



Tennessee Forestry Commission FY 2016 Annual Report



Department of
Agriculture

Forestry



Wildfire Management



Forest Business Services



Forest Health
& Sustainability



Reforestation



State Forest Management



Forest Data & Technology



Communications
& Outreach





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Actions and Activities for FY2016

The Tennessee Forestry Commission met 5 times during the 2016 fiscal year. The Commission received reports from citizens, staff, and subject matter experts on various forestry topics and issues affecting forest landowners and the citizens of Tennessee. The Commission discussed and took action on the following matters:

- Supported the recommendation from the Division to reduce the rotation age of pines on State Forests from 60 to 40 years at harvest following investigation of the issue from a subcommittee including Commission foresters and other conservation leaders.
- Reviewed proposed budget cuts supporting the Governor’s request for a 3.5% cut and discussed potential program implications with the Division.
- Received regular updates on timber sales from State Forests. Although the main purpose of the timber sales is for forest health, the annual revenue is important and needs to be tracked and managed. The timber on State Forests are older and regular sales need to take place to keep the trees from getting too old.
- Received regular updates on wildfires. The fire activity varies substantially from year to year and the Division must be prepared to respond to this. We also received updates on the status of firefighting equipment such as dozers.
- Advised the Division in creating a plan to increase seedling sales and reduce production costs associated with the East Tennessee Nursery.
- Received an update on State Forest Certification, and the Division’s plans to pursue certification through more cost-effective organizations such as Tree Farm and the Sustainable Forestry Initiative.
- Received regular updates on forest health including the southern pine beetle, hemlock woolly adelgid, emerald ash borer, gypsy moth and others.
- Monitored proposed legislation related to forest industry including the road load limit issue.

Members

**Bob Qualman,
Chair**
Brentwood, TN
Represents owners of less than 500 acres

**Johnny Heard,
Vice-Chair**
Collinwood, TN
Represents hardwood manufacturers

**Dottie Mann,
Secretary**
Clarksville, TN
Represents conservation organizations

Charles Daugherty
Crossville, TN
Represents public at large

Jack Holder
Counce, TN
Represents pulp and paper manufacturers

Alex Richman
Lynchburg, TN
Represents owners of greater than 500 acres

Mike Witt
Cookeville, TN
Represents owners of less than 500 acres

**Jai Templeton,
Ex-Officio**
Commissioner - Tennessee Department of Agriculture

**Ed Carter,
Ex-Officio**
Director - Tennessee Wildlife Resources Agency

**Robert Martineau, Jr.,
Ex-Officio**
Commissioner - Tennessee Department of Environment and Conservation



One of the main reasons the Division of Forestry was created over 100 years ago was to suppress wildfires. Although fire occurrence has decreased in Tennessee for the past 50 years, the spring 2016 wildfires in East Tennessee underscore how important this function still is. In FY 2016, the Division suppressed 1,247 wildfires that burned 17,772 acres. The Division has numerous workshops and programs they offer to reduce wildfires. For example, foresters held a Tennessee Firewise Community workshop for 20 communities to teach them how to minimize that risk.

When wildfires break out, the Division employees respond promptly with well trained personnel and special equipment that isn't available elsewhere. We saw this in 2015 when ice storms shut down portions of East Tennessee. The Division responded, helping clear roads of fallen timber. The Division of Forestry is a major source of assistance when disasters occur in Tennessee and nationwide.

Tennessee is fortunate to have a beautiful forested landscape and the Division of Forestry works with many people and organizations to help ensure Tennessee's forests remain healthy and productive.

Robert S. Qualman
Chairman
Tennessee Forestry Commission



Covering almost half of the state, our forests remain one of Tennessee's most important assets. As the Commissioner of Agriculture, I have the privilege of seeing first-hand the dedication that Tennessee Department of Agriculture Division of Forestry devotes to managing and protecting some 14 million acres of forestland. This report, as presented by the Tennessee Forestry Commission, highlights their services and accomplishments.

From monitoring forest health, to protecting water quality, to improving urban forests and assisting landowners, the staff offer expertise and knowledge as they serve the citizens of our state. Their skills come to the forefront when a wildfire ignites, as witnessed during the active 2016 spring fire season. The fire prevention education they provide through programs like Firewise and Fire Adapted Communities is crucial for a community to prepare before flames threaten.

The guidance provided by our professional foresters helps to conserve family owned forests, and their informed and thoughtful management contributed to a record \$3.3 million dollars of state forest timber sale revenue in FY2016. Strong numbers like that emphasize the importance of forestry as an economic driver, particularly in our rural areas.

We are grateful to our staff and all they do to improve and preserve our forest resources. We thank the Commission for their valuable advice and counsel under the leadership of Bob Qualman and we thank you for your support.

Jai Templeton
Commissioner
Tennessee Department of Agriculture



The Tennessee Department of Agriculture Division of Forestry has a long history of great accomplishments working to conserve, protect and enhance the forest resources of our state. The base of what we do is broad and strong. Every year our reach includes reforesting degraded lands, fighting thousands of acres of wildfire, advising family forest owners, and municipal leaders on forest management, forest health management, demonstrating sustainable forestry practices on state forests, educating our youth about conservation, enhancing our wood-using industries and protecting our waterways. This report highlights accomplishments associated with these focus areas, and we are proud of all of our employees who get the job done.

It is always beneficial to work closely with the Tennessee Forestry Commission and receive their guidance in fulfilling our mission. We greatly appreciate their support this past year on our recommendation to reduce the harvest age of pine on state forests. This will create a more manageable level of inventory and a healthier forest, in addition to increased access to market. The Commission's continued interest and input in managing our East Tennessee Nursery helps to ensure that we continue to provide high quality seedlings at an affordable price for enhancing conservation in Tennessee.

It is equally a pleasure to work in a state where our natural resources are so highly valued by our residents, legislators and visitors. I know that I can speak for all in the Division in thanking those with a close interest in and tie to Tennessee's forest resources.

Jere Jeter
Assistant Commissioner/State Forester
Tennessee Department of Agriculture
Division of Forestry



Wildland Fire Protection

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 Communities.
- Conduct a Tennessee Firewise Community workshop.
- Conduct fire suppression training.
- Conduct two Certified Burn Manager training classes.
- Begin screening excess property through the Firefighter Property program (FFP).
- Increase number of burn permits issued on website.
- Coordinate safety inspections of field facilities.
- Provide public with safety information including updates on current situations.
- Investigate accidents and unsafe work practices.

Major accomplishments for July 1, 2015 – June 30, 2016

- Suppressed 1,247 wildfires that burned 17,772 acres, which is more than double FY 2015.
- Issued 388,974 burn permits, which is 1,415 more than FY 2015.
- 69,978 permits were obtained from BurnSafeTN.org, an increase of 11% from FY 2015.
- Participated in several Tennessee Emergency Management Agency exercises and tornado clean up in Wayne County.
- Held the 2nd Annual Tennessee Firewise Community workshop with members from 20 communities attending.
- Provided initial outreach and introduced Firewise program overview to 3 communities (Ripley, Fairfield Glade, Memphis).
- Conducted formal Firewise Risk Assessment/Mitigation training and completed community risk assessments in Ripley and Cumberland Cove.
- Facilitated Firewise clean-up days in Bolivar and Cumberland Cove and a Firewise Community Information day in Bolivar. In the case of Bolivar, we utilized a Fire Adapted Community approach as the mayor and city public works were involved with the cleanup project (see inset on next page).
- Assisted 4 communities with their community Wildfire Safety Action Plans (Bolivar, Cumberland Cove, Long Branch Lakes and Ripley).
- Provided Southern Wildfire Risk Assessment Portal (SouthWRAP) evaluations to 4 communities (Ripley, Cumberland Cove, Long Branch Lakes and Memphis).
- Worked with an estimated 40 communities to implement elements of the Fire Adapted Communities strategy (CWPPs, Firewise Program, fuel reduction projects, grants, and educational programs).



Wildland Fire Protection

- Held in-house and interagency workshops such as annual TDF Prevention Workshop, Wildfire Prevention Working Group meetings, Fire Co-op meeting, and helped implement SouthWRAP.
- Conducted outreach initiatives such as the annual Firewise Conference, developed "Firewise on the Farm" brochure, participated in Smoky Mountain Weekend, Firewise Days, Community Safety Days and Dolly's "Whoadeo."
- Screened and loaned Federal Excess Personal Property (FEPP) equipment to rural volunteer fire departments. There were 159 pieces of FEPP equipment placed with a total value of \$431,002.15.
- Excessed 22 pieces of FEPP property with a total value of \$289,440 through General Services Administration sales.
- Deployed 12 individuals and two, 20 person crews to federal wildfire assignments in California, Idaho, Montana, Oregon and Washington.
- Provided 101 cost share grants to volunteer fire departments totaling \$259,826.
- Administered the work capacity test to assess fitness among Division firefighters.
- Conducted the Division's annual wildfire training academy for 12 new employees.
- Conducted two Certified Prescribed Burn Manager Training Courses with a total of 52 students in attendance.
- Participated in the 14th annual Tennessee/Kentucky Wildland Fire Academy, which offers advanced wildfire training for Division firefighters.
- Trained firefighters in the use of fire operations in the wildland-urban interface.
- Coordinated First Aid/CPR and Defensive Driving Training.
- Coordinated Citation (Badge) Training with the Agricultural Crime Unit.
- Coordinated safety inspections of facilities; compiled and submitted OSHA Accident and Illness reports.

Bolivar Makes History With Firewise Community Recognition

On July 30, 2015 the city of Bolivar was officially recognized as a Firewise Community. To gain that designation, Bolivar met criteria set forth by the NFPA Firewise Communities USA organization and the Tennessee Division of Forestry. This was momentous because Bolivar is the first community west of the Cumberland Plateau and first city in Tennessee to be named Firewise.

The Division worked with city officials and residents to conduct three community clean-up days, two Firewise Communities information days and 215 home wildfire risk assessments. These assessments led to establishing community risk assessments, which led to development of a Community Wildfire Protection Plan.

City of Bolivar Fire Department Chief Lynn Price was named the 2016 Fire Chief of the Year by the Tennessee Fire Chief's Association as a result, in part, to his work to make his city more wildfire resilient.





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 Businesses 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

- Complete forest resource and forest products profile for the East and Southwest Economic and Community Development Districts.
- Update the Timber Products Output (TPO) database with information from the recently completed mill survey.
- Recruit companies to use the Tennessee Wood Products brand.

Major accomplishments for July 1, 2015 – June 30, 2016

- Completed two regional resource, mill and forest products profiles.
- Updated the TPO database and made it available to the Primary Forest Products Network (<http://www.forestproductslocator.org>). The web service provides an interactive map of mills across the southeast U.S. and is widely used by the international community.
- Published 4 editions of the Tennessee Forest Products Bulletin to provide information on delivered forest product prices at mills in Tennessee.
- Processed 154 requests for information on forest products pricing and availability, landowner assistance in preparing for timber sales, and help in querying the Forest Inventory and Analysis database.
- Recruited 17 companies to use the Tennessee Wood Products brand as a part of their marketing strategy.
- Sponsored Taiwanese Wood Buyer's tour (see inset).
- Conducted a forest and mill tour for Muji Corporation global sourcing manager. Muji is a large Japanese company with stores in cities worldwide, including New York and San Francisco. Muji will be looking for sources for parts for the company's furniture lines.

Unit Mission

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

Taiwanese Wood Buyers Tour



A Taiwanese Wood Buyer's delegation representing six companies visited Tennessee seeking American lumber, logs and manufactured flooring. The Division led the group on a three-day tour which included stops at Atlanta Hardwood Corporation in Clarksville, Middle Tennessee Lumber in Burns, White County Lumber in Sparta, Mayfield Lumber in McMinnville, Cardin Forest Products, LLC in South Pittsburg, Thompson Appalachian Hardwoods in Huntland, Hassell & Hughes in Collinwood, Louisiana-Pacific in Nashville and the Tennessee Forestry Association office, also in Nashville. Tennessee Wood Products sponsored the tour (TNWoodProducts.org).

The visit was a good opportunity for Tennessee to represent its high quality and highly sought after hardwood raw material to a market that is challenging to access due to competition from neighboring Asian countries.



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 of forests. 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 1,000 plots.

Major accomplishments for July 1, 2015 – June 30, 2016

- Measured 478 plots for the year.
- Collected data from 30 Timber Products Output tree study locations with the assistance of summer interns.



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 for which benefits are difficult to measure but which changes in quality and quantity are usually 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-1980's the Division of Forestry has been providing 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 forestry BMP implementation through three major program areas: technical assistance, water quality complaint investigations, and forestry BMP implementation monitoring.

Objectives for Year

- Locate timber harvesting sites for the Best Management Practices (BMP) Implementation Survey.
- Increase the number of logging checks in counties in proportion to the number of logging operations.

Major accomplishments for July 1, 2015 – June 30, 2016

- Processed National Agricultural Imagery Program (NAIP) aerial imagery covering the entire state to identify canopy changes between 2012 and 2014.
- Identified 3,000 harvest sites in 53 counties from aerial photographs.
- Conducted 872 courtesy checks to harvesting site operations with landowners, foresters and loggers and 267 site visit follow-ups for 1,139 total contacts.
- Investigated and made recommendations on 67 water quality complaints, 21 in cooperation with the Department of Environment and Conservation (TDEC) and 46 by the Division without TDEC involvement.
- Prepared 1,259 written BMP recommendations for forest landowners in forest management plans and through timber sale assistance by Area Foresters.
- Presented 49 classes in conferences and workshops for 2,365 participants where forest water quality and BMP were an important part of the discussion
- Presented 20 BMP sessions in cooperation with the Tennessee Forestry Association for the Tennessee Master Logger Program, training 442 loggers with funding received through the Tennessee Agricultural Enhancement Program.



Forest Health & Sustainability

The health of a forest directly influences all aspects of forestry and is a part of every Unit within our 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 statewide. 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

- Facilitate the improvement of the health and sustainability of Tennessee's forest resources by implementing a statewide gypsy moth monitoring and eradication program.
- Collaborate with Gypsy Moth Slow the Spread Foundation to contract gypsy moth trapping operations in Johnson, Carter, and Sullivan counties due the work load demand.
- Facilitate the improvement of the health and sustainability of Tennessee's forest resources by implementing effective forest health monitoring programs.
- Conduct southern pine beetle (SPB) trapping in Chester, Marion, Rhea, and Wayne counties.
- Facilitate at least one emerald ash borer (EAB) parasitic wasp release project.
- Develop and implement one invasive plant demonstration area in Tennessee.
- Hold annual forest health training for internal personnel.
- Provide leadership to the Tennessee Hemlock Conservation Partnership (THCP) through meeting organizations, cooperative field days, and general outreach.
- Provide guidance to newly formed hemlock woolly adelgid (HWA) strike team in order to achieve their second season goal of 850 acres of eastern hemlock treated for HWA.

Major accomplishments for July 1, 2015 – June 30, 2016

- Conducted southern pine beetle (SPB) trapping in Chester, Marion, Rhea, and Wayne counties where pine is a major component of several forest types. The survey indicated low SPB populations, however further considerations of future populations must be made due to the drought. SPB populations are known to be on a 10-12 year cycle.
- Placed 8,274 gypsy moth detection and delimiting traps in 95 counties.
- Detected 122 gypsy moths in 20 counties. Most were detected in Northeast Tennessee, potentially signaling an infestation.



Forest Health & Sustainability

- Conducted 2 gypsy moth egg mass surveys finding 0 egg masses.
- Provided grants to eradicate exotic invasive plants at Radnor Lake State Park and Bells Bend Park.
- Conducted aerial surveillance operations in March 2016 to assess damage due to a tornado and straight line winds. 150,176 acres were surveyed across 12 counties where uprooting damage was mapped.
- Monitored 95 counties for forest health issues and reported over 200 occurrences per month.
- Conducted statewide forest health training in May 2016.
- Treated over 6,155 hemlocks for hemlock woolly adelgid (HWA) over 484 acres and designated hemlock conservation areas within the state. This was completed with the newly formed TDF HWA strike team (see inset).
- Conducted two HWA strike team led treatment workshops.
- Facilitated the release of a biocontrol agent for HWA with the HWA strike team and in cooperation with University of Tennessee.
- Continued the release of emerald ash borer (EAB) parasitoids in Smith County. By June 2016, 14,820 parasitoids were released in 11 events.
- Conducted community outreach meetings to educate forest industry and private landowners on the impacts of the expanded EAB quarantine in 6 new counties.

Hemlock Woolly Adelgid Strike Team Working to Protect Tennessee Hemlock Trees

The Hemlock Woolly Adelgid (HWA) strike team treated 6,155 hemlocks for HWA over 484 acres and 19 designated hemlock conservation areas in Tennessee. The team has held 2 land owner workshops as well as facilitated the release of predatory beetles for biocontrol. Through valuable partnerships with the Kentucky Division of Forestry, University of Georgia, University of Tennessee, and other organizations the HWA strike team is at the forefront of treatment methods, data collection, and outreach.



Team members Anne Windham, Hannah Glaw, and Emily Ford lead a land owner workshop.



White fluffy secretions are often the first noticeable sign of an HWA infestation.



Mobile data collectors are used with mobile apps such as Avenza Maps® to track HWA treatments on an acre scale.



Once treated, hemlocks are marked and will need to be treated in another 5-7 years.



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/or group presentations. Financial assistance is offered through various federal and state funded cost-share programs.

Objectives for Year

- Focus on providing excellent customer service to Tennessee's forest landowners.
- Optimize cost-share funding utilization.
- Expand cost-share options to become more relevant and responsive to our customers' needs.
- Update program policies and procedures manuals.
- Strengthen forest management program administration and information gathering processes.

Major accomplishments for July 1, 2015 – June 30, 2016

- Added a Southern Pine Beetle Suppression practice to the Southern Pine Beetle Initiative cost-share program to increase awareness and incentivize landowners to control beetle spots before they spread.
- Continued our partnership with the D'Addario's Promark Company, where the Division's nursery provided 79,800 hardwood tree seedlings to 66 Tennessee landowners at no cost (see pictures).
- Streamlined D'Addario planning procedures for TDF Area Foresters, resulting in increased seedling sales and doubling of Tennessee landowner participation.

Forest Management Planning

- Provided 1,259 inspections to landowners.
- Wrote 110 Forest Stewardship plans addressing 16,985 acres.
- Recognized implementation of 7 Stewardship plans improving 2,247 acres.
- Wrote 784 other forest management plans addressing 87,369 acres.

Forest Stand Prescription Planning

- Wrote 365 prescription plans improving 20,193 acres.

Forest Stand Prescription Implemented

- Assisted 206 landowners in other forest management activities on 12,170 acres that included hardwood and softwood tree planting, site preparation and release activities, prescribed burning, wildlife habitat improvement, stream crossings and erosion control.



Tennessee Tree Farmer of the Year Chris Anderson planted Promark sponsored hardwood tree seedlings on his property.



Forest Health & Sustainability

Urban and 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 grants, the Tree City USA program, the Tree Line USA program, the Tree Campus USA program, the Champion Tree and related programs and project administration.
- Complete tree canopy cover analyses for Tennessee communities.

Major accomplishments for July 1, 2015 – June 30, 2016

- Completed seven Tennessee Agriculture Enhancement Program (TAEP) community tree planting grants that planted 44,706 trees.
- Redesigned the federal Urban and Community grant program to assist in funding the hiring of city foresters in Memphis, Crossville and Cookeville. Memphis and Cookeville are still in the process of hiring for those positions.
- Partnered with the Tennessee Urban Forestry Council (TUFC) to host a statewide Urban Forestry Conference in Murfreesboro with the State Tree Climbing Championship for arborists in October. Assisted the TUFC with a statewide arboretum certification program that included schools, businesses, parks, neighborhoods and cemeteries and participated with TUFC in outreach to city officials at the Tennessee Municipal League annual conference in Gatlinburg.
- Completed tree canopy cover analysis for the communities of Oak Ridge and Jefferson City and, in conjunction with urban forestry students from the University of Tennessee, completed the Maryville tree canopy study.
- Recognized 44 cities and towns as Tree City USA communities. Tennessee's state ceremony was celebrated in Kingsport on March 4.
- Recognized 19 utility companies as Tree Line USA utilities (15 municipal utilities and 4 cooperatives). Tennessee still remains #1 in the country for Tree Line utilities.
- Recognized seven college campuses as Tree Campus USA colleges.
- Initiated a working relationship with the Tennessee Stormwater Association with the goal of further developing the riparian program in Tennessee and assisting community projects with green infrastructure information.
- Partnered with the Tennessee Stormwater Association and participated in the Nashville Urban Runoff 5k. Supplied potted bare root seedlings to be awarded.
- Assisted with the 50K Tree Day statewide seedling giveaway with the Tennessee Environmental Council.
- Conducted 23 training sessions with 976 hours of instruction.



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

- Generate \$695,000 of revenue from seedling sales.
- Seek new venues and engage district personnel in seedling marketing.
- Work with district offices to ensure they have materials to promote seedlings to natural resource agency and organization offices in their areas.
- Contact new agencies and organizations to market seedling purchase 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, 2015 – June 30, 2016

- Sold 3.9 million tree and shrub seedlings to generate sales revenue of \$709,000. This revenue exceeded the target by 2% and was \$102,000 (17%) greater than the revenue from the previous season. The number of seedlings sold was 796,000 (26%) higher than the number sold the previous season.
- Achieved a customer satisfaction rating of 98% according to an annual customer satisfaction survey.
- Continued to enhance our on-line seedling sales system and converted sales reports to a more user friendly format (see pictures).
- Published advertisements for the nursery in the TWRA Fall Hunting Guide, Tennessee Home and Farm Magazine, and Tennessee Magazine.
- Staffed display booths or presented information about the nursery at the National Wild Turkey Federation Annual Convention, the Appalachian Regional Reforestation Initiative Conference, a regional meeting of the Tennessee Forestry Association and a Shortleaf Pine Private Lands Workshop.
- Provided PowerPoint presentations and other information and materials to TDF personnel that could be used to promote seedling sales and the Division's reforestation programs at state and local fairs and other events.
- Worked with the Tennessee Environmental Council to provide and distribute seedlings for the second annual 50K Tree Day. Cooperating agencies and partners planted 50,000 seedlings in a single day during this event.

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 forest resource.



The Division's East Tennessee Nursery online ordering system is a popular option for viewing inventory and placing orders. The site saw a 50% increase in users compared to FY 2015.



Reforestation

Tree Improvement

Mission: To genetically improve the forest plantations of Tennessee through a program of breeding, testing, selection, and orchard management for important tree species and to provide the state nursery with genetically improved seed from these orchards.

The Division of Forestry manages 141 acres of seed orchards and seed production areas and 69 acres of progeny tests at various locations across the state. Currently, the Division is actively working with six hardwood and four conifer tree species. The Division is also a member of the North Carolina State University Cooperative Tree Improvement Program (NCSU-CTIP) and the Tennessee Tree Improvement Cooperative. Membership in these organizations allows accelerated breeding and establishment of genetically superior seed orchards. Seed produced from these orchards is used to grow seedlings tailored for survival and fast growth on Tennessee's landscape.

Objectives for Year

- Install NCSU-CTIP loblolly pine 4th cycle progeny test at the West Tennessee Tree Improvement Center (TIC).
- Measure and assess the 2015 loblolly pine full-sibling progeny test at the TIC.
- Identify and monument Sawtimber Elite selections in the 3rd cycle loblolly orchard at the TIC.
- Continue breeding 4th cycle selections in the loblolly pine breeding orchard at the East Tennessee Nursery (ETN).
- Diagnose the cause of problems in the Virginia pine seed orchard at the ETN.
- Continue conversion and development of the shortleaf pine progeny test at Scott State Forest for future seed production.
- Maintain, monitor, and manage orchards to promote healthy trees.
- Harvest seed from producing orchards as needed by the nursery program.



White pine cones collected from the East Tennessee Nursery. Seed from the cones are sown in the nursery and sold as growing stock for reforestation and Christmas tree farms.

Major accomplishments for July 1, 2015 – June 30, 2016

- Harvested 227.5 bushels of white pine cones at the ETN which produced 35.7 pounds of improved white pine seed (see picture).
- Harvested 460 bushels of 3rd cycle loblolly pine cones at the PRC which produced 500.1 pounds of pine seed.
- Harvested 540 bushels of 2.0 advanced generation loblolly pine cones at the Pinson Reforestation Center which produced 487 pounds of seed.
- Collected 18.4 pounds of seed from wild type plums at the TIC and ETN.
- Harvested 1,627 pounds of hybrid chestnut from the seed production area at the ETN.
- Harvested 2,988 pounds of sawtooth oak acorns from the seed production area at the ETN.
- Harvested 22.6 pounds of seed from various wild type species at the ETN.
- Identified Sawtimber Elite selections in the loblolly pine orchard at the TIC.
- Collected seed, cone, root and twig samples from the Virginia pine seed orchard at the ETN and submitted the samples for analysis. We determined that several trees in the orchard were infested with the pitch canker fungus.
- Measured and assessed the 2015 loblolly pine progeny test at the TIC.
- Continued 4th cycle breeding and collected and processed pollen from loblolly pine selections at the ETN.
- Established the 2016 NCSU-CTIP loblolly pine 4th cycle full-sibling progeny test at the TIC.



State Forest Management

Tennessee's 15 State Forests range from mountain coves 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 also supports local merchants. State Forests are sites for field sessions demonstrating application of sustainable forestry practices that maintain and/or 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.

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.

Objectives for Year

- Complete 15 compartment plans.
- Hold 2 demonstrations, tours or field days.
- Harvest 1,362 acres of timber.
- Recommend reducing the pine rotation age from 60 to 40 years.
- Generate \$3.1 million in timber sales revenue.
- Complete remaining state forest inventory plots.
- Map State Forest roads and designate for public use.
- Complete timber sales and compartment plan writing training.



TDF State Forest staff discuss pine rotation age with Forestry Commission members at Natchez Trace State Forest.

Major accomplishments for July 1, 2015 – June 30, 2016

- Approved 2 compartment plans.
- Gave a tour at Natchez Trace for the Tennessee Forestry Commission (see picture).
- Administered 26 timber sales for a total of 1,361 stand acres yielding 12.2MM board feet.
- Timber sale revenues applied toward FY 2016 totaled \$3,289,511.08, a record high.
- Tennessee Forestry Commission approved the proposal to lower pine rotation age from 60 to 40 years.
- Completed inventory plots. As of June 2016, 23 plots remain.
- Update all State Forest access road maps. Approximately 90% of their designated public uses were determined.
- Completed training sessions for timber sales and compartment plan writing for State Forest foresters.



Forest Data and Technology

The Forest Data and 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

- Develop or re-write key division data collection and reporting systems.
- Work with Strategic Technology Solutions (STS) on projects and system requirements.

Major accomplishments for July 1, 2015 – June 30, 2016

- Developed an event tracking system in online database system to help track real estate projects and steps.
- Continued landowner assistance database additions and maintenance on requested changes.
- Modified and re-created Forestry's contacts database to collect interactions with the public.
- Created an Urban Forestry Monthly reporting database to record projects and tasks.
- Met with STS to develop a new fire reporting system.
- Worked with STS on server consolidations and server move issues.
- Studied the use of Citrix as an option for remote users to access software and shared data.

Radio Communications

Objectives for Year

- Install new digital microwave in Highland Rim District.
- Facilitate Greenville radio tower move to new location.
- Work with Department of Safety and Homeland Security on the Tennessee Advanced Communications Network radio system build-out on Division of Forestry sites.

Major accomplishments for July 1, 2015 – June 30, 2016

- Installed new 4RF digital microwave in Highland Rim District and activated it on southern half.
- Purchased equipment and built new radio tower at the Green Valley site and moved all radio equipment from Greenville office to this new location.
- Moved radio equipment from old to new facilities at Theta, Dover, Slayden, Lobelville, Waynesboro, Savannah, Chickasaw and Millsfield.

Unit Mission

The mission of the Forest Data and Technology Unit is to facilitate the development and utilization of technology to meet the needs of the Division's core businesses. The Forest Data and Technology 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 Communication and Outreach Unit strives to inform and educate audiences by providing them 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 forest resources, 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 a stream of 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 resource issues.
- Educate our youth on the importance of trees and forests in our rural lands and within our communities.

Major accomplishments for July 1, 2015 – June 30, 2016

- Held 1,378 educational outreach activities reaching 162,110 children and adults statewide.
- Facilitated the 67th annual Forestry Camp for 58 Future Farmers of America high school students.
- Conducted tree trail conservation education programs at the Tennessee Governor's Residence at the request of the First Lady's office (see pictures).
- Produced 12 news releases pertaining to relevant topics including: forest pests, wildfire danger, burn permit requirements, dangers of moving firewood, 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, Don't Move Firewood, and tree seedlings.
- Maintained the fire prevention website BurnSafeTN.org. The site had 338,793 page views from 158,748 visits.
- Maintained the forest health website ProtectTNForests.org. The site had 11,326 page views from 6,788 visits.
- Maintained the Division's YouTube channel. Video views totaled 15,414.
- Posted status updates related to forestry on the Department's Facebook and Twitter accounts.
- Conducted educator workshop for 25 teachers and displayed Tennessee Project Learning Tree (PLT) exhibit at the National Science Teachers Association annual meeting.
- Conducted STEM-focused teacher workshop using tree and forest measurement activities for 12 educators.
- Conducted forestry workshop and Tree Ceremony at Mansker's station with 40 people.
- Met with TDEC and TWRA partners on Environmental Literacy.
- Conducted PLT educator workshop in Franklin.
- Presented forestry program at the Tennessee Environmental Education Association annual meeting.

Unit Mission

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



Tennessee Governor's Residence Tree Trail Program conducted in affiliation with the First Lady's office.

Administration

Spread across the state and administered from four district offices and one reforestation office, the 325 employees of Department of Agriculture's Forestry Division have responsibilities in nine 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 federal grants processes.
- Plan, allocate and report budget.
- Maintain TDF partnerships.

Major accomplishments for July 1, 2015 – June 30, 2016

- Closed the year within budget.
- Advised vendors concerning Department of Revenue exemption.
- Sought alliance with Finance and Administration's LEAN facilitator.
- Nominated Ward Tarkington for Governor's Excellence in Service Award.
- Met and strategized with other purchasing agents in various State Departments.
- Participated in Bird Flu Overhead team meeting.
- Drafted process outline for out-of-state Travel.
- Drafted process outline for purchasing computers.
- Submitted 5 year review of TN Action Plan.
- Submitted requests for MVM vehicle and equipment replacements.

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.



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

- Secure funding for Karst Forest at Grassy Cove.
- Close on the Carter Mountain Conservation Easement Forest Legacy Tract.

Major accomplishments for July 1, 2015 – June 30, 2016

- Secured \$1.35 million for Karst Forest at Grassy Cove fee purchase (1,000 acres).
- Implemented close-out on Carter Mountain Conservation Easement (4,000 acres). However, the owner decided to enter into another private conservation easement arrangement.
- Initiated closing of the Sherwood Forest fee purchase. Estimated to close in FY2017.

Employee of the Year



Matthew Washburn, center, received the 2016 TDF Employee of the Year Award. He is pictured with Highland Rim District Forester Jeffrey Piatt (left) and Forest Technician Mike Tummins (right).

Matthew Washburn was the Tennessee Department of Agriculture Division of Forestry's Employee of the Year for 2016. The annual award is presented to a Division employee who shows outstanding efforts and

accomplishments for a particular year.

"Daily work from employees like Matthew keeps Tennessee's forestland growing strong," Agriculture Commissioner Jai Templeton said. "His dedication to our state's natural resources hasn't gone unnoticed."

"Matthew has been a tremendous asset to the Division and the Highland Rim District," State Forester Jere Jeter said. "He has shown great aptitude in delivering some of the Division's critical forestry

services. The citizens in his area are fortunate to have such a dedicated individual serving them."

Washburn has served Houston and Humphreys Counties since October 2010. He worked one year as a seasonal wildland firefighter, four years as a Forestry Aide 1, and was promoted to Forestry Aide 2 in May of 2015. His primary duties include wildfire suppression and prevention, and monitoring water quality and best management practices. Washburn has also taken on the task of training new employees and heading up the District's seedling collection, sorting and distribution efforts.

"Matthew has accomplished a lot while working with the Division of Forestry," Forestry Technician Michael Tummins said. "It is evident that he possesses strong characteristics such as leadership and responsibility, and shows pride in his work."

"I'm very appreciative of those who nominated me and feel fortunate to receive this award," Washburn stated.

Washburn is from Castile, N.Y., but now calls McEwen, Tenn. home. He enjoys hunting, fishing and fighting fires. Along with six years of wildland fire fighting, Washburn has 17 years' experience fighting structural fires. We congratulate Matthew Washburn on his achievement and recognize him for his excellence in service to the community and the Tennessee Department of Agriculture Division of Forestry.

Forester of the Year



Paul Whaley, right, received the 2016 TDF Forester of the Year Award. He is pictured with Highland Rim District Forester Jeffrey Piatt.

Paul Whaley was the Tennessee Department of Agriculture Division of Forestry's Forester of the Year for 2016.

The annual award recognizes a Division forester who demonstrates outstanding effort and work accomplishments for the previous year. Candidates for the award are nominated and selected by a group of peers within the agency.

"This award is a great honor and I congratulate Paul," Agriculture Commissioner Jai Templeton said. "His dedication to the landowners of Tennessee runs deep and everywhere he goes his good-hearted,

hard-working reputation precedes him."

"Paul serves as a phenomenal professional resource to his area," State Forester Jere Jeter said. "With his technical and professional experience, we are fortunate to have such a dedicated individual working with the citizens of the state."

Whaley has served as Area Forester in Wayne and Hardin Counties in the Highland Rim District since 2003. He is primarily tasked with assisting private landowners with the management of their forestlands. In addition, he has served as an instructor for the annual FFA Forestry Camp for the past 14 years.

"This past year Paul served on a development team to streamline reporting accomplishments for Division personnel. This, along with his regular duties of landowner assistance, is the reason Paul was selected for this award," District Forester Jeffrey Piatt said.

"I feel fortunate to work with a lot of great people here at the Forestry Division," Whaley said. "I enjoy helping landowners manage their trees and forests, as well as providing other Division services such as fire prevention and protection, insect and disease monitoring, and water quality inspections."

Whaley is a resident of Hardin County. He enjoys farming in his spare time. He is a member of the Hardin and Wayne Counties' Forestry Associations.

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

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