

Tree Country

March 2021



the employee
newsletter of the
South Carolina
Forestry Commission

from the desk of
PROTECTION CHIEF
Darryl Jones

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Spring is finally here! This time of year, our activity as an agency starts to pick up, and we all get pulled in different directions. Requests for services work, burning and forest management assistance keep our field personnel busy, not to mention responding to fires or smoke complaints. The SCFC team switches into high gear this time of year, and we all work together to accomplish these tasks safely and efficiently.

Have you ever stopped to think about (and be thankful for!) all of the support you get from others that keep everything going, allowing us to do what we do?

Consider this ... every time we make a purchase, submit time, cut firebreaks or provide details for a fire report, somebody, somewhere has to process that information. Without all of the groups within the agency that support our operations, the things we do every day, in every county, all year round, our jobs would be much more difficult.

Dispatch runs 24/7 to keep up with all of our firefighters and field personnel. When there is a fire, you usually hear about it from a dispatcher first. Once

you get on scene, you talk to dispatch to provide size-up and to request one of our planes or additional help on the ground. After the fire, you provide all of the information needed to complete the fire report. Fire weather is provided multiple times a day to allow firefighters to make good decisions about fire suppression or prescribed burns, and they check on you every 30 minutes to make sure you are still ok.

Our GIS, IT and communications staff spend countless hours installing software, updating servers, creating new maps and ensuring we have the correct licenses to create maps, send emails and create management plans. They keep our radio network running, coordinate with other agencies to share frequencies,



Piedmont Dispatcher Kathy Amick happily takes a burn notification.

and work with vendors to support the phones and networks that connect all of our offices and facilities.

Mechanics work to keep vehicles and equipment maintained, provide service and repairs in the field and in our shops, and coordinate with dealerships for repairs. They document vehicle costs, prioritize repairs, and keep all of the equipment that we rely on mission ready.

The Construction and Property group works to keep our facilities maintained and looking nice. Maintaining all of our buildings and facilities, managing repairs for heating/cooling systems, overseeing major construction projects, and keeping our properties well marked and clean is a tremendous amount of work.

The Information and Education section maintains our website, interacts with the media, and produces publications and products for every program in the agency. They spend hours responding to requests for information from the public, landowners and attorneys, and they also answer an incredible amount of questions posed by our customers



Pee Dee Mechanic Dennis Weaver repairs a ramp on a unit during the Highway 31 Fire in 2009.

on social media. Whenever there is smoke in the air, either from prescribed burns or from wildfires, requests for information skyrocket.

Human Resources advertises positions, assists with hiring, provides orientation for new employees, keeps up with working time and leave, and works to make sure that our policies and procedures comply with state and federal regulations. During the COVID-19 pandemic, HR has been responsible for keeping up with guidance from the state level and has been working with employees on leave issues, quarantine, and how and when to return to work.

Our Administration Section keeps up with purchases, bids for equipment and other big ticket items, maintains our fixed assets inventory, tracks our budgets, processes travel reimbursements, and keeps us in compliance with state financial regulations. They work with the US Forest Service and other agencies to support our grants, and work with FEMA when we have large incidents to secure reimbursement. When we have audits – it happens much more

often than you think! – they work with auditors to provide information, then work to resolve any issues.

Administrative support in our headquarters and field offices document our work, answer phones and direct landowners to the right person. They help with time entry, rectify receipts for purchases, pay utility bills, and do things every day to help keep us all straight.

I mention all of this to remind you that we are all one team, working toward the same goal. Our success as an agency can't be accomplished as individuals, and it doesn't all happen in the woods. Take a few minutes to thank everyone who works behind the scenes to support what you do every day.

Stay safe, and watch out for each other!



On the Cover

The cover photo features a line of palmetto trees along the Battery in Charleston.

JUST FOR FUN...



See if you can find the hidden dozer located somewhere in this issue of Tree Country. (It will be smaller than the one to the left and NO, it isn't the one in the header of the Safety Message.)





Safety Lead Time

An important aspect of safety is individual responsibility for one's own health and safety. Even with the best supervision, each individual firefighter will occasionally be required to make personal decisions concerning safety. It is important that individual responsibility is taught as the basis for a viable safety program. Some of those individual responsibilities are:

- **Fitness for duty.** Begin each work shift both mentally and physically prepared for the rigors of wildland firefighting. Getting adequate sleep, maintaining a healthy diet, and proactively participating in physical training are foundations for your personal safety.
- **Utilization of personal protective equipment (PPE).** Wear your PPE without being told. Each individual is responsible for performing their own risk assessments. Utilize PPE when a hazard is identified that can be mitigated by wearing a particular PPE component.
- **Following safe work practices.** For example, using a spotter when backing up vehicles is the prudent and professional course of action. If you are unsure how to perform a job or task safely, ask your supervisor or an experienced coworker.
- **Using the correct reference materials is an important aspect of safety.** You should have a working knowledge of the [Interagency Standards for Fire and Aviation Operations \(Red Book\)](#), [Incident Response Pocket Guide \(IRPG\)](#), [PMS 461](#), and your local operating guidelines.
- **Ensure instructions are clearly understood.** Communication is a basic responsibility for all fire personnel. Ask appropriate questions to clarify uncertain issues. Speak up when you observe hazards that may place you or others at risk.
- **Maintain situational awareness at all times.** Awareness is a vital component of safety. Pay attention to what is happening around your area of operations. Always display an awareness of what is happening around you by asking questions or sharing information.



Using a spotter when backing up vehicles is the proper way to unload a vehicle.

Summary

Do not expect someone else to be responsible for your safety. Take it upon yourself to make safety your number one priority.

Provided by Training & Safety Manager Stephen Patterson



This safety message comes from the National Wildfire Coordinating Group (NWCWG) Risk Management Committee's Six Minutes for Safety Program. <https://www.nwcg.gov/committee/6mfs>



Human Resources

Employee News

New Employees

Please welcome the following new employees who started in February.

Brad Chance is the new Forestry Technician I for the Berkeley/Upper Charleston Sector. Brad started Feb. 2 and lives in St. Stephen. He attended Macedonia High School and has been self-employed. In his spare time Brad enjoys hunting and wood working.



Brad Chance



Rickey Hill

Rickey Hill is a new Forestry Technician I for the Lower Charleston/Dorchester Sector. Rickey started Feb. 2 and attended Berkeley High School in Moncks Corner and Trident Technical College in North Charleston. He lives in Ridgeville and has 40 years experience in designing and fabricating production equipment. Rickey likes to hunt, fish and do woodworking in his free time.

David Morrah is a new Forestry Technician I for the Edgefield/McCormick/Saluda Sector. David lives in McCormick and started with the agency Feb. 2. He attended Long Cane Academy in McCormick and has been a mechanic at Savannah Lakes Village. In his spare time David enjoys working on old tractors. David's father was a fire warden and a county ranger for the agency before his retirement.



David Morrah

Michael Tumbleston is a new Forestry Technician I for the Bamberg/Colleton Sector. He started Feb. 17 and attended Horry-Georgetown Technical College in Georgetown. He has experience as a truck driver and forestry technician.



Michael Tumbleston

Louis J. Ramsey, Jr. returned to the Commission Feb. 17 as a Forestry Technician I for the Beaufort/Jasper Sector. Louis previously worked in the Edisto Unit from January 2017 until October 2020. Louis lives in Sheldon and attended Beaufort High School. He retired from the MCRD Parris Island Fire Department after 32 years. Louis likes to hunt, fish, and trap wild hogs in his spare time.



Louis J. Ramsey, Jr.



Caleb Watson

The new Project Forester for Horry and Marion counties is **Caleb Watson**. Caleb started Feb. 17 and currently lives in Florence. He attended Robert E. Lee Academy in Bishopville and graduated from Clemson University in December 2020. Caleb did an internship with Graves Arboriculture and Harbison State Forest in 2020. In his spare time he enjoys hunting, fishing and powerlifting.

Employee Actions

Allendale/Hampton/Jasper Sector Forestry Technician I **Neal Murdaugh** was promoted to Sector Fire Management Officer Feb. 17. Congratulations, Neal!



Neal Murdaugh

Human Resources

- Lynn Rivers

Farewells

Piedmont Mechanic **Brandon Knox** resigned Feb. 5.

Pee Dee Dispatcher **Sandra Atkinson** passed away Feb. 15. Sandra worked for the agency for 13 years. Please keep her family and friends in your thoughts and prayers.

Technology Division Director **Jeff Baumann** retired Feb. 27 after working 40 years. We wish him the best in retirement! (For more on Jeff's forestry career see pages 23-24.)

Human Resources

Foley Delivers First Child

Assistant Education Coordinator Beth Foley gave birth to her first child Feb. 5. Conrad William Foley was born at 5:43 a.m. weighing 6 lbs., 3 oz. Beth and husband Blain are over the moon about Conrad. Everyone's healthy and happy. Congratulations, Beth!



Conrad Foley sleeps while in the hospital.



Beth Foley with Conrad in the hospital after his birth Feb. 5.



Conrad Foley listens intently to his mother.



Human Resources

- Lynn Rivers

CURRENT JOB OPENINGS

For complete information on SCFC job openings visit <http://www.jobs.sc.gov>, click on the **www.jobs.sc.gov** mouse, search by agency for "Forestry".

Job Title: Forester I - Forest Inventory and Analysis (FIA) 2 positions

Agency Hiring Range: Min: \$37,740.00 Max: \$43,612.00

Location: Colleton County, South Carolina

Closing Date/Time: Continuous

Job Title: RE-ADVERTISEMENT - Forester I FIA

Agency Hiring Range: Min: \$37,740.00 Max: \$43,612.00

Location: Florence County, South Carolina

Closing Date/Time: Continuous

Job Title: Program Coordinator II

Agency Hiring Range: Min: \$44,835.00 Max: \$58,086.00

Location: Richland County, South Carolina

Closing Date/Time: 03/10/21 11:59 PM

Job Title: Forestry Technician I

Agency Hiring Range: Min: \$23,756.00 Max: \$24,944.00

Location: Greenwood County, South Carolina

Closing Date/Time: 03/14/21 11:59 PM

Job Title: RE-ADVERTISEMENT - General Maintenance Technician I

Agency Hiring Range: Min: \$26,019.00 Max: \$29,922.00

Location: Chesterfield County, South Carolina

Closing Date/Time: 03/15/21 11:59 PM

AttaGirl

AttaBoy

Below are some comments from the Customer Surveys Feb. 22, 2021:

Forest Management (Kershaw/Lancaster/Lee Project Forester Gwyn Cloninger)

"The assistance I received from Gwen Cloninger was outstanding! Her information was both informative and educational. She is a valuable asset to the Commission."

Cost-share Initial (Spartanburg Project Forester Jon Barker)

"Jon was very professional and very helpful. I really appreciate his evaluations and explanations."

Cost-share Follow-up (Dillon/Florence Project Forester Chet Foyle)

"It was an enjoyable experience and so easy to talk to people and help with any questions that I might have had.... Thank you!!"
(Florence County landowner)

Services (Allendale/Hampton/Jasper Sector Forestry Technician I Stacey Deloach)

"Stacey needs a raise – he did a good job! Thanks!" (Hampton County landowner)

AttaBoy



In an email dated Feb. 2, 2021 to Piedmont Regional Forester Mike Bozzo regarding Anderson/Greenville/Oconee/Pickens Project Forester **Trey Cox**'s assistance:

Mr. Mike Bozzo,

Hi... My name is John Imand and I had Trey Cox come out and look at my property I purchased as I had a lot of Kudzu and also wanted to talk about getting the property burned. I must say he was very professional and did an amazing job on his recommendation's. It has taken three years to get where I am , however looks like a new area. Please make sure you pass on how appreciated I am of his work on getting me to the state I am in now. I also have it scheduled to get burned again this year. You guys are amazing.

Thanks,

John Imand

In an email dated Feb. 8 from Tom Straka thanking Rural Forestry Program Coordinator **Chisolm Beckham** for his presentation:

Chisolm,

Thank you for a great presentation today. The students learned much about forest management planning within the South Carolina Forestry Commission. Your information on job opportunities with the Commission was excellent and your audience was the Clemson seniors, so they got the word. Thank you for taking the time.

Tom

Thomas J. Straka Clemson University

Professor Emeritus

Department of Forestry and Environmental Conservation

Employee Service Awards



NO SERVICE AWARDS FOR MARCH



Lower Charleston/Dorchester Sector Forestry Technician I David Hardy received his 20-year service certificate and pin from Coastal Regional Forester Calvin Bailey at the St. George office (for October 2020).



Dorchester/Orangeburg Sector FMO Thad Wimberly received his 20-year service certificate and pin from Coastal Regional Forester Calvin Bailey at the Orangeburg office (for October 2020).

MSF Employees Assist Stuck Manchester Employee

With seven inches of rain in four days, Manchester State Forest employees came to the rescue of Administrative Assistant Karen McIntosh Feb. 22 when she got stuck on Belle's Mill Road - a county-maintained road - on her way to work. Forest Director James Douglas, Assistant Forest Director Ben Kendall and Forestry Technician/LE Officer Steve Ward worked to get Karen's car unstuck. After trying to push the car out with brute force, James got covered in mud from head to toe. So they decided to use Steve's winch to pull her vehicle out. James laid on cardboard (that Karen happened to have in her vehicle) to hook up the winch cable and prevent him from getting muddier. Then Steve pulled the car free with Ben steering the vehicle.

This isn't James' first time getting muddy at work. He has learned to keep an extra set of clothes and boots in his truck.



THE Benefits Beat



The beat goes on... Don't miss a beat on your heart health

February is designated each year as “heart health” month. Your blood pressure is one of the most important measures of your heart health, and you can keep an eye on it without even leaving your home. It's easy to learn how to take your own blood pressure, right from the comfort of your own living room. If you have a MoneyPlus Medical Spending Account or Health Savings Account, you can use either to purchase a blood pressure cuff to use at home.

It's a good idea to take your blood pressure regularly. Blood pressure is measured as a fraction showing two numbers. The top number in the fraction is your systolic blood pressure, which is the pressure of blood flow when your heart muscle contracts. The bottom number is your diastolic blood pressure, the pressure between heartbeats.

To have a “normal” blood pressure range, your top number should be below 120, while your bottom number should be below 80. If you're seeing numbers higher than that on a regular basis, talk to your doctor. High blood pressure can cause heart disease and stroke, two of the leading causes of death in the United States.

Make healthy lifestyle choices

Along with monitoring your blood pressure, there are some simple lifestyle changes you can make to lower it without medication. They include the following:

- Losing weight;
- Exercising for at least 150 minutes a week;
- Eating a diet rich in whole grains, fruits and vegetables;
- Reducing sodium in your diet
- Drinking alcohol only in moderation;
- Quitting smoking;
- Cutting back on caffeine;
- Reducing your personal stress; and
- Getting support.

Speak with your doctor about any heart health concerns you may have, or you can find additional information by going to www.StateSC.SouthCarolinaBlues.com, Resources, then Live Healthy.

State Health Plan members can also get health information through convenient text messages. To sign up, call (844) 284-5417 from your cellphone or text “Perks” to 735-29.

Myths and Facts about COVID-19 Vaccines

Content source: National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases, updated Feb. 3, 2021

Can a COVID-19 vaccine make me sick with COVID-19?

No. None of the authorized and recommended COVID-19 vaccines or COVID-19 vaccines currently in development in the United States contain the live virus that causes COVID-19. This means that a COVID-19 vaccine cannot make you sick with COVID-19. There are several different types of vaccines in development. All of them teach our immune systems how to recognize and fight the virus that causes COVID-19. Sometimes this process can cause symptoms, such as fever. These symptoms are normal and are a sign that the body is building protection against the virus that causes COVID-19. Learn more about how COVID-19 vaccines work. It typically takes a few weeks for the body to build immunity (protection against the virus that causes COVID-19) after vaccination. That means it's possible a person could be infected with the virus that causes COVID-19 just before or just after vaccination and still get sick. This is because the vaccine has not had enough time to provide protection.



Benefits/Health

- Chetna Patel



Chetna Patel

Benefits Administrator
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THE Benefits Beat



Continued)

After getting a COVID-19 vaccine, will I test positive for COVID-19 on a viral test?

No. Neither the recently authorized and recommended vaccines nor the other COVID-19 vaccines currently in clinical trials in the United States can cause you to test positive on viral tests, which are used to see if you have a current infection. If your body develops an immune response—the goal of vaccination—there is a possibility you may test positive on some antibody tests. Antibody tests indicate you had a previous infection and that you may have some level of protection against the virus. Experts are currently looking at how COVID-19 vaccination may affect antibody testing results.



If I have already had COVID-19 and recovered, do I still need to get vaccinated with a COVID-19 vaccine?

Yes, you should be vaccinated regardless of whether you already had COVID-19. That's because experts do not yet know how long you are protected from getting sick again after recovering from COVID-19. Even if you have already recovered from COVID-19, it is possible—although rare—that you could be infected with the virus that causes COVID-19 again. Learn more about why getting vaccinated is a safer way to build protection than getting infected. If you were treated for COVID-19 with monoclonal antibodies or convalescent plasma, you should wait 90 days before getting a COVID-19 vaccine. Talk to your doctor if you are unsure what treatments you received or if you have more questions about getting a COVID-19 vaccine.

Experts are still learning more about how long vaccines protect against COVID-19 in real-world conditions. CDC will keep the public informed as new evidence becomes available.



Will a COVID-19 vaccination protect me from getting sick with COVID-19?

Yes. COVID-19 vaccination works by teaching your immune system how to recognize and fight the virus that causes COVID-19, and this protects you from getting sick with COVID-19. Being protected from getting sick is important because even though many people with COVID-19 have only a mild illness, others may get a severe illness, have long-term health effects, or even die. There is no way to know how COVID-19 will affect you, even if you don't have an increased risk of developing severe complications. Learn more about how COVID-19 vaccines work.



This is a friendly reminder for employees to visit the agency's Special section on coronavirus-related information for employees website at <http://www.trees.sc.gov/coronavirus.htm>. The Division of Communication and this office work to provide COVID information and resources for our employees.

If you have questions or need assistance with any of this month's newsletter topics, please contact me at (803) 896-8874 or email to cpatel@scfc.gov.

Benefits/Health

- Chetna Patel



**SUCCESS
STORIES**



Scenes from the 2021 prescribed burning PSA just released to television stations.

Have you seen our newest PSA yet?

The Forestry Commission has a new public service announcement! The new 30-second TV spot, which hit the airwaves at the beginning of this month, is about prescribed burning and its many benefits.

The release of the spot was timed specifically to coincide with Gov. McMaster's proclamation designating March as Prescribed Fire Awareness Month.

You may remember the Division of Communications & Public Information last year produced a combination of 13 radio and TV PSAs that aired on most stations across the state from March to June. The commercials range in topics from the agency's multifaceted mission and our wildfire suppression responsibilities to forest management assistance for landowners as well as the overall economic impact of forestry in the state... and now prescribed burning!

While commercial advertising is very expensive and not usually in reach of our small agency's budget, the Communications & Public Information staff was able to take advantage, again, of a non-profit program offered by the South Carolina Broadcasters Association. Called PEP, for Public Education Program, the SCBA initiative allows government agencies and non-profits to buy its member stations' unused airtime at significantly reduced rates.

Produced by Public Information Coordinator Michelle Johnson and voiced by EQIP Burning Coordinator Lowe Sharpe and Environmental Program Coordinator Holly Welch, the commercials are once again airing on 110 radio stations and 37 TV outlets in South Carolina for three months, this year from January through March.

The new PSA about prescribed burning can be viewed on YouTube at <https://youtu.be/iVt62unI28k> Let us know if you see or hear them!



EQIP Burning Coordinator Lowe Sharpe did the voice-over for the new PSA and strings fire on a burn on Harbison State Forest in the video.

Governor Proclaims March Prescribed Fire Awareness Month

Official designation brings attention to the many benefits of controlled burning

Gov. Henry McMaster has proclaimed March 2021 Prescribed Fire Awareness Month in South Carolina.

A coalition of state, federal and non-governmental land management organizations under the umbrella of the South Carolina Prescribed Fire Council requested the proclamation to raise awareness of the essential role that fire plays in both the stewardship of our natural resources and the protection of lives and property.

Prescribed, or controlled, burning is the skilled application of fire under planned weather and fuel conditions to achieve specific forest and land management objectives. Controlled burning is an ancient practice, notably used by Native Americans for crop management, insect and pest control, and hunting habitat improvement, among other purposes.

The practice continues today under the direction of land managers who understand the appropriate weather conditions, fuel loads and atmospheric conditions for conducting such burns. These carefully applied fires are an important tool to reduce wildfires, enhance wildlife habitat, and keep the nearly 13 million acres of forested land in South Carolina healthy and productive.

While prescribed burning cannot stop all wildfires, it is the best management tool available for preventing larger and more frequent outbreaks. "Prescribed burning is not only the most effective, economical protection against wildfires because it

reduces accumulated fuels," said McMaster in his proclamation, "but it is also a key tool in managing and maintaining the ecological integrity of South Carolina's woodlands, grasslands, agricultural areas and wildlife habitats."

Darryl Jones, SCFC Forest Protection Chief, said about 500,000 acres are prescribed-burned every year in South Carolina - most of them on private land - but at least 1 million acres should be burned annually. "Every prescribed burn accomplishes multiple benefits," said Jones. "Carefully applied prescribed fire is a safe, efficient way for land managers, including foresters, biologists and farmers to improve the health and resiliency of their properties. Reducing the amount of debris on the forest floor with prescribed fire also makes it safer and easier for firefighters to suppress wildfires."

"Prescribed fire is one of the most effective and cost-efficient management tools we have for restoring and maintaining healthy forests with active, growing timber and abundant and diverse wildlife populations, and it enhances public safety by reducing wildfire risk," said SCPFC Chair Lisa Lord. "The Council exists to promote the time-tested use of prescribed fire and appreciates local and state elected officials' support of its use in wisely managing South Carolina's natural resources for the citizens of our state."

State of South Carolina Governor's Proclamation

WHEREAS, prescribed burning is the skilled application of fire under planned weather and fuel conditions to achieve specific forest and land management objectives; and

WHEREAS, ecosystems throughout the Palmetto State evolved in an environment in which understory fires occurred naturally every few years; and

WHEREAS, prescribed burning is not only the most effective, economical protection against wildfires because it reduces accumulated fuels, but it is also a key tool in managing and maintaining the ecological integrity of South Carolina's woodlands, grasslands, agricultural areas, and wildlife habitats; and

WHEREAS, many plants and animals require fire for their survival; and

WHEREAS, the approximately 500,000 acres of South Carolina land that are prescribed-burned annually represent only half of the estimated one million acres that could benefit from its strategic application.

NOW, THEREFORE, I, Henry McMaster, Governor of the great State of South Carolina, do hereby proclaim March 2021 as

PRESCRIBED FIRE AWARENESS MONTH

throughout the state and encourage all South Carolinians to learn more about prescribed burning and the essential role fire plays in the stewardship of our natural resources and protection of our citizens.



HENRY McMASTER
GOVERNOR
STATE OF SOUTH CAROLINA

PRESCRIBED FIRE AWARENESS MONTH



Georgetown/Williamsburg Project Forester GraceAnna Cooper strings fire in a site prep burn near Hemingway Feb. 24.

March is Prescribed Fire Awareness Month in South Carolina, as designated by a proclamation from S.C. Gov. Henry McMaster, and the Forestry Commission is making an extra push this year to have the designation – and the practice of prescribed burning itself – recognized in the media.

Every year the agency has the month-long occasion acknowledged and supported by the governor in the form of a statewide proclamation, and the Communications & Public Information staff issues press releases and makes social media posts that tout the benefits of prescribed burning.

But we'd like to do more again this year, and we need the help of our frontline firefighters, particularly Sector FMOs, to help spread the word. Too often prescribed burning is portrayed negatively in the media because the coverage tends to focus on the resultant smoke and the impacts it has, particularly in more heavily populated areas.

What's usually missing is the positive benefits, which, as the only agency whose mission is tied so closely to the safe and responsible use of fire, we are in a unique position to provide. While we may all know the benefits of this ancient practice, most media members and certainly most people in the general public, do not.

This year we want to “get out in front of the story,” as the saying goes, by enlisting our personnel who are conducting prescribed burns to spend time with media talking about why the practice is so important. The CPI staff will be more actively pursuing these audio-visual opportunities this year and pitching media in all parts of the state to do stories on prescribed burning and the benefits thereof.

This requires the assistance of our Sector FMOs as well as their staffs. As we are entering the prime time for burning, we are asking supervisors to be responsive and cooperative with requests for interviews and “ride-along” opportunities that will allow media to cover the issue from the agency's – and responsible land managers' – perspective. Another way Sector FMOs can assist would be to let us know as often as possible, and preferably a few days in advance, when and how much burning they plan to be doing so that Communications & Public Information staff can coordinate media opportunities with precision and professionalism.

Sector FMOS aren't the only ones who can help, though. We can all be ambassadors for prescribed burning by sharing the benefits with others who are either unaware of or have negative attitudes toward the practice. Please download, print and share the following fact sheet about prescribed burning with your friends, on social media and anyone else who may have questions: www.trees.sc.gov/pubs/prescribedburningfactsheet.pdf.

Thank you in advance for your help with this year's media push!

Caught ON Camera

PRESCRIBED BURNING



Pee Dee Stewardship Forester Tonya Smith is happy to be able to burn after all the rain we have received lately.



Dillon/Florence Project Forester Chet Foyle strings fire down a row of longleaf pine Feb. 23.



Manchester State Forest employees prescribed burned approximately 240 acres Feb. 24. (photos above and below)



Georgetown/Williamsburg Project Forester GraceAnna Cooper explains burn plans to Horry/Marion Project Forester Caleb Watson and Pee Dee Stewardship Forester Tonya Smith outside of Hemingway Feb. 24.



New Horry/Marion Project Forester Caleb Watson starts ringing a field with fire.



The drip torch is lit and ready to burn.



Georgetown Sector Forestry Technician I Jonathan York returns to his truck after burning.

Caught ON Camera

PRESCRIBED BURNING



These photos are from a 26-acre prescribed burn in Edgefield County Feb. 24. Edgefield/McCormick/Saluda Sector FMO Colton Webb (above left) was the burn boss. Edgefield/McCormick/Saluda Project Forester Henry Hutto (above center) and Edgefield/McCormick/Saluda Sector Forestry Technician I Sammy Connelly (above right) assisted with the burn. Also assisting were Piedmont West Unit Forester Michael Weeks, Abbeville/Greenwood/Laurens Project Forester Michael McGill, and Edgefield/McCormick/Saluda Sector Forestry Technician I Tony Ashley. Colton Webb completed his CPFM certification with the Edgefield burn.



Piedmont West Unit Forester Michael Weeks strings fire on the Edgefield County burn.



Prescribed fire signs were put out on the highway near the burn Feb. 24.



A 31-acre prescribed burn was done by Santee Unit personnel on a longleaf stand on Wadmalaw Island Feb. 24. The burn was done by Charleston/Dorchester Sector Forestry Technician I Jeffrey Kemmerlin, Charleston/Dorchester Sector Fire Warden Robert Browning, Calhoun/Orangeburg Project Forester John Bryan, and Berkeley/Charleston/Dorchester Project Forester Austin Phillips.

Programs

Programs

SCDOT Recently Load Rated All SC Bridges

SCDOT has recently load rated all of their bridges across South Carolina to comply with federal regulations. Due to this review, many bridges are in the process of being posted with load restrictions that haven't been posted in the past and others are being re-posted with lower weight allowances. These restrictions have the potential to adversely impact the forest industry supply chain as a lot of the small rural bridges are among those affected.

Below is information that was published by SCDOT specifically for the logging industry. Please be on the lookout for the new postings and share this information with anyone you know that could benefit from it. SCDOT is working on an interactive map that will show the load restricted bridges in an effort to aid in route planning. Feel free to reach out to me if you have any questions.

Environmental

- Holly Welch

Know your vehicle load weight, understand load posting signs, and obey weight limits.

1. It is your responsibility to know the gross weight and configuration of your vehicle and load.

If you don't know your vehicle weight, please contact the vehicle manufacturer, or check the weight at a certified scale facility.

It is your responsibility to understand and obey the load posting signs.

Do NOT exceed the posted weight limit on any bridge.

2. What if my vehicle and load exceed posted capacities?

Take an alternative route that can safely and legally carry your vehicle.

3. What are the consequences of violating a bridge weight limit sign?

Subjecting a bridge to vehicles that are heavier than the structure is able to safely carry can cause damage, which could lead to closure of the bridge.

You may be cited with a traffic violation for not obeying a regulatory sign. You may be held liable for damages.

Contact SCDOT if you have questions.

RESOURCES & LINKS

South Carolina DOT
www.scdot.org

South Carolina Vehicle Code
www.scstatehouse.gov/code/title56.php

South Carolina Oversize / Overweight Permits
Locate posted bridges before getting on the road. Refer to this website to find posted bridges under the "SCDOT Bridge Load Restrictions" link.

www.scdot.org/business/permits-osow.aspx

“ **WHY CAN'T I CROSS THIS BRIDGE?**

”

Understanding Bridge Weight Limits

LOGGING TRUCKS



South Carolina Department of Transportation

955 Park Street | P.O. Box 191
Columbia, SC 29201-3959

July 2020

South Carolina Department of Transportation

BRIDGE LOAD POSTINGS

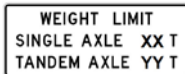
Logging Trucks

Load posting is required for bridges when the structure does not have enough capacity to continuously and safely carry the legal loads allowed by state and federal law. The purpose of posting a bridge is to prevent heavy loads that can cause damage from crossing the bridge.

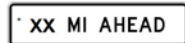
The South Carolina Department of Transportation (SCDOT) regulates the roadway signs that are used for load postings. When a bridge is posted, the following Bridge Weight Limit sign will be located near the bridge showing maximum vehicle weights allowed on the bridge.



Sometimes the following Weight Limit sign will be placed below to provide maximum axle weights allowed on the bridge.



The signs will also be located a distance before the bridge with an additional sign placed below it to provide advanced warning so safe alternate routes can be taken.



Examples of Legal Loads

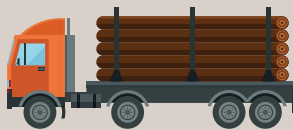
SINGLE VEHICLE: Two Axles (Two Single Axles)



SINGLE VEHICLE: Three Axles (One Single and One Tandem Axle)



SINGLE VEHICLE: Four or More Axles (Single and Tandem Axles)



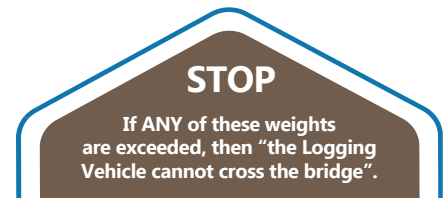
COMBINATION VEHICLE (Single and Tandem Axles)



When a bridge doesn't have enough capacity to handle the loads, then a Bridge Weight Limit sign and sometimes the Weight Limit (per axle) sign will be posted near the bridge.

These conditions must be met before a vehicle can cross a bridge:

1. The total vehicle weight in tons cannot exceed "XX" for 2 or 3 axles, or "YY" for 4 or more axles for a Single Vehicle, or "ZZ" for a Combination Vehicle.
2. If a Weight Limit (per axle) sign is posted then the heaviest single axle weight cannot exceed the "SINGLE AXLE" weight "XX" shown on the sign, and the heaviest tandem axle weight cannot exceed the "TANDEM" axle weight "YY" shown on the sign.



Baumann Recognized for His Retirement

Technology Division Director Jeff Baumann was recognized Feb. 25 for his retirement after 40 years. Due to COVID-19 precautions a retirement party could not be held to celebrate Jeff's career. (See more on Jeff's career on pages 23-24.)

Jeff was presented an engraved "Dean Carson" wooden box, \$930 in gift cards and cash, a certificate of service from the state, service certificate from the agency and his 40-year state service pin.

Congratulations, Jeff!



Programs

Programs

Scion Collection Important for Replicating Quality Seed

Scion collection is an important step in the Tree Improvement Program because this vegetative material can be grafted, replicating selections of high genetic value in our orchards and clonal banks at Niederhof Forestry Center. Thus, grafting allows the transference of the selections of interest for the production of seed or genetic conservation for future tree improvement needs.

Tree Improvement Forester Carla Castro assisted in shooting scion material in preparation for this spring's grafting. Grafting will be completed in order to expand the 3rd cycle Coastal and Piedmont orchards as well as the clonal bank at Niederhof Forestry Center.



Tree Improvement Forester Carla Castro with her first scion collected by .22 caliber rifle.



Scions were collected on Manchester State Forest by shooting out upper branches from select trees.

Tree Improvement

- Carla Castro

Virtual Field Trips to Harbison State Forest Take Off

Many schools from across the state are now taking advantage of the live virtual field trips to Harbison State Forest. Third-grade students at Harbison West Elementary learned the difference between wildfire and prescribed fire, and examined how species in a longleaf pine habitat have adapted to live in a fire-managed ecosystem. Fifth-graders from Harbison West Elementary and Seven Oaks Elementary studied aquatic and terrestrial habitats inside a Piedmont forest ecosystem examining the biotic and abiotic factors in each habitat. Third-graders at Seven Oaks Elementary went on a virtual forest hike, found examples of producers, consumers, and decomposers along the trail, then created food chains using the discovered organisms.

Even though schools are unable to travel for in-person field trips to Harbison State Forest this spring, Education Coordinator Matt Schnabel and Environmental Education Specialist Maura Glovins still are teaching youth about our forests and forest conservation through their live virtual field trips. A study conducted by the Environmental Education Association of SC indicated that teachers and students were tired of watching pre-recorded educational videos and that they wanted live, interactive educational experiences. Virtual programs were developed for grades kindergarten through 7th grade that teach children about our forest resources and also meet the SC Department of Education academic standards. Detailed information about the programs can be found on the Forestry Commission website.



Environmental Education Specialist Maura Glovins teaching the 3rd grade Forest Ecosystems programs at one of the outdoor classrooms on the Learning Trail on Harbison State Forest.

Education

-Matt Schnabel

Programs

Programs

Urban Happenings in Florence

We all know that the Forestry Commission has a regional office near Florence, but if you have not been to the city itself in a while you will notice some changes. The city is improving so much of the downtown area with trees and plants and unique landscapes. The following are some of the highlights that are happening with trees to improve the urban area.

Evans Street New Streetscape

Florence is adding trees and curbing and still including parking along the street across from the city office complex. Evans Street is one of the major corridors in the downtown area. Some employees will remember when the Forestry Commission had a district office in downtown Florence, and you can see that building as you drive down Evans Street.

City of Florence Farmer's Market on Sanborn Street

This is a wonderful new site for the city's farmer's market. The building has a commercial federally inspected kitchen that can be rented out for anyone who needs a place to make, bake or sell their goods. The city has landscaped the site around the market with fruit trees such as plums, pomegranates, pears and apple trees. Also blueberries and figs were planted with the idea of planting food-producing plants and trees as a theme for the area. The city arborist, Jenny Lee, is pleased with the progress of the trees and hopes they produce fruit along with looking good. The Farmer's Market is open on Saturdays.

Tree Inventory

The City of Florence received a grant from the SC Forestry Commission to do a tree inventory of the city's public trees. You might notice a few large stumps around town as they removed trees that were discovered to be hazardous while doing the inventory. These trees were recommended to be removed due to the amount of rot in the lower trunk. The city is going to continue to use the tree inventory data to make future management decisions about their urban forest. They were very appreciative of receiving the Urban and Community Forestry grant.



Evans Street project is adding trees to downtown Florence.



The old Florence District Office was located on Evans Street, in the white building way in the back.

Urban Forestry

-Lois Edwards



Newly planted trees at the City Farmer's Market



Fruit trees adorn the City Farmer's Market landscape.



Stumps of removed hazardous trees remain after the tree inventory discovered the hazards.

Around the state



Niederhof Seed Extraction

The last pine seed extraction for the year at Niederhof Forestry Center took place Jan. 27. Beaufort/Jasper Sector Forestry Technician I Scotty Harrington sent in these photos. Scotty and Allendale/Hampton/Jasper Sector Forestry Technician I Lowell Parnell and James Mole assisted with the process.



Pine cones are dried in wooden boxes.



Allendale/Hampton/Jasper Sector Forestry Technician I Lowell Parnell dumps the dried cones into the extractor.



Seeds are extracted into crates. Then have to go through a cleaning process to separate the seed from the wing.

Aircraft Gets New Decals

Chief Pilot Sam Anderson sent in these photos of the newly acquired Cessna 206 aircraft being decaled. Sam, along with Equipment Coordinator Doug Mills and Pilot Jimmy Tobias, put new decals on the new aircraft and the Cessna 206 assigned to Sam Jan. 28.



Equipment Coordinator Doug Mills places the agency decal on the tail of Anderson's Cessna 206.



Mills applies stickers and decals to the newly acquired Cessna 206 (above and below right).



The Cessna 206 assigned to Anderson is looking good.



Programs

Programs

Canopy Coaching for SC Communities

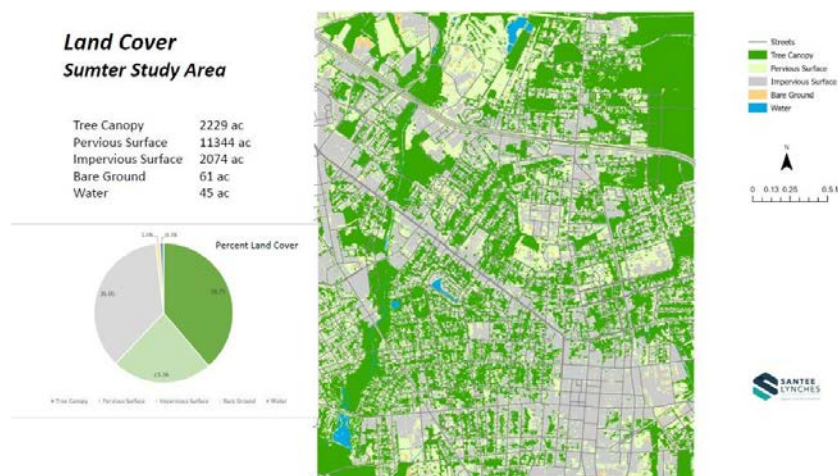
The article below describes an urban and community forestry grant awarded to our partner, Green Infrastructure Center, to help deliver our program by building capacity for urban forest management in municipalities and counties.

The South Carolina Forestry Commission funded the Green Infrastructure Center (GIC) to coach local governments in mapping local tree canopy. The project, dubbed “Canopy Coach,” taught Geographic Information Systems (GIS) managers from various South Carolina communities how to create tree canopy and land cover data to better manage their urban and rural forests. SCFC and GIC provided the Canopy Coaching opportunity to GIS managers in South Carolina municipalities. GIC and Urban and Community Forestry Program staff recruited five different communities – Beaufort County, Bishopville, Mt. Pleasant, Richland County and Sumter to create canopy and land cover data.

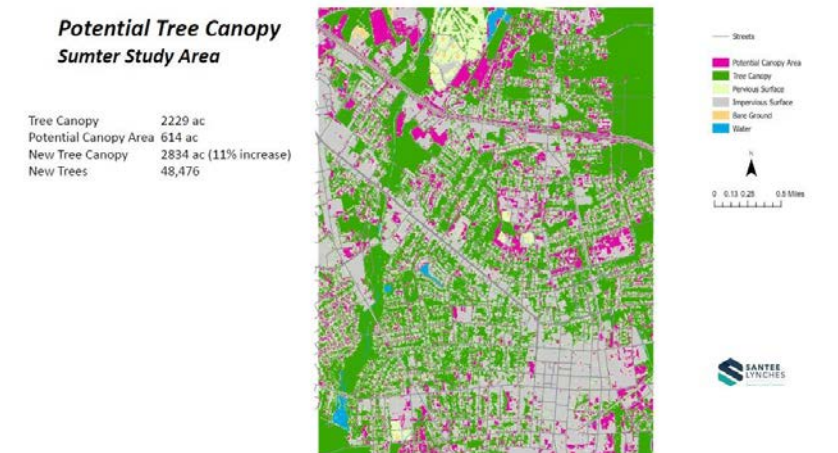
GIC developed an online resource center with “how to” instructional videos, links to technical articles and access to scripts to run the canopy mapping models. In addition, each participant received personalized coaching on developing project goals and regular one-on-one training sessions to troubleshoot problems and review intermediate data products. At the end of the training, GIC staff coached the GIS managers, local planning staff and other resource managers for each community in data interpretation, and how to apply the data to urban and rural forest management needs in their communities.

Mapping tree canopy cover also allows for the calculation of ecosystem service benefits that trees provide, such as stormwater capture and uptake, reductions in water pollution (e.g. nitrogen, phosphorous and sediment), air pollution reductions (e.g. ground level ozone, particulate matter), carbon sequestration and storage, urban heat island reduction, and more. Assigning values to the regulating services forests provide can be a powerful messaging tool to spur political leaders and the public into investing in, managing and protecting local forest resources.

Land cover maps can be used to show existing tree cover and areas available for planting. Understanding the tree distribution within a community allows local resource managers to target areas where new tree plantings are needed such as low canopy neighborhoods, schools, parks, stream and lake buffers or special districts. The GIC’s tools also help local governments calculate the number of trees that can fit in available open spaces and assign costs to projects. The training videos are available to be used by other GIS staff who want to learn how to map tree canopy. Contact Stu Sheppard at sheppard@gicinc.org.



A map of Sumter's land cover.



A map of Sumter's potential tree canopy.

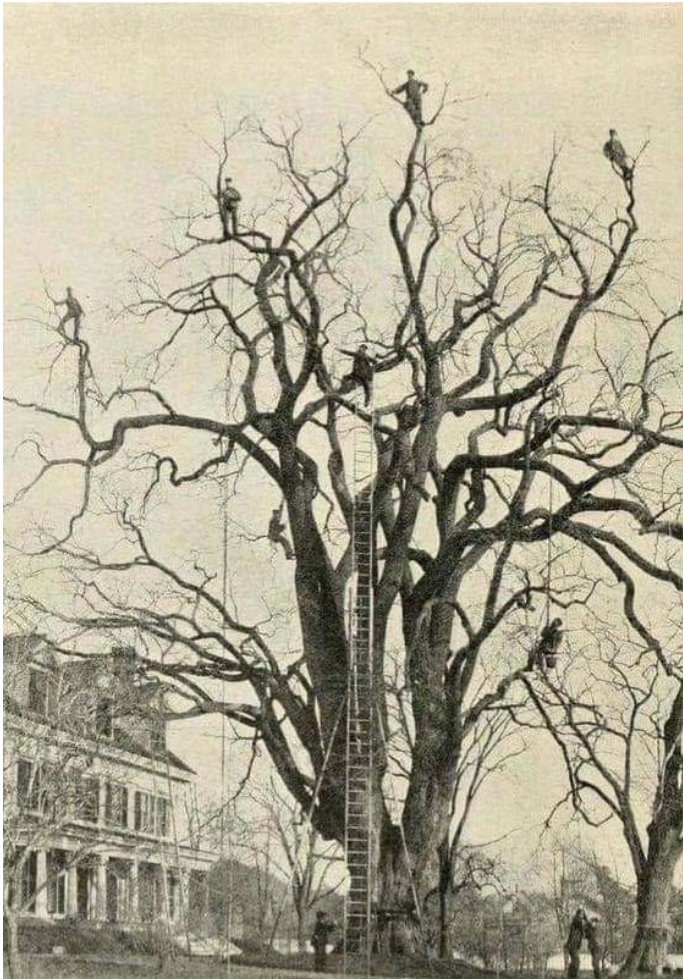
Here are the links to the main landing page for Canopy Coach and a link to the different instructional videos:

[Canopy Coach Information Page](#)

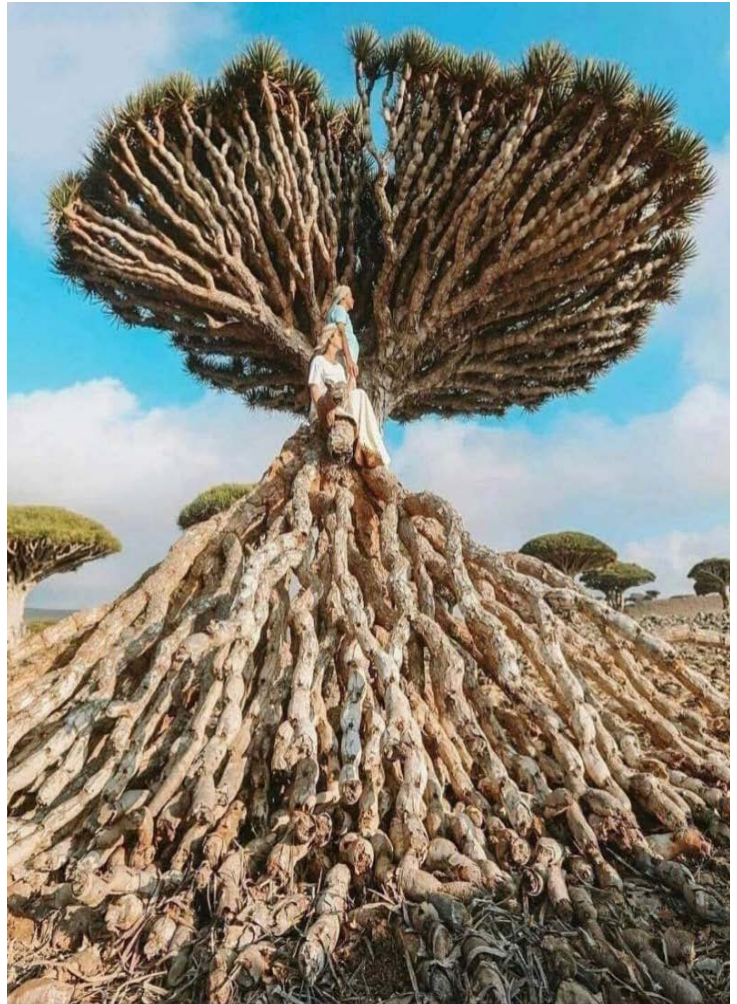
[Link to videos](#)

Urban Forestry
- Frances Waite

Interesting Photos



Extreme tree pruning before the age of bucket lifts.



The Dragon's Blood tree (*Dracaena cinnabari*) grows on a desert island of Socotra (a small island in the Arabian Sea, 150 miles east of the Horn of Africa). The tree's survival is a mystery because the rocky island has very little soil. As other vegetation succumbed to desertification, the Dragon's Blood Tree, with its waxy upturned leaves, collects moisture from occasional morning mist from the sea.

South Carolina Firsts

This milestone occurred in South Carolina and was the first of its kind in the United States.

First submarine to sink a ship in battle – February 17, 1864

Confederate submarine H.L. Hunley sunk the USS Housatonic.

Stuff you didn't know that you didn't know

Coca-Cola was originally green.

It is impossible to lick your elbow.

The state with the highest percentage of people who walk to work is Alaska.

Men can read smaller print than women can; women can hear better (on average).

Caught ON Camera



Georgetown Sector Forestry Technician I Marvin Armstrong participates in Fire Shelter Refresher training Feb. 3 at the Kingstree office.



Georgetown/ Williamsburg Project Forester GraceAnna Cooper is happy to finally get to burn Feb. 17 after receiving several inches of rain.



These deer were caught eating in a yard behind a home on Lake Murray in January.

TREE JOKES

What did the trees wear to Mother Nature's pool party?

Swimming trunks!

Do you want a brief explanation of an acorn?

In a nutshell, it's an oak tree.

What do you get when you cross a tabby cat with a lemon tree?

A sour puss.

Did you know that I can cut down a dead tree just by looking at it?

It's true. I saw it with my own eyes!



Thoughts of an Older Generation...

If you're sitting in public and a stranger takes the seat next to you, just stare straight ahead and say, "Did you bring the money?"

When you ask me what I am doing today, and I say "nothing," it does not mean I am free. It means I am doing nothing.

BAUMANN RETIRES AFTER 40 YEARS

Technology Division Director Jeff Baumann retired Feb. 28 after working over 40 years with the agency. He has held a variety of forestry positions over the years and was responsible for bringing the agency into the computer age.

Jeff is a native of Ohio, but went to Clemson to earn his degree in forest management. After graduation in 1980 he started with the Commission as a forester on Sand Hills State Forest. He was responsible for the acquisition of the Forestry Commission's first computers while at Sand Hills an Apple II+. It was used to calculate timber sales and stand inventory, produce timber sales announcement letters and print annual reports on future timber sales and management activity.

From 1982 to 1984 Jeff served as the Lowcountry Resource, Conservation and Development (RC&D) Forester for Beaufort, Berkeley, Charleston, Colleton, Dorchester, Hampton and Jasper counties. He continued to incorporate the use of computers in forest management with professional foresters through workshops and demonstrations. He continued the urban forestry efforts in Beaufort County started by Susan Boggs and coordinated the first street tree inventory and survey for the City of Beaufort.

Jeff Bauman has been actively involved in the computerization of the



Young forester Baumann joined the Forestry Commission in 1980 after graduating from Clemson as Outstanding Forestry Senior of his class.



Jeff teaches Jean Lisenby how to operate the first computer in the agency (an Apple II+) at Sand Hills State Forest.

Commission's activities since being hired by the agency. Several Apple II computers were purchased for the Columbia headquarters in the mid-1980s, and database applications were developed to support the nursery section seedling inventory and sales to the operation of the Forest Renewal Program (FRP). These computer applications moved these operations from ledger books, index cards and manually typed letters to a quick and accurate process.

Between 1984 and 1985 Jeff was the project forester for Darlington/Marion and Colleton/Dorchester, assisting private landowners in the management of their timberlands.

During his time in Florence and Walterboro, he coordinated the agency's move from rented offices to their current regional office complexes.

In 1985, Jeffrey Baumann was promoted to Assistant District Forester for forest management and reforestation in the Walterboro District Office. In addition to providing assistance to private landowners he supervised forest management and reforestation activities over the six-county district. Working in the Walterboro District during this period exposed him to two of the worst wildfire seasons on record in 1983 and 1985.

Jeff was assigned to the Columbia office as a resource analyst in 1987. He was responsible for revising the forest

resource plan and developing computer programs used in various agency operations. He co-authored *South Carolina's Fourth Forest*, a publication addressing forestry's impact on South Carolina into the 21st century. It was the first major, in-house developed publication using Apple Macintosh computers.

During this time, the agency was moving to Unisys computers for accounting and personnel applications. Jeff began moving Apple database applications to the Unisys system and assisted in training and support of Columbia staff as more received their "first" computer. Word processing was replacing their typewriter and there was



Jeff gives a Stewardship presentation in the 1990s.

(continued on next page)

a huge learning curve. The first “in-house” email system was also introduced to employees during this time quickly replacing “memos” as network connections spread to district offices.

After Hurricane Hugo hit in 1989, Jeff calculated timber and acres damaged by the Category 4 hurricane from data collected from aerial surveys. These numbers then allowed the agency to place a \$1 billion dollar value on the state’s timber resource damaged or destroyed just days after the hurricane hit – capitalizing on media attention and future funding for reforestation and wildfire protection efforts. He served on the Governor's Forest Disaster Salvage Council as the Chairman of the Statistics Subcommittee monitoring timber salvage progress.

In 1990, Jeff was promoted to Senior Staff Forester in the Forest Management Section to coordinate statewide rural forestry assistance programs. He served on the Hugo Reforestation Committee and was Chairman of the Natural Regeneration Subcommittee. In addition to designing the manual and procedures for conducting regeneration checkups, he assisted with regeneration training for industry, consultant and service foresters. He also acquired post-Hurricane Hugo color infrared aerial photography of the moderate to heavily damaged areas of the State.

Jeff coordinated the Forest Stewardship Program from 1990 to 1998. As liaison for the State Forester, he worked with other federal, state and private natural resource agencies and organizations to form the State Forest Stewardship Coordinating Committee. Through the Forest Stewardship Coordinating Committee, he facilitated the development of policies and procedures

associated with the Forest Stewardship and Stewardship Incentives Programs in South Carolina.

He co-authored a number of papers and articles printed in the *Journal of Forestry*; the *Southern Journal of Applied Forestry* and others including *Hurricane Hugo A South Carolina Update*, *Site Preparation and Tree Planting Costs on Hurricane-Damaged Lands in South Carolina*, *Forest Resource Management Plans: Importance of Plan Components to Nonindustrial Private Forest Landowners in South Carolina*, *Landowner Attitudes Toward South Carolina's Forest Stewardship Program*, and the use of Total Quality Management principles to evaluate customer satisfaction and areas for program improvement.

In 1998, Jeff was assigned to be the Dispatch and Forest Technology Coordinator and oversee enhancements to the Forestry Commission's Forest Fire Computer-Aided Dispatch System and emerging forest technology like GIS, GPS, aerial photography, satellite imagery and computer related forestry applications.

In 2007 Jeff became the Technology Division Director over Information Technology, Dispatch Operations, Communications Systems, and Geographical Information Systems (GIS). He coordinated numerous improvement and upgrades to the agency’s automated burn notification system; computer aided dispatch system; VHF two-way radio communications and dispatch communications console systems; migration of agency personnel from alphanumeric pagers to cellular phones and recently to smartphones; and upgrades in the agency’s servers and computers from Windows NT to XP to Windows 7 and to Windows 10 operating systems. After the data breach at the Department of Revenue, Jeff worked with the Department of Administration and other state agencies to develop 13 Information Security Policies and other standards to help better protect the state’s computer systems and data.

Jeff also served as Chair of the Central Carolina Chapter of the Society of American Foresters (SAF); the Secretary-Treasurer of the South Carolina



Jeff briefs participants at a training exercise in the 1990s.

Division of the Appalachian SAF for 20 years; represented the agency on the Forest Resources Systems Institute Board of Directors; the Governors' Information Resource Council's Standing Committee on GIS and the State Mapping Advisory Committee; and Information Technology Advisory Committee.

In addition to being a South Carolina Registered Forester, he is a Certified Public Manager; was a South Carolina Certified Emergency Medical Technician (EMT), a South Carolina Certified Paramedic, and first aid/basic life support instructor.

Jeff is married to Dr. Susan Baumann, who recently retired after 40+ years of teaching. They have three children.

Jeff, Thank you for your service to the state and our agency! We wish you the best in retirement!



Jeff hopes to get involved with volunteer work after the pandemic passes. Until then he will do projects around his home.



Jeff speaks with a homeowner about her yard trees.

FORESTRY FOUNDATION SCHOLARSHIP APPLICATION

2021

The Forestry Foundation Scholarship is designed to recognize and encourage forestry students with high academic achievement and leadership potential. To qualify, candidates must be a citizen of South Carolina, maintain a 3.0 GPA or better, and be a second year student at Horry Georgetown Technical College (HGTC), or a junior/senior at Clemson University, majoring in Forest Management. Scholarships are awarded based on academic performance and financial need.

For **2021**, four scholarships will be awarded. A minimum of one \$2,000 scholarship will be awarded for HGTC and a minimum of one \$4,000 scholarship will be awarded for Clemson.

The Forestry Foundation must receive the following from each applicant **by March 31, 2021**:

- A 1-2 page typed essay describing why the applicant should be considered for the scholarship. Include complete contact information at the top of the essay.
- A recent high resolution head-and-shoulders photograph.
- A copy of the applicant's latest official transcript.

Packets should be emailed to: scfa@scforestry.org

with the subject line of **Forestry Foundation Scholarship**

or write: **Forestry Foundation Scholarship, 4901 Broad River Rd., Columbia, SC 29212**

The Forestry Foundation of South Carolina, established in 1980, serves as the education, conservation, and research arm of the Forestry Association.

Forestry Foundation of South Carolina, 4901 Broad River Road, Columbia, SC 29212 ■ 803/798-4170 ■ FAX: 803/798-2340

HUDSON FAMILY SCHOLARSHIP APPLICATION

2021

Consideration for the **Hudson Family Scholarship** is available to any South Carolina resident entering a two or four-year accredited College or University. Recipient must have and maintain a GPA sufficient for entrance and graduation as a full-time student. Recipient must have ties to the Forest Products Industry through family association or scholastic pursuits. Financial need will be considered as a factor for award.

Awards this year will be: one in the amount of \$4,000 and the second in the amount of \$2,000 to be paid to the students account at the institution of enrollment. Award will be made as determined by the SC Forestry Foundation Board.

Application Process

The required form must be completed and submitted to the address below by **March 31** of the year in which a fall award is requested. [Form is available at www.scforestry.org/scholarship-programs.htm]. Applications must include a completed FASFA form for determination of financial need as well as a copy of an acceptance letter or evidence of enrollment at the student's institution.

Packets may be emailed to: scfa@scforestry.org with the subject line of
Hudson Family Scholarship
or write: **Hudson Family Scholarship, 4901 Broad River Rd., Columbia, SC 29212**

The Forestry Foundation of South Carolina, established in 1980, serves as the education, conservation, and research arm of the Forestry Association.
Forestry Foundation of South Carolina, 4901 Broad River Road, Columbia, SC 29212 ■ 803/798-4170 ■ FAX: 803/798-2340

Ancient Trees Show When the Earth's Magnetic Field Last Flipped Out

NPR - Read the full article at <https://www.npr.org/2021/02/18/969063568/ancient-trees-show-when-the-earths-magnetic-field-last-flipped-out>

An ancient, well-preserved tree that was alive the last time the Earth's magnetic poles flipped has helped scientists pin down more precise timing of that event, which occurred about 42,000 years ago. This new information has led them to link the flipping of the poles to key moments in the prehistoric record, like the sudden appearance of cave art and the mysterious extinction of large mammals and the Neanderthals. They argue that the weakening of the Earth's magnetic field would have briefly transformed the world by altering its climate and allowing far more ultraviolet light to pour in.

Their provocative analysis, in the journal *Science*, is sure to get researchers talking. Until now, scientists have mostly assumed that magnetic field reversals didn't matter much for life on Earth — although some geologists have noted that die-offs of large mammals seemed to occur in periods when the Earth's magnetic field was weak. The Earth is a giant magnet because its core is solid iron, and swirling around it is an ocean of molten metal. This churning creates a huge magnetic field, one that wraps around the planet and protects it from charged cosmic rays coming in from outer space. Sometimes, for reasons scientists do not fully understand, the magnetic field becomes unstable and its north and south poles can flip. The last major reversal, though it was short-lived, happened around 42,000 years ago.

This reversal is called the Laschamp excursion, after lava flows in France that contain bits of iron that are basically pointed the wrong way. Volcanic activity back then, during the flip, produced this distinctive iron signature as the molten lava cooled and locked the iron into place. Iron molecules embedded in sediments around the world also captured a record of this magnetic wobble, which unfolded over about a thousand years.

"Even though it was short, the North Pole did wander across North America, right out towards New York, actually, and then back again across to Oregon," says Alan Cooper, an evolutionary

biologist with Blue Sky Genetics and the South Australian Museum. He explains that it "then zoomed down through the Pacific really fast to Antarctica and hung out there for about 400 years and then shot back up through the Indian Ocean to the North Pole again." These changes were accompanied by a weakening in the magnetic field, he says, to as low as about 6 percent of its strength today.

He and colleague Chris Turney, an earth scientist at the University of New South Wales, found a new way to study the exact timing of all this, using unusual trees in New Zealand. Giant kauri trees can live for thousands of years and can end up well preserved in bogs. "The trees themselves are quite unique," says Cooper. "They're a time capsule in a way that you don't really get anywhere else in the world."

Inside trees that lived during the last magnetic flip, the researchers and their colleagues looked for a form of carbon created when cosmic rays hit the upper atmosphere. More of these rays come in when the magnetic field is weak, so levels of this carbon go up.

The trees, with their calendar-like set of rings, took in this kind of carbon and laid it down as wood. That let the researchers see exactly when levels rose and peaked and then fell again. One tree in particular had a 1,700-year record that spanned the period of the greatest changes.

By creating a precise timeline, the research team was able to compare the magnetic field's weakening to other well-established timelines in the archaeological and climate records. They also turned to advanced climate modeling to try to understand how the magnetic changes would have affected conditions on the planet. The ozone layer, in particular, would have taken a beating.

"If you damage the ozone layer, as we've found out, you change the way in which the sun's heat actually impacts the Earth," says Cooper. "And as soon as you start doing that, you change weather patterns because wind directions and heating goes all over the place." If the sun went through one



A giant kauri tree grows in Waipoua Forest in Northland, New Zealand. Trees like this one that fell long ago and were preserved for thousands of years are helping researchers discern fluctuations in the Earth's magnetic poles. Getty Images

of its periodic conniptions when the strength of the Earth's magnetic field was turned way down, he says, a solar flare or storm would have sent a burst of radiation that could have had massive consequences for people living back then.

"This is what we think actually drove them into caves," says Cooper. "You would not want to be outside during daylight hours." He admits that it's difficult to draw clear links among all these various events "at this stage. But I think that's always true when you're putting forward such a radical new theory." He notes that the idea of an asteroid killing off the dinosaurs once seemed far-fetched as well.

Brad Singer, a geologist at the University of Wisconsin-Madison who studies the history of the Earth's magnetic field but was not part of the research team said "This is only a small number of specimens that they measured, but the results look fairly reproducible in the different trees, and I think that's a pretty impressive set of data." He thinks this report will steer people's attention to do work that could test this proposal that reversals of the Earth's magnetic field could disturb its life.

SPOT the differences

Can you find the 10 differences between the top photo and the bottom photo below?



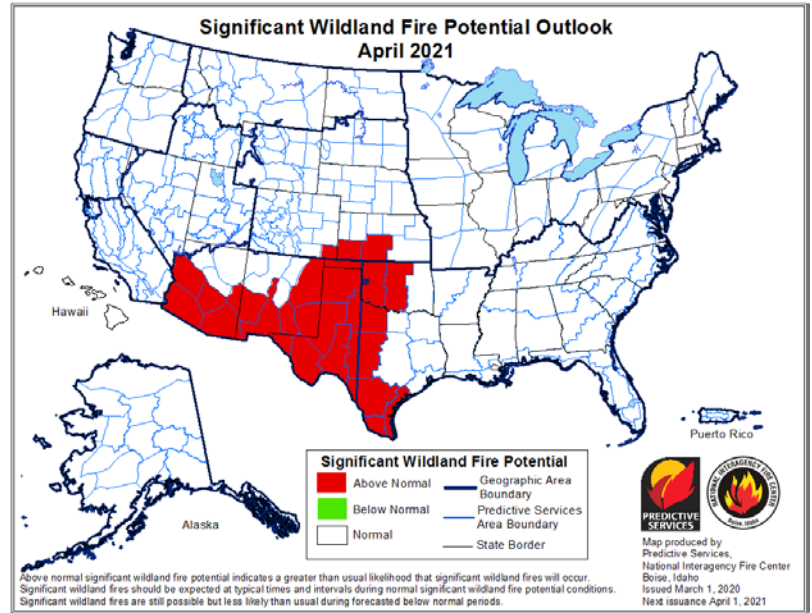
1. _____
 2. _____
 3. _____
 4. _____
 5. _____
 6. _____
 7. _____
 8. _____
 9. _____
 10. _____
- (Answers on last page)



Fire Weather Outlook

Southern Area:

An active weather pattern with above average precipitation is expected to continue from February into March across the Southern Area, which will impact a broad area from Kentucky and West Virginia southwest to the south-central Gulf states. Fire potential should remain below average through March in the Southern Area. With elevated fuel moisture, and a likely on schedule spring transition and green-up, the threat for a significant spring fire season prior to full leaf out should also be lower through the rest of the outlook period. Drier and warmer than average conditions are likely in Oklahoma and Texas and represent the primary area over the next few months where fire potential is expected to trend above average. In Florida and parts of the central Gulf Coast, significant fire potential could increase to above normal by May as drier conditions may develop this spring.



Continued below average precipitation is forecast for Florida with significant fire potential peaking in May, which is towards the end of the typical core fire season in Florida. Five significant broad coverage precipitation events tracked across the Southern Area in February with well above average precipitation along the Atlantic Coast and a mix of below to near normal precipitation across the rest of the Southern Area. Most notably, there was a February 14-20 arctic surge of record setting cold air, which produced snow, ice, and freezing rain into south Texas, Louisiana, and Mississippi. Additionally, the active storm pattern produced significant broader coverage precipitation events on about half of the days in February. Despite this, a broad area of below average month-to-date anomalies covers a large part of the Southern Area. Due to the rain and antecedent winter precipitation, there is no significant short-term drought. Only west Texas has long-term drought in the Southern Area. Fire activity remains minimal, well below average, and a continuation of what was observed in January.

Due to consistent precipitation and mostly below normal temperatures in the Southern Area and lack of any longer lasting critically low humidity events, 100- and 1000-hour fuel moistures are trending at very high levels. An unusual and generally uncharacteristic La Niña continues to produce a wetter weather pattern, and overall, a low fire risk environment for a large part of the Southeast. This La Niña, which is beginning to weaken, remains in a more Modoki-like state with the coldest SST anomalies in the central Equatorial Pacific and should continue to produce a higher frequency storm pattern and lower fire risk condition for most of the Southern Area through March.

Below average precipitation is expected across west Texas, western Oklahoma, and south Florida during the spring. These areas represent where fuel conditions are likely to be dry enough to support above normal significant fire potential. For Texas and Oklahoma, above normal significant fire potential is forecast March through May. For Florida, these conditions will appear perhaps as early as April but are likely to occur from May into June with above normal significant fire potential likely in June for the Florida Panhandle and nearby areas. Given current soil and fuel moistures, green-up for the rest of the South should be unimpaired through spring, which will limit and then end the spring fire season. The onset of the tropical easterlies, return of higher humidity, and development of thunderstorm conditions should mitigate most of the critical risks for the Florida Peninsula by June. There is expected more than usual forecast volatility due to the likely weakening of the current La Niña.

Current Fire Numbers for South Carolina

MONTH-AND YEAR-TO-DATE COMPARISON TO PREVIOUS 5- AND 10-YEAR AVERAGE

Time Period	February		JULY - February		FISCAL YEAR	
	FIRES	ACRES	FIRES	ACRES	FIRES	ACRES
5-Year Average	149	1,013	689	5,480	1,350	10,518
10-Year Average	249	1,695	958	5,933	1,709	11,824
Current FY ¹	64	258	258	961	258	961

¹To date for current fiscal year

On Forest Land

Great forests grew in days gone by
On forest, land, on forest land,
Where now bare sands and black stumps lie
The pines that clothe the southern plain,
For saw and axe in careless hand
Have swept the trees from forest land,
And fire has flung his glowing brand
On forest land, on forest land.

The acres burned, the acres bare,
On forest land, on forest land,
The acres wrecked by lack of care,
On forest land, on forest land,
Now spread their millions, barren, dead,
Where no man works, no game is fed;
And muddy streams their banks o're spread,
On forest land, on forest land.

Drive out the fire that seeks to spoil
Our forest land, our forest land,
And save the trees and save the soil,
On forest land, on forest land,
We'll cut our trees with careful hand,
Leave seed to grow a later stand,
And plant with trees the idle land—
Make forest land a harvest land.

- By L. C. Everard

Taken from the book titled
"Poems, Prose and Songs
of Trees and Woodlands
for South Carolina",
published by the S.C. State
Commission of Forestry.

ANSWERS to Photo Differences:

1. Flames on left bigger.
2. Car on right missing.
3. Sign missing.
4. Dog jumping cable.
5. Carter cutting grass.
6. Dark eyes in smoke cloud.
7. White car changed to red.
8. Helicopter added.
9. Ferrari added.
10. Three trees changed to bushes.

Quote of the Month

*"You'll never find
a rainbow if you're
looking down. "*

Charlie Chaplin

Photo of the Month



This great photo of a mad possum was caught on camera in Little Mountain Jan. 21.

Please send in your
photos or news to
Michelle Johnson at
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