

Rappahannock Astronomy Club

Minutes, July 13, 2011, Meeting

In attendance:

- Barton & Linda Billard
- Scott Busby
- Don Clark
- Rob Friedel
- Leigh Gettier
- Ranny Heflin
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- Glenn Holliday
- Jerry Hubbell
- Mike Masters
- Julie Olsen
- Tim Plunkett
- Javier & Ruby Valverde

President Mike Masters began the meeting at 7 p.m. after introductions. Thirteen members and a visitor were present.

Program

Scott Busby gave the program on "Light Pollution." While living in Aquia Harbor from 1996 until his recent move, he saw the effects of development on the darkness of the local skies. One of his neighbors had served as a Stafford County supervisor, and his experience was helpful to Scott as he looked into what could be done to protect the night skies and raise awareness of the issue in the county. Scott learned that Fauquier County had a strong, well-defined lighting ordinance, while Stafford had none at the time. His efforts may have been helpful in getting a similar ordinance passed in Stafford County.

"Light pollution," or "light trespass," destroys our view of the night sky and has harmful effects on animals, plants, and insects. It also has a marked effect on astronomical research. It has increased exponentially since the Industrial Revolution and invention of the incandescent light. As Scott illustrated with an example of the operation of a 100-Watt light bulb 8 hours a night for a year, it is also accompanied by costs for bulb replacements and power generation, which is accompanied by the generation of carbon dioxide and other waste products. It is affected by the atmosphere, which filters starlight coming to us and reflects light from the ground back down, decreasing the contrast between stars and the sky. Summer haze compounds the light pollution problem.

Scott showed comparative photographs of the night sky in three locations to illustrate the difference in the number of stars visible. Cherry Springs, Pennsylvania, Batatso, New Jersey, and suburban Voorhees, New Jersey, illustrated a progression from little light pollution, to moderate light pollution, to strong light pollution, respectively. Some improvement is possible by using filters and locating observatories on remote mountaintops. The Hubble space telescope avoids the problem because it is outside the atmosphere.

Scott listed a number of steps available to reduce light pollution. Several counties in Virginia have enacted lighting ordinances to limit wasteful lighting and identify the most bothersome types. The best approach is the use of full cut-off lighting that prevents the emission of light upwards and sideways. The light is directed at the area intended to be lit. The reduction in light pollution and the horizontal glare that reduces the effectiveness of the desired lighting also allow a lower output to be effective. In addition, people could turn off exterior lights between 10 p.m. and 5 a.m., substitute lower wattage bulbs, add shields to direct light to the ground, and put lights on timers or motion sensors. Removing, turning off, or shielding pole-mounted security lights can provide significant improvement. Scott cited an FBI study that concluded that security lighting does not have a measurable effect on crime.

Old Business

- Treasurer's report—Tim's report included the dues check from Joe that had been mixed up with some junk mail. The paid membership for 2011 now stands at 30, with some members paid up for more than 1 year. The questions about the *Sky & Telescope* discount subscription status have been resolved.
- Status of Club loaner equipment—No new equipment loans were reported. Tim thinks one or two DVDs are on loan. Mike placed another item on the agenda for discussion of the large collection of donated *Sky & Telescope* issues
- Star Parties, Events, and Meetings—The Space Day outreach at Conway Elementary School June 13 was attended by well over 100 parents and kids. Many viewed the Sun through the Club Personal Solar Telescope with Don Clark or through Mike's Lunt solar telescope. Glenn Holliday conducted a workshop for scout staff at Camp Pamunkey on June 14. Both the Westmoreland June 25 outreach event and the Caledon July 2nd star party were lost to unfavorable weather. The next events are a July 23 Westmoreland outreach and a July 30 Caledon star party. August 27 is the Club annual picnic date. Scott Busby is hosting at his Belmont Observatory. We have no separate Club meeting scheduled for August. Scott has sent out an email request to get a count of people planning to attend the picnic. Glenn had a request for outreach support for August 4 in connection with the Juno Mission. He is looking for volunteers from the Richmond club as well as RAC members. A request has come in for Cub and Girl Scout badge support at the Hartwood Days Festival on September 11.
- Email aliases for Club officers and points of contact—The aliases for Glenn Holliday and Ranny Heflin are now working. No further issues with the establishment of email alias remain.
- Question of retention in Club Library of old issues of *Sky & Telescope* and *Astronomy* magazines—The magazines are not circulating. Discussions have started online about whether they should be donated somewhere, or whether it should be easier for members to check them out. One proposal was for someone to bring some selection of books, magazines, and DVDs to meetings to make them available for possible loans. Mike suggested plastic file boxes available at Staples would be useful for carrying a subset to meetings. Joe, who was not able to attend the meeting, was an advocate of this solution. Mike said he would ask Joe to propose a selection for availability at meetings
- Equipment Upgrade Committee update—Jerry Hubbell is donating a webcam and has volunteered to act as custodian. The Meade deep Sky imager seems to be unmatched in low cost and high capability. Mike will survey the Club on who has equipment that can work with an astrocamera and whether any are interested in using one. Bart noted that the Club NexStar 5 might be suitable as well. Mike offered some thoughts on upgrades to loaner equipment accessories. He said some eyepiece upgrades make some sense. His suggestion for longer term was a better quality telescope along the lines of the 8-inch Orion XT Intelliscope Dobsonian.

New Business/News Items

- Size changes for images in RaClub.org portfolios—To accommodate the higher resolution astrophotography more members are providing, Mike did some experiments with images up to 1500 pixels wide. He wound up choosing a limit of 1000 pixels versus the previous 750- to 800-pixel limit.
- Star Party schedule for 2012—Mike showed a draft schedule for next year. It has primaries at Caledon with backups at Scott's Belmont Observatory, along with two outreach dates each at Westmoreland and Lake Anna. The outreach dates are all during first quarter Moon phases. Three more dates with a first quarter phase are available to schedule other outreach events. When Mike asked whether members wanted the winter star parties (December, January, and February) a number of members expressed interest.

Next Meeting

The next meeting is August 27, 2011, in conjunction with the annual picnic at Scott Busby's house.

Submitted by Bart Billard, Secretary