



## NEFAF 2012

### President's Message

I recently went to a sky watch for a different club and I'm glad I did.

Last month, my wife and I went to the Saint-Gaudens National Historic Site. August Saint-Gaudens was a sculptor in the late 1800s who designed and built a number of famous monuments, including the Shaw Memorial in Boston. He had a summer house in New Hampshire a bit south of Hannover, a little more than two hours driving from Nashua. His house was also his workshop and his process for making monuments was one that produced molds from which duplicate monuments could be made. So the site has duplicates of the Shaw Memorial and the Admiral Farragut statue as well as other originals and reproductions.

The Springfield Telescope Makers is an astronomy club based in Vermont—they run Stellafane—but they have an annual sky watch event at the Saint Gaudens site. I knew this and had scheduled our trip so that I could go to the sky watch as well as the house, museum and sculpture garden. I'd sent emails to their contact point to make sure it would be OK for me to show up with a telescope.

It was OK and more than OK. They were friendly and welcoming. As fit the club name, they had several member-made telescopes, including amateur-made metal tripods as well as the more expected wood and sonotube dobs.

We don't coordinate much with other clubs and maybe don't need to as a club, but as individuals we

should remember that wherever you go there is probably a local astronomy club and it might be fun to get in touch with them and participate in a sky-watch or other event with them. Millions of people love the night sky—you have potential friends around the world!

\* John Bishop  
NHAS President 2012

### Highlights for This Month

NHAS and the University of New Hampshire Physics Department were the major promoters for the New England Fall Astronomy Festival (NEFAF) in September. The event was a great success—our thanks to all of the participating organizations and individuals.

A lot of sky watch events got cancelled due to overcast skies, but nonetheless a good number took place.

I also included an extensive observing report from one of our members, **Rich DeMidio**. I encourage all NHAS members to share their experiences at the eyepiece with their fellow members.

NHAS Secretary 2012

### 2012 New England Fall Astronomy Festival, 21-22 September, UNH Observatory

I did the Friday night sky watch and Saturday's solar observing and telescope clinics.

I had a super time at the evening sky watch. And what a knockout keynote address by Alex

Filippenko. His talk on the research that led to his 2011 Nobel Prize for Physics had the audience riveted. Which gave us time to set up our scopes. ☺

The Clear Sky Chart was very accurate—it predicted overcast skies on Saturday until 1-2 PM, after which it would be clear. And so it was! We got excellent solar observing, including a coronal mass ejection in progress, visible in H $\alpha$  as a VERY big and fast-moving prominence.

Regarding the scope clinic, I personally was able to help four of the public with scopes that they have, up to this point, been unable to use. Three were mostly low-end, long focal length refractors on equatorial mounts. The issues were mainly loose worm gears that prevented the manual RA motion from being engaged, and out-of-alignment finders. One scope had a red dot finder with a dead battery that I was able to replace.

I also fielded several questions concerning what to buy as a starter scope. I gave my standard answer: the Orion Classic 6" or 8" Newtonian dob. It was very nice that there was a 8" Orion newt/dob on the observing field so that I could directly show folks what I was talking about.

Another scope clinic patient had a classic 3-1/2" Questar Maksutov-Cassegrain that she was seeking advice about. I used to drool over the ads for that scope in Sky & Telescope when I was in high school. I always enjoy seeing one in person. **Rich Schueller** helped her sort out the problems. At one

point he had the declination plate off and some sort of tension spring exposed—way beyond my scope maintenance expertise!

✱ Paul Winalski

I was able to participate Saturday evening at NEFAF. This proved to also be great timing as Obby was still upset at me for taking his little brother Starry to the previous week's Messier Marathon. This was an opportunity to redeem myself and reinforce that Obby is top scope in the household.

I arrived around 6 PM and started to set up. Normally, it would take about twenty minutes but people were already walking through the observing area. When folks started to see me setup Obby it immediately became a magnet and I was multi-tasking while setting up and conversing with the public. I also had a chance to meet some of our new members, which was really awesome to see. It's great to see new blood in NHAS and we enjoyed sharing stories.

The moon was at first quarter so I adjusted my tetrad and finder scope using the moon as a target. When **Ted Blank** saw me doing this, he asked if could see the "Lunar X". Thinking he was pulling my leg, I thought perhaps he might be referring my spider on Obby. In daytime, you can sometimes see the outline when looking at the moon with the 31mm Nagler. After he got a good laugh, he explained to me what it was and promptly pointed Obby at it. When he told me to look through the eyepiece, I saw the X which represents the intersection of four craters. At certain times of the month, there is about a four hour window to see this phenomenon. It was very cool and I had never heard of this before. I spent about the next forty five minutes showing the public. Normally, I do not view the moon with Obby because of the light gathering, so I had to install my filter slide which has a moon filter for safety. I say this as a reminder to myself but also as awareness to all that if you are observing with me, do not hesitate

in reminding me to ensure that the moon filter is installed. Especially at public sky watch events.

When it got dark enough, M13 was in a good position so I proceeded to train Obby on it with my 17mm Ethos. It was a real treat for the public. I would say for the next ninety minutes, this was the only object I viewed. There were more people than last year and it was a constant flow of people wanting a peek. I explained to them what a globular cluster is, trying to provide some education as well. Many people were eager to chat more about it and I found myself talking to the crowd constantly while people were viewing. The sky conditions were adequate at best but M13 showed bright and large in the eyepiece. People were easily able to resolve the core and see hundreds of individual stars. I remember one child who described it as a snowflake, which I thought was very cool and applicable.

When I had a short window of opportunity, I noticed that M81 and M82 would still be visible although they were low in the horizon. I had trouble finding my guide stars so Ted showed me another trick which allowed us to find it quickly. Both galaxies were visible but had low brightness due the atmospheric conditions. However, you could still see them both and the public really enjoyed it. As I was explaining what they were seeing, the wow factor seemed to increase. I spent probably another thirty minutes showing these galaxies.

I then turned to some open clusters starting with NGC 457 (the ET Cluster or as Gardner calls it, the Lobster cluster). With the 21mm Ethos, it nearly filled the field of view with probably 100 stars. The public really enjoyed this and I challenged them imagine what it looks like. An eagle was the most common response and when I told them about our Lobster nickname, people chuckled but liked it. I also used the holy hand grenade (Nagler 31mm) on the double cluster. Even with this low power eyepiece, I can

only get about a 1.2 degree FOV which led to some discussions with the public on scope tradeoffs and how FOV plays into it. There were some folks interested in the design of the Dobsonian reflector so that resulted in some great conversations as well. There was definitely a rich bandwidth of knowledge within the attendees this year. Before I forget, I wanted to thank Tom for helping the lady and her son with their scope (I believe it was an Astrograph). After they looked through Obby they asked me if I knew how to assemble the scope they brought. **Tom Cocchiaro** jumped right in, taking them aside, which allowed me to continue showing objects to the public with Obby. I would say within fifteen minutes Tom had them looking at the double cluster with their scope, which really pleased them! I had a quick chance to look through and the entire cluster was in the FOV. That really worked out great!

I also showed M103, which to me is a small Christmas tree Asterism when viewed sideways. The red star in the middle helps to give this effect. At this time, I also noticed that Lyra was in a good position, so I trained Obby on M57 (the Ring Nebula). Using my 13mm Ethos, the ring was very visible. The 12.5 magnitude star just to the right (as viewed through Obby) was visible but barely. This told me that there was no way to try and find the central star, which is a white dwarf. I explained to everyone viewing what a Planetary Nebula is and how our Sun will die in this very same manner. Some thought it was kind of creepy, but nonetheless enjoyed the description. After the line finally finished a few people asked if they could see the double cluster again, which I was more than happy to accommodate. I also remember showing a few other objects before the skies suddenly and dramatically clouded over, literally in the course of about one minute. Once again, the Clear Sky Chart called it right. It was about 11:30 at this time.

There is another short that I wanted to share. Last year, there was a young teenager who spent a lot of time with me discussing Astronomy. She was very enthusiastic about science and was discussing her desires to study Astronomy and Paleontology. While having Obby on M13, I heard a familiar voice behind me saying hello. When I turned around, I recognized her immediately but could not remember her name. After reminding me, I proceeded to quiz her on her progress on the topics we discussed. Hopefully, that redeemed me in not remembering her name ☺ She still has those same interests and is still very zealous about science. She also told me about her interests in learning Artistic skills to sketch objects at the eyepiece. It was good to see her and I enjoyed our conversation. Perhaps she will visit again next year and that I will remember her name. I did tell her about NHAS and to feel free to attend a meeting and even join if she wishes.

This year's event proved to be fantastic. Not only did I get my wish, but it was even more intense. From the time I started showing the first quarter moon, it was a constant flow at the scope for about four hours. No break and in fact, I never even saw a few other club members until we were all packing up. It was a wonderful evening and I think there were more people there than last year.

My thanks to UNH and NHAS people who helped to organize and support the event. I could tell how much effort the club put into this and it certainly appeared to me that NHAS shined.

✧ Rich DeMidio

From John Gianforte, Director of the UNH Observatory and primary organizer of NEFAF:

*"I would like to thank each of you for the for all of your hard work and dedication to the NEFAF effort this year! Each of you had a significant role and a multitude of other tasks that you saw that needed to be done and found a way to get them done.*

*For that I am very grateful. In an event this big and complicated, with so many different facets it is easy for things to fall through the cracks. Thank you for preventing that from happening. It allowed the University of New Hampshire and the Physics Department to shine, it allowed NHAS to shine, and it illustrated to our region and beyond that the collaboration between professional scientists and educators and a diverse representation from the general public can make very good things happen. NEFAF 2012 was a very good thing for sure. We achieved all of our objectives and I feel we reached our target audiences. The two big advantages that we had this year was the wealth of experience we all gained from last year and of course, the weather. Both of these along with your efforts and time, contributed to a successful NEFAF. Thank you all very much!"*

✧ Paul Winalski

I want to second John's appreciation to all the volunteers from NHAS. You all did a fabulous job, engaging the public at every turn and educating adults and kids alike. I know a few of you even whipped some uncooperative scopes and mounts into shape for the public as well. The indoor booth had many visitors, lots of literature was distributed and many kids had their first introduction to how telescopes work.

I remember walking back down the entry road late in the afternoon and seeing all of those glass, mylar and H-alpha scope filters shining toward me in the afternoon sun. What a beautiful sight it was, and what a major commitment of time and effort (and more than a few dollars) from all of you that collection represented. Thank you for your efforts and your willingness to be involved in this weekend, both day and night.

✧ Ted Blank

## Observing Report, 20 September 2012, Derry NH

After a long hectic day, I took my own advice and decided to obtain some serenity by doing some observing from the driveway with Obby (18" Obsession reflector). It was very cool and pleasant night with sky conditions ok but not great. At my house, I have descent open area to the east and southeast but trees obscure the horizon. My neighbors are not always consistent with their use of lighting but tonight most were off so that helped. I can see the milky once my eyes adapt but not as good of course when at YFOS, **Larry Lopez's** or the **Wicketts**. I had a really enjoyable evening using Obby with his freshly washed mirror and getting reacquainted with observing. I tend to take the summers off for the most part because it gets dark too late and I hate the bugs Having come off the recent MM Marathon at the Wicketts (and btw, thanks and again Scott, Sue, and Ben for opening your home) my goal was to revisit some of those objects along with trying find some new ones. I am including my logs that I entered into Skytools. Please note that the times will not be correct because I entered them post session versus in real-time. I observed from 7:30 PM to 10:30 PM.

NGC 7331: Galaxy in Pegasus, TeleVue Ethos 21mm, 98x With Pegasus high in the sky, I decided to try and see Stephan's Quintet. In using my map, this galaxy is in the FOV so I wanted to get the correct orientation. The galaxy was fairly bright even in my somewhat light polluted area. Nonetheless, it popped out very easily and I could see a small bright core along with the outline. It was the perfect object to try and get orientation for the quintet.

Stephan's Quintet: Galaxy Group in Pegasus. TeleVue Ethos 21mm, 98x Since Pegasus was high in the sky and I was really enjoying the evening, I decided to try a tough challenge in locating this object.

Using the galaxy NGC 7331 as my guide, I tried different orientations to place this object at the center of the FOV. According to my Skytools map for Obby, putting this galaxy just on the edge of the FOV will result in the Quintet dead center in the eyepiece. I tried different angles searching very meticulously but could not find any sign of the galaxies. After about I would estimate thirty minutes, I decided to try higher magnification. I remember looking at the Leo cluster NGC 3010 with **Dan Smith** and he explained to me that higher power is sometimes better. So I tried my 17mm Ethos and once again using 7331 as my guide, I tried again. After about ten minutes I could see some very faint spots popping out. I definitely saw one and possibly two (with averted vision).

I was quite pleased but probably need a darker sky to bring them out. The sky conditions were OK, but I have seen better at my house so another attempt will be worth it.

Ring Nebula: Planetary Nebula in Lyra, TeleVue Ethos 21mm, 98x Another showcase object that I have looked at hundreds of times. It was getting late and I had to get to bed so I decided to have a little fun.

Over the course of about fifteen minutes, I used various combinations of eyepieces and eventually even used my Powermate. I concluded with my 8mm Ethos with the Powermate. The focus was not crisp and the object moved across the FOV in about twenty seconds which was hysterical. I tried to see the central star but could not even with averted vision—but note that I did see with averted imagination ☺ I have seen it before at YFOS but that was before my Ethos and Powermate. Will definitely have some fun with this experiment again at YFOS.

Saturn Nebula: Planetary Nebula in Aquarius. TeleVue Ethos 21mm, 98X. I was actually trying to find M72 when I came across this object. At the time, I thought that I had found Neptune because I knew it was close by. When I consulted my

Sky and Telescope pocket guide and the Telrad location, I realized that it was not Neptune. Further examining the map I noticed the Saturn Nebula was in the correct location and that this is what I found. It was a very neat surprise. The object was bright and blue in color (which was why I thought it was Neptune). With averted vision, it appears to blink, while with direct vision it is a nice solid color. I should try higher magnification another time. A very nice object to view and to also use as a guide in finding M73 and M72.

M 23: Open Cluster in Sagittarius. TeleVue Ethos 21mm, 98X. Using M11 as my lighthouse, I was able to quickly find this cluster. It is rather small, but compact. I would estimate about thirty stars viewed from my location. It was bright and a pleasure to view. Under darker skies, I bet a lot more stars would be seen.

Wild Duck Cluster: Open Cluster in Scutum. TeleVue Ethos 21mm, 98X. I have looked that this object hundreds of times and is a showcase object at sky watches. Tonight, I used it as a beacon to hop to other objects. But I could never get tired of looking at it. Especially with Obby.

M 73: Open Cluster in Aquarius. TeleVue Ethos 21mm, 98X. You know, I have to really wonder what Charles Messier was smoking when he logged this object. It was very tough to find and honestly I am not completely sure if what I was looking at was indeed M73. While at the recent Fall MM, **Herb Bubert** and I tried to find this object. In both our scopes we were able to eventually find an Asterism of four stars close to M73. There was no nebulosity seen in either of our scopes. With Obby on this night, I found the same Asterism but they were not much brighter than at the MM (probably because of my light polluted area). Further investigation is warranted here.

M 12: Globular Cluster in Ophiuchus. TeleVue Ethos 21mm, 98X/ After finding M14, I used this as a guide to navigate over to M12

and M10. I was pleasantly surprised that they were still high enough being just above my neighbor's trees. I was able to find a tiny spot in my finder scope which turned out to be M12. It appeared larger than I anticipated and was able to easily resolve stars and the core. Compared to M14, this had higher contrast and clarity.

M 10: Globular Cluster in Ophiuchus. TeleVue Ethos 21mm, 98X. After finding M12, I realized from my *Sky and Telescope* pocket guide that M10 was very close. In fact, after carefully studying my finders cope view I found another small spot near M12. I would estimate it was about three degrees away. M10 also appeared similar to M12 but just a little fainter. Both clusters make great objects to look for. I bet that I could get them both in the same FOV with Starry and low power.

M 14: Globular Cluster in Ophiuchus. TeleVue Ethos 21mm, 98X. Was surprisingly high in the sky and I was able to use M11 as my guide to hop over. In the eyepiece, it appeared with low contrast but large. I was able to eventually resolve several stars.

M 72: Globular Cluster in Aquarius. TeleVue Ethos 21mm, 98X. I was able to find this easily using the Saturn Nebula as my guide since I found that object first. This is a rather small globular with low brightness. Would be a real challenge in Starry as in fact it was. At the recent Fall MM when I used Starry, I found it but the skies were very dark at the Wicketts. From home, this would be a real challenge. Under higher power, I was able to resolve stars in the cluster.

M 15: Globular Cluster in Pegasus. TeleVue Ethos 21mm, 98X Easily found in the finder and looked beautiful in this eyepiece. Was bright, large and the core easily resolvable.

✧ Rich DeMidio

**International Observe the Moon Night, 22**

## September 2012, Concord NH

**Mike Townsend** and I had decided to cover the International Observe the Moon event at the McAuliffe-Shepard Discovery Center on September 22, 2012. Weather reports leading up to Saturday night had not been very consistent, but we were going if there was any chance of some observing. Our regular viewpoint on an MSDC event. Saturday afternoon looked promising in Amherst while I was doing some yard work. But while I was working on an early supper I looked out and found it mostly cloudy.

Even with the cloud cover Mike and I went with our plan and headed to Concord. As we headed north it started looking better and by the time we got to Concord it looked pretty good. We were the only ones there from NHAS. Sky conditions were good for a while and the Lunar "X" was quite prominent. We did miss the "V" though. Clouds soon rolled in and looked like they were there to stay. Mike pointed his refractor at a distant building and found a spider web. It was easy to watch some spiders moving around. Some kids who saw this were probably more interested in them than a look at the Moon! Turnout was low and Mike and I watched spiders and talked about telescopes till closing time. We did get a few rain drops on the way home in Manchester.

✧ John Rose

## Hooksett Library Sky Watch, Hooksett NH, 16 October 2012

Many thanks to **Bob Veilleux** for giving the indoor presentation at short notice. **Pat Adams, John Bishop, Gardner Gerry, Tim Printy**, and **Ramaswamy** were there for the observing session.

✧ Paul Winalski

I would estimate the crowd to be 20-30 people.

Once the parking lot lights were turned off, the view wasn't too bad considering that we were in between Manchester and Concord. Seeing was pretty good with no cloud cover and steady skies. No planets were available, several scopes were looking at doubles and the brighter stars. I mostly stayed with M13, M92, and Arcturus. At the end of the night the Pleiades were rising in the west over the library. It looked very nice in a refractor through the 27mm Panoptic.

Writing about the Pleiades just reminded me of my dad. When I was young we would go out hunting in the wilderness in northern Idaho. He always made sure I knew where the north star was and to be able to find the Seven Sisters. My task was to lay a stick on the ground facing Polaris and a second one facing the seven sisters and I would have the cardinal compass points or at least something very close north and east. Second part was follow the water downstream, it would run into civilization.

I haven't thought about that in years.

✧ Pat Adams

Once the lights were turned off, the seeing was significantly improved. We had a faint milky way and stars were visible to about +5 to +5.5 (I could see all the stars in the little dipper). There was a reasonable turnout of people. I would say two or three dozen. John showed people Uranus and Neptune since they were the only planets really visible. Not much to describe there since even with his instrument, Neptune was nothing more than a "pale blue dot". Uranus was at least a disc but not much more than that. Most everyone got to see Alberio, M13, the double cluster, M31, M92, and M45 when it got high enough. It is too bad Jupiter had not risen yet or the Moon was not a few days older. I think the crowd would have enjoyed that more.

✧ Tim Printy

I took my OA-9 in the Teeter structure and set it on my equatorial

platform. I then used the Sky Commander in "platform mode" for the first time. This time I made sure that the Sky Commander box was warm when I started up, hoping to avoid the problems I'd had last Friday. The Sky Commander had no problems this time. It understood an equatorial platform reset and could find objects after the reset!

I really like the combination of a platform and "push-to". It's a good combination for public viewing because finding objects is fast and once found, objects stay in the eyepiece. The only drawback is that near zenith adults have to climb up three steps on my ladder to get to the eyepiece and it's really too high for smaller children.

The sky was clear with good seeing but the location has both local lights and more general light pollution from Manchester to the south. The darkness was mag. 3, based on what parts of the Little Dipper were visible.

Uranus and Neptune both showed clear discs; I didn't see any sign of Triton though I'd looked up its location relative to Neptune in a web viewer. It would have been a mag 13.5 speck 16.5 arc-seconds from Neptune in the 7 o'clock direction, and thus about 8 or 9 planet diameters away.

I showed M31/M32/M110, M27, M13, M15, M11, the usual colored doubles (Alpha Herc., Gamma Andr., etc.) and the ET cluster.

✧ John Bishop

## Harris Center Sky Watch, Hancock NH, 18 October 2012

Several NHAS members showed up for what I think was a very good sky watch. I got lost on the way and was late for the indoor presentation—my grateful thanks to **Dave Gilmore** for filling in for me for ten minutes. I decided not to set up a scope after the indoor presentation, and instead dedicated my evening to pointing out constellations, stars, and whatnot.

And it was dark enough that there was considerable “whatnot”. The Perseus Double Cluster was distinctly visible naked eye. The Andromeda Galaxy was a distinct, huge oval—something I’ve never seen before. The North America Nebula was naked-eye visible. The Milky Way was blatantly obvious. This was full Bortle blue zone conditions, and a welcome change from the light pollution we usually have to deal with. About thirty-five people got a real treat.

The Harris Center also gave us a \$30 donation—unexpected, and most gratefully appreciated.

✧ Paul Winalski

## LTP Outside NH

Cornerstones of Science in Maine have partnered with the Southern Maine Astronomers and the Astronomical Society of Northern New England (who are providing hands-on training and support) to place twenty telescopes in libraries in the state of Maine.

Twenty libraries in Maine now have telescopes to loan. Library Telescope Partners in Maine are Camden Public Library, Casco Public Library, Curtis Memorial Library in Brunswick, D.A. Hurd Library in North Berwick, Falmouth Memorial Library, Graves Memorial Library in Kennebunkport, Hartland Public Library, Lewiston Public Library, Newport Cultural Center, Patten Free Library, Pittsfield Public Library, Portland Public Library, Prince Memorial Library in Cumberland, Raymond Village Library, Rockland Public Library, Shaw Public Library in Greenville, Skidompha Public Library in Damariscotta, Waterville Public Library, Windham Public Library and York Public Library.

This was reported in the *Bangor Daily News* on 20 September.

✧ Marc Stowbridge

## NHAS September 2012 Business Meeting

The meeting originally planned for Friday 21 September at St. Anselm College was not held due to conflict with the first night of NEFAF. It was originally planned to hold an abbreviated business meeting at NEFAF, but that did not happen because everyone was listening to the fascinating Q&A session by the keynote speaker instead.

Our Treasurer did file his monthly report.

## The Bottom Line

<b>Starting Balance:</b>	<b>\$9927.06</b>
<b>Deposits/Credits:</b>	
Membership:	120.00
Donations:	100.00
Bank interest:	0.36
Total :	55.89
<b>Accounts/Paid:</b>	
Rackspace Cloud:	22.56
Total:	22.56
<b>Net Account Balance:</b>	<b>\$10124.86</b>
<b>Petty cash drawer:</b>	\$100.00
<b>Cash Balance:</b>	<b>\$10224.86</b>

**EOC Share:** **5271.57**

**Membership:** 148

### New Members:

**Bob Davidson**, York Beach ME

**Roger Fu**, Somerville MA

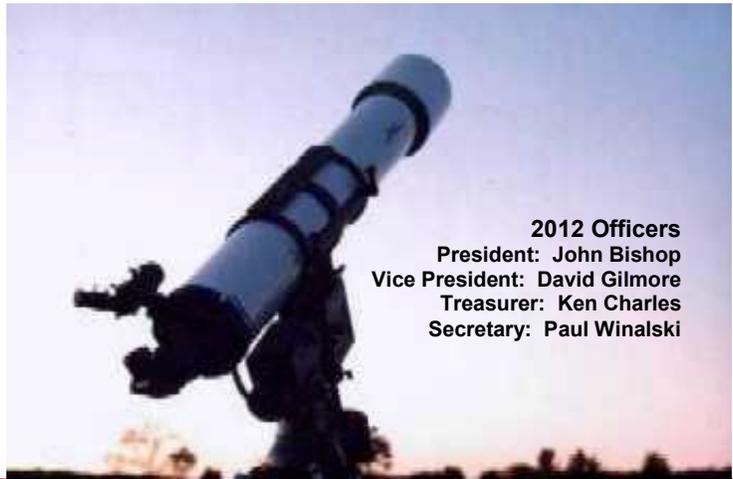
**Daniel Auchterlonie**, Concord NH

**Leigh Ann Reynolds**, Waterville Valley NH

### Donations:

Gafney Library 100.00

✧ Ken Charles  
NHAS Treasurer 2012



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**DEADLINE November 2012 Issue: 5 PM November 13**

E-mail articles to the Editor.

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**NHAS Upcoming Events**

<b>Event</b>	<b>Date</b>	<b>Time</b>	<b>Location</b>
Sidewalk Astronomy	October 20	6:00 PM	Market Square, Portsmouth NH
Bedford High School Sky Watch	October 25	7:00 PM	Benedictine Park, Bedford NH
Tracy Memorial Library Sky Watch	October 26	7:00 PM	Tracy Memorial Library, New London NH
Nashua High School North Sky Watch	October 29	7:00 PM	Nashua High School North, Nashua NH
Campbell High School Sky Watch	November 1	7:00 PM	Campbell High School, Litchfield NH
Discovery Center Sky Watch	November 2	7:00 PM	McAuliffe-Shepard Discovery Center, Concord NH
Reeds Ferry School Sky Watch	November 7	7:00 PM	Reeds Ferry School, Merrimack NH
Coffee House Night	November 9	5:00 PM	YFOS
Rey Center Sky Watch	November 10	6:30 PM	Curious George Cottage, Waterville Valley NH
Philbrick-James Library Sky Watch	November 14	6:30 PM	Philbrick-James Library, Deerfield NH
Bedford High School Sky Watch	November 15	7:00 PM	Benedictine Park, Bedford NH
NHAS Business Meeting	November 16	7:30 PM	St. Anselm College, Manchester NH