

# Tennessee Forestry Commission FY 2018 Annual Report



Wildfire Management



Forest Business Services



Forest Health & Sustainability



Reforestation



State Forest Management



Forest Data & Technology



Communications & Outreach





**Actions and Activities for FY2018**

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The Tennessee Forestry Commission met four times during the 2018 fiscal year.

In the spring of 2018, the Commission was notified of the impending retirement of Assistant Commissioner of Agriculture and State Forester Jere Jeter. The Commission initiated a national search for candidates to recommend to the Governor, and developed a schedule for candidate evaluation and interview to make recommendations prior to the commencement of the wildland fire season on August 1.

Additionally, the Commission received reports from citizens, staff, and subject matter experts on various forestry topics and issues affecting forest landowners and the State. The Commission also discussed and took action on the following matters:

- Formed a committee to evaluate the Tennessee Department of Agriculture Division of Forestry's response to the 2016 wildfires and to evaluate the impact on the State. The committee and the Commission, working closely with the Division, completed its work and made recommendations regarding the Division's fire suppression capability and preparedness for future wildfires.
- Continued and intensified its monitoring of the operations of the East Tennessee Nursery in order to ensure that this very important source of high quality seedlings for Tennessee landowners is operated as efficiently and economically as possible without sacrificing the seedling quantity and quality.
- Identified opportunities to improve retention and recruitment, which the department is addressing through compensation adjustments, training and leadership development.
- Expressed concern regarding the age and readiness of the Division's fire suppression equipment and communications devices, and was assured that replacement equipment and communications devices would occur during FY2018.
- Strongly endorsed the Firewise USA® program to lessen the likelihood and severity of wildfires, and encouraged the Division to continue promoting this program throughout the State.
- The Commission continued its monitoring of timber sales from state forests, and encouraged the Division to increase sales where feasible to both improve the health and quality of the forests and to generate additional revenue for the State.

**Members**

**Bob Qualman, Chair**

Brentwood, TN  
Represents owners of less than 500 acres  
*Term Expires: 6/30/2021 (2nd Term)*

**Johnny Heard, Vice-Chair**

Collinwood, TN  
Represents hardwood manufacturers  
*Term Expires: 6/30/2022 (2nd Term)*

**Tom Midyett, Secretary**

Knoxville, TN  
Represents pulp and paper manufacturers  
*Term Expires: 6/30/2021 (1st Term)*

**Charles Daugherty**

Crossville, TN  
Represents public at large  
*Term Expires: 6/30/2019 (1st Term)*

**Alex Richman**

Lynchburg, TN  
Represents owners of greater than 500 acres  
*Term Expires: 6/30/2019 (1st Term)*

**Mike Witt**

Cookeville, TN  
Represents owners of less than 500 acres  
*Term Expires: 6/30/2019 (1st Term)*

**John Charles Wilson**

Memphis, TN  
Represents conservation organizations  
*Term Expires: 06/30/2022 (1st Term)*

**Dr. Charlie Hatcher, Ex-Officio**

Commissioner - Tennessee Department of Agriculture

**Ed Carter, Ex-Officio**

Director - Tennessee Wildlife Resources Agency

**David Salyers, Ex-Officio**

Commissioner - Tennessee Department of Environment and Conservation





I'm pleased to present the Tennessee Forestry Commission FY 2018 Annual Report. A year ago, we presented information on the massive wildfires that consumed 74,816 acres. This year, due to frequent rains, the acreage burned fell to 5,837 acres. Big fire years occur about every ten years. The Division has numerous fire prevention programs in place, and they are prepared to handle high-fire years.

The hemlock woolly adelgid insect was marching across Tennessee and would have killed all of our Eastern hemlock trees. The Division created a plan that included a 4-person strike team that treated 15,000 trees on 1,300 acres of public land last year. This protects the trees for up to five years and is followed by release of a beetle that the University of Tennessee raises that feeds on the adelgid to protect the trees for the long term. The Division is looking at using the Strike Team model for other activities. It is this kind of thinking that shows the Division of Forestry is a creative organization willing to do what it takes to protect Tennessee's forests.

The Division of Forestry is one of the main reasons Tennessee has quality forests and a successful forest products industry.

Robert S. Qualman  
Chairman  
Tennessee Forestry Commission



We are so fortunate to live in a state where you don't have to look very far to find a tree. Approximately half of Tennessee is forested, and the Tennessee Department of Agriculture is tasked with stewardship of that invaluable resource. The Division of Forestry takes that responsibility to heart. For those dedicated employees, safeguarding the forests, waters, and wildlife isn't just a job—it's their life's work. You will read about that work and how it serves us all in the report that follows.

This report is only a snapshot of all that has been achieved in FY 2018. Please take a look at the highlights while keeping in mind there is so much more. We are particularly focused on agribusiness advancement, with collaboration between the Forestry and the Agricultural Advancement divisions driving growth in the forestry sector. Wood industries are uniquely positioned to be successful in rural areas. When rural communities prosper, the entire state benefits.

The Department continues to incorporate new techniques and technology to manage pests, prevent and suppress fires, support business development and growth, and ensure that healthy forests thrive in Tennessee. It's a challenge that the Division of Forestry is proud to undertake.

Dr. Charlie Hatcher  
Commissioner  
Tennessee Department of Agriculture



The Tennessee Department of Agriculture, Division of Forestry has been protecting, conserving, and enhancing our state's forest resources for over 100 years. Our forests are abundant. A little over half, 52 percent, of Tennessee is forested. Our forests are diverse. We have cove hardwoods in the eastern mountains and bottomland hardwoods in the western wetlands. Our forests are also productive. They provide the raw materials to support a \$24 billion forest industry.

Ensuring our forests remain healthy and productive is an honorable and noble task that carries tremendous responsibilities. In today's world our forests and forest landowners face tremendous challenges, but there are also immense opportunities.

As the new State Forester and Assistant Commissioner, my aim is to set clear priorities in charting a course for the Division of Forestry. I will work closely with the Governor, the Commissioner of Agriculture, and the Tennessee Forestry Commission to accomplish mutual goals that maintain the Division's legacy of protecting, conserving, and enhancing our state's forests. This report reflects the objectives and resulting accomplishments the Division achieved in FY 2018, and I look forward to building upon this legacy.

David Arnold  
Assistant Commissioner/State Forester  
Tennessee Department of Agriculture  
Division of Forestry



## Hemlock Woolly Adelgid Strike Team Protects Tennessee's Forests

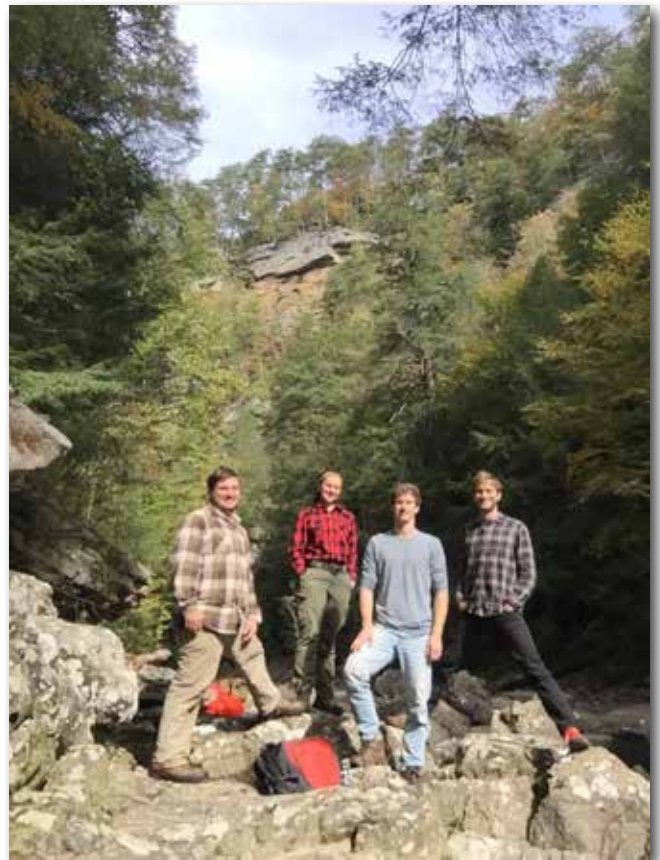
Eastern hemlock (*Tsuga canadensis*), and the ecosystem services it provides, are facing potential extinction by the hemlock woolly adelgid (*Adelges tsugae*). Hemlock trees provide invaluable ecological benefits to the forest, such as habitat,

stream temperature regulation, and stream bank stability. Loss of these trees would be detrimental to our Tennessee forests. The potential ecological impacts of this pest are comparable to that of Dutch elm disease and chestnut blight. Tennessee remains one of the final harbors of Eastern hemlock-dominant forest types in the southeast. To protect this extremely valuable ecosystem, the Tennessee Department of Agriculture Division of Forestry has created the Hemlock Woolly Adelgid (HWA) Strike Team. From October 1 through May 31, the team uses a very efficient, intensive, and environmentally conscious integrated pest-management plan to prevent and combat HWA infestation throughout its native range along the Cumberland Plateau and East Tennessee.



HWA attach to the underside of hemlock needles and suck sugars out of the phloem. This disruption in nutrient flow causes the foliage to turn grayish-green in color and eventually leads to dessication and defoliation. Because of the insect's rapid asexual reproduction rate, an infestation can quickly cause a tree to die.

The Division employs the seasonal team, which is funded through a federal grant from the USDA Forest Service. The team is composed of licensed pesticide applicators who work in cooperation with land managers from various agencies and conservation easements to protect stands of hemlocks, one tree at a time. The four-person team, currently composed of team leader Jackie Broeker, Tyler "JY" Newburn, Wolfgang Boehm, and Chris Yeatman, work Monday through Thursday during the season. They are based at the Division's Rockwood office in Roane County. With their gear on their backs, Broeker and her team navigate the steep terrain to treat hemlocks. Most of their work is done on state-owned lands in areas such as Savage Gulf, "The Gorge" in Fall Creek Falls, and Pogue Creek Canyon. However, the team also collaborates with partner agencies, such as The Nature Conservancy, and treats hemlocks on conservation easements.



HWA Strike Team (left to right) JT Newburn, Jackie Broeker, Chris Yeatman, Wolfgang Boehm





To help guide the team's efforts, the Tennessee Hemlock Conservation Partnership meets annually to discuss and share the most current information about HWA and hemlocks, as well as plan priority areas to protect. Meeting twice a year, the Partnership welcomes and includes agencies and persons who are working on HWA management. This includes Tennessee Department of Environment and Conservation's State Parks and State Natural Areas divisions, Tennessee Wildlife Resources Agency, National Park Service, USDA Forest Service, The Nature Conservancy, private forestland owners, and private forestry consultants.

Broeker's forestry experience and education brings the needed foresters' view on HWA management, and her strong organizational skills assure the team runs smoothly. Her responsibilities include setting the season's schedule, meeting with land managers, and coordinating lodging for the team. "The Division of Forestry was one of the first organizations to employ the strike team model to combat a forest health threat," said Broeker. "The team's agility and ability to travel throughout the Cumberland Plateau and East Tennessee provide us the ability to manage HWA on a landscape scale."



The HWA Strike Team's firsthand knowledge of the health of Tennessee's hemlocks and the severity of the HWA infestation is incredibly beneficial. Dr. Pat Parkman, the Director of the Lindsay Young Beneficial Insects Laboratory at the University of Tennessee, provides the predatory beetles that feast on HWA. This is another puzzle piece of the integrated pest management plan the Division uses from its protection toolkit. The HWA Strike Team assists Dr. Parkman throughout the season

to make sure he has what he needs to rear and release predatory beetles. "The Strike Team has been critical in providing field-collected adelgid that I use to rear beetles and in identifying possible beetle release sites," said Dr. Parkman.

Heather Slayton, Forest Health & Sustainability Unit Leader, was integral to the formation and continuation of the HWA Strike Team. She found that the strike team model enabled the Division to combat an overwhelming issue and do so effectively and efficiently. "The HWA Strike Team provides that needed link among agencies and across a landscape to get the job done," said Slayton. For the FY2018 season, the HWA Strike Team treated 15,000 trees over 1300 acres, released thousands of predatory beetles, and conducted community workshops to train others to protect hemlock trees. With its success, the Division is pursuing the use of the strike team model for other priorities, such as urban forestry and prescribed fire projects.





## Wildland Fire Management

The Division of Forestry is legally tasked to protect Tennessee's forest resources (TCA 11-4-405) and suppress forest fires in Tennessee (TCA 11-4-406). Fire prevention and suppression are the primary responsibilities of the Division, which is uniquely equipped and qualified for this role. Fire occurrence and acres burned in Tennessee have gradually decreased during the past 50 years. Resources have benefited, particularly with improved hardwood timber quality. As the forest landscape constantly changes with influx of homes in the Wildland Urban Interface, the Division's fire role has remained consistent. What has changed is suppression equipment, communication, training, and emphasis on safety, prevention and education.

### Unit Mission

***The mission of the Wildland Fire Protection Unit is to minimize damage caused by wildfire to forest resources and personal property while giving priority to firefighter and public safety.***

### Objectives for Year

- Develop Community Wildfire Protection Plans (CWPP) and Firewise USA® Communities.
- Conduct a Tennessee Firewise USA® Community workshop.
- Conduct fire suppression, fire behavior, and all hazard incident training.
- Conduct two Certified Burn Manager training classes.
- Assess excess property through the Firefighter Property Program (FFP).
- Increase number of burn permits issued online.
- Coordinate safety inspections of field facilities.
- Provide public with safety information including updates on current situations, as well as public service announcements on mitigation steps to prevent devastating wildfire impacts.
- Investigate accidents and unsafe work practices and identify processes and standard practices to prevent accidents before they occur.

### Major accomplishments for July 1, 2017 – June 30, 2018

- Responded to 583 wildfires that burned 5,837 acres, compared to 74,816 acres in FY 2017.
- Issued 382,365 burn permits compared to 386,793 in FY 2017. 76,906 of those acres were permitted prescribed burns.
- Issued 91,933 permits through BurnSafeTN.org, compared to 77,566 issued in FY 2017.
- Provided \$279,763 to Tennessee communities to assist in the development of 15 new Community Wildfire Protection Plans, hazardous fuels reduction projects, and to facilitate best practices for Tennessee Fire Adapted Communities.
- Provided 30 Tennessee Fire Adapted Communities projects and 40 outreach programs.
- Recognized 12 new Firewise USA® Communities and led the nation in newly recognized communities for much of the year.
- Held the Annual Tennessee Firewise USA® Community workshop.
- Contacted 40,842 Tennessee citizens through 15,186 different prevention activities.
- Held annual Division Fire Prevention Workshop. Participated in the Wildfire Prevention Working Group and Fire Co-op interagency meetings.
- Worked with Southern Group of State Foresters partners to improve the Southern Area Wildfire Risk Assessment Portal and implement a mobile application to assist on-the-ground field assessments.
- Screened and loaned Federal Excess Personal Property (FEPP) Equipment to rural Volunteer Fire Departments. There are 112 pieces of FEPP equipment currently in service with a total appraised value of \$3,927,456. In addition, cooperative agreements were approved to allow the Division to begin



## Wildland Fire Management

screening property through the Firefighter Property Program (FFP).

- Deployed five overhead and two 20-person initial attack crews to federal wildfire assignments in Colorado, Montana, Oklahoma, and Oregon. Two task forces of engines and dozers with eighteen employees were ordered through the Southeastern States Compact for Oklahoma fire support in April, 2018.
- Provided 107 cost share grants to volunteer fire departments totaling \$259,000.
- Administered the work capacity test to assess fitness among all Division firefighters.
- Conducted 2 Tennessee Certified Prescribed Burn Manager training courses, with a total of 80 students in attendance. The Division maintains a roster of over 300 burn managers in Tennessee (*see inset*).
- Sponsored, coordinated, and participated in the 16th annual Tennessee Kentucky Wildland Fire Academy, which offers advanced wildfire training for Division and interagency firefighters nationwide. 462 firefighters attended training at the Academy from 28 different states. Fifty-two Division personnel participated in the Academy as instructor or student.
- Utilized the Division's role as Tennessee's only accredited National Wildfire Coordinating Group training provider to train 663 structural firefighters from 56 fire departments throughout the year. These were conducted outside of the Academy, and firefighters were trained in the use of fire operations in the wildland-urban interface, as well as other wildland fire courses.
- Coordinated safety inspections of facilities and compiled and submitted OSHA Accident and Illness reports.

### Tennessee Certified Prescribed Burn Manager Program

The Tennessee Department of Agriculture Division of Forestry was authorized through the Tennessee Prescribed Burning Act of 2012 to develop a continuing education training program that would provide professional instruction on the safe and appropriate use of prescribed fire. This led to the creation of the Tennessee Certified Prescribed Burn Manager Program, which was designed to educate landowners, contractors and agencies on how to properly conduct prescribed burns. Those who successfully completed the specified training program became qualified as Certified Prescribed Burn Managers. To date, more than 300 people have completed the program.

Individuals interested in becoming certified must first complete an online training course that introduces the uses, procedures, and safety considerations for conducting prescribed burns.

Upon successful completion of the online course, the individual is qualified to attend a two-day field exercise section of the program. The workshop includes training in smoke management, weather considerations, burn techniques, preparing a burn plan, laws and liability, and effects of fire on wildlife management.

Once all requirements are met, the student is designated a Certified Prescribed Burn Manager, with that certification lasting three years. The Division offers a continuing education course for recertification.

More information can be found at <https://www.tnpsc.org/>







## Forest Business Services

Tennessee's forests provide the raw materials and resources for businesses that sustain billions of dollars of economic activity for our state and employ many thousands of people. These businesses provide markets that are vital for the long-term health and sustainability of the forest. Without these markets, the ability to effectively and efficiently implement silvicultural prescriptions is limited, constraining the opportunity to practice sound forest management. Therefore, promotion of good forestry practices goes hand-in-hand with the promotion of forest products.

The Forest Business Services Unit works with any person, company, or organization that makes a living from growing, harvesting, utilizing or processing forest resources.

### Economic Development

*Mission: Provide information on the availability and sustainability of the forest resources of the State to landowners, loggers, and industries.*

### Objectives for Year

- Visit 5 mills across the State.
- Recruit 10 companies to use the Tennessee Wood Products brand.
- Prepare to host the Southern Forest Products Export Conference in October of 2018.
- Arrange to complete the Timber Products Output survey for calendar year 2017.

### Major accomplishments for July 1, 2017 – June 30, 2018

- Visited 18 mills.
- Recruited 9 companies to use the Tennessee Wood Products brand.
- Developed Tennessee Wood Products lumber stack stencil to promote the brand (*see inset*).
- Shared forest industry news and recruitment opportunities with the Tennessee Department of Agriculture's Agricultural Advancement Division.
- Established an inter-divisional, inter-departmental and inter-agency team to plan and prepare for the Southern Forest Products Export Conference to be held in Memphis, October 21-24, 2018.
- Contracted with a third-party to complete the Timber Products Output survey on as many as 319 mills by the end of 2018.

### Unit Mission

***The mission of the Forest Business Services Unit is to improve the utilization and conservation of Tennessee's forest resources by providing information and analysis that will aid landowners, resource managers, and businesses in making informed decisions.***

### Tennessee Wood Products Unveils Lumber Stencil

Tennessee Wood Products branding initiative's new lumber stack stencil launched in January. The stencil helps to promote the brand directly on materials that the campaign seeks to highlight - wood products. It is available to any participating brand member that produces lumber, crossties, and other wood products. Be on the lookout for the logo rolling down the highway on stacks of Tennessee produced lumber in 2018.

Special thanks to Price Sawmill in Selmer and Volner Sawmill in Parson for testing and demonstrating the stencil.

For more information on joining the program, visit [www.TNWoodProducts.org](http://www.TNWoodProducts.org).







## Forest Business Services

### Forest Inventory & Analysis

*Mission: Monitor the sustainability of Tennessee's forest resource by measuring the species, size, and health of trees.*

Forest Inventory and Analysis is a continuous census of forest resource use, health, volumes, growth, and removals. The program also conducts a census of private and public landowners who manage the resource and gathers information from loggers and manufacturing facilities in the State that utilize the wildlife, water, recreation and wood produced by forests. Much of this information is collected from continuous inventory plots that have been re-measured for decades, beginning in the late 1940s.

### Objectives for Year

- Obtain tree measurements on approximately 580 plots (7-year sampling cycle).

### Major accomplishments for July 1, 2017 – June 30, 2018

- Measured 568 plots for the year.

- ◇ Forests in Tennessee cover 14 million acres, encompassing 52 percent of the State's land area.
- ◇ Nearly 8.2 billion live trees were estimated to be growing in Tennessee forests. That's more than 1,200 trees for every person living in the State.



## Forest Business Services

### Water Quality

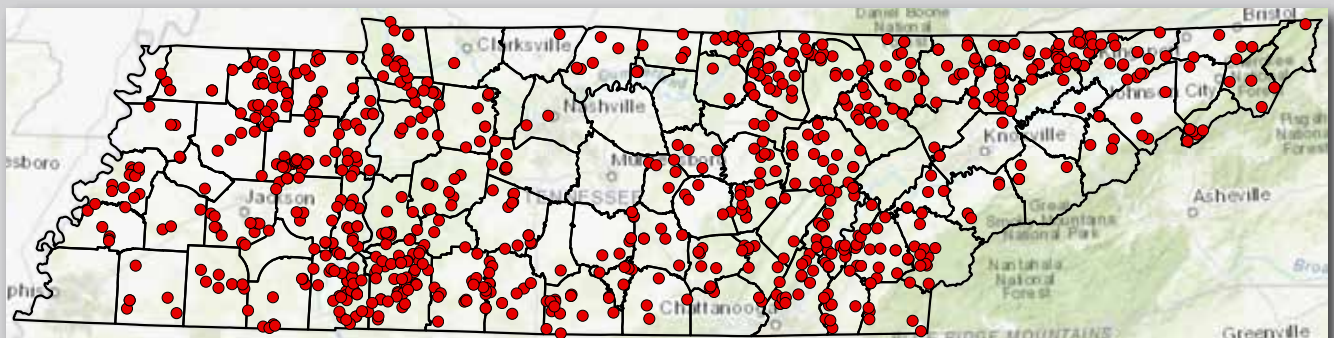
*Mission: Improve the quality of surface and sub-surface water using forest cover as a filter and buffer for industrial, urban, and agricultural point and non-point pollution sources.*

Water is a valuable product of the forest. Benefits of this product are difficult to measure, but changes in quality and quantity are easily observed. Forests act as buffers and filters that can reduce the damage caused by practices from other land uses such as urban runoff, and protect stream banks from erosion caused by flooding. Since the mid-1980s, the Division has provided leadership to ensure timber harvesting operations do not pollute our creeks, streams, and rivers. Encouraging implementation of Forestry Best Management Practices (BMPs) is the foundation of the Division's water quality program. We assist the forestry community with BMP implementation through three major program areas: technical assistance, water quality complaint investigations, and BMP implementation monitoring.

### FY 2018 Water Quality/BMP Inspections

Best management practices (BMPs) are integral to keeping Tennessee's forests healthy and preserving our water quality. Division professionals provide technical assistance to loggers and landowners by visiting logging operations to ensure BMPs are used and by conducting training events for the forest industry. In partnership with the Tennessee Forestry Association, the Division has given training and technical assistance to more than 3,000 foresters, loggers and landowners since the start of the program.

From July 1, 2017- June 30, 2018, the Division inspected 1,149 harvesting operations statewide (*dots on map indicate inspection location*).





## Forest Health & Sustainability

The health of a forest directly influences all aspects of forestry and is a part of every Unit within the Division. Not limited to insects and diseases, forest health is also influenced by abiotic events, invasive plants, improper silvicultural prescriptions, harvesting damage to residual stand, air and water quality, soil compaction, wildfire and much more. Forest health is considered in all settings whether the forest exists within an urban environment or a riparian strip between two agricultural fields.

This focus on forest health provides the Unit with a holistic and sustainable approach to all forest management. It demonstrates the connectivity among forest health, the human interface, and the ecosystem services all forests provide.

### Unit Mission

***The mission of the Forest Health & Sustainability Unit is to protect and enhance the health and productivity of Tennessee's forests.***

### Forest Health

*Mission: Enhance the health of Tennessee's forests and minimize forest resource losses caused by forest pests through effective prevention, detection, evaluation, suppression, and technical assistance measures.*

Forest health programs involve monitoring, detecting and managing and/or suppressing both native and non-native damaging forest health issues. The major forest health issues managed within this Unit are: gypsy moth, hemlock woolly adelgid, southern pine and other bark beetles, and invasive plants. Other threats to Tennessee's forest are addressed through consistent off-plot monitoring by way of aerial detection, ground detection and current technology including satellite imagery. A significant component of this unit is education and outreach that places emphasis on current and imminent threats and their transportation vectors (i.e. firewood).

### Objectives for Year

- Promote the forest health through monitoring, management, internal trainings, technical assistance, and outreach.
- Improve the collection, analysis, and sharing of data internally and externally in order to enhance customer relationships.
- Facilitate the improvement of forest health and sustainability by implementing a statewide gypsy moth monitoring and eradication program, including continued partnership with the Slow the Spread Foundation in northeast Tennessee.
- Facilitate the improvement of forest health and sustainability by implementing effective monitoring programs.
- Conduct southern pine beetle (SPB) trapping in Chester, Marion, Rhea, and Wayne Counties.
- Provide leadership to the Tennessee Hemlock Conservation Partnership (THCP) through meeting facilitation, cooperative field days, and general outreach.
- Protect significant hemlock forests from extinction through continued operation of hemlock woolly adelgid (HWA) strike team.

### Major accomplishments for July 1, 2017 – June 30, 2018

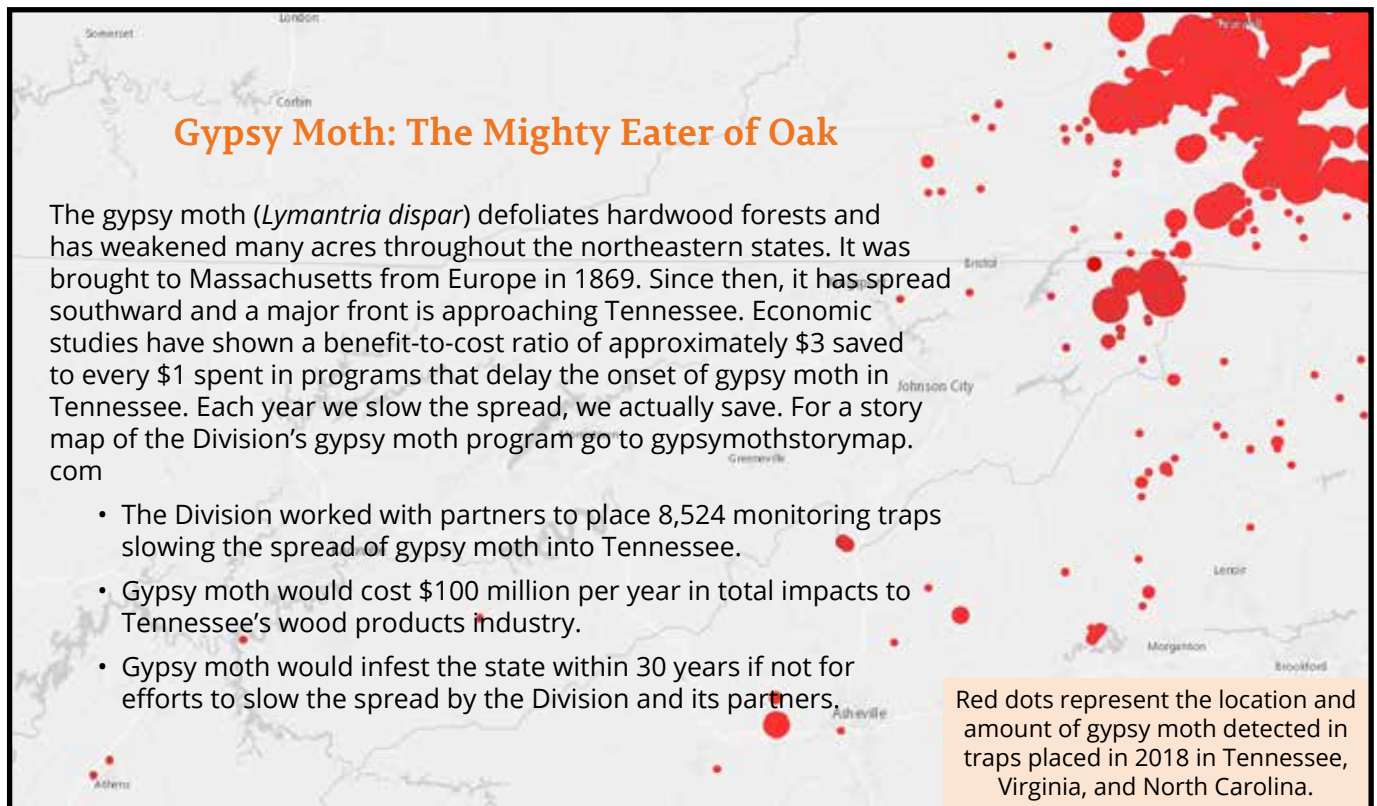
- Detected no major southern pine beetle (SPB) activity despite increasing populations reported in some areas of the southeast U.S. pine belt, where it is mostly observed on unmanaged national forestland.
- Protected 1,330 acres and 14,850 hemlock trees statewide. This is double the amount of work done compared to last year's report.
- Monitored for gypsy moth via placement of 8,524 gypsy moth traps in all counties (*see inset*).
- Detected 80 male gypsy moths in 12 counties, which was an increase from moths detected in 2017.
- Held 5 forest health trainings for Division personnel.





## Forest Health & Sustainability

- Reported 3 new counties for emerald ash borer (EAB): Cheatham, Giles, and Maury Counties.
- Reported no movement of thousand cankers disease (TCD). The Department deregulated 18 buffered counties for (TCD), including Marion, Hamilton, Bradley, Polk, Sequatchie, Bledsoe, Meigs, Marion, Monroe, Cumberland, Fentress, Scott, Campbell, Claiborne, Grainger, Houston, Green, and Cocke counties. Roane County was a buffered county until it was placed under full quarantine.
- Conducted survey flight to monitor a caterpillar/disease complex across 160,000 acres in Johnson and Carter Counties. Trees should recover in subsequent years.
- Monitored all counties for forest health issues and reported an average of 90 issues per month.
- Partnered with the Tennessee Nature Conservancy to lead a firewood kiln workshop to promote the development of a private sector firewood industry.





## Forest Health & Sustainability

### Rural Forest Management

*Mission: Encourage and assist landowners to implement forest management practices that yield healthy, productive forests.*

Family forest owners are the key to keeping Tennessee's forests productive and healthy. They play an important role in providing all Tennessee citizens with forest products, clean water, wildlife habitat and natural beauty. Many of these landowners are unaware of the role forest management plays in maintaining healthy and productive forests. This lack of awareness has quite often resulted in activities that leave forests less productive or at risk to insect, disease and water quality problems.

The Division of Forestry provides forest management planning and financial assistance to encourage landowners to manage their forest resources in a manner that increases productivity, maintains forest health and protects water quality. Forest management planning assistance is provided as individualized management plans, published materials, and group presentations. Financial assistance is offered through various federal and state funded cost-share programs.

### Objectives for Year

- Optimize cost-share funding utilization to meet customers' needs.
- Revise landowner planning assistance program services to provide consistent, recognizable, and relevant products and services.
- Train Division foresters on ArcGIS Pro software.

### Major accomplishments for July 1, 2017 – June 30, 2018

- Continued partnership with Promark (drumstick manufacturer), enabling 60 landowners to receive 76,700 hardwood seedlings from the East Tennessee Nursery and technical forestry assistance free of charge.
- Partnered with Huber Engineered Woods to provide 8 landowners with more than 223,000 loblolly pine seedlings and technical forestry assistance free of charge.
- Certified all area foresters in the use of ArcGIS Pro software ensuring their ability to efficiently meet the needs of the Division's external and internal customers.
- Developed standardized mapping and planning templates ensuring consistency and recognition of the products and services provided through the Division's landowner assistance programs.

#### Forest Management Planning

- Wrote 103 Stewardship plans addressing 13,617 acres.
- Wrote 813 other forest management plans addressing 68,633 acres.

#### Forest Stand Prescription Planning

- Wrote 436 prescription plans improving 21,968 acres.

#### Forest Stand Prescription Implementation

- Provided \$64,101 of Tennessee Agricultural Enhancement Program (TAEP) cost share funds as incentive for 26 landowners who improved 1,412 acres through tree planting and site preparation activities.
- Provided \$12,787 of TAEP cost share funds as incentive for 3 loggers to protect water quality by installing stream and wet area crossing structures.
- Provided \$77,719 of Southern Pine Beetle Initiative cost share funds as incentive for 24 landowners who improved 1,634 acres through tree planting and pine beetle hazard reduction activities.
- Assisted 252 landowners in the implementation of forest management activities on 11,996 acres that included hardwood and softwood tree planting, site preparation and release activities, prescribed burning, wildlife habitat improvement, stream crossings, and erosion control.





## Forest Health & Sustainability

### Urban & Community Forestry

*Mission: Assist and encourage municipalities and private urban landowners to establish, improve, and maintain healthy urban forest resources.*

Urban and Community Forestry programs provide both technical and financial forest and tree management assistance to communities and municipalities statewide. Technical assistance can be offered at the tree board or city planning level, through rapid on-site forest or tree assessments, or communication through outreach events or individual inquiries. Financial assistance is offered to cities, municipalities, or non-profit groups through a competitive proposal process. These proposals range from ball-and-burlap plantings to urban riparian restoration projects. The urban forestry programs also include nationally recognized programs that allow cities, utilities, and centers for higher learning to promote their urban forest status and bring awareness to the importance of urban trees.

### Objectives for Year

- Provide urban and community forestry assistance to cities and towns and to green industries (arborists, grounds managers, landscape architects, and others) that impact the management of urban forests.
- Administer the TAEP tree planting grants and the federal Urban & Community Forestry grants, the Tree City USA program, the Tree Line USA program, and the Tree Campus USA program.
- Complete tree canopy cover analyses for Tennessee communities.

### Major accomplishments for July 1, 2017 – June 30, 2018

- Continued support of 3 city forester positions with federal Urban & Community Forestry (U&CF) grant funds for Cookeville, Crossville, and Memphis.
- Completed 15 TAEP community tree planting grants that planted 180,869 trees.
- Completed canopy cover analyses for Maryville and Lewisburg and reported the findings to each city.
- Recognized 19 utility companies as Tree Line USA. Tennessee remains ranked first in the nation for Tree Line USA utilities.
- Recognized 9 institutions of higher learning as Tree Campus USA (7 universities, 1 college, and 1 community college).
- Partnered with the Arbor Day Foundation and Mountain Tough to distribute trees at Dollywood's Splash Country for residents impacted by wildfires.
- Attended the 9th Annual Tennessee Stormwater Association (TNSA) conference at Fall Creek Falls State Park and provided information on programs available to assist cities and towns. Partnered with the TNSA for the annual Nashville Urban Runoff 5K and supplied tree seedlings for winners in each running category.
- Partnered with Clayton Bradley Academy and Clayton Homes to perform rehabilitation work along the Alcoa/ Maryville Greenbelt trail and Pistol Creek. Removed invasive plants, planted native plants, and produced a video with the media division of Clayton Homes explaining riparian restoration and identification of common non-native invasive plants (*see pictures*).
- Partnered with the Tennessee Urban Forestry Council (TUFC) to host the statewide Urban Forestry Conference in Knoxville and the State Tree Climbing Championship in Nashville.



Before and after pulling invasive privet along Pistol Creek in East Tennessee.



Getting hands dirty while planting.



Learning how to plant trees.



## Reforestation

### Seedling Nursery

*Mission: To provide high quality conifer and hardwood seedlings to the state's landowners at a competitive price.*

The Division of Forestry's seedling nursery, located in Delano, produces forest seedlings that are available for sale to landowners in Tennessee. These seedlings are adapted to growing conditions found in the state and are used primarily for reforestation and forest conservation projects. Approximately one-half of the 80 acres available for seedling production at the nursery are used for this purpose each year. The remaining seedbed area is planted in cover crops to ensure the long-term productivity of the nursery soil.

#### Objectives for Year

- Seek new venues to market Division seedlings.
- Engage District personnel in seedling marketing.
- Work with District offices to ensure that seedling applications are delivered to natural resource agency offices in their areas.
- Contact new agencies and organizations to market seedling purchasing opportunities offered by the Division.
- Visit field staff periodically to discuss current seedling quality, use, and dissemination.
- Achieve a customer satisfaction rating of 95% or greater.
- Develop new value-added seedling opportunities.

#### Major accomplishments for July 1, 2017 – June 30, 2018

- Sold 3 million tree and shrub seedlings to more than 1,000 customers.
- Achieved an overall customer satisfaction rating of 100% based on the results of our annual survey.
- Published advertisements for the nursery in the TFA Membership Directory, the TWRA Fall Hunting Guide, Tennessee Home and Farm Magazine, and Tennessee Magazine.
- Promoted seedlings at the National Wild Turkey Federation Convention.
- Promoted the nursery at the Tennessee Healthy Hardwoods Field Day in Tullahoma and the Steak and Potatoes Field Day in Crossville.
- Hosted several on-site informational sessions to groups such as science teachers, extension agents, 2018 Leadership Polk program participants, University of Tennessee and Hiwassee College forestry students, and Grundy County area nurserymen.
- Provided materials to Division personnel for promoting seedling sales and reforestation programs at state and local fairs and other events.
- Worked with the Tennessee Environmental Council to provide and distribute 110,500 seedlings for the Council's 250K Tree Day. Cooperating agencies and partners planted approximately 200,000 seedlings in a single day during this event.
- Partnered with Huber Engineered Woods, Promark, and One Tree Planted to provide 82,000 hardwood seedlings and 232,000 pine seedlings to Tennessee landowners free of charge (*see inset*).
- Collected and processed more than 3,100 lbs. of hardwood tree and shrub seed from orchards, seed production areas, and wild stands on the East Tennessee Nursery property. Most of this seed was sown at the nursery to produce the 2018-2019 seedling crop.

### Unit Mission

***The mission of the Reforestation Unit is to provide high quality, affordable seedlings (genetically improved where feasible) to Tennessee landowners and to optimize genetic improvements to increase the productivity of the state's forests.***





## Reforestation

### Seedling Grant Partnerships

Over the last few years, the Division has partnered with several companies and organizations that provide seedlings at no cost to Tennessee landowners. Each program requires a planting prescription that is either written by or reviewed by a Division Area Forester. This prescription ensures that the appropriate species are selected for planting on each landowner's property and that sound forest management practices are followed in establishing the trees.

Since 2013, the Division has partnered with D'Addario, a leading manufacturer of drumsticks, guitar strings, and other musical accessories. Promark Percussion, a subsidiary of D'Addario and Co., has a sawmill facility in Elkton where blanks for drumsticks are produced. They have committed to replant every tree used for production by 2043 through their Play. Plant. Preserve. seedling grant program. Tennessee landowners have received 461,000 hardwood seedlings during the past 6 years.

The Division's partnership with Huber Engineered Woods was revitalized in 2017 in anticipation of their Spring City mill resuming production. Since 2003, Huber has provided 4.2 million pine seedlings and 78,000 hardwood seedlings to landowners in the eastern half of the state through their Trees for Tennessee program. This program benefits participating landowners by helping to establish trees on their property, while also helping to ensure a continuing source of raw materials for use in Huber's Spring City manufacturing facility.

A new partnership was initiated during the 2017-2018 planting season when One Tree Planted, a charitable non-profit organization based in Vermont, began purchasing hardwood seedlings for planting in Tennessee. Since its inception in 2014, One Tree Planted has funded tree planting projects not only in North America, but also in South America, Asia, and Africa. The Division looks forward to working with One Tree Planted on many more projects in years to come.





# State Forest Management

Tennessee's 15 State Forests range from mountain coves in the east to bottomlands along the Mississippi River. State Forests are managed for a mix of natural resources including game and non-game wildlife, and large, high-quality timber. State Forests do not feature inns, golf courses or restrooms. However they offer hunting, hiking, bird watching and tranquility.

Many State Forest lands were in poor condition when acquired, either eroded or heavily timbered. Some were planted with trees to control erosion; others regenerated naturally into hardwood forest. Since then they have been carefully protected and managed.

Following decades of restoration, conservation, and careful management, Tennessee's State Forest system now contains an abundant supply of high-quality timber and other forest products. Timber harvested from some of these forests helps support local forest products industries. Money spent by consumers in the pursuit of recreational opportunities on the forests supports local merchants. State Forests are sites for field sessions demonstrating application of sustainable forestry practices that maintain and enhance multiple use values. Sites have also been established to demonstrate how forestry best management practices maintain, protect, and enhance water quality. State Forests also provide data to characterize the resources and values provided to local communities and local economies.

## Objectives for Year

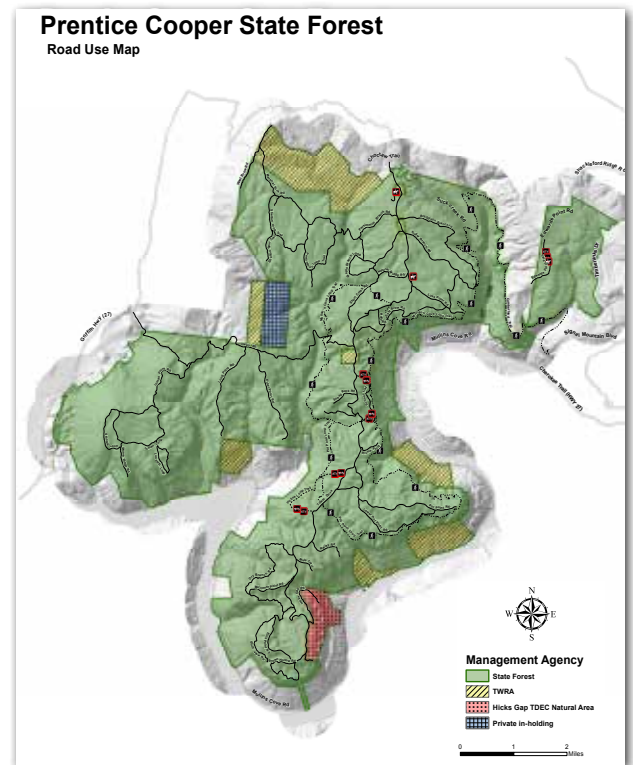
- Complete 15 compartment plans and approve all plan prescriptions before field implementation.
- Hold 2 demonstrations, tours, or field days.
- Harvest and regenerate 1,096 acres of timber.
- Complete State Forest Inventory Cycle-2 data analysis.
- Complete SFI third-party accreditation.
- Generate \$3.2 million in timber sales revenue.
- Complete timber sales and compartment plan writing training.

## Major accomplishments for July 1, 2017 - June 30, 2018

- Approved 3 compartment plans and an additional 5 plan prescriptions.
- Completed 26 timber sales totaling 1,110 stand acres and yielding 11.43MM board feet.
- Scheduled timber sale revenues to be applied toward FY 2018 totaling \$3,475,215.
- Completed maps and designations for public use of state forest roads and posted on the Division's website (*see picture*).
- Trained new hires on timber sales and compartment plan writing for state forest foresters.

## Unit Mission

**The mission of the State Forest Management Unit is to provide for the multiple-use management of all resources on State Forest lands such that those resources are protected and utilized in the combination that best meets the long-term needs of the people of Tennessee.**



### Road Jurisdiction

- Non-Forest Federal, State, and Local laws apply
- Forest Suitable for any vehicle
- Forest Road may be rough and high clearance vehicles are recommended
- ..... Forest Narrow access, rough terrain, not suitable for vehicles over 50"
- Forest Foot Traffic Only

\* Any road not shown on the map is closed except to foot traffic only

### Public Road Use Restrictions

- 🚫 No Horseback
- 🚫 No OHV
- 🚫 No ATV
- 🚫 Foot Traffic Only



Division State Forest Road Use Maps, such as this one for Prentice Cooper State Forest, help guide visitor use of roads and show restrictions.



## Forest Data & Technology

The Forest Data & Technology Unit seeks out and implements relevant technology. The Unit is also responsible for maintaining relevant databases and presenting data for further analysis. Critical work areas include updating information systems and getting new mapping and remote sensing technology into the hands of field personnel. Adopting such technology will lead to better communications, increased efficiency, and strengthened credibility.

### Objectives for Year

- Maintain digital assets including data systems and hardware.
- Improve internet accessibility.
- Explore new technologies.

### Major accomplishments for July 1, 2017 – June 30, 2018

- Established bulk seeding orders and tracking in Green Tree Data Management System.
- Tested GPS tracking on 3 dozers and 3 engines in East Tennessee District and 2 dozers and 2 engines in Cumberland District for months.
- Increased internet speed in Highland Rim District Office from 4Mbps plan to 8Mbps plan.
- Installed State Wi-Fi hotspots in Forestry District Offices.
- Established SharePoint sites for Division use.
- Investigated wildfire tracking system - FiResponse - for potential use in dispatching and public information.

## Radio Communications

### Objectives for Year

- Maintain radio communication network.

### Major accomplishments for July 1, 2017 – June 30, 2018

- Installed new antenna at Arlington, Millsfield, and Paris Radio Tower sites for significantly improved coverage in the West Tennessee District.
- Installed radios and equipment in the trailer used by the Agricultural Crime Unit.
- Improved radio coverage in Moore, Rutherford, Bedford and Wilson Counties by relocating the Murfreesboro repeater to the Short Mountain tower.
- Improved radio coverage in Moore, Bedford, and Lincoln Counties by adding a repeater in Lynchburg.
- Improved radio coverage in Pickett, Overton, Fentress, and Cumberland Counties by relocating the Peavine repeater to the Frozenhead Tower.
- Tested Bendix King Radios for potential field and interagency use.
- Purchased Freedom Test equipment to re-align two-radios.
- Purchased 5 GTR8000 radio repeaters to cover black hole areas.
- Installed new radio repeater sites at Waynesboro, Theta, and Lynchburg.
- Installed new microwave path from the Short Mountain tower to the Lynchburg tower.
- Reprogrammed radios statewide to correct fireline interference issues.

### Unit Mission

***The mission of the Forest Data & Technology Unit is to facilitate the development and utilization of technology to meet the needs of the Division's core businesses. The Unit has the responsibility to implement state-of-the-art technology, manage and compile data, and administer the Division's Forest Inventory and Analysis and Geographic Information Systems programs.***





## Forestry Communications & Outreach

The Forestry Communications & Outreach Unit strives to inform and educate audiences by providing a better understanding of forestry as a discipline and the role that the Division plays in maintaining a healthy and productive forest resource. A successful effort leads to an enhanced appreciation for the state's forests, which, in turn, leads to an informed citizenry who recognize the benefits of conserving, protecting, and enhancing the resource. As a result, our society receives essential ecological benefits. The Unit also helps foster communication within the Division, a critical function of a healthy organization.

### Objectives for Year

- Raise awareness about important and timely forest resources issues.
- Educate our youth on the importance of trees and forests in our rural lands and within our communities.

### Major accomplishments for July 1, 2017 – June 30, 2018

- Held 17,638 educational outreach activities reaching 75,730 children and adults statewide (*see pictures*).
- Facilitated the 69th annual Forestry Camp for 47 Future Farmers of America high school students.
- Conducted 3 tree trail conservation education programs at the Tennessee Governor's Residence at the request of the First Lady's office.
- Produced 13 news releases pertaining to relevant topics including forest pests, wildfire danger, burn permit requirements, employee awards, tree planting, and urban forestry.
- Gave multiple radio and television interviews addressing Division programs and topical issues.
- Promoted Division services and outreach campaigns across multiple media outlets. This included advertising campaigns for wildfire prevention, forest health, Tennessee Wood Products, and tree seedlings.
- Maintained the fire prevention website [BurnSafeTN.org](http://BurnSafeTN.org). The site had 366,584 page views from 168,622 visits.
- Maintained the forest health website [ProtectTNForests.org](http://ProtectTNForests.org). The site had 10,055 page views from 6,651 visits.
- Maintained the Division's YouTube channel. Video views totaled 15,900.
- Posted status updates related to forestry on the Department's Facebook and Twitter accounts.
- Managed the Project Learning Tree Program, conducted workshops, trained facilitators, and participated in Tennessee Environmental Literacy Team.



Division personnel coordinate and staff thousands of outreach activities across the state throughout the year. The "Celebrate the River" event at Seven Islands State Birding Park was one event where forest health was the focus.

### Unit Mission

***The mission of the Forestry Communications & Outreach Unit is to communicate clearly and accurately to Tennessee's residents information necessary to accomplish the Division's mission, and to optimize in-house communications.***

## Administration

Spread across the state and administered from 4 district offices and 1 reforestation office, the 307 employees of the Department of Agriculture's Division of Forestry have responsibilities in 9 separate programs. Effective planning, priority setting, and communication within the Division are crucial to organizational effectiveness. Assistant State Foresters and the Budget and Planning Unit Leader work with staff to refine systems that improve customer services and operational efficiencies.

### Objectives for Year

- Manage personnel, facilities, vehicles, and equipment.
- Maintain databases on employees, facilities, vehicles, and equipment.
- Plan, allocate, and report budgets.
- Manage federal grants.

### Major accomplishments for July 1, 2017 – June 30, 2018

#### Personnel

- Hired 48 new employees, which represents 15% of the work force.
- Operated with an average monthly vacancy rate of 10-15% for full time positions.

#### Facilities

- Consolidated 3 work centers (Peavine, Crossville and Lantana) into one by constructing a new office and work center in Crossville (*see inset*).
- Submitted budget requests for 5 more buildings to be constructed.
- Approved Natchez Trace and Chuck Swan State Forests for new work centers.
- Prepared to evaluate all facilities for repair, replacement or disposal.
- Mapped the capital improvement process with the State of Tennessee Real Estate Asset Management (STREAM) Division.

#### Vehicles and Equipment

- Acquired xx vehicles and equipment.
- Awarded bids and placed orders for 16 dozers and transports out of 120 combined units set for replacement.

#### Budgets

- Recorded \$4,497,344 in federal reimbursements from grants.

#### Acquisition of supplies

- Acquired new longline buckets for helicopters to use on wildfires.
- Instituted a new series of multi-year contracts for uniforms.

### Unit Mission

***The mission of the Administration Unit is to assist the State Forester in increasing the effectiveness of management, the quality of customer services, the efficiency of operations, and the cost effectiveness of Division programs.***

### New Crossville Work Center ...and more on the way



The Tennessee Department of Agriculture hosted a tree-planting ceremony and open house to commemorate the opening of the new Division of Forestry work center on May 23 in Crossville.

The new facility consolidated three Division

offices into one centralized work center and office that reduced costs, improved workflow efficiency, and provided a location for Division personnel to store and maintain wildland firefighting equipment.

Area Forester Brad Canfield is based at the new work center to assist landowners with the management of their woodlands. The building also houses a call center for burn permit requests, contains space to host outreach and educational events for the community, and is designed to be utilized as an incident command post.

Similar work centers are being planned across the state to replace aging facilities.



## Forest Health & Sustainability

### Forest Legacy

*Mission: Protect environmentally important, private forestlands threatened with conversion to non-forest uses.*

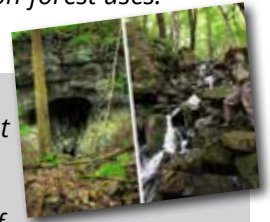
The Forest Legacy Program identifies and protects environmentally important private forestlands that are threatened by conversion to non-forest uses. Program emphasis is to maintain well-managed, working forests on the landscape.

#### Objectives for Year

- Close on Karst Forest at Grassy Cove project in Cumberland County.
- Submit Myers Cove project proposal for Forest Legacy Funding.
- Submit Skinner Mountain project proposal for Forest Legacy Funding.
- Conduct monitoring of all Forest Legacy conservation easement tracts.

#### Major accomplishments for July 1, 2017 – June 30, 2018

- Closed on the Karst Forest at Grassy Cove property in Cumberland County (see inset). Total project cost was \$1.91 million with Forest Legacy providing \$1.35 million.
- Submitted the Myers Cove project proposal for Forest Legacy funding. If funded, this 2,100 acre working forest in Warren County will be protected through a conservation easement. The project will cost \$2.4 million with Forest Legacy providing \$1.8 million.
- Submitted the Skinner Mountain project proposal for Forest Legacy funding. If funded, this 11,734 acre forest in Fentress and Overton Counties will be protected through a conservation easement. The project will cost \$7.6 million with Forest Legacy providing \$5.7 million.
- Completed all annual compliance monitoring visits for Forest Legacy conservation easement tracts.



*The 956 acre Karst Forest at Grassy Cove property is composed of three tracts, two of which are held by third-parties. Conservation of the entire 956-acre tract protects the karst forests of Bear Den and Brady Mountains which converge to enclose Grassy Cove. Grassy Cove, the largest sinkhole in North America, is surrounded by the Cumberland Mountains. Eighteen Greatest Conservation Need (GCN) species, including two federally endangered species and one federally threatened species have been documented on the property. The property is within the original boundary of the Grassy Cove Karst Area National Natural Landmark. The property protects the viewshed of the adjacent Cumberland Trail State Park, Tennessee's only linear park. The property will be managed by the Tennessee Department of Environment and Conservation to provide recreational opportunities including access to eight caves on the property. The threat to this property is an enormously valued mineral resource that could create yet another open pit mining site nearby.*

#### Forestry Commission Duties and Functions

The Tennessee Forestry Commission was established by the legislature under T.C.A. 11-4-201 to:

1. Nominate candidates for State Forester.
2. Review, approve and submit the annual budget of the Forestry Division to the Commissioner of Agriculture.
3. Make an annual report to the Governor, Commissioner of the Department of Agriculture and the Senate Energy, Agriculture, & Natural Resources Committee and the House Agriculture & Natural Resources Committee.
4. Recommend to the General Assembly legislation to protect, conserve, and develop the forest resources of the state.
5. Approve the Division's comprehensive long-range plan for the state's forest resources.
6. Establish state forestry policies that will enable the Division to manage its programs.
7. Include in budget recommendations those goals and objectives necessary to implement state forestry policies.

#### The State of Tennessee policy of non-discrimination

Pursuant to the State of Tennessee's policy of non-discrimination, the Tennessee Department of Agriculture does not discriminate on the basis of race, sex, religion, color, national or ethnic origin, age, disability or military service in its policies or in the admission or access to treatment or employment in its programs, services, or activities.

If you seek more information or feel that you have been treated unfairly in regard to the State's services or hiring practices, contact the Tennessee Department of Agriculture, EEO/AA/ADA Coordinator, P.O. Box 40627 Melrose Station, Nashville, TN 37204, 615-837-5115.