Brood X Periodical Cicadas

By: Stanton Gill, Extension Specialist, University of Maryland

So much focus has been on the economy and the Covid situation, let’s move forward to what is happening in the insect world this spring. First, take a minute and drift back to 2004. The air was “abuzz” with the sound of the 17-year periodical cicadas, Magicicada septemdecim. Male cicadas were drumming their abdomens making noises that carried for miles. The female cicadas slashed into branches to lay their eggs. At the peak of the flight activity of the cicadas, the bird population was getting plump from the bounty of insects to feed on. The eggs hatched in a couple of weeks and the nymphs dropped to the ground to burrow into the root-zones of plants to feed on tree roots for the next 17 years. We thought we were safe from the 17-year cicadas until 2021. Well, time slipped by and it is now “2021”, and we will be seeing and hearing the Brood X periodical cicada this year in late spring to early summer.

In 2020, we put out several articles and pictures of rogue Brood X periodical cicadas that showed up in Montgomery, Howard and Anne Arundel counties. These were just periodical cicadas (Brood X) that got out-of-sync with the main body. The big emergence is set for this spring.

Males are capable of producing a high-pitched whine that some people liken to a small chainsaw or 2-cycle engine noise. Females, which do not produce sound, are attracted to the males to mate. Males have a large group noise then sing a quitter song when a female approaches then switches to an even softer noise as he mates with the female. The group noise is the one that is slightly annoying and overwhelming.

Periodical cicadas emerge in different geographical areas and these emergence groups are labeled as “Broods”. The one we experienced in 2004 in most of Maryland was “Brood X.” There was another brood of 17-year periodical cicada that emerged in 2013 called “Brood II”. In most central and western areas of Maryland, you will not see these Brood II cicadas. If you have customers in Southern Maryland, Virginia, Pennsylvania, North Carolina, New Jersey, and New York, they will be seeing activity of Brood II in 2030. It is something to look forward to for 2030. The parts of Maryland that will have emergence of Brood II is mainly in southern Maryland, Prince George’s County and the lower portion of Montgomery County. In Pennsylvania, entomologists even recorded which counties you can expect to see Brood II emerge in 2030 which includes: Berks, Bucks, Carbon, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Luzerne, Monroe, Montgomery, Northampton, Philadelphia, Pike, Potter, Schuylkill, and Wyoming Counties, PA.

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Periodical cicadas are found in eastern North America and belong to the genus Magicicada. There are seven species -- four with 13-year life cycles (including one new species described in 2000), and three with 17-year cycles. The three 17-year species are generally northern in distribution, while the 13-year species are generally southern and Midwestern. Magicicada are so well-synchronized developmentally that they are nearly absent as adults in the 12 or 16 years between emergences. When they do emerge after their long juvenile periods, they do so in huge numbers, forming much denser aggregations than those usually achieved by cicadas. Many people know periodical cicadas by the name "17-year locusts" or "13-year locusts", but they are not true locusts, which are a type of grasshopper. Adult Magicicada have black bodies and striking red eyes and orange wing veins, with a black "W" near the tips of the forewings. Most emerge in May and June.

A few weeks before emerging in late spring, the nymphs of cicadas construct exit tunnels to the surface. These exits are visible as approximately 1/2 inch diameter holes, or as chimney-like mud "turrets" the nymphs sometimes construct over their holes. On the night of emergence, nymphs leave their burrows around sunset, locate a suitable spot on nearby vegetation, and complete their final molt to adulthood. Shortly after ec dysis (the process of an arthropod molting its exoskeleton) the new adults appear mostly white, but they darken quickly as the exoskeleton hardens. Sometimes a large proportion of the population emerg es in one night. Newly-emerged cicadas work their way up into the trees and spend roughly four to six days as "teneral" adults before they harden completely (possibly longer in cool weather); they do not begin adult behavior until this period of maturation is complete. An adult female can occasionally use their stylet to piece plant material or small fruit to extract a small amount of sugar for flight and mating but damage is not detected on most plants. The cicadas have sucking mouthparts called a stylet. Young, immature nymphal cicadas feed on liquid from plant roots. Adult cicadas do not generally feed, according to U.S. Department of Agriculture.

You may say, wait a minute, I see cicadas every summer in August. Yes, you would be correct. The annual cicada, which is out in August every year, are a large green-colored cicada and never reach really high populations numbers. They are called dog-day cicadas since they are in flight when the dog star cluster is visible in the sky in August. Although annual cicadas’ life cycle is typically 2-3 years long, they are staggered so we see some emerging every summer. These late summer cicada species, which are sometimes mistaken for the periodical cicadas, are usually in the genera Diceroprocta. The annual cicada is more robust in body size than periodical cicadas and body is a green color.

Noise and Egg-laying

A week to 10 days after the males begin "singing," the ‘early adopter’ females begin to lay eggs. Each female is capable of laying up to 400 eggs in 40 to 50 pockets in the wood of several small branches of many types of trees. More than 80 species of trees were recorded in 2004 to being damaged by female cicada ovipositing. Some of the most susceptible trees we recorded in 2004 included paperbark maple, oaks, maples, ornamental pears, and fruit trees. The type of branches preferred by females is about the width of a pencil (if anyone remembers what a pencil looks like) up to 0.5 inch in diameter or a little larger.

After mating, a female cicada slices into the wood of the branch with an egg-laying apparatus (ovipositor) and places the egg into the wood. She usually lays one to several dozen eggs in a single branch before moving to another branch or tree. Female egg-laying activity is controlled by temperature. If it is cool in the spring, then egg laying is over a longer period of time. Generally, it is 30–45 days of egg laying. Approximately 5 – 7 weeks later, the eggs hatch into tiny white nymphs. The nymphs drop to the ground and burrow into the soil to feed on grass roots and, eventually, tree roots for the next 17 years.

Continued on next page>>
Brood X Periodical Cicadas (Cont’d)

Are They a Threat?
Cicadas do not bite or sting defensively, nor do they attack people. If a cicada lands on you, it is only because it finds you to be a convenient place to land. A good anecdotal story is that some lawnmowers and weed-whacker’s motors may produce a sound that might be attractive to the periodical cicadas. We did not witness any of this action in 2004. We did have people cancel outdoor weddings in late May and early June of 2004 because they were worried about the male cicada’s singing out-competing their ceremony speakers and music.

When handled, both males and females struggle to fly at first, and males make a loud defensive buzzing sound that may startle but is otherwise harmless. Periodical cicadas are not poisonous to animals or humans, nor are they known to transmit disease. Adult periodical cicadas live only for a few weeks—by mid-July, all have disappeared. The one purpose of their short adult life is to reproduce.

Periodical cicadas can cause physical damage to small trees or shrubs if too many feed from the plant or lay eggs in the twigs; such damage can cause “flagging” or breaking of peripheral twigs. Orchard and nursery owners probably should not plant young trees or shrubs in the years preceding an emergence of periodical cicadas, because young trees may be harmed by severe flagging. Mature trees and shrubs, however, usually survive even dense emergences of cicadas.

In 2004, many homeowners purchased netting for covering small trees, but this was not a very practical solution since the netting is often blown off trees or entangled in branches. If you do choose to put up netting, leave it on the plant only during the egg-laying period of the females. Longer periods will encourage foliar disease on several plant species, especially fruit trees. Use netting with ¼ inch or smaller openings. Check your local garden center for sources of netting.

One furry creature is ‘happy’ about periodical cicada activity. Moles are said to flourish on the fully-grown nymphs in the weeks prior to emergence. Other wild animals that enjoy the advantage include snakes and spiders. So, at least, some of nature’s wildlife gets a benefit out of the nymphs that emerge from the soil.

Chemical sprays are not practical to control the periodical cicadas. Beyond the concern by owners of fruit orchards and nurseries, periodical cicadas are not regarded as pests. Their loud noises may be annoying but tolerable, since it only last for a couple of weeks. Just prepare your customers for the activity this late spring to early summer.

Why So Many?
When periodical cicada emerge, they do it in a big way with high numbers saturating an emergence area. Magicicada population densities are so high that predators apparently eat their fill without significantly reducing the population (a phenomenon called "predator saturation"), and the predator populations cannot build up in response because the cicadas are available as food above ground only once every 13 or 17 years, depending on the species.

If You Can’t Beat Them Then Try Eating Them
Cicadas are said to make good eating because they are low in fat and high in protein. There are over 3000 species of cicadas and they are considered a delicacy by many people in different parts of the world. The European settlers in North America observed some Indian tribe members eating cicadas. During the last emergence of Brood X cicadas in 2004, a number of very brave (or just weird) people reported to have tried deep-fried and stir-fried cicadas. This is just for the adventurous people of the world or good for a “dare” at a cook-out.

We will continue to report on cicada activity throughout the spring.

Credit: Univeristy of Maryland Extension, IPM Newsletter
https://extension.umd.edu/ipm
"We are shocked": Appvion suddenly announces closure of Roaring Spring paper mill: Report

ROARING SPRING, Pa. (WJAC) — The Roaring Spring paper mill will soon be closing for good, according to the Altoona Blair County Development Corporation (ABCD).

ABCD Corporation spoke directly with Appvion officials who confirmed the plant would be closing in March or early April, according to ABCD President Stephen McKnight.

“In the best economic times this would be devastating news for the local workforce, their families and our community,” McKnight said. “In the current global climate, it’s even worse. We are shocked and simply at a loss by this sudden announcement.”

McKnight says ABCD has activated the regional workforce rapid response team to help place as many of the manufacturers as possible within their labor shed before turning their attention to marketing the facility to other potential operators.

He says they’ll need the entire community to come together to help.

“ABCD has reached out to the Governor’s office and will work closely with our elected officials to do what it takes to keep our friends and families local while maintaining the facility for a future use,” McKnight said. “We expect to work with Appvion as that process unfolds in the coming months.”

According to McKnight, Appvion officials blamed the continued market constraints brought on by the pandemic and said the resulting restrictions have wreaked havoc in an already “volatile and competitive carbonless paper market.”

“While most of Blair County’s core industry base has managed to maintain operations up until this point in the crisis, I am very concerned that we risk additional downsizings or even closures if the pandemic-related restrictions continue much longer,” McKnight said. “We must find our way back quickly.”

Credit: https://wjactv.com/
Logger Safety—First Aid Requirements

First-Aid Kits (Mandatory)
The following list sets forth the minimally acceptable number and type of first-aid supplies for first-aid kits required under paragraph of the logging standard. The contents of the first-aid kit listed should be adequate for small work sites, consisting of approximately two to three employees. When larger operations or multiple operations are being conducted at the same location, additional first-aid kits should be provided at the work site or additional quantities of supplies should be included in the first-aid kits:

1. Gauze pads (at least 4x4 inches)
2. Two large gauze pads (at least 8x10 inches)
3. Box adhesive bandages (band-aids)
4. One package gauze roller bandage at least 2 inches wide
5. Two triangular bandages
6. Wound cleaning agent such as sealed moistened towelettes.
7. Scissors
8. At least one blanket
9. Tweezers
10. Adhesive tape
11. Latex gloves
12. Resuscitation equipment such as resuscitation bag, airway, or pocket mask
13. Two elastic wraps
14. Splint
15. Directions for requesting emergency assistance

First-aid and CPR Training (Mandatory)
The following is deemed to be the minimal acceptable first-aid and CPR training program for employees engaged in logging activities. First-aid and CPR training shall be conducted using the conventional methods of training such as lecture, demonstration, practical exercise and examination (both written and practical). The length of training must be sufficient to assure that trainees understand the concepts of first-aid and can demonstrate their ability to perform the various procedures contained in the outline below. As a minimum, first-aid and CPR training shall consist of the following:

1. The definition of first-aid
2. Legal issues of applying first aid (Good Samaritan Laws)
3. Basic anatomy
4. Patient assessment and first-aid for the following:
   a. Respiratory arrest
   b. Cardiac arrest
   c. Hemorrhage
   d. Lacerations/abrasions
   e. Amputations
   f. Musculoskeletal injuries
   g. Shock
   h. Eye injuries
   i. Burns
   j. Loss of consciousness
   k. Extreme temperature exposure (hypothermia/hyperthermia)
   l. Paralysis
   m. Poisoning
   n. Loss of mental functioning (psychosis/hallucinations, etc.)
   o. Artificial ventilation
   p. Drug overdose
   q. CPR
   r. Application of dressings and slings
   s. Treatment of strains, sprains, and fractures
   t. Immobilization of injured persons
   u. Handling and transporting injured persons
   v. Treatment of bites, stings, or contact with poisonous plants or animals

Adopted with permission from the Virginia Logger Safety Checklist Booklet from the SHARP logger program.

For full document: https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/3108/3108-1592/CNRE-10.pdf
Delaware Wild Lands Tour with MD-DE Master Loggers

By: Taylor Robinson, MD-DE Master Logger Program

On October 23, 2020, Agnes and Taylor spent the day with two MD-DE Master Loggers, Ron Haas and Billy Singleton, on their logging site at the Delaware Wild Lands. The Delaware Wild Lands is a private, non-profit conservation organization with 10,600 acres making it the largest tract of contiguous forest land in the state of Delaware.

It was great to see two MD-DE Master Loggers on the job in different roles. Ron Haas has been the property project manager at Delaware Wild Lands for 18 years. He takes much pride in the projects he heads and the outcome for the forest and its wildlife. His dedication to conservation is apparent!

Billy Singleton is co-owner of B.P. Singleton Logging on the Eastern Shore and has been logging for six years. Prior to that, he had been working in the tree care industry. This was his second logging job at DE Wild Lands with Ron.

We started the day on their active logging site where Ron planned the timber tract harvest and Billy was the hired MD-DE Master Logger for the job. Next up, we toured a few other recent projects of Ron’s throughout the DE Wild Lands. His favorite was the habitat area and last year’s logging job full of natural regeneration!

We would like to thank Ron and Billy for inviting us out and taking time out of their busy day to give us a tour! They were given MD-DE Master Logger Continuing Education credits for their time. Follow us on facebook (@MDDEMasterLogger) to be sure you don’t miss their video!

We want to see you too! Invite us out to one of your jobs. We’d love to see you in action!

Get to Know Oaks by the Acorns

By: Taylor Robinson, MD-DE Master Logger Program

**FRA: JACKSTAND CRANK SAFETY**

**Background:**
On a summer day in the Southeast, a logging company’s “set-out man” was staging loaded trailers for drivers to pick up and return to the site after delivery. The set-out man’s work included coupling and decoupling log trailers to his assigned truck, a process that involved raising and lowering the jackstand (landing gear) via a hand-crank winch.

**Personal Characteristics:**
This logging crew’s set-out man was in his early 20s and had only been a part of this logging crew for a few years. The individual consistently wore a hard hat and complied with his company’s safety standards. He was considered a safe, reliable, and hardworking employee.

**Unsafe Act:**
When the set-out man went to drop a loaded trailer for pickup and lower the jackstand, he had one hand on the crank handle and used the other hand to remove the holding chain that would allow the jackstand to be lowered down into place. (When the chain is released from a hook or notch, the weight of the truck on the stand puts the hand crank under a lot of tension.)

When lowering the jackstand, the set-out man lost his grip on the handle of the hand crank.

**Accident:**
The handle spun around several times, striking him once in the mouth and another time on the head.

**Injury:**
Fortunately, he was wearing a hard hat and received no injury from the second blow that struck him on the top of the head. His fellow crew member assessed his injury and provided first aid. His upper lip had been lacerated and bleeding, but he did not seek medical attention and was back on the job the next day, with no loss of ability to perform his usual work functions and no further injury issues.

**Recommendations for Correction:**
- Give your full attention to the job at hand and eliminate distractions before starting.
- Wear the required Personal Protective Equipment.
- Always perform jackstand lowering and raising on flat ground to avoid log trailer rollover.
- Make sure the winch and jackstand mechanisms are working properly.
- Always position yourself perpendicular to the hand crank and away from the jackstand so that if the crank slips from your grasp, the handle will spin without striking you, and the jackstand will fall freely without striking or crushing any part of your body. Do not grab the spinning handle!
- Be sure your hands are clean and free of dust, oil, or other lubricants to ensure the crank handle remains securely in your grasp. Wearing non-slip gloves will provide additional grip and protection.
- When in the raised position, always be sure the jackstand is securely fastened in place.

Reviewed by:
Southwide Safety Committee;
Rick Meyer, Appalachian Region Manager

For more information and similar articles visit:
https://www.forestresources.org/
Every two years, loggers around the state get the opportunity to refresh their knowledge on WV Laws and Silvicultural Best Management Practices at one of the WV Division of Forestry’s in-person training sessions. Typically, this means finding a session that does not require driving hours across the state and one that lines up with lots of rain or snow. Unfortunately, the pre-scheduled training sessions do not always line up perfectly for everyone. In a cooperative effort, the WV Division of Forestry and the WVU Extension Service/Appalachian Hardwood Center is proud to announce a new online opportunity to obtain this required training session.

West Virginia’s Logging Sediment Control Act requires logger certification, which must be renewed every two years. This process includes an application, a fee, and six hours of continuing education credits. Two of these credits must be an update on WV Laws and Silvicultural Best Management Practices. With limitations on in-person training due to COVID and the desire to provide alternative training pathways, an online training course for the required two credit update on WV Laws and Silvicultural Best Management Practices was developed and is now available.

The two-credit online course is available only for those loggers who are applying for re-certification and it must be combined with an additional four credits from approved meetings, trainings, webinars and other offerings. Check with the West Virginia Forestry Association (WVFA), Sustainable Forestry Initiative Companies, or WVU Extension for additional training topics and sessions. The standard WV Division of Forestry in-person full day course for initial certification or re-certification is still available if that training is preferred.

Loggers can self-register for the free two-credit WV Best Management Practices Recertification course and complete the requirements on their own schedule. No longer do you need to forgo a day of production in the field to complete this training and you can even complete it over a longer time period, as it does not have to all be completed in one sitting. The course has four core modules and includes several interactive quick tests to confirm understanding of the required topics. Each of the sections includes videos, photos, and many have narrations to help illustrate important concepts. Upon successful completion of the program, the logger is issued a certificate and a record is generated for WV Division of Forestry tracking.

This online training is provided as a new option for loggers needing to complete the required recertification training. For loggers who are less comfortable with online learning or do not have access to a decent internet connection, in-person training opportunities are still available. This new training program will be assessed over the next recertification period and will be updated as necessary to incorporate new required topics and improve delivery and interactivity within the course.
It looks like Zoom meetings and CEU's will not be gone anytime soon. We want to ensure your success in acquiring the CEU requirements for the MD-DE Master Logger program. We hope this step-by-step information is helpful. If you have any challenges please feel free to contact Taylor or Agnes. Also, keep in mind that many of our live Zoom webinars are recorded and we can provide those via CD or USB after the program.

**Note:** There is no need to install the Zoom app or create an account to join a Zoom meeting. You can join a zoom meeting as a guest participant by clicking the meeting link or dialing the phone number.

### To join via phone:

**Step 1:**
Dial the number given for the meeting

**Step 2:**
Enter the meeting ID when prompted

### To join online via Zoom:

**Step 1:**
Click on the link given for the meeting

**Step 2:**
Click “Open Zoom Meetings” or follow the prompts to install Zoom on your computer

**Step 3:**
Click “Join with Computer Audio”. This will connect your computer speaker and microphone. You will be muted and asked to unmute when necessary.

**Note:** If you do not have speakers on your computer, you should join by phone.
Loggers Wanted for Pioneer-era Skills Competition

The Deep Creek Lake Lions Club in Garrett County is looking for loggers to sponsor, run and participate in a new fundraiser event they are planning – the Meshach Browning Pioneer Challenge on Saturday, August 28, noon to 4pm. In the event, teams of around 4 people will compete in a variety of challenges that test their pioneer-era survival skills like fire-starting, water-carrying, ax-throwing and, yes, log-sawing! The teams will rotate through each of the challenges set up around the event venue with their scores recorded at each and tallied at the end to determine the winner. The Club is currently seeking sponsors, vendors, demonstrators and participants for the event.

Ideally, the Club would like to have a logging company or organization fully run the log-sawing event, from supplying saws, stands and logs to providing a person or two to run the event by timing the contestants and coaching them in proper form. As currently envisioned, the log-sawing station would consist of two logs of the same size on stands which teams would saw in a timed head-to-head competition. The time it takes for a team to saw off a slice of the log would be recorded and then they can head to the next station. Additional logging-related challenges could also be held provided the interest, staffing and safety precautions are present. The Club is also interested in having demonstrations of traditional and contemporary logging practices and is providing non-profit and educational entities the opportunity to set up a information booth free of charge.

Meshach Browning was one of the first settlers of what would become Garrett County in the early 1800’s. He wrote a book, Forty-four Years of the Life of a Hunter, which not only is an engaging series of tales about hunting deer, bear, wolves and panthers, but also provides a detailed and fascinating account of life in pioneer days in Western Maryland. The Club has established a Meshach Browning History Center which consists of a multi-panel interpretive exhibit, a 10 mile trail system and a continuously growing outdoor art installation consisting of 6 pieces themed around Browning. The Club is currently working on acquiring and rebuilding a pioneer-era log cabin at the Center as well. The Meshach Browning Pioneer Challenge is planned not only as a fundraiser for the Club, but also as a way to raise awareness of the History Center and the area’s rich heritage and history. The event will be held at the Club’s park at 1249 Bumble Bee Rd Accident MD.

In addition to managing this community park and history center, the Club also runs the Blind Skier and Camper Programs which provide the visually impaired the opportunity to experience outdoor recreational opportunities, as well as a number of other community causes. For more information on the Deep Creek Lake Lions Clubs, interested parties can visit their website at deepcreeklions.org or call/text Chris Nichols at 323-325-5466 or email DCLLIONS@gmail.com to learn more about sponsoring or participating in this event.
MD Forest Service: 2020 Employee of the Year: Dave Gailey

Dave provided statewide leadership and coordination with multiple agency partners and forest industry in the implementation of the Forest Service’s new Best Management Practice (BMP) Inspection Process for Forest Harvest Operations that was initiated in October 2020. This was a huge undertaking, involving communications and outreach to multiple agency personnel and forest harvesters, which was made even more challenging by the COVID pandemic. In addition, he worked with the Southern Maryland Agricultural Development Commission (SMADC) to develop an outstanding video promoting the economic and environmental benefits of forestry in the region, which has been posted on the SMADC website and received many accolades for the high quality of the production. He also provided leadership to Southern Region staff in completing new Forest Stewardship Plans on 5,930 acres, assisting woodland owners with forestry practices on 9,850 acres, planting 60 acres of tree seedlings, and identifying 140 acres of Healthy Forests, Healthy Waters tree planting sites for future planting.

A New Look has Sprung

The MD-DE Master Logger Program, as part of the University of Maryland Extension, is getting a long-anticipated website upgrade. The rollout is part of a larger re-branding of Extension and the College of Agriculture and Natural Resources and will take place this spring.

With the new site will be a greater connection to our online courses, our video presentations, and our publication resources. The site will be a work in progress for a while, as we work to get all our content from the old to the new, but the new site promises to have better search functions and will be more mobile-friendly.

Please take a look and let us know what you think!
Go to: www.extension.umd.edu/masterlogger

NOTICE:
The mailing address for the University of Maryland, Wye Research and Education Center and the MD-DE Master Logger Program has changed.

Our new mailing address:
124 Wye Narrows Drive
Queenstown, MD 21658

For more information and to register visit: exporichmond.com

EXPO RICHMOND 2020

37th East Coast Sawmill and Logging Equipment Exposition

When
May 21-22, 2021

Where
Richmond, Virginia
Richmond Raceway Complex

New Date

Go to: www.extension.umd.edu/masterlogger
The Maryland Insurance Administration (“MIA”) is the State agency that regulates the business of insurance in Maryland. The MIA provides efficient, effective service to consumers of insurance products and helps increase understanding of the vital role insurance plays in the daily lives of Maryland residents and businesses.

On May 20th, 2021, Robert Baron, Associate Commissioner for Property & Casualty of the Maryland Insurance Administration will be presenting **Logging-related Insurance Issues**, and will respond to your questions, such as:

- How much and what types of insurance should I have?
- What happens if I am sued?
- What type of insurance should the contract hauler have?

Associate Commissioner Baron will respond to these and other questions and provide much more logging related insurance information!

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**Earning Continuing Education Credits Online**

If a webinar does not issue a completion letter or certificate, MD-DE Master Logger program still requires proof of attendance.

4 possible ways to submit proof of attendance:

1) A **completion letter or certificate** from Webinar host

2) Provide proof of **registration** along with a **brief write up**. For guidance on what to write, go to: [http://go.umd.edu/ceproof](http://go.umd.edu/ceproof)

3) Provide proof of **registration** and a **screenshot of the final slide/closing comments** of the webinar.

4) I’m open to other ways, please offer them! As long as there is **proof of registration and completion** to add to your file, we are happy.
For MD-DE Master Loggers whose status has expired **12/31/2020**, the **6 month grace period ends 6/30/2021**

2020 was a challenging year to offer face-to-face trainings and we thank you for understanding. We are glad to say there are still many ways to get continuing education credits. You can watch a logger/forestry related video/webinar, write an article for this newsletter or an editorial for your local newspaper, or invite us to a logging job to get credit. There are many more activities, so please see the list below or check out the MD-DE Master Logger website.

If you have questions about the number of credits you still need to get please contact Taylor at (443) 446-4267.

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<tr>
<th>MD-DE Master Logger Continuing Education Credit Opportunities</th>
<th>Number of Credit hours</th>
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<td>Natural Areas Management Manual and Checklist with quiz</td>
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<td>Call or email Taylor to have the materials sent to you.</td>
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<td>Forestry Aesthetics publication with 10 question quiz</td>
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<td>Call or email Taylor to have the materials sent to you.</td>
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<td>Various CEC safety and forest management videos</td>
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<td>- Deer Management Stewardship Course</td>
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<td><a href="http://www.wvforestry.com/">http://www.wvforestry.com/</a></td>
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<td>Service as a member in any forestry or natural resource organization such as local Forestry Board</td>
<td>2/year</td>
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<tr>
<td>Write an article for the MD-DE Master Logger Newsletter: The Logger or invite us to a logging job so we can highlight you in the The Logger.</td>
<td>2</td>
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THE LOGGER is the official publication of the MD-DE Master Logger Program, Master Logger Steering Committee (MLSC), and the Maryland SFISIC.