



The Green Bank Tattler

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Thanks Frank Ghigo for inventing the newsletter title. The Tattler motto is: You better read it, we could be talking about you!

Site Hunt Planned to Manage Deer Population

Jay Lockman

Most people who visit the Observatory immediately notice that there are very many white-tail deer on the site. Since hunting was banned in the early 1960's, the deer have flourished and it is now common to see them grazing around the telescopes in broad daylight. Unfortunately, the population of deer has greatly outstripped the amount of vegetation available to feed them. Every grove of trees on the site shows a distinctive "browse line"; deer have eaten most of the leaves and plants below that point. The appearance of a browse line indicates that the deer population has exceeded the biological carrying capacity of an area. When this occurs deer are in the process of ruining the local ecology and, not incidentally, their own health begins to suffer.

At the Observatory we have reached a state where there are very few young trees on the site. Shrubs and wildflowers have also been reduced, driving out some species of birds and animals. Something needs to be done to reduce the deer population.

We have consulted with the West Virginia Division of Natural Resources (the DNR) about our situation. Several of their wildlife biologists who visited here confirmed that we have too many deer and recommended sport hunting as the only practical way to bring the deer population under control. Hunting is used for this purpose at a number of facilities including Dulles Airport, Fort A.P. Hill and the Radford Arsenal. Following their advice, we are planning to open certain areas of the Observatory to deer hunting for a few days this year. For safety, the hunt will be limited mainly to bow and arrow. Use of muzzleloaders or shotguns with slugs will be confined to the more remote areas of the site. No hunting with rifles will be allowed. There will be no hunting around the rec area road, near the rabbit patch, or within 500 feet of any other part of the site where people regularly travel. Hunters will have to check into a central location to obtain a special NRAO permit. There are other restrictions that are spelled out in an announcement published in local newspapers. A map of the hunting areas on site is available from the administrative services office. We view this first hunt as an experiment that can be ended any time it causes more trouble than it is worth.

On hunting days the DNR will have representatives at the Observatory to assist us in managing the hunt and enforcing its rules. It is also likely that some students and faculty from WVU will be present to do a study of the deer that are killed in order to determine the overall health of the herd and our success in limiting it. The hunt is scheduled to take place on Nov. 4-6, Nov. 11-13, Nov. 18-20, Dec. 9-11 and Dec. 16-18 from dawn until dusk.

This will be a highly controlled hunt and should have a minimal impact on activities at the site. Nonetheless, we ask that you take extra care during the hunt and perhaps avoid walking off the beaten path on those days. At the end of the season we will evaluate the success of the hunt and see if it has met our goals. It is our responsibility to take good care of the Observatory land and its diverse occupants, and I hope that this effort to reduce the population of deer makes a positive contribution to the overall health of the site.

Recreation Association News

PARTY Incognito !!

Halloween Dance

October 29th 8 - midnight

NRAO Tour Center

Music by WILD FIRE



Did you have a good time at the last Dance for Adults? Well, here comes another one. Come in costume and howl at the moon!

- soft drinks, beer & munchies.
- must be 21 or over to attend
- for NRAOERA members and their dates.
- rooms and / or rides home will be provided for the sloshed.

Halloween Party for the Little Monsters

Saturday, October 30th

**3:30 - 5:30 pm
Tour Center**



Games



Prizes

Hot Dogs and Goodies

We'll get your ghosts and goblins psyched up for trick-or-treat!

Weekly Basketball at Green Bank School Beginning in November

The Green Bank School Gym has been reserved for Tuesday nights, beginning November 2 for NRAO Basketball. Before opening basketball to non NRAOERA members we will post sign-up sheets around for members only. If we have enough folks interested in playing, we will limit participation to members only. This will give all NRAOERA members the chance to play regardless of ability. So sign up! Remember, spouses and dependents are ERA members too! In order to keep the game moving, dependents must be 12 years old or older to play.



Upcoming Events...

- NRAOERA site-wide meeting in November: election of board members
- Children's Christmas Party: Dec. 11, 2:00 pm with the Hampstead Players
- Christmas Bingo for Adults: Dec. 17, 7:30 pm

Remote Learning Center



Jay Lockman

The Observatory here at Green Bank is the only NRAO site that is not located on the campus of a college or university. Our employees and their families do not have the opportunities for professional advancement or personal enrichment that college courses offer. Recognizing this need, AUI has provided us with the funds to install a remote learning center at the Jansky Lab. This consists of a satellite TV dish, monitor, VCR to record the classes, microphones for interactive sessions, and other equipment. Using this center, employees will be able to take classes for college credit, or gain advanced degrees in fields like engineering, computer science and accounting.

It is NRAO policy to reimburse most or all of the tuition fee for full-time employees who successfully complete a formal course of study at an accredited college. Vocational courses may also be covered by this program. The courses must be pertinent to the work which the employee is doing or may be expected to do at the Observatory. There are additional aspects of the NRAO policy, but as a practical matter, the tuition for any course taken at our remote learning facility, that is approved by an employee's supervisor and division head and is successfully completed by the employee, will be reimbursed at a level between 75% and 100%.

The equipment for the remote learning center has already been purchased and will be installed any day now. We are trying to determine what courses are available through this system, and have a partial list from Universities all around the country. Our facility is being designed to meet the requirements of the Cooperative Graduate Engineering Program offered by a consortium of Virginia Universities, but it will be suitable for most other programs. We know that courses are available in accounting, applied thermodynamics, computer systems, engineering statistics, fluid dynamics, object oriented data base systems, and many other fields, including many non-technical

subjects. We will assemble a list of course offerings for the winter-spring term and distribute it around the site. If you are interested in taking a course, please contact Shirley Curry by November 1. She will help you determine what is available, and insure that it is suitable for your interests and needs.

We will develop policies for the remote learning center as the need for them arises. I see no reason why family members of employees could not use the facility when it is not being used by employees. Of course, family members would pay their own tuition and fees.

Power Upgrade for Green Bank Site

by Richard Fleming

Monongahela Power Company is in the process of replacing the power line and transformers that serve the Green Bank site. The existing service is over 30 years old and would provide marginal capacity for the GBT and other new construction. The line and transformer replacement is on schedule with the first part completed during the power outage of September 19. This outage allowed the power the power comopany to replace the transformer, breakers and wiring at the Trout Run Substaion on Back Mountain Road.

The power line right-of-way has been widened and a new line (beside the present line) from the Trout Run Substation to the Green Bank NRAO site is being constructed. A new transformer, switches and wiring will be installed at the site switchgear location. after the new line is completetd in October, 1993, there will be another planned outage in order to connect both ends of the new line and transformer in Green Bank. This will occur in late October or early November.

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Tell us what is going on in your area of the site - send news to the Tattler c/o Sue Ann

Great Big Thanks for Making 13 Teacher Institutes a Success

Sue Ann Heatherly

I know that when September comes many of us breathe a sigh of relief and say thank god the teachers are out of our hair for another year. They are **everywhere**, and want to know **everything** about what you do at NRAO. It puts a sizeable strain on the facilities and your time, I know!

This year, marks the succesful conclusion of the **13th** Summer Institute for those of you who haven't been counting! And I wanted to tell you what a good thing this opportunity has been for the 327 teachers who have participated.

I think I'll let the teachers tell you themselves. These are a few of their own comments given at the end of their time here in Green Bank:

" It was an exhausting exhilarating 2-week period. I have never experienced science as I have here in Green Bank!"

" How big is great? It was the most rewarding

experience of my life."

" I came away with a wealth of information and motivation. It was like being reborn. I am genuinely looking forward to teaching next year."

If ever you want to feel good about your part in the teachers' institutes, come and borrow the stack of evaluation questionnaires - they are full of comments like these and mention many of you by name!

Last August, we submitted a new proposal to the NSF to host a similar program for a different group- college students studying to be science teachers. The participants in these future workshops will be students from one of 4 colleges in West Virginia. Hopefully, their experience here will inspire them to help thier students learn science by doing science.

If you would like to know more about the new proposal, you can find a copy in the Library.

Power Upgrade Cont'd from page 3

Here are some facts about the new line and transformers:

	<u>Present</u>	<u>New</u>
Voltage to site	12,500	same
12,00 volt wire size	1/0 aluminum (0.373" diam.) shielded aerial cable	2/0 copper (0.419" diam.) shielded aerial cable
Voltage distributed on site	4,160	same
Site transformer	2,500 kVA, delta-wye	3,750 kVA, delta-wye
Backup transformer	none	2,500 kVA present kept (primary hot, secondary not connected)
Trout Run substation	3 single phase breakers	1 three phase breaker

Green Bank Telescope Update

Have you noticed that lots of people have been working late and on weekends lately? Staff involved with the GBT have been working hard to get ready for the Advisory Committee meeting October 14-15. Here is a sampling of subjects that will be discussed at that meeting:

- The GBT Monitor and Control Group is in charge of writing software that will coordinate the control of all of the devices on the telescope (you don't want to collect data if the telescope hasn't moved to the right place!) and connect observing astronomers to all of the hardware like the receivers and data processors. They will install their programs at the 140' so that the Advisory Committee can try them out. They will demonstrate the software by moving the 140' and accessing the Spectral Processor.
- The " Laser Rangers" have taken over the old 300' control building in order to calibrate the lasers that will be used to measure the surface of the GBT. Those folks developing software to direct the lasers and

retrieve the measurements are working in that building as well. Research on the Laser Ranging system is nearly complete; lasers and retroreflectors have been ordered. The system will be able to measure the positions of the GBT surface panels to 4/1000s of an inch!

- The construction of the Alidade is proceeding at a rapid rate. (The Alidade is the base of the telescope - it supports the dish.) By the end of this year it will be complete and it will be able to rotate on the track.
- The folks in Electronics and the Machine shop have been busy building receivers for the GBT. Four front ends are under construction and two more will be soon.
- The RSI dish design has recently been approved by NRAO. That's a relief! The design meets all of the specifications set forth by NRAO.

GBT Site Tour for Employees and their Guests

If you're like most of us you haven't been to the GBT site in a long time! Join us for a guided tour on Sunday, October 24 at 2:30 pm. Meet at the tour center at 2:15 if you want a ride down to the site.

Sunday Lunch at the Cafeteria

Every Sunday from noon until 1:30 the cafeteria is open to NRAO employees and friends for a special luncheon. The upcoming menus are:

- October 10: Meat Loaf with Tomato sauce
- October 17: Country Style Steak
- October 24: Baked Chicken
- October 31: Hamburger Steak

MORE UPCOMING OBSERVATORY EVENTS

- Friday Night at the Movies, 7:00 PM at the Tour Center. Check Bulletin Boards for Movie Titles:

October 8 -Documentaries of the World

October 22 -Horror Week

November 5- Mystery Week

November 19 - West Virginia Week

December 3-Art Films

December 17-Science Fiction and Fantasy

- October 13-15: GBT Advisory Committee meets in Tour Center
- Janksy Lecture, NRAO Tour Center, November 11
- Every Monday and Wednesday: Tae Kwon Do in Tour Center, 7:00 - 9:00 PM
- Every Tuesday and Thursday: Aerobics in Tour Center 5:00 - 6:00 PM