Observer Staff
Editor & Publisher:
Paul Winalski

The NHAS Observer

Newsletter of the New Hampshire Astronomical Society

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Fall Messier Marathon

President's Message

It's a pleasure to start seeing the weather turn in our favor and everyone able to enjoy the skies. In the past month, I have participated in more sky watches then in the previous six. We have really leveraged this weather so I wanted to thank everyone for their dedication and commitment to these events. Speaking of observing, it's not too early to start thinking about proper dress at this time of the year. Fall days can be warm but quickly turn cold after sunset. Might be a good time to review the article on the website regarding dressing for cold weather observing (http://www.nhastro.com/articles.php)

The officers will hold the quarterly meeting this month. Key topics to be discussed include managing of club assets and automation of some financial transactions. Earlier this year we started to talk about potential automation but it pushed off due to other priorities. My plan is to get us focused back on these important tasks.

I am pleased to report that I have guest speakers lined up for the rest of the year. We already have a few identified for 2010 so things look good on that front. If anyone is working on acquiring speakers, please remember to keep me in the loop and set expectations that we are already looking at 2010.

Nominations for awards are also open at this time so please send them to me. The presentations will take place during the December meeting. Finally, nominations for officers can start taking place at the October business meeting so I ask everyone to please give that some thought and be prepared to nominate someone if you wish.

✶ Rich DeMidio
NHAS President 2009

Highlights for This Month

The Fall Messier Marathon event at **Sue** and **Scott Wicketts'** home was a great success. Reports and photos start on page 2

We had public sky watches in Greenfield NH, Dunstable MA, and at Lawrence Academy in Groton MA.

We have a number of public observing events scheduled for October and November, including participation in the NH TechFest at Pinkerton Academy. Be sure to keep a close watch on the Club Calendar.

Tom Morin will be giving a teacher workshop on the Wide-field Infrared Survey Explorer (WISE) mission at Belmont High School on 5 December.

Our own **Marc Stowbridge** and NHAS were mentioned in an article on the camera obscura that Marc built for the Mount Washington Valley Children's Museum. Well done, Marc!

Elections for 2010 club officers (President, Vice President, Secretary, Treasurer, 3-year term as Director) will take place at the December NHAS business meeting. The floor is open for nominations at the October, November, and December business meetings. Only paid-up 2010 club members can vote in the election.

✶ Paul Winalski
NHAS Secretary 2009

Teacher's Workshop on WISE Mission, 5 December

I am going to be offering a teacher workshop on the WISE mission on 5 December. Here is the link: http://wise.ssl.berkeley.edu/education_workshop.html

The date on the announcement is no longer correct and should be fixed shortly.

✶ Tom Morin

Astro Photons

Clear fall skies (when they happen) and longer nights are finding NHAS imagers bundled up against the cold and out under the stars. This month we bring some of the experience to you at our monthly business meeting with a discussion and demonstration of Planetary imaging, DSLR imaging and CCD imaging brought to you by **Herb Bubert**, **Gardner Gerry**, and **Rich Schueller**.

As always new work is posted in the Pictures forum on the NHAS web site, and I encourage you to go there and see what's been happening.

✶ Gardner Gerry

Membership Committee

September was active for new memberships. I sent welcome emails to eight new members:

Tom Nelson, Derry, NH
Vladimir Svarts, Atkinson, NH

David Avery, Sr., Laconia, NH
Susan Nooney, Wilmot, NH
Vincent Quartararo, Laconia, NH
Erik Fichtner, Moultonborough, NH
Christopher Sullivan, Stratham, NH
Steven Foster, Nashua, NH

New members from August:

Victoria Cronin, Center Harbor, NH

New members from July:

Hernan Ortiz , Concord, NH
Brian Cossette, Somersworth, NH
Charles Brault, Rindge, NH

The new members represent people that are new to astronomy and experienced amateur astronomers that want to expand their knowledge and experiences. The interests for these new members are about: buying a telescope, learning the night sky, wanting to dabble in astrophotography and social networking with other scientific minds. The feedback of the new members about the Library Telescope program, spearheaded by **Marc Stowbridge** and the EOC, is that it has been a big contribution to the success of our recruiting new members. Thank you, Marc!

One of the new members made good use of the NHAS Club Forums for help on buying a new telescope. The forum members provided feedback on the choice between a dobsonian and a cassegrain. The need for aperture was the deciding factor and we can only thank ourselves for the two days of cloudiness for every inch of telescope that was purchased. LOL

I have a been handing out materials during the public sky watch events and the feedback has been positive from the gatherings. The materials donated by **Chase McNiss** include: "Welcome to Astronomy", by Robert Burnham , "Your guide to planets, stars, and galaxies", by Richard Telcott, "Your guide to THE MOON", by Robert Burnham all published from Astronomy Magazine, and the NHAS brochure. Thank you to all of the members that have been helping with the NHAS brochure distribution during the sky watches.

Please note that October is renewal month for you membership. The membership fee has increased this year to $30.00/year. You can mail you membership dues to NHAS or pay during the next business meeting. Thank you to all of the Members for a successful 2008/2009 year.

✶ Bill Steele

Fall Messier Marathon

The Fall Messier Marathon get-together took place on Saturday 19 September at **Sue**, **Scott**, and **Ben Wicketts'** home in Lyndeborough NH. There was a lot of observing as well as socializing. A rather spectacular rocket launch from Whallops Island, a Jupiter moon transit, and a fireball added to the event.

A Messier Marathon is an attempt to see all 110 deep-sky objects in the Messier catalog in a single night's observing. The Sun is positioned such that this is possible from mid-northern latitudes in March and April. In the fall, it's not possible to get 110, but the majority are still doable.

In the October 2009 issue of *Astronomy*, Stephen O'Meara published a list of 109 objects visible in the fall night sky, and proposed an October "Ghost Hunt" to replace spring's Messier Marathon.

Here are some photos and reports by club members. Photos by **Ted Blank**.

✶Paul Winalski

Ben Wickett and Chase McNiss set up Ben's scope

After a slow start observing Jupiter and helping out **Ben Wickett** with his new scope, I ended up with 50 Messier objects.

Good night with a fireball like I have never seen and a fuel or chemical dump that lit up the early night sky. The meteor was so bright I first thought somebody shot off a fireworks flare. Bright green and just slow enough that I think we all saw it. The meteor came from the North near Cassiopeia and went to the Southeast between Perseus and Cetus.

One to remember.

✶ Chase McNiss

Joe Derek sets up his 17½" dob

This was my first MM. First of all, thanks to **Ed Ting** for doing the research and developing the Fall MM list.

I was not rushing to complete the entire list, so I started leisurely in UMa. I used the 8" Orion Dob and only used the computer for objects I just could not find in 10 minutes or so. By the time I got started Sgr was behind some trees so I began with M13 and worked in order from there. I never found M72, 73 or 79 in spite of lots of searching. The dark site made many objects I had seen before appear especially bright and interesting. M2 and M39 were particularly nice. However it is still a bit of a surprise to see how dim some of the objects are, and it always makes me wonder how Messier saw them. The trees blocked Leo in the early morning so my final count was 35.

I learned that my Telrad needs to be moved closer to my focuser to eliminate a lot of leaning over the OTA. The Telrad dew heater worked great all night and kept the glass clear. Any dew on the eyepieces I just removed with a hairdryer. An 8" flexible dew shield

which also fits my SCT kept dew off the secondary all night, which is a first—I usually have problems with dewing of the secondary without a shield.

Chase McNiss waits for sunset

Joe Derek, **Chase McNiss**, and **Ken Charles** were set up near me and I enjoyed lots of good views through their scopes. Joe told us early about the scheduled transit of Io across Jupiter, and I watched it for quite a while. The shadow of Io was very clear on the planet, as was the Great Red Spot. (Watching this transit was a big reason I got started on the MM so late.)

The rocket launch visible early in the evening was quite the surprise. It was amazing for both how large it was and how quickly the artificially generated noctilucent cloud dissipated.

The green fireball we saw around 2 or 3 AM (did anybody look at their watch?) was so bright I was certain that somebody had turned on their car lights and was shining them on our observing site. Everyone was clearly visible, and I remember seeing shadows of people and equipment. The color was distinctly emerald green and it's definitely the best meteor I've ever seen.

Late in the night, Ken offered to let me use his bound copy of TUMOL (The Ultimate Messier Object List) which was a great help. I will soon be making my own.

Thanks to **Larry Lopez** for organizing it (let me know how you schedule those meteors!), the **Wicketts** for hosting, and all the members who brought food and were so helpful all night.

✶ Ted Blank

Gardner Gerry sets up his 8" dob

I saw the fireball also, it was the most impressive one I've ever seen. Lit up the observing field like a giant flash bulb.

The food was great as was the company and the wonderful hosts, Scott, Sue and Ben.

I managed to find 82 objects. 31 with the 4" refractor, 43 with the 8" dob and 8 with my trusty old Nikon 9x25 binoculars.

✶ Gardner Gerry

Ken Charles, Ghost Hunter, with *Soulshine* at the ready

OK, now the "Ghost Hunt" results from the night of the Fall MM.

Out of 109 objects on the list, I saw 86. Of the ones I couldn't see, one (NGC 4699) was in Virgo, and too low to see at sunset or sunrise. Five others (NGCs 2440, 2467, 2903, 3628 and 3242) were also too low to pick out before the sun came up. Four others were blocked by trees from my position at sunset (Melotte 111, NGCs 4565, 4725 & 2841). Two others were blocked by trees because I went in for a break and stayed in too long (M72 and NGC 7009). The other eleven (NGCs 4236, 1360, 205, 281, 1333, 2163, 2175, 2237-9, ICs 5146, 342 and 405) were very faint and I couldn't make them out no matter how hard I tried.

I enjoyed seeing lots of objects I hadn't seen before. Several of the objects needed filters to be seen, which made it even more fun. I can see the reason behind the "Ghost Hunt" name even more now that I've tried to see them all. Some were like ghosts, in that they were so faint they were very hard to see.

A few objects that I enjoyed seeing the most were the Emerald Eye (NGC 6572), a greenish planetary nebula; the Flying Unicorn (NGC 6709), an open cluster loosely resembling an Unicorn (with imagination); the Frigate Bird Cluster (NGC 6866), resembling a flying bird, and the Veil (East and West portions), which I had seen before through other members' scopes, but never through mine. I spent 15 minutes or more tracing the Veil with an UHC filter all the way around. Looking at Hagrid's Dragon (NGC 2301), I didn't see the dragon, but I saw a nice open cluster. Last but not least, the Screaming Skull (NGC 7789) was a nice open cluster in Cassiopeia that has some resemblance to its nickname.

I did use the GoTo on *Soulshine*, but since I had no finder charts for most of the objects I didn't have another viable option. The list was made to be used near the New Moon in October, which probably would have given me a few more objects in the beginning and end. If the weather looks good on Oct 17th or 24th, I will try again to pull this off. I plan on trying to print up finder charts for most of the objects for my next attempt. I might still need the GoTo for some items, but it will be FUN to do this again.

✶ Ken Charles

Larry Lopez arrives with coffee supplies

I found Messiers 31, 45, 37, 36, 38, 41, 42, 78, 44. I didn't start until

10PM or so and I didn't really spend a lot of time at it. I used 50mm IS binoculars.

I thought the weather was spectacular. I had a great time. Especially the Lasagna. My stew was a bit dry.

✶ Larry Lopez

Since my back was technically still not healed up I used binoculars, a chair, a table, and the Sky 2000 field charts.

I've actually never seriously used binoculars for observing. I know **Paul Cezanne** says how much he enjoys it and all, but I've simply never done it. It was a very pleasurably interesting experience, I have to say. The field of view is **so** huge (6.5 degrees with Nori's Nikons), and pointing **so** easy, that I found a dozen objects in Sagittarius in twenty seconds that I spent the next thirty minutes identifying. ☺ M8/M20 were so trivially simple to find, and in the middle of it all, that I kept using them as my starting point the entire time. It was really amazing just how much I could see with mere binoculars; M81/82 were trivial. M31 had structure. I even bagged M69, though that was a really hard one, and **Herb Bubert** showed me my first view of the North American Nebula. No electric stabilization, no rest, no tripod, nothing. Just hold 'em to my face and look. It was darned cool.

I've never used the Sky 2000 charts for anything "serious", like a MM. I had **no** list of objects, **no** idea what chart any constellation is on (still no chart index), **no** aids of any kind. I simply sat in my chair and browsed the charts for Messier objects, then looked for them with the binoculars. I feel I really learned a lot about how to use the Sky 2000 field charts, how to identify what's in the sky and how to find a given object. It's the sort of five hour intensive chart immersion that one really needs to get a good grip on things.

I never intended to stay the entire night, and I didn't. I also didn't log what I saw, because I was not really "doing" a MM, I was simply looking at Messier objects at the same time as everyone else. Regardless, my previous high was 27 objects last Spring, and I'm absolutely certain I topped that without even trying. I'd be surprised if I saw more than 40, though.

Just as I showed up, about 7:40 or so, there was a very bright light in Sagittarius that bloomed into a simply huge (10 x 30 degrees? little smaller?) iridescent cloud that slowly grew and dissipated. No one knew what it was, but we think it was a fuel dump from a launch. It was eerily awesome, and the thought of that much toxic waste entering my air was a little disturbing.

At 12:50 AM (according to **Gardner Gerry**) an **incredibly** bright green meteor streaked down west of Pegasus, followed by a much smaller white meteor obliquely through Pegasus. It was so bright that I clearly saw hard-lined shadows on the ground, which is what made me look up to see it. I was fully expecting to hear impact and feel tremors, it was so intense, but that didn't happen.

Binoculars fit under the table, which I kept short to keep it convenient for browsing charts from the chair. Look, put them on the bino bag under the table. Do this religiously. ZERO dew problem the entire night, despite the fact the (laminated) charts were sopping wet. Spiff!

The sky conditions were right stunning from about 8 to 11:30 or so, then they fell off gradually. By 1:20-ish when I left it was getting hard to find anything with the binoculars. I spent over an hour trying to find **anything** in Capricornus (I think it was ... next one east of Auriga), and during that time the Dumbbell was reduced to maybe a third of its brightness from washout. That's when I went home.

✶ David Gilmore

This [Whallops Island rocket] is the second launch vehicle event I have seen. This one was much brighter and quicker then the earlier one. About 4 years ago **Mike Townsend** and I were out observing when he spotted what looked like a cloud off to the west. Not as big or as bright as Saturday night. In the telescopes we could see two objects moving away from the "cloud". A check on one of the space related web sites showed Mike and I had seen some satellite being moved into a higher orbit. I've forgotten the specifics now.

I missed the fireball at the marathon. I presume it happened after I left about 11:00 PM. Or was it off to the east behind the trees from where I was near the road? Would have liked to have seen it. My Father when he was growing up in Indiana saw a green fireball that cast a shadow on the north side of the chicken house, in daylight!

✶ John Rose

Camera Obscura

The Camera Obscura (Marc Stowbridge photo)

This article appeared in the *Conway Daily Sun* on Thursday, 10 September.

✶ Paul Winalski

One of the great things about light is that it bends and when it bends it causes interesting visual effects, like

turning things upside down. The new camera obscura exhibit at the Mount Washington Valley Children's Museum creatively demonstrates this phenomenon.

Designed to look like a Victorian era camera, black box and drape on a post, the camera obscura can be turned to look at different things and its focus can be adjusted for close up or far away viewing. Elementary aged kids like to experiment with the upside down visual effect, while preschool aged children enjoy the cause and effect of the push button light switch.

This unique, science/history object can only be found at the Children's Museum. It was designed, built and generously donated exclusively for the museum by ***Marc Stowbridge****, member of the N. H. Astronomical Society. Stowbridge has many years experience working with telescopes and various kinds of lenses.*

The Mount Washington Valley Children's Museum is located at 2396 Route 16, a half mile north of North Conway Village, and can be reached at 356-2992. Hours of operation are Wednesday 10 a.m. to 1 p.m. Thursday and Friday 10:30 a.m. to 4:45 p.m., Saturday 10:30 a.m. to 5 p.m. and Sunday 10 a.m. to 1 p.m. Additional hours are often added so visit www.mwvchildrensmuseum.org for updated information.

Recent Public Sky Watches

Weeks Public Library Sky Watch, Greenland NH, 25 September

Watching the ISS at Weeks Library (Tom Cocciaro photo)

With the promise of clear skies, we had a full house at the Weeks Public Library in Greenland last night. I did not count heads but I think there were 25-30 people in the room with several little ones on the floor in front. Thanks to some heads-up notifications from **Paul Winalski** and **Tom Cocchiaro** we were able to bring everyone outside at 6:45 to see an ISS pass in near-daylight. The spacecraft was easily visible (mag -3) crossing from W to E and passing near Polaris (which of course was not even visible yet). This was the first observation of an ISS pass for all but one of the attendees.

Back indoors I covered the scale of the Universe, our solar system objects, some detail on Jupiter and the Moon which were going to be our bright targets for the night, then a quick overview of what objects we might see around the Galaxy. We finished up with a review of the types of telescopes they were going to see outside, then at 7:40 all decamped to the grassy field near the Greenland school next door.

Ted Blank describes the planets. (Tom Cocciaro photo)

Club members operating equipment were **Don McDonald**, **Brian Cossette**, Tom Cocchiaro, **Rich DeMidio**, Paul Winalski and myself, along with seacoast area friends Jim Moe and Tim Mauro who also brought scopes and great knowledge of the skies. All the usual celestial suspects were captured, observed and released. Detail on the Moon was amazing even in the binos and smaller scopes. The double cluster in Tom's C6R was superb, Obby performed its usual magic on globular clusters, Paul managed to show us the Veil Nebula through an O-III filter even though the skies were bright. I saw nice detail on the moon and Jupiter through Don's scope, and we enjoyed the views of M13 through Brian's Orion 4.5" dob. Jim had his 6" Mak-Newt along with some Orion binoculars that showed incredible detail on the moon. The only scope I don't think I personally looked through was Tim's CPC925 but I've had that pleasure before. Several members set up two scopes so we had plenty of gear. Thanks to everyone who participated, hope you had as good a time as I did!

✶Ted Blank

Thanks to **Ted Blank** and everyone else who went to Greenland. The organizer was surprised at how many people attended—it was well in excess of what was expected; they ran out of cookies and had to rush to the store to buy more!

The ISS pass in early twilight (only Jupiter and the Moon visible) was very impressive. Heavens Above billed it as mag -3, but it was WAY brighter than that. I'd say at least mag -4.

The site is pretty good and fairly dark for this sort of venue. The first quarter Moon (itself very impressive) washed out the DSOs a bit, but I still showed off M13, M92, M11, the Perseus Double Cluster, NGC 457, M18 and M82, M31 and M32, the Blue Snowball, M57, and NGC 404. **Rich DeMidio** accidentally stumbled across a carbon star while looking for M11, and I was able to identify it as S Scuti. I intentionally found T Lyrae and WZ Cassiopeiae later in the evening. I spent some time helping Brian get the finder aligned and M13 located in his 4.5" Dob. The TeleVue 85 was focused on the Moon for much of the evening and was giving excellent views. Jupiter was, for most of the public, the "wow" object of the evening, I think.

✶Paul Winalski

We received this note of thanks from Denise J. Grimse, the director of the Weeks Public Library:

Thank you and your fabulous crew for a great Star Party. Everyone had a great time. The timing of the space station fly over just added to the excitement. Thank you too for all your work in scoping out the

area to find the best location to make it all happen.

It truly was a great success.

✶Marc Stowbridge

Lawrence Academy Sky Watch, Groton MA, 10 October

There was a healthy turnout of scopes and NHAS personnel manning them, and a small but enthusiastic crowd from the school, and at least one family not associated with the school who saw it on the calendar at our website and turned up.

Here's the list of NHAS members who I remember seeing there. If I missed anyone, please let me know (I plead darkness and faulty memory): **Ken Charles**, **Rich DeMidio**, **Gardner Gerry**, **Chase McNiss**, **John Rose**, **Bill Steele**, **Ed Ting**, **Paul Winalski**.

✶Bill Steele

Near the end of the Lawrence Academy Sky Watch, I swung over to the "Double Double's Double" not far from Lyra's Double Double. This is a pair of Struve doubles that are relatively close together and identical magnitudes. **Rich DeMidio** and **Gardner Gerry** really liked them. But I took a guess at their Struve numbers and didn't have a handy chart to show them. In *Sky & Telescope's* Pocket Sky Atlas they are nicely labeled on page 63. In Sky Atlas 2000 on page 8 they are just shown as double stars.

They form an almost equilateral triangle with Steps1 and Sulafat on the east side of Lyra. For RA & Dec they are Σ2470 at 19:08N 34:46 and Σ2474 at 19:09.1N 34:36. In *Burnham's Celestial Handbook* they are both shown as 6.5 magnitude primaries with 8th magnitude secondaries.

✶John Rose

NHAS September 2009 Business Meeting

The meeting took place on 11 September at St. Anselm College.

President **Rich DeMidio** presented a review of the club's finances.

Our income is from dues, donations and grants, and from merchandising (T-shirts and whatnot). From 2005 to the present, dues have been fairly stable year to year, but donations and grants fluctuate wildly, and hence so does total income.

Expenses for YFOS plowing and pumping the porta-potty have been consistent. Insurance increases year to year. YFOS miscellaneous and office expenses vary widely. In recent years our total expenses have jumped because we have added property insurance. The expense breakdown over four years:

- 7% miscellaneous expenses
- 17% equipment upgrades
- 43% YFOS maintenance
- 33% insurance

Comparing membership income vs. expenses, we are running in the red—donations are what's funding us.

The conclusion of the Board of Directors and the Officers is that our financial integrity at present is dependent on donations, but this is high risk due to the volatile nature of donations per year. Membership dues must cover fixed costs, therefore, these will be increased to $30. $6 of each $30 is earmarked for the Educational Outreach Committee budget.

The NHAS dues increase still leaves us very competitive when one considers the value added. The NHAS value proposition:

- access to other Astronomy enthusiasts
- hands-on experience and mentoring
- access to club equipment such as loner scopes
- access to a dark sky site
- club-owned equipment to use at the dark sky site
- education and training in various areas of Astronomy
- contribution to the club and the public

A wide-ranging discussion followed.

Miscellaneous Business

The speaker scheduled for October had to be pushed off till 2010. We need guest speakers for October and November. December's speaker is scheduled and we are awaiting confirmation.

Rich is still waiting for volunteers for the Awards Committee.

Marc Stowbridge reports that the Library Telescope Program has six scopes in place with two on the way. He would like to see one in Goffstown.

Rich DeMidio Jean, and **Paul Winalski** will be going to the Deepest South Texas Star Safari in Coonabarabran, Australia next spring. Other NHAS members are encouraged to consider this unique opportunity to observe southern hemisphere skies. Ask Paul for details.

Board of Directors

Mike O'Shaughnessy reports that the Board has focused with the Officers on the financial analysis, and agrees with the dues increase. He personally would like to see more money earmarked for EOC going forward.

Public Observing

Marc Stowbridge reports that the Girl Scout sky watch doesn't look like it will happen. There are many inquiries; Reeds Ferry is in progress. **Scott McCarthy** urged members to help people out with telescopes that they bring.

Educational Outreach

Rich Schueller reported that EOC reached a milestone: its first birthday. **Chase McNiss** will be the Astronomy Day coordinator for 2010. **Ted Blank** and **Tom Cocchiaro** are working with our Webmaster, **Matt Marulla**, on the transfer of website development to a sandbox area on the server.

There have been discussions about Astro 101/201, and perhaps doing an even more basic course that we could present at the Discovery Center. We would like to do something at the Discovery Center before Christmas buying season to help people find out about telescopes, with hands-on experience.

EOC is trying to formalize our sidewalk astronomy efforts to tie

them more into NHAS. **Scott McCarthy** has volunteered to find us some spots, and is looking for a place where we could participate in 100 Hours of Astronomy as part of the International Year of Astronomy. **Ken Charles** pointed out that Nashua and Strawbery Banke have winter holiday events, and perhaps we could do sidewalk astronomy there.

Membership

Rich DeMidio gave the report for **Bill Steele**. Bill is still organizing the upcoming Astro 101/201 courses.

YFOS

Larry Lopez reports that we need a work session.

Astrophotography

Gardner Gerry reported that several members have posted new images in the Photography forum on the NHAS website.

Evening Presentation

Ed Ting gave a talk on the Fall Messier Marathon: what it is, the overall strategy for successfully observing all the objects, and hints and kinks.

✶ Paul Winalski

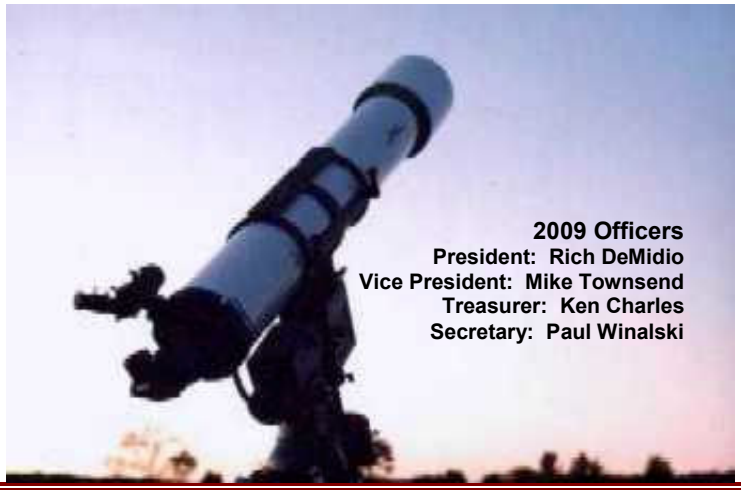
The Bottom Line

Starting Balance:	**$5472.45**
Deposits/Credits:	
Membership:	37.50
Total :	37.50
Accounts/Paid:	
Insurance:	98.67
Total:	98.67
Net Account Balance:	**$5411.28**
Petty cash drawer:	$100.00
Cash Balance:	**$5511.28**

Membership: 135

New Members:
Vladimir Shvarts, Atkinson NH
Tom Nelson, Derry NH

✶ Ken Charles
NHAS Treasurer 2009



2009 Officers
President: Rich DeMidio
Vice President: Mike Townsend
Treasurer: Ken Charles
Secretary: Paul Winalski

DEADLINE November 2009 Issue: 5 PM November 13
E-mail articles to the Editor.
CHANGE OF ADDRESS – Notify the Treasurer of changes to postal or e-mail address.

How to Join N.H.A.S.
Write to us:
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P.O. Box 5823
Manchester, NH 03108-5823
Attn: Treasurer

Send E-mail to:
info@nhastro.com

Use our web site:
http://www.nhastro.com/

This month's contributors:
Rich DeMidio, Tom Morin, Gardner Gerry, Bill Steele, Chase McNiss, Ted Blank, Ken Charles, Larry Lopez, David Gilmore, John Rose, Marc Stowbridge

New Hampshire Astronomical Society
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NHAS Upcoming Events

Event	Date	Time	Location
NHAS Business Meeting	October 16	7:30 PM	McAuliffe-Shepard Discovery Center, Concord NH
Coffee House Night	October 23	5:00 PM	YFOS
Auburn Village School Sky Watch	October 26	7:00 PM	Preston Field, Auburn, NH
Nottingham West Sky Watch	October 30	6:00 PM	Nottingham West School, Hudson NH
Reeds Ferry School Sky Watch	November 5	6:00 PM	Reeds Ferry School, Merrimack, NH
Discovery Center Public Sky Watch	November 6	7:00 PM	McAuliffe-Shepard Discovery Center, Concord NH
Bicentennial School Sky Watch	November 12	7:00 PM	Bicentennial Elementary School, Nashua, NH
NHAS Business Meeting	November 13	7:30 PM	St. Anselm College, Manchester NH
New Hampshire TechFest	November 14	9:00 AM	Pinkerton Academy, Derry NH
Gilford Library Sky Watch	November 17	6:30 PM	Gilford Library, Gilford NH
Coffee House Night	November 20	5:00 PM	YFOS
Sandwich Central School Sky Watch	November 20	5:00 PM	Sandwich Central School, Sandwich NH