

The Talking Forest

Holmes Educational State Forest

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A Prescribed Fire Tour

In January, participants of the Park Ranger Institute, staged in Edneyville, N.C., visited DuPont State Recreational Forest (DSRF) to learn about prescribed fire. We met 23 visitors who traveled from local, state, county and city parks around the country for the four-day professional development conference. On a three-hour tour along the busy trails in DSRF, rangers from DSRF and Holmes Educational State Forest (HESF) worked together to guide the participants to prescribed burn units. First, Mary Smith, recreation specialist, provided an overview of the uniqueness of North Carolina's only State Recreational Forest and the management dynamics necessary to keep visitors safe and informed during controlled burn days. Next, we visited a small burn unit close to the Aleen Steinburg Visitor Center to make observations about fire effects.

Jeremy Waldrop, forestry technician, displayed the Type-6 fire engine and discussed its capabilities for fire line access, mobilizing personnel and resources and its importance on the control line. Through personal accounts of the methods and procedures followed on burn days, Management Forester Wes Sketo and Forest Supervisor Jason Guidry each had an opportunity to allow the visitors to imagine the fire moving across the landscape. We discussed major objectives such as habitat improvement, hazard fuel reduction, timber stand improvements, invasive species control and public education.

Participants also experienced a hands-on demonstration with HESF Forest Supervisor Susan Fay and Educational Ranger EJ Dwigans. Using the FireWorks curriculum and the Matchstick Forest, participants were able to observe fire movement and behavior according to stand density, topography, weather and the chemistry of heat transfer. Later, participants observed burn units, with 2-5 years of recovery, and compared these open areas with the dense vegetation cover in areas without fire. Finally, the participants were able to enjoy the waterfalls and the beauty allotted by the rock formations within the forest.



Recreation specialist Mary Smith introduced management objectives to participants.



Management Forester Wes Sketo delivers a summary of strategy and tactics.



Forest Supervisor Jason Guidry speaks about how knowledge of the fire triangle allows burners to contain blazes within control lines.



Forest Supervisor Susan Fay demonstrated fire dynamics according to slope and weather.

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2019 in Review

In February, staff from all seven Educational State Forests (ESFs) held an annual meeting at both Tuttle and Rendezvous Mountain ESFs located in western North Carolina. We appreciate the efforts of Hannah Thompson Welch, NCFS Fire Mitigation Specialist. At the meeting, Hannah shared the FireWorks curriculum from the U.S. Forest Service Rocky Mountain Research Station. We have incorporated these hands-on activities into our guided fire ecology hikes, fire prevention and control and fire weather programs.

Last winter, we also completed maintenance on our facilities including a new metal roof and gutters on the covered picnic shelter. This shelter was built in 1977 and has two areas separated by a large stone fireplace. The shelter can be reserved from March 1 through Nov. 30, free of charge and with capacity to seat as many as 60 people. Call the HESF office for more details.

We welcomed participants for programs such as winter tree identification and guided wildflower hikes. After the forest floor erupted with numerous flowers, we hosted a birding hike. We guided participants to see emerging plants that included Indian Pipe, *Monotropa uniflora*, which is found throughout the forest and is usually white in color. This flowering plant blooms from June– September, and since it contains no chlorophyll, it receives most of its nutrients from tree roots. Overall, we completed 18 special programs that were advertised to the public and had an attendance of 283 participants. We facilitated on and off-site environmental education programs for 5,516 participants, and forest visitation totaled 36,799 in 2019.

In June, Ranger Dwigans was dispatched to the eastern part of the state on a Type-4 fire engine crew to assist with ongoing fires during a “flash drought.” After a day of fighting a large wildfire in the Hofmann Forest, he snapped a photo of the sun setting behind smoke that was still rising from multiple ground fires.

During the summer, we hosted events for the Boys and Girls Clubs of Transylvania and Henderson counties and assisted fellow educational rangers in Crossnore at *Investigate Your Environment*. In the photo on the right, students are acting as bees in a hive, working as a team to make honey. Lastly, featured in our photo collage is *Gymnopus iocephalus*. This beautiful mushroom was found on the forest in August and has an odor reminiscent of garlic and gunpowder.



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Winter Tree Identification



The Yellow Tulip Poplar displays seeds in the crown. This type of seed is called an aggregate of samaras.



The American Sycamore has exfoliating bark. It also displays seeds in the crown called a Head of Achenes.

On Jan. 17, we invited the public to join us for a two-hour stroll. The objective was to identify trees during the winter. Participants discovered that twigs have scars from last year's leaf attachment as well as unique features for new leaf and flower buds. The American sycamore is an excellent example of the importance of bark characteristics because it exfoliates gray, green, white and brown bark throughout the year. Sassafras has chartreuse green twigs that, when scratched, emit a sweet aroma. The White pine is a good example of a whorled branching pattern and is easily remembered as the five needles to a bundle spell W-H-I-T-E.

Winter is a great time to remind residents that red oak and black locust will keep their wood stoves hot for a longer duration of time. Next time you are in the woods in snow, observe the contrast between the golden American Beech leaves and the white background. The American Beech tree holds onto its leaves mostly until the new spring bud break pushes them off the twig. Naming trees during the winter takes time. If you are interested in learning more, notice and compare the size and shape of twigs, the color of bark as you stand at least 10 feet away, the fruit and seeds attached to the twigs, or their remains on the ground around the trunk. Notice how the branches attach in an opposite, whorled or alternate pattern to the trunk. Check the program schedule on Page 6 for upcoming events.

Volunteer Opportunities

We are always looking for volunteers to help us with general work around the forest. Previously, individuals and groups have volunteered between 181-452 total annual hours, with individuals offering as few as two hours or as many as 175 hours. We aim to find projects around the forest that meet the individual interests of our volunteers in a meaningful way. Past projects have included work in the pollinator garden, general trail maintenance, administrative functions such as clerical and filing duties, plant and animal inventory, assisting with static educational displays and educational programs. Once again, we look forward to working with the N.C. Cooperative Extension and the Master Gardeners in our pollinator garden. Call for more information.



A bench installed in the picnic area by Boy Scout Pack 61



A regional home-school group from 0-8 helped pick up sticks in the grassy, mowed areas.

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Dreaming of a Long Winter's Nap

This winter, I was hiking our forest demonstration trail and noticed a large hollowed tree. I began to imagine a female black bear investigating this space during the fall and returning in November or December. She would cozy down, all alone, and her heart rate and breathing rate would decrease. Her blood vessels would constrict; her overall body temperature would drop 10-15 degrees; and, she would require less oxygen. Her cubs would be born during sleep and would nurse during their hopeless state. The female bear would wait until the cubs could walk on their own before emerging from the den in mid- to late spring. Her male cubs from years past and her sisters without cubs would have already emerged from their own dens, long before she did, in search of food. Unlike rodent hibernators such as chipmunks, bears don't need to wake to feed or eliminate waste. However, our bears in the south do not sleep as deeply as those in the north, and they will emerge to investigate a passing hiker or dog.

In North Carolina, the American black bear (*Ursus americanus*) can range in color. Bears can be chocolate, cinnamon, brown, or black in color and may have a white chest blaze. Males range in size, weighing between 130 and 660 pounds. Females can weigh between 90 and 175 pounds. A bear's overall size is influenced by geographic location and the quality of food available. The largest recorded, harvested male bear living along the coastal plain weighed 880 pounds. The Albemarle Peninsula of eastern North Carolina has the highest population density of black bears anywhere in the lower 48 states due to a high concentration of swamps and fields of corn and soybeans. Bears thrive in habitats that contain a variety of soft and hard mast-producing plants. Landscapes with varied stand density, species composition, and vertical stratification create ideal conditions for bears to feed and travel. The estimated black bear population here in the mountain region is 6,000 animals whereas the coastal region has an estimated 14,000. There are none in the Piedmont.



In our classes, we tell students that bears are opportunistic omnivores depending upon what is available, bears consume both plants and animals. Bears have strong back molars which allow them to crush walnut husks. They have sharp premolars to aid with fish, reptiles, small mammals and fawns; they have pointy canines to grab prey or, more likely, to rip apart rotting logs. They have nimble front incisors to cut plants and collect insect larvae, honey, succulent plants and soft mast-like berries. The forest provides an ample buffet of seasonal food for bears, but as a general rule, we should always be BearWise and never feed or approach bears. It is important to secure food, waste and recycling so that they are not accessible to bears. When bears are active, remove bird feeders.

Source: Source: N.C. State University and the N.C. Wildlife Commission. Wildlife camera picture courtesy of Alan Cameron, Resident Wildlife Expert and NC Wildlife Commission Volunteer.



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Seeing Trees with 2020 Vision

Did you know that the annual theme for the North Carolina Forest Service is trees? You may see our colleagues in the community discussing topics like why trees matter or the importance of naval stores in North Carolina's history or the birth of forest management or the ways a landowner can seek assistance from the North Carolina Forest Service. Our state is still covered with 58% forest land, and forest products are still vital to our economy. If you are interested in naval stores, tar production and long-leaf pine, you can visit Turnbull Creek Educational State Forest in Elizabethtown, N.C.

If you are looking for seedlings for your property, be aware that you can call 1-888-NCTREES to order inventory from the Claridge Nursery in Goldsboro and Linville River Nursery in Crossnore. Before HESF was an educational state forest, it was a nursery, and it provided seedlings from 1938-1970, before moving to the Linville River in Avery County. The N.C. Forest Service's Nursery and Tree Improvement Program gives residents access to the best genetics available and to a hefty inventory of native seedlings geographically suitable for the planting site. Customers can order as few as 10 and as many as several thousand from an approximate variety of 45-50 tree species. The nurseries produce up to 15 million seedlings per year, which is enough to cover 30,000 acres. If you have questions about land management objectives on your property, contact your local county ranger. Contact information is available at www.ncforestsservice.gov.

We plan to review more benefits of trees and the mission of the N.C. Forest Service in our three remaining quarterly newsletters. Take some time to search for special events focused on the benefits and physiology of trees in your area. In addition to a spring tree hike, HESF is planning a special Project Learning Tree Camp-out weekend, an informal interpretive tabling at DuPont State Recreational Forest, and more. We appreciate the cooperation with the N.C. Forestry Association for access to the "Goods from the Woods" program props and curriculum. We would be happy to schedule an event with your group of 10 or more participants to discover the 5,000 everyday products that are generated from trees.

Early spring is an excellent time to observe the revealing of new leaves from buds and twigs. Take some time over the next few months to see how the red hues of Anthocyanins and the yellows of Carot-

enoids are once again visible before the green chlorophyll masks the entire leaf. Leaves contain three pigments to allow the leaf to absorb a greater spectrum of light waves from the sun.



Unfurling leaves, left to right: Hickory, White walnut and Red maple

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2020 Program Schedule

Do you have an interest in forestry-related program topics? School field trips, Scout programs, family events or professional development? We are happy to work with your topic of interest if you have a group of 10 or more participants. In the coming year, we will continue to partner with rangers at DuPont State Recreational Forest for additional offerings. Look for us on the trails, at the Visitor Center or at Guion Farm.

Note: Programs are limited to 20 participants, and space is limited. You MUST RSVP.

Tree ID Hike: You are invited to join a forest ranger at Holmes Educational State Forest for a two-hour tree identification stroll. Participants will discover how to identify 10 trees by observing helpful features and characteristics including twigs, bark, leaves or branching patterns. Please dress appropriately for the weather. We will walk approximately 1.5 miles. These are beginner/introductory programs.

Winter Tree ID Hike: Fri., Mar. 6 (2 p.m.-4 p.m.)

Spring Tree ID Hike: Sat., May 16 (2 p.m.-4 p.m.)

Greeting DuPont State Recreational Forest Aleen Steinburg Visitor Center Volunteers prior to a spring wildflower hike.



Forest Wildflower Hike: Join NCFs Forest Rangers for an easy, $\frac{3}{4}$ mile hike to observe and identify early spring wildflowers. Hiking through this diverse forest ecosystem, you can expect to observe different species based on the date of the hike you for which you sign up. Some dates will offer a morning or afternoon hike, so please choose the time convenient for you.

Saturday, March 21 10 a.m.- 12 p.m. or 2 p.m.-4 p.m.

Sunday, March 22 10 a.m.- 12 p.m. or 2 p.m.-4 p.m.

Saturday, March 28 2 p.m.-4 p.m.

Saturday, April 4 10 a.m.- 12 p.m. or 2 p.m.-4 p.m.

Saturday, April 25 10 a.m.- 12 p.m.

Sunday April 26 10 a.m.-12 p.m.

Saturday, May 2 10 a.m.- 12 p.m. or 2 p.m.-4 p.m.

Sunday, May 3 10 a.m.- 12 p.m. or 2 p.m.-4 p.m.

Unless Specified, Programs Require an RSVP

For more information, contact Holmes Educational State Forest at (828) 692-0100.

1299 Crab Creek Rd. Hendersonville, NC 28739

Email: Holmesesf.ncfs@ncagr.gov

Website: <https://www.ncesf.org/holmes.html>



Spring Wildflowers

Top Left: Mayapple

Top Right: Foam Flower

Bottom:
Wake Robin Trillium



The N.C. Forest Service is a division of the N.C. Department of Agriculture and Consumer Services. Steve Troxler, Commissioner