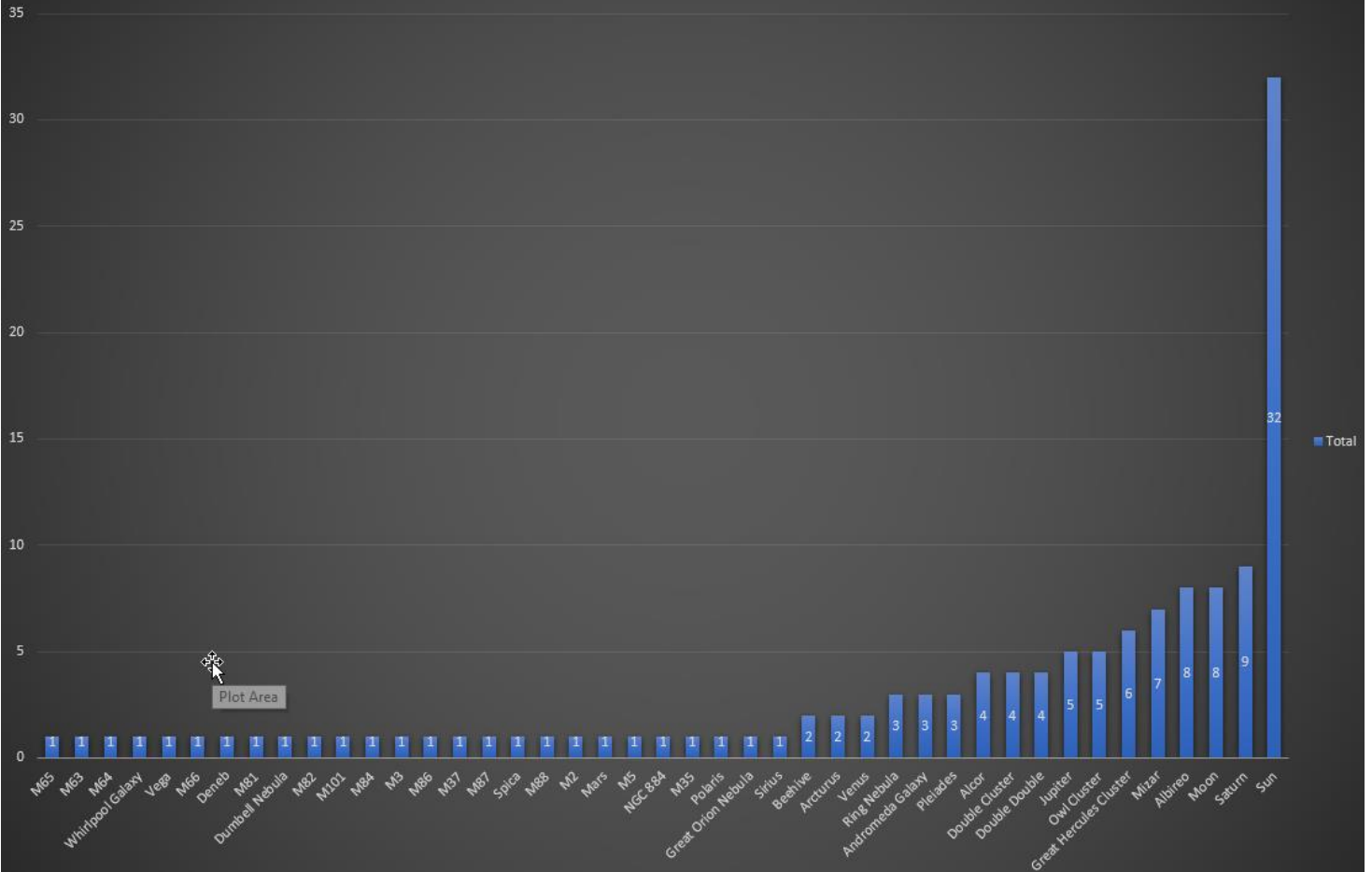
Public Skywatch Telescopes Used



Skywatch Targets by Month



Skywatch Targets



MSDC Concord November 1st Friday Event (David Roy)

Hi all. I made it to the Discovery sky watch last night just before 7PM. I had approximately 10 to 12 people until it clouded up around 830PM. We saw Jupiter, Saturn, Albireo and NGC's 884 and 869 (the double cluster in Perseus).

Goffstown High School (Steve Rand)

Steve Rand, Drew Killius, and Bob Friedland setup their scopes for several attendees. Good turnout from the students and parents.

From Bob Friedland: It was a cold night but a great Skywatch. Our guests were completely engaged. NGC 0869 (double star clusters in Perseus) was a definite hit. Drew had an amazing view of Jupiter with 3 of its 4 moons clustered together. Drew also got Pleiades at the very end of the watch.

From Steve Rand: I agree, a cold one but a good one. Many thanks to you and Drew. Saturn and Titan, Jupiter at its closest along with cloud bands and moons, the double cluster, Albireo, and the Pleiades were among our targets. Mike Veilleux was our host along with about a dozen Goffstown HS students and parents.

Gathering Waters School - Alstead, NH (Matt Paige)

Just wrapped up a nice night at Orchard Hill Breadworks with a high school astronomy class and some parents. The observing location was excellent with a low southern horizon and great views in almost all directions. Despite being a day prior to full moon, and a few drifting clouds, we were still able to observe a variety of objects.

Mark Fernald and I were the NHAS members in attendance. Mark had his C5, I set up my Stellarvue 4" refractor and let folks pass around some bino's. Between us we viewed the moon, Jupiter, Saturn, Albireo, Alcor/Mizar, M57, M13, and M31. DSOs were tough with the moon but still visible.

The favorite target at my scope was the moon at 175x with a 4mm eyepiece. Folks enjoyed panning around and observing different features, despite the brightness.

I would love to revisit this observing location on a darker night!

Have a great weekend everyone.

Merrimack Public Library on 10/24 (Paul Winalski)

Every year the National Endowment for the Arts sponsors an event in public libraries across the US called the Big Read. They choose a book and provide grants to libraries to hold events related to the

book. This year's book is "The Bear" by NH native Andrew Krivak. Navigating by the stars occurs in the book and so NHAS has received several requests from public libraries for presentations about constellations and visual observing.

I gave the second such presentation last night in my home town of Merrimack NH. About 10 people showed up. The presentation described the constellations currently visible in the early night sky, plus Jupiter and Saturn. The focus was on Ursa Major and using the Big Dipper to find Polaris, Arcturus, Spica, etc. I also told the mythological stories of the Ursa Major and Perseus constellation groups.

Harvey- Mitchell Library Sky watch, Epping (Jay Martineau)

This past Monday NHAS hosted a sky watch for the Epping public library. The event was held a few miles north of town at the Burley Farms nature reserve. Also known as SELT, the Southeast Land Trust.

The indoor presentation was done by Steve Rand. They had a very nice set up (room) for Steve to do his talk. Turnout was a little disappointing, I counted 7-8 people in attendance. Outside, Dave Roy, Mark Fernald, Drew Killius, and Andy Jaffee were set up. I think I am missing someone, sorry. We had various scopes: refractors, dobs and SCT's

The Seeing conditions were actually quite good. A cloudy day gave way to mostly clear skies with occasional high clouds. The moon was prominent. We were able to shut off all the building lights, including the parking lot. There were no nearby sources of light to speak of. The moon did hinder deep sky viewing. I heard more than one Member comment that the location was one of the best they had experienced for skywatches.

Targets included:

Moon (day 9, waxing gibbous), Saturn (with moons), Jupiter (Galilean moons nicely visible), Double cluster, Dumbbell Nebula, Ring Nebula, M2, Andromeda galaxy, Albireo double, Mizar. I'm sure other targets were viewed. We even squeaked in the Pleiades at the end. Constellations were pointed out.

Most observing was done by 8:30-9



Steve Rand Presenting, photo by Jay Martineau



Photo by Jay Martineau



Photo by Jay Martineau



Photo by Jay Martineau



Photo by Jay Martineau

Girl Scout Troop 51595 (Mike Atkinson)

The Girl Scouts of Troop 51595 had a late request last month, which got rained out. On the scheduled date, I did visit the troop and we had a discussion about the night sky, followed with a 'too-be-arranged' viewing party.

Tonight (October 24th), we had that view, in Greeley Park in Nashua. We gathered and viewed from 6:30 to about 8:00 o'clock. There were a few clouds at the beginning of our time, but sky cleared as time progressed. We had about 12 young people from the troop in attendance, and a few adults, too.

We had my Celestron Binoculars on a new, parallelogram mount, which worked great. Also, the Nashua Public Library telescope. My 12 Inch Dobsonian and a 5" Celestron Go-To scope, that we tried to get a start with only moderate success.

We started with viewing the moon through the binoculars, then the library scope, then my dobsonian. Each view at greater power. We all viewed the moon from 15 times magnification to 160 times magnification. Then, we turned the library telescope on to Saturn. The young folks were excited to see the rings. Then we turned to Saturn with the 12 Dobs.

Once we reached full dark, we looked at the Summer Triangle, and I pointed out the constellations in which the triangle is contained.

We then turned to the Double Double in Lyra. Addressing a question from last month's gathering, about whether stars can orbit stars. Lastly, we looked to the Owl Cluster in Cassiopea.

As always with the young, natural scientists, there were a plethora of questions about a variety of topics. I believe they had a fun and informative time.

Wyatt from Central Texas (Wyatt Davis)

Club member and former President Wyatt Davis recently visited Texas and filed this report.

Great night out last night in Central Texas! Log here if you are interested:

<https://clarksondavis.egnyte.com/dl/W81AvfLjV2>

Skywatch at Laconia Public Library (Mike Atkinson)

The public sky watch in Laconia was held this evening. Dave Roy, and Drew Killius, and I were there from the Society with telescopes. Sarah from the library also brought out her Library telescope for use.

The Laconia Public Library is a beautiful building, with beautiful grounds. A truly wonderful place to sit on a bench and read a book in the autumn afternoon, beneath the tall trees, in the middle of downtown Laconia. However, it did make for a challenging sky watch location. We had to set up near the parking area. There no control over the lights in the parking area. And they did present some challenges. I think I moved my 12 dob to four different spots to find targets during out viewing.

We started just after sunset. It was partly sunny through twilight. We had on again, off again view of the moon, through the clouds for about 45 minutes. Then it moved behind the building. As twilight moved into darkness, the clouds disappeared. As the first stars were coming into view, there was a bit of hide and seek. But we ended up with a pretty clear night sky.

There were about a dozen adult guests moving among the telescopes. Most stayed for more than an hour. A few guests had visited viewings at Castle in the Clouds and were interested in checking out the Library Telescope for additional viewing. The Moon, Saturn and Jupiter were big hits. My targes also included Mizar, Epsilon Lyrae and the Owl Cluster

Dave listed quite a few additional targets. I'm not certain what Drew spotted.

Sarah and the folks at the library were wonderful hosts and provided several photos.



Photo by Sarah Frost, Laconia Public Library





Photo by Sarah Frost, Laconia Public Library

In-Reach Report (Phil Babcock)

NHAS In-Reach Report, November 7, 2023

Once again, we have had a somewhat quiet month on the In-Reach front. The seemingly endless clouds have restricted observing opportunities. But, as we hope for clear weather with the convenient, earlier darkness, there are more In-Reach activities to come!

Over the last month:

- ✓ Our no-moon, weekend observing at Little River Park in Lee seems to be developing a rhythm. Unfortunately, one part of that rhythm is clouds. Over the last 2 months we got in one evening of observing there. It's a great site for observing, doing astrophotography, and socializing.
- ✓ At YFOS, there is a new handicap ramp to the warming hut. If you haven't been to YFOS yet, it is a really good dark site and, as the weather gets colder, it is a rare site in that we have a warm room with red lighting for you to thaw out in before hunting for your next object or setting p your next exposure.
- ✓ More members have been attending public Sky Watches. While Sky Watches are formally out-reach, members can also use them as In Reach, having a chance to look through others' scopes, getting a little help finding an object, or just listening to the more experienced members describe things to the public. You don't have to be an expert, by any means, to attend one.
- ✓ Last week there was the usual first-Friday observing at the Discovery Center (MSDC) in Concord. They managed to squeeze in some observing for about a dozen guests for an hour and a half before the clouds came in.
- ✓ Since the last report, two episodes of the "The Constellation of the Month-ish" were released. Episode 7 looked at Asterisms that spanned constellations (the Summer Triangle), exist within a constellation (the Northern Cross) and are just cute, small collections of stars (the "Coathanger"). All of these asterisms were used to find a colorful binary star (Albireo in Cygnus, the Swan) and the M27, the Dumbbell Nebula (a planetary nebula). The 8th Episode showed how to find the Great Square of Pegasus and the constellation of Andromeda was explored. The idea of finding a deep sky object was taken to the extreme as we found some galaxies approximately 2.5 million light years away. The centerpiece for the galaxy hunt was M31, the Andromeda Galaxy.
- ✓ Our second survey of the membership is under review by the Officers. It is focused on determining which members can contribute what skills to meet the desires (uncovered in the first survey) for Astro 101 seminars and education topics, along with who can be a mentor.

Coming soon are:

- ✓ Alerts for all the various opportunities for the members newer to amateur astronomy to get the help they need.
- ✓ The start of Astro 101 and beginner-focused Zoom sessions.
- ✓ Scheduled open observing evenings at Little River Park in Lee, Joppa Hill in Bedford, and YFOS.
- ✓ The next exciting episode of "The Constellation of the Month-ish". This one will cover Perseus and a beautiful open cluster, M34.

- ✓ Work on securing observing focal points (like we did in Lee) for the northern and western members.

As always, if you have any suggestions or want to volunteer to help out with some aspect of this, please let me know at psbiv4@gmail.com.

Constellation of the Month (Phil Babcock)

<https://drive.google.com/file/d/1YM4LOHkgLoCpqXNhlt7AbezthKq-ziDD/view?usp=sharing>

Fellow Astronomers:

Here is the 8th Episode of “The Constellation of the Month-ish”.

In this Episode we find some galaxies, which is something new for the Constellation of the Month-ish. We start by finding the asterism of the Great Square of Pegasus, and then explore the constellation of Andromeda. For the deep sky object, we go deep, really DEEP. We venture outside our galaxy to have a look at other galaxies, in particular the Andromeda Galaxy, M31. It’s not every day you have a look at something 2.5 million light years away.

As an added bonus we have a shot at seeing Andromeda’s satellite galaxies, M32 and M110. While in the area we also find the constellation Triangulum (the Triangle) and have a look at the Triangulum Galaxy, M33.

In these episodes, binoculars are mentioned pretty regularly. This isn’t to imply that you should only look at these objects with binoculars. Rather, in support of the mission of “The Constellation of the Month-ish”, which is to help beginners learn how to find things in the sky, the message here is that a lot of amateur astronomy can be done with just binoculars. Also, by focusing on objects that can be seen in binoculars, they can just as easily be seen in a finder scope, and that gets the telescope pointed there and the telescope will provide a different view and experience of the object. We build the skills of finding things in the sky with these easier, but rewarding, targets.

While “The Constellation of the Month-ish” is mostly for the members that are in the earlier parts of their journey, more experienced members can join in by sharing their favorite objects in this region, or share photos of these objects that they have taken.

And, of course, I welcome the always interesting and educational corrections people offer.

Happy hunting!

In the News (Steve Rand)

Asteroid Sample Brought Home

The Bennu asteroid sample is now in a “clean room,” in the hands of scientists. Preliminary data released suggests the sample contains iron oxides, sulfides, water bearing clay fibers, and more carbon than in any meteoric material found so far. Samples will be distributed to various agencies for study over the next weeks and months. With the sample drop off, OSIRIS REx got a name change. It’s now OSIRIS-APEX and on a six-year journey to the near-Earth asteroid, Apophis. Once there in April of 2029, it will orbit Apophis for 18 months and then do a surface touch similar to what it did on Bennu. No sample collection this time, just spacecraft cameras and sensors.



ASTRO PHOTONS

Many club members have been showcasing their astrophotography talents on the Astro-pictures channel in Slack. Please go there to review photos as it would be terribly redundant to include them here. In addition, Herb Bubert takes a sampling from that channel posting them on the club's Facebook page on a monthly basis.

CLUB AND OTHER LINKS OF INTEREST

Facebook Page:

<https://www.facebook.com/search/top?q=new%20hampshire%20astronomical%20society>

NHAS YouTube including some enablement education:

<https://www.youtube.com/@newhampshireastronomicalso1786>

NHAS Club Calendar:

<http://www.nhastro.com/calendar.php>

Did you know that Slack offers analytics? It's pretty cool if you are a metrics nerd like me 😊

<https://nhastro.slack.com/stats#overview>

LTP YouTube channel

<https://www.youtube.com/@librarytelescope>

Phil Babcock In-Reach materials (let me know if you cannot see the folder)

https://drive.google.com/drive/folders/1eVm896w7E_cGyLEdYP4QSRJIZGI8RPU3?usp=share_link

Marc Stowbridge provided this link to an LTP brochure:

https://librarytelescope.org/images/flyers/International_Library_Telescope-2023-flyer.pdf

SUMMARY

This is your newsletter so please let me know of content you might like to see. Anyone is welcome to submit articles of your choosing. For example, an observing session report, a field trip or some event, etc.

Clear Skies!

Rich DeMidio