

2015 STATE OF THE FOREST



ANNUAL REPORT
ON VIRGINIA'S FORESTS

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FROM THE STATE FORESTER



Welcome to the second State of the Forest Report during my tenure as your State Forester of Virginia. This edition is packed with the latest news, information and data about the health and vitality of Virginia's nearly 16 million acres of forestland, most of which is privately owned. I encourage you to take a few minutes at your convenience to read this annual report from cover to cover – I don't believe you'll be disappointed.

As you review the document, I want you to be aware of just how much of the Agency's success is due not only to the great employees we have but to the many partners, cooperators and stakeholders who stand shoulder to shoulder right there with us as we work on behalf of the citizens of the Commonwealth. We simply wouldn't be able to perform at the highest level and achieve all of the goals without the support of our good friends and partners across the board. And, of course, nothing would be possible without the leadership of Governor McAuliffe, the Office of the Secretary of Agriculture and Forestry and the dedicated members of the Virginia General Assembly.

Fiscal year 2015 was a good year overall. More than 47,000 acres of trees were planted and more than 189,000 acres were impacted by forest management planning. More than 98 percent of timber harvest sites saw no sediment reaching adjacent streams, and 93 percent of timber harvesting operations had properly installed Best Management Practices in place. These are terrific numbers of which we can all be proud. And they directly contribute to our clean air, clean water and healthy environs.

Our wildland firefighting efforts helped us protect 1,361 homes and other structures valued at \$138.8 million (meaning that for every \$1 we budgeted for wildfire suppression, we saved Virginians \$277 in property losses). Our wildfire prevention efforts along with other factors contributed to a significant decline in the number of wildfires we fought (647) and the amount of acres burned (4,941) this year.

In the forest health arena, pests, such as gypsy moth, fall cankerworm and southern pine beetle, were less destructive than in previous years, while yellow-poplar weevil, emerald ash borer and jumping oak gall caused significant damage in several counties. And this year marked the 60th anniversary of our forest research program, which has generated more than 130 reports and 85 study summaries for the benefit of Virginia's forest landowners.

Forestry remains one of the most valuable economic engines in the Commonwealth with an annual impact of more than \$17 billion and an employment base of 103,000 Virginians. The timber harvested generated more than \$327 million in payments to landowners – a significant increase from the year before.

Above are just some of the success stories you will read about in this year's State of the Forest Report – I don't want to give everything away in my letter! But before I close, I do want to let you know that Board of Forestry Member Frank Myers was selected as the "2015 National Logger Activist of the Year" by the American Loggers Council; Paul Revell, VDOF's urban and community forestry coordinator, was named the "2015 True Professional of Arboriculture" by the International Society of Arboriculture and the "Urban Forester of the Year" by the Southern Group of State Foresters, and John Campbell, director of public information, was chosen as the 2015 Governor's Agency Star Award recipient. We are fortunate to have these fine folks on the VDOF team.

Sincerely,


Bettina K. Ring, State Forester

VIRGINIA FOREST TRENDS



FORESTED LAND

For 2015, more than 15.9 million acres – more than 62 percent of the Commonwealth (figure 1) – qualified as forestland. Of this forestland, 15.3 million acres are categorized as commercial timberland and 500,000 acres are categorized as reserved forestland, e.g., Shenandoah National Park, VA state parks, etc.

Virginia has lost more than a half million acres of forestland since 1977, and the loss of forestland is projected to continue.

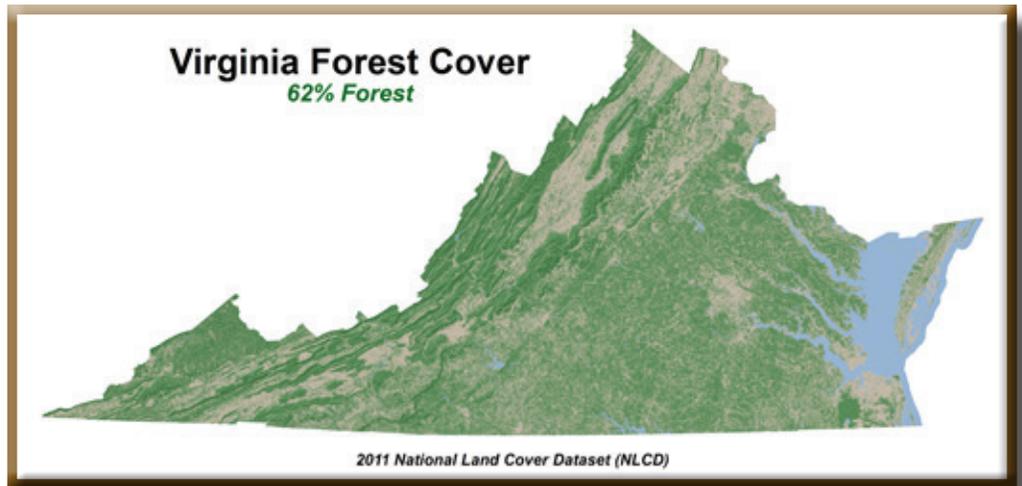


Figure 1 Virginia Forest Cover

FOREST OWNERSHIP

Most of Virginia's forestland is privately owned (more than 12.8 million acres). More than 373,600 individuals and families hold a total of 10 million acres. These private holdings average less than 75 acres in size, but range from a few acres to thousands of acres.

By 2013, ownership of forestland by forest products firms had declined to slightly more than 1 percent (188,400 acres) of the total forestland area. This is a reduction from seven percent in 2001 and 11 percent in 1992.

The balance of Virginia's forestlands (18 percent) is owned by federal, state and local governments – the largest entity being the USDA Forest Service National Forest System lands at 1.7 million acres. (Figure 2)

The Virginia Department of Forestry – through its 24 state forests – holds 68,626 acres of forestland.

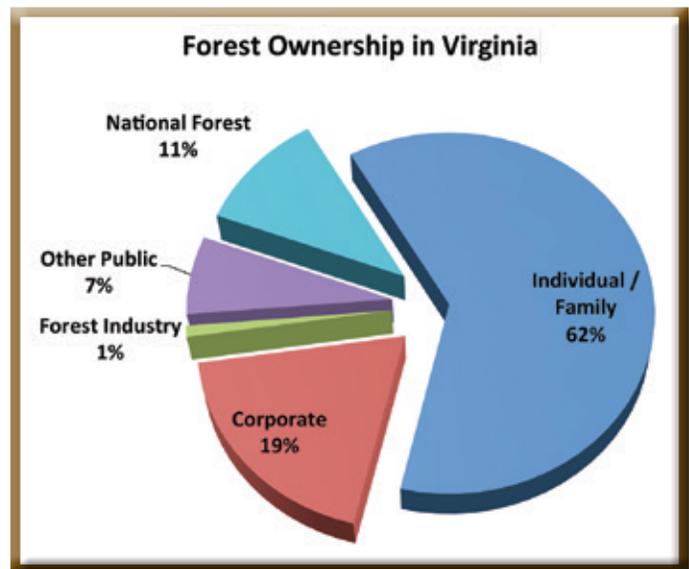


Figure 2 Forest Ownership in Virginia



FOREST TYPES

In terms of composition, the forests of Virginia continue to display good diversity. Hardwood and hardwood-pine forest types make up more than 12.6 million acres of the Commonwealth's forest – more than 79 percent. The area of hardwood forest types has increased steadily since the first forest inventory in 1940, when 8.1 million acres existed. The hardwood forests of Virginia are maturing, with more than half the hardwood acreage in stands 60 years old or older.

Pine forests represent approximately 3.2 million acres (21 percent) of Virginia's forestland. This is a decline from the 6.2 million acres of pine found during the 1940 inventory. Pine plantations now constitute more than 65 percent of the pine acreage. (Figure 3)

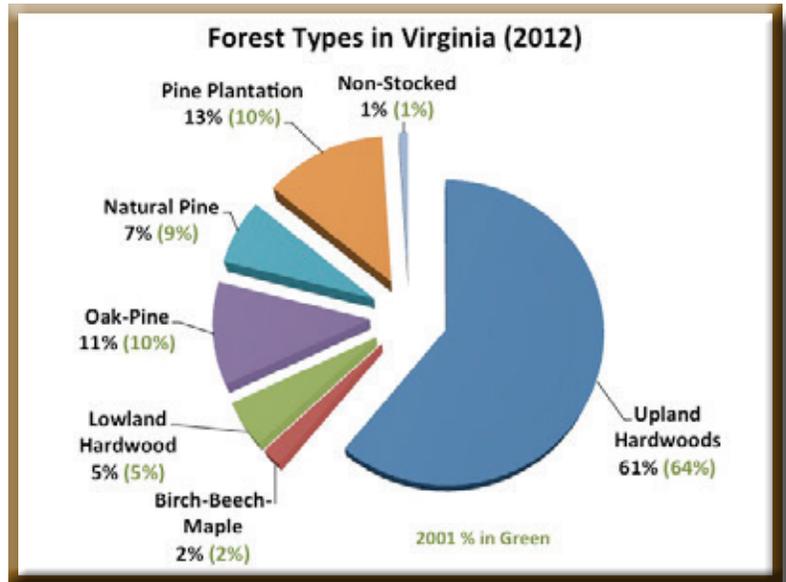


Figure 3 Forest Types in Virginia

FOREST SUSTAINABILITY – CENTER FOR NATURAL RESOURCE ASSESSMENT AND DECISION SUPPORT AT VIRGINIA TECH

In 2013, Virginia Tech's College of Natural Resources & Environment chartered the creation of the Center for Natural Resource Assessment & Decision Support (CeNRADS). CeNRADS has stakeholders in forestry industry, the environmental community and government (including the Department of Forestry) and is engaged in developing models to predict the sustainability of various components of the forest resource.

In 2015, CeNRADS released a base-line assessment of Virginia's wood supply. According to this report, Virginia's private forests annually grow 86 percent more wood than is harvested, leading to increasing inventories and ongoing carbon sequestration in excess of what is used for products and energy. This surplus of growth over harvest is considered a key indicator of sustainability and carbon neutrality of the wood used for energy production in Virginia and abroad.

However, the assessment indicated pressure on the younger, smaller-diameter softwood trees commonly used for manufacturing paper and some wood composites. Trees in these smaller size classes, termed pulpwood, experienced harvests exceeding growth by 2.4 million tons annually. Most of the pulpwood growth-harvest imbalance occurred in the southeastern portion of the state. VDOF is working with forest landowners and forest industry to ensure the long-term sustainability and health of this important resource.



ECOSYSTEM SERVICES



ENVIRONMENTAL FUNCTIONS AND VALUES PROVIDED BY FORESTS

Virginia's forests provide many environmental benefits and services, such as carbon sequestration, biodiversity, pollination, recreation, aesthetics, nutrient and sediment load reduction to streams and air quality enhancement. These regulating and cultural services are in addition to the provisioning services, like wood products, that we traditionally utilize. Forests on our landscapes are truly the best land cover that provides this multitude of environmental functions and values. VDOF is committed to increasing awareness of these vital services and finding solutions that keep working forests on Virginia's landscape sustainably providing ecosystem services.

Forest growth in Virginia annually sequesters or captures and stores about 23.5 million metric tons of carbon dioxide emissions. Carbon dioxide is considered by many to be a major greenhouse gas. The growth of Virginia's forests offsets about 14 percent of the total annual carbon dioxide emissions in the State. However, each year, approximately one million metric tons of carbon dioxide are emitted into the atmosphere due to land-use changes.

In Virginia's Nutrient Credit Trading Program, tree planting projects on open land are recognized as a management practice that generates saleable credits. The plantings reduce nitrogen and phosphorus loading and, therefore, enhance water quality. The VDOF played a key role in getting recognition for existing forest cover into the Chesapeake Bay Phase II Watershed Implementation Plan (WIP). VDOF is now working with partners (George Washington Regional Commission, Rappahannock River Basin Commission, The Nature Conservancy, EPA and the Virginia Department of Environmental Quality) on an EPA pilot project that demonstrates the positive gains to protecting water quality that forest conservation provides.

In addition to carbon sequestration and water quality, other forest ecosystem services, such as providing biodiversity and air quality, are extremely important. How we manage our forests and plan for the development of Virginia's landscape need to consider these values. Working with Virginia Tech and other State agencies, VDOF has developed and launched InFOREST, a web-based tool that will enhance our ability to include ecosystem service considerations in our land-use planning efforts. InFOREST can be used to quantify ecosystem services, such as carbon sequestration, biodiversity, air quality and water quality provided by forestland.

VDOF is becoming more involved in conducting environmental reviews and developing mitigation responses for projects that

impact loss of forestland. Projects reviewed include power lines, transportation (roads, airports and rail) and pipelines. Mitigation responses that lessen the impacts caused by loss of forest functions and values are extremely important.

VDOF was instrumental in creating the Virginia Forest Conservation Partnership (VFCP). This partnership was forged to better leverage agency and organization missions; forest conservation and forest mitigation initiatives, and available conservation financing. The VFCP provides a more collective, stronger voice for the need to conserve Virginia's forests.

VDOF HOSTS CONGRESSIONAL TOUR



Staffers who work for U.S. Senators and Congressmen participated in a two-day tour hosted by VDOF, the Southern Group of State Foresters and the Society of American Foresters to better understand the impacts of their decisions on forest management, wildfire response, and urban and community forestry.

FORESTLAND CONSERVATION



The Virginia Department of Forestry (VDOF) Conservation Easement Program enables forest landowners to make certain their lands are available for forest management in perpetuity, with a focus on forests that provide the greatest range of natural functions and values. Because larger blocks of working forest provide the greatest range of benefits, VDOF conservation easements emphasize keeping the forest land base intact and undivided, enabling landowners to manage their forestland for timber products and environmental values.

In 2015, the VDOF permanently protected 1,399 acres of open space through five conservation easements and another 13 acres in one amendment; the agency now holds 111 easements covering 32,701 acres. VDOF easements continue to reflect the goal of conserving large blocks of forestland – protecting the sustainable flow of products, functions and values from our woodlands. The average VDOF easement property is 295 acres; 91 percent forested, and protects more than 7,800 feet of streams. VDOF now holds easements in 45 counties and the City of Suffolk.

VDOF's highly successful Tomorrow Woods easement program has come to a close after five years. Made possible in part by support from Dominion Virginia Power, the program provided funds to landowners for the donation of a conservation easement with enhanced forest protection and management terms. Since its inception, 17 conservation easements have been developed, protecting 4,753 acres of land, 92 percent of which is forested. The Tomorrow Woods program has demonstrated that effective forestland conservation can be associated with large infrastructure projects.

Most forestland conversion in Virginia is occurring on family-owned forestland – land that is most susceptible to fragmentation and conversion at the point of intergenerational transfer of the family property. Forestland owners 65 years and older own 41 percent of Virginia's 10 million acres of private forestland, placing more than four million acres at risk of conversion in the next decade. In response, VDOF and Virginia Cooperative Extension continued to offer the award-winning short course Focusing on Land Transfer to Generation "NEXT", hosting the 2014 workshop in Farmville, Va. This workshop uses a public-private collaboration of legal, financial and conservation professionals to focus on issues related to the transfer of forestland and its management from one generation to the next. The program was attended by 16 families that hold nearly 5,100 acres of farm and forest land. Following the workshop, participants indicated the program would increase the likelihood of their property staying in the family (63 percent) and staying in woodland (53 percent). During the five years of the program's existence, a total of 149 individuals representing 79 families have completed the course. As these landowners continue executing their plans, approximately 51,972 acres of land is expected to remain open and family owned.

NEW KENT FORESTRY CENTER WAS NAMED A CENTER FOR ENVIRONMENTAL EDUCATION EXCELLENCE



FOREST MANAGEMENT



The value and quality of forest benefits can be greatly enhanced through planning and implementation of good forest management practices. In FY2015, the Department continued to emphasize planning and practice implementation on private lands in the Commonwealth.

Forests, by nature, require time to grow and develop. Because of this, long-term planning is essential to realize long-term benefits. Planned forest management practices, implemented over time, will ensure sustainable and continuous benefit from forest resources. Department of Forestry, private consulting and industry foresters can develop these plans and partner with state and federal conservation agencies and contractors to support and implement them. In FY2015, foresters completed 2,583 plans on 157,604 acres.

Silvicultural practices – management activities that utilize the art and science of tending forests – are the means to build good forests. There are many different types of forest management practices: preparing sites and planting trees; thinning; controlling competing or invasive vegetation; crop tree management; partial or complete harvesting for natural forest regeneration, and prescribed burning. In FY2015, 3,270 forest management projects were implemented by private landowners throughout the state on 117,843 acres, and all were designed to build healthy, valuable and productive forests.

There are a number of programs designed to encourage and assist private landowners in implementing forestry practices. The Virginia Reforestation of Timberlands Program provides assistance for planting and improving pine forests. The program is funded by the wood-using forest industry and state general funds. For the past year, the program assisted owners through incentive payments with 1,172 planting or improvement projects on 40,630 acres. Through the history of the program, 45,877 planting or improvement projects have been completed on more than 1.7 million acres of Virginia forestland.

The Department is also partnering with other state and federal agencies to leverage the combined resources to implement good forest management practices on private lands. Through several programs available through the USDA Natural Resources Conservation Service (NRCS), Virginia landowners are able to receive incentive payments for forestry, conservation and wildlife practices. In 2015, nearly \$1 million were obligated to private landowners to implement good forest management practices during the next three years.

SPECIAL PROJECT EMPHASIS

In addition to the well-established statewide programs to emphasize and encourage forest management, the Department of Forestry is working on special initiatives that are improving the resource and helping landowners meet objectives. In January 2015, the Department of Forestry was awarded an NRCS Regional Conservation Partnership Program (RCPP) grant. RCPP is a voluntary conservation program that establishes specific parameters for working with eligible partner entities to provide financial and technical assistance to producers and landowners of eligible land. Through this partnership, the VDOF was able to provide additional financial and technical assistance to forest landowners using these Environmental Quality Incentives Program funds. The Forestry Quail Habitat Recovery Program was renewed again in July of 2015, but this time through a three-year agreement with the Department of Game and Inland Fisheries. Through the program, cost assistance is provided to landowners in 15 focus counties to implement good forestry practices that also enhance habitat for quail. Examples are early- and mid-stage improvement thinning; prescribed burning, and establishing shortleaf or longleaf pine. All of these projects will help improve Virginia's forests by adding to the benefits they provide to our landowners and citizens.

FOREST PROTECTION FROM WILDFIRE



The Virginia Department of Forestry responds to nearly 1,000 wildland fires that burn approximately 11,000 acres annually (based on a 10-year average, 2005 – 2014).

Although 70 homes and other structures are damaged or destroyed by wildland fire each year, on average, agency efforts protect more than 1,100 others at a value of more than \$130 Million.

From July 1, 2014 through June 30, 2015:

- ▲ 647 fires burned 4,941 acres;
- ▲ more than \$740,000 of timber was damaged;
- ▲ damage to homes and other buildings amounted to \$1.3 million, and
- ▲ 763 homes, worth more than \$115 Million, along with an additional 598 other structures, worth an estimated \$23.8 Million, were protected thanks to VDOF efforts.

The Agency relies on highly-trained and experienced personnel operating a fleet of 160 4x4 engines; one specially equipped Hummer; 10 specially equipped wildland brush trucks, and 89 bulldozer/wildland fire plow suppression units for quick response to any reported wildland fire or other weather-related emergency. The assistance of Virginia's 768 fire departments and close working relationships with federal land management agencies and other public and private landholders in the Commonwealth ensure that wildland fire response in Virginia is both efficient and effective.

Virginia Department of Forestry personnel also volunteer to provide incident management expertise to support other all-risk incidents when the need exists. VDOF responded to incidents in Alaska, California, Oregon and Washington within the last 12 months. The practical experience gained during these events develops agency employees with a broad base of expertise to handle any emergency in Virginia.

LAW ENFORCEMENT

Virginia Department of Forestry personnel are unique in that they are the only responder group in the Commonwealth who are both firefighters and law enforcement personnel. Agency law enforcement duties are focused on the enforcement of forestry and fire-related laws, wildfire arson investigations and fire suppression cost collections throughout the Commonwealth. In 2015, agency officers issued 95 summons/warrants.

TRAINING PROGRAM

The Virginia Department of Forestry is a recognized national leader in its delivery of wildfire suppression, incident management and personnel development training for emergency responders. In June of this year, the VDOF held its 15th annual statewide Interagency Wildfire Academy. This academy, one of the four largest in the

nation, provided training to almost 300 students representing more than 7,000 hours of total training. The event hosted responders from various state and federal agencies across the Commonwealth, responders from three surrounding states and representation from more than 44 Virginia Volunteer Fire Departments. On a more local basis, VDOF personnel provide at least one regionally based academy every year as well as numerous county-based training opportunities in an effort to further develop the expertise of Virginia's fire service.

DRY HYDRANT PROGRAM

The Virginia Dry Hydrant Grant Program is funded by the General Assembly using money from the Virginia Fire Programs Fund and administered by the VDOF. The objectives of the program are to:

- ▲ Conserve energy by reducing losses from fire;
- ▲ Conserve energy by reducing miles traveled to shuttle water;
- ▲ Fund the installation of dry hydrants that otherwise would not be installed, and
- ▲ Conserve processed domestic water supplies in urban and urbanizing areas.

Those organizations eligible to apply for dry hydrant grants include the fire departments listed with the Department of Fire Programs. A total of 33 new dry hydrants were installed through the program last year. The Virginia Dry Hydrant program has now installed a total of 1,683 dry hydrants throughout the Commonwealth.

FOREST PROTECTION FROM WILDFIRE,

continued



VOLUNTEER FIRE ASSISTANCE PROGRAM (VFA)

The Volunteer Fire Assistance Program continues to increase the fire protection capability in Virginia. This is accomplished through financial assistance to rural volunteer fire companies to provide additional training and the acquisition of small equipment and wildland personal protective equipment (PPE). Since the 1975 inception of this program, 5,452 grants have been made providing a total of \$3,775,455 in matching grant funds.

This VDOF program is part of a grant that improves the capability and effectiveness of America's 26,000 Rural Volunteer Fire Departments – 580 of them in Virginia – to protect lives and other rural investments. The purpose of this program is to provide financial, technical and other assistance to State Foresters and other appropriate officials to organize, train and equip fire departments in rural communities. In 2015, 145 rural volunteer fire departments in the Commonwealth received \$307,541 in Volunteer Fire Assistance funds made available to Virginia. Requests for support continue to greatly exceed the available funding – last year's assistance requests totaled \$800,000.

WILDFIRE PREVENTION

In Virginia, 96 percent of wildfires are human-caused; the most prevalent cause being debris burning (Figure 7). This makes fire prevention efforts in Virginia critical to the VDOF forest protection program. One such effort focuses on a national prevention program effort called "FireWise."

FIREWISE

Firefighters in the wildland/urban interface (any area where wildland fuels threaten to ignite combustible homes and structures) must overcome severe challenges. There just aren't enough resources to protect every home threatened by wildfire. Everyone in the vicinity of such a fire is at risk, and the risk is greatly increased in areas that aren't prepared. The main goal of FireWise is to educate homeowners in the wildland/urban interface on how to design, construct, landscape and maintain their homes and property to avoid destruction during a wildfire.

Virginia has an expanding wildland/urban interface and a significant wildfire problem. The VDOF has been a leader nationally in the promotion and expansion of FireWise Program. Virginia has 61 nationally recognized FireWise USA communities, making Virginia one of the top 10 states nationally in terms of communities recognized under the program. There is little doubt that the problem of high-risk homes in a woodland environment is expanding, and the VDOF is aggressively working to reduce the total threat to Virginia's communities.

To learn more, visit www.firewisevirginia.org.

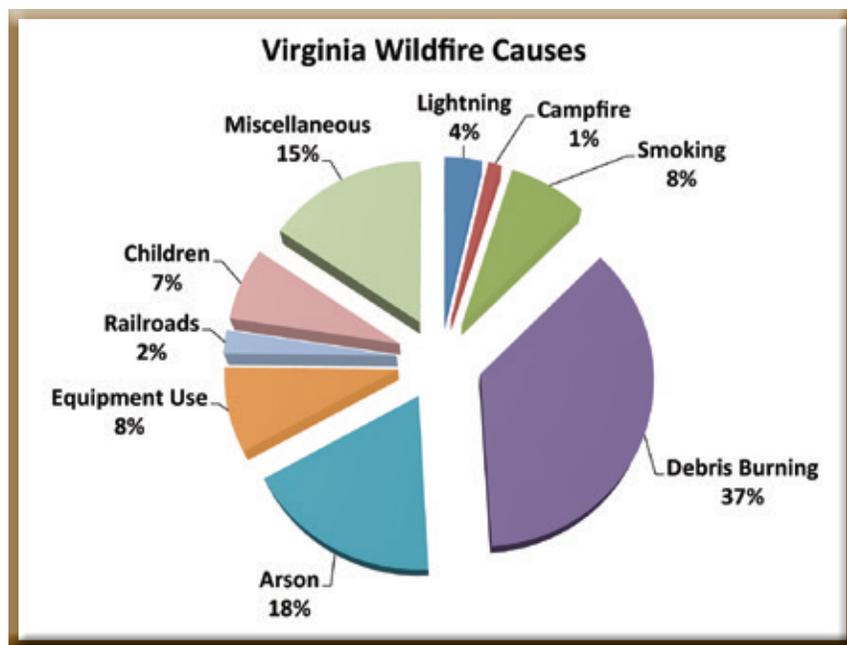


Figure 7 Virginia Wildfire Causes

WATER QUALITY PROTECTION



Water quality is important to all Virginians. Studies have shown that the cleanest water comes from forested watersheds. These watersheds are critical sources of pure drinking water; habitat for important fisheries, and areas that are treasured for their recreational value and purity of life. This is especially important when considering the Total Maximum Daily Load (TMDL) and Watershed Improvement Plan (WIP) that have been developed for the Chesapeake Bay. Two of VDOF's important measures involve water quality. One focuses on Best Management Practices on forest harvesting operations and protecting streams from sediment. The other focuses on improving and protecting watersheds through management and land conservation.

The Virginia Department of Forestry has been involved with the protection of our forested watersheds since the early 1970s with the development of our first set of Forestry Best Management Practices (BMPs) for Water Quality. The Department utilizes the fifth edition of those guidelines, which came out in 2011. The backbone for the Department's water quality effort is the harvest inspection program, which began in the mid-'80s. This program has provided for one-on-one contact between VDOF and the harvest operators and a welcomed opportunity to educate the operators on BMPs and the latest in water quality protection techniques. In fiscal year 2015, VDOF field personnel inspected 5,458 timber harvest sites across Virginia on 245,749 acres – a slight increase in the number of acres harvested in FY2014.

Another main focus of the VDOF water quality program is logger education. Since the development of the first BMP Manual for Virginia, the VDOF has been involved in the training of harvesting contractors in water quality protection techniques ranging from harvest planning, map reading and the use of GPS units to BMP implementation. This occurred through training that the agency sponsored and, more recently, through VDOF participation in the SFI® SHARP (Sustainable Harvesting and Resource Professional) Logger Training Program. Since 1997, this program has enabled VDOF to assist in training 7,700 harvesting professionals in 253 programs relating to water quality protection. For fiscal

year 2015, there were 10 training programs offered with a total of 258 present. Seven of these courses were in the core area (184 attendees), and the remaining three courses were for logger continuing education (74 attendees).

In July 1993, the General Assembly of Virginia – with the support of the forest industry – enacted the Virginia Silvicultural Water Quality Law, §10.1-1181.1 through §10.1-1181.7. The law grants the authority to the State Forester to assess civil penalties to those owners and operators who fail to protect water quality on their forestry operations. Virginia continues to be the only state in the southeastern United States that grants enforcement authority under such a law to the state's forestry agency. In fiscal year 2015, the VDOF was involved

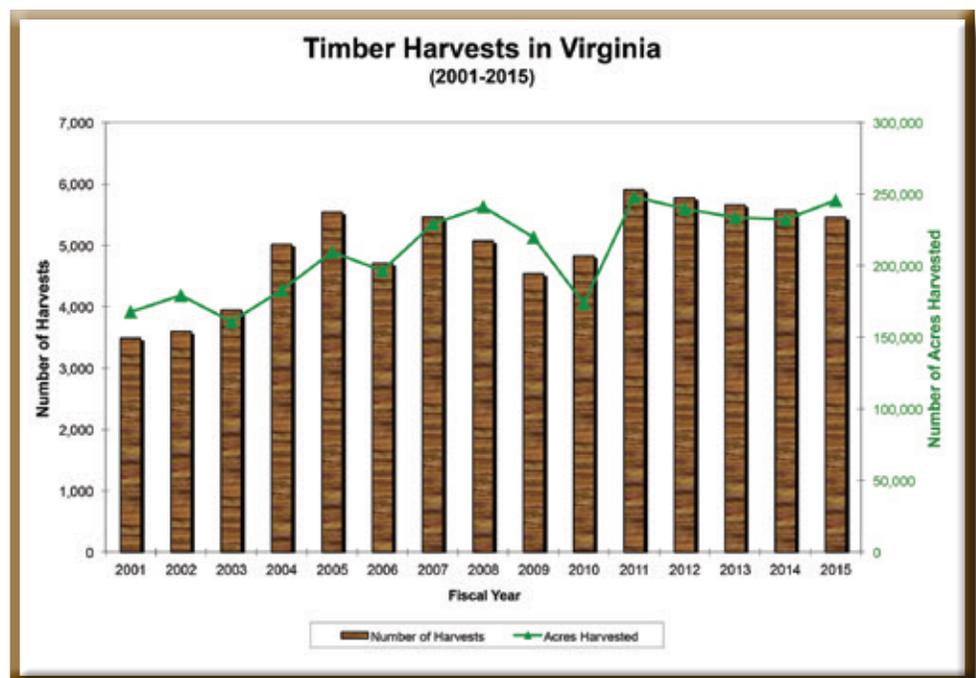


Figure 8 Timber Harvests in Virginia



with 195 water quality actions initiated under the Silvicultural Law. This is a decrease of 41 percent from FY2014. Of these actions, three resulted in Special Orders being issued for violations of the law, and three involved the issuance of an Emergency Special Order (Stop Work Order). None of these proceeded to the issuance of a civil penalty.

A statewide audit system has been in place since 1993 to track trends in BMP implementation and effectiveness. Results from the calendar year 2014 data show that BMP harvest median implementation rate on 240 randomly selected tracts is 93 percent (the harvest median score is the best judge of central tendency of the tract score). The audit results also showed that 98.3 percent of the sites visited had no active sedimentation present after the close-out of the operation. The information compiled using this audit process will be the basis of reporting for the Watershed Implementation Plan (WIP) that is in response to the TMDL for the Chesapeake Bay. Since the information is captured through GIS technology, this information can be compiled spatially for reporting on those forestry operations that occur within the boundaries of the Bay watershed. For calendar year 2014, the BMP implementation rate harvest median score for forest harvesting within the Bay Watershed was 93.6 percent. This whole BMP Implementation Monitoring effort has been automated over the past several years to be compatible with VDOF's enterprise database system known as IFRIS (Integrated Forest Resource Information System).

VDOF provides cost-share assistance to timber harvest operators through a unique program offered through the utilization of funding from the Commonwealth's Water Quality Improvement Fund. This unique program shares the cost of the installation of forestry BMPs on timber harvest sites by harvest contractors. This program was funded for FY15, and 29 stream protection projects have been supported that are incorporating the use of portable bridges that will provide stream crossing protection for not only the site for which they were funded but stream protection for years to come on additional sites.

WATERSHED PROTECTION

Because forests provide the best protection for watersheds, one of the Department's goals is to increase the amount of forestland conserved, protected and established in Virginia's watersheds. The focus is on practices that will have a high benefit to water quality, specifically: conserving land permanently; establishing and maintaining riparian buffer zones; planting trees on non-forested open land, and increasing urban forest canopy by planting trees. All of these activities are closely related to meeting water quality goals associated with the Chesapeake Bay restoration and watersheds for Virginia's southern rivers.

Virginia's Forestry BMPs that address harvesting have been highly successful. One of the most valuable BMPs for water quality is the uncut or partially cut streamside management zone. This voluntary measure assures an unbroken forest groundcover

near the stream; shade for the water, and wildlife corridors. Landowners can elect to receive a state tax credit for a portion of the value of the uncut trees in the buffer. By doing so, they agree to leave the buffer undisturbed for 15 years. The number of landowners electing this option in Tax Year 2014 was 61, a slight decrease in the number of applications over the previous year. This watershed protection option provided a tax credit of \$334,614.55 on timber valued at \$1,363,490.41 that was retained in the streamside areas of their property. This was an increase in both value of buffer retained and tax credit issued.

Forests provide superior watershed benefits over nearly every other land use. Because of this, the Department is encouraging planting of open land with trees; establishing new riparian forested buffers where none previously existed, and providing protection of existing riparian forests through a tax credit.

FOREST HEALTH



Defoliation of white oaks due to the jumping oak gall wasp.

The year 2015 has seen a mix of forest health issues in Virginia. Pests that caused significant damage in previous years, such as the fall cankerworm, were less abundant in 2015, while new pests, such as the emerald ash borer, continue to spread and threaten Virginia's forest resources. As the list of invasive pest problems continues to grow, early detection and eradication is necessary. If already established, slowing the spread of these organisms is critical.

Gypsy moth populations have remained low since 2010, and only one significant area of defoliation was observed this year (8,500 acres in Highland County). However, even within this area of defoliation, there was evidence of *Entomophaga maimaiga*, a fungus that kills the larval stage of gypsy moth. The fungus is most abundant and effective in wet weather and moist soils, so a spring with abundant rainfall often leads to increased gypsy moth mortality due to *E. maimaiga*. This may account for the low number of severely defoliated acres reported in the last five years. Dry weather will render *E. maimaiga* less effective and also weaken host trees. If gypsy moth populations increase in future years, some trees, primarily oaks, could suffer long-term health impacts and begin to decline if severely defoliated over several years. However, a very wet season with ample soil moisture will make oak decline less likely.

The **fall cankerworm**, a native spring defoliator, has been quite active for the past three years (2012-2014) in eastern Virginia. This year's defoliation, however, was light and patchy. If fall cankerworm outbreaks are cyclical, then populations may remain low in Virginia for the next couple of years. Perhaps natural predator populations have increased enough to provide effective control. In contrast, the **yellow poplar weevil** is a native pest that rose to outbreak levels this year. This insect feeds on yellow poplar, sassafras and magnolia. It can cause severe damage to trees when populations are high. Damaged yellow poplars have a scorched appearance and may drop leaves prematurely. More than 13,000 acres of patchy damage by the yellow poplar weevil were reported this year, mostly concentrated in the southwestern counties of Buchanan, Tazewell, Lee, Scott, Washington, Wise and Dickenson.

The **southern pine beetle** has been relatively quiet during the last 12 years. In general, the southern pine resource in central and southeast Virginia remains healthy and productive. Federal funds from the USDA Forest Service, Forest Health Protection support our (Southern Pine Beetle Prevention) cost-share program with landowners and loggers for thinning of pine stands. To date, Virginia has thinned about 45,000 acres of loblolly pine out of approximately 130,000 acres estimated to be overstocked. Overstocked pine stands are more vulnerable to bark beetle outbreaks, and thinning is the best method of reducing this threat. Only areas near Virginia Beach and along the Eastern Shore of Virginia experienced any significant southern pine beetle activity this year.

These areas contain old, stressed trees with possible salt water intrusion – the perfect scenario for a southern pine beetle outbreak.

A more recent threat is the **emerald ash borer** (EAB). First discovered in Virginia during 2004 in Fairfax County, it has since spread across the Commonwealth and is causing widespread ash mortality in several forested regions throughout Virginia. EAB was discovered in seven new counties in 2015 for a total of 29 infested counties across the state. Virginia and the nation face the prospect of losing all ash species from natural and urban landscapes in the forthcoming decades. Managing this mass die-off as dead ash become hazard trees is the next challenge. In Virginia, the impact may include the loss of the approximately 187 million ash trees and could eventually cost the Commonwealth many millions of dollars.

Other threatening non-native pests and pathogens causing major death and decline to their respective hosts include **thousand cankers disease**, **hemlock woolly adelgid**, **dogwood anthracnose** and **beech bark disease**. Monitoring efforts continue for the **Asian longhorned beetle** and **laurel wilt disease**, an invasive insect and disease, respectively, that could cause detrimental effects to Virginia's forest if they become established. The **jumping oak gall**, **locust leafminer** and **elm leaf beetle** usually are not serious forest pests but have caused severe damage to landscape trees in many parts of the state this year. Many species of **non-native invasive plants** also contribute to the degradation of forest values by competing with native flora and reducing biodiversity.



The longleaf pine planting date study established at Lone Star Lakes Park, City of Suffolk in 2015. Plots are carefully surveyed and marked to ensure the individual seedlings can be relocated for frequent survival checks.

Why would anyone need research?

The short answer: to make more informed decisions.

The Applied Forest Research Program is a driving force behind protecting and sustaining the forests of Virginia. Throughout its history – and perhaps more today than ever – two of the consistent strengths of the Program have been a willingness to leverage resources by partnering with others, and persistence in following through with written reports and in-person training to help ensure that important results are available to forest owners across the Commonwealth. Without this spirit of teamwork and technical support, valuable current practices, such as selecting and deploying the best-growing loblolly pine seedlings, controlling competing vegetation to accelerate pine reforestation, using crop tree release to sustain desirable hardwood regeneration or restoring longleaf pine using seedlings native to Virginia, might not have been fully developed or implemented here.

2015 is the 60th year of research by the VDOF. More than two dozen collaborators from research cooperatives, educational institutions, government agencies and non-government organizations have common interests and bring additional resources to VDOF research initiatives. In its history, the Program has issued more than 130 occasional reports, 11 research reviews (containing 85 individual study summaries or updates) and numerous fact sheets, technical papers and refereed journal articles. The number of presentations at landowner workshops, training sessions, professional meetings and personal consulting visits has not been tracked but surely exceeds 1,000. In just the past year, the Program has delivered five new reports, authored one magazine article, given 15 presentations and a radio interview on a wide variety of research activities and initiated 10 new research projects.

Results and recommendations from VDOF's research program are based on solid and extensive data. There are 49 active studies at 83 locations distributed across Virginia. In total, more than 41,000 individual trees are being measured periodically (often annually) as part of these tests. Adding the efforts of our collaborators brings these totals to 94 locations and more than 67,000 trees.

Program activities in 2015 focus on five broad subject areas:

1. Pine Forests – A fourth location of a study to compare innovative planting systems to grow trees for multiple markets was installed, and early growth has more than doubled where non-traditional planting densities have been included. Final measurements of a fertilization study have shown that adding nitrogen and phosphorus to stands at the time of thinning can increase growth by more than 35 percent and that biosolids are as beneficial to tree growth as traditional fertilizers. Work has begun on a decision-support tool that will integrate the most current research knowledge to assist landowners in choosing pine forest strategies.



Controlled pollination of hybrid chestnuts as part of VDOF's continuing backcross breeding program working to develop blight-resistant American chestnut at the Lesesne State Forest.



2. **Hardwood Forests** – Data continue to show the value of crop tree release in sustaining desirable species, such as oaks; the practice improves the growth of release trees by more than 70 percent. A new study is investigating methods to remove dense understories of American holly and assess the resulting effect on promoting regeneration and species diversity. Work is underway on a report to consolidate and promote knowledge of practices to enhance our hardwood forests.
3. **Pine Tree Improvement** – Two new tests were installed to support ongoing selections of the best pine families to plant in Virginia. Based on past study results, a new seed production orchard has been started that will provide the next generation of better seedlings from our nursery. With current nursery offerings that grow as much as twice as fast as the average loblolly pine, and annual demand approaching 30 million seedlings, this work is critical for the future productivity and sustainability of Virginia’s economically important pine plantations.
4. **Diminished Species Restoration** – New studies investigating shortleaf pine planting densities and longleaf pine planting dates have been installed, and work on breeding blight-resistant American chestnut continues with five new crosses made this spring. Progress on establishing our native Virginia longleaf pine seed orchard is ongoing, and our shortleaf pine seed orchard will soon be producing select seed for Virginia.
5. **Growth and Yield Modeling** – Tree measurements were collected for three of our 16 active study locations that contribute important data for updating models used to project growth and product yield of pine forests. Compiled by the Forest Modeling Cooperative at Virginia Tech, these tools help us to predict and compare the effects of different operations on the long-term development and value of our forests. For example, this year we used the results to improve our valuation methods for forest land-use taxation, compare the value of our nursery’s different seedling offerings and examine differences among options for competition control timing.

More details and results from all of VDOF’s Applied Forest Research Program activities can be found on our website at <http://dof.virginia.gov/infopubs/index-research.htm>

EURASIAN FORESTERS VISIT VIRGINIA

VDOF hosted a two-day visit by a delegation of 18 timber and wood-processing professionals from Kazakhstan, Tajikistan, Russia and Ukraine as part of the U.S. Department of Commerce’s Special American Business Internship Training program. The delegation met with VDOF staff and toured the Augusta Forestry Center, McCormick Farm and the Deacon & Sons Mill in Rockbridge County.



Augusta Forestry Center tour



U.S. Department of Commerce, International Trade Administration

FOREST INDUSTRY AND MARKETS



Virginia's forest industry is continuing to see improvement as both the domestic and international economies continue to recover from the "great recession." This is good news for the Commonwealth as we are seeing industry expansion and improving markets that are increasing the more than \$17 billion of annual economic output and several billion more in other benefits, such as recreational activities, wildlife habitat and environmental and other services. Employment is also increasing beyond the more than 103,000 jobs reported in the 2013 Economic Impacts of Agriculture and Forest Industries in Virginia Study. As the economy continues to improve and we see both domestic and international markets for Virginia's forest products grow, we still need to be aware of challenges and issues that impact our forests and forest industries. While some international markets are improving, the strong U.S. dollar and weak economies in other countries are changing product demands and where they go. On the domestic side, housing (a key indicator of wood demand) is still recovering more slowly than expected. At the same time, changes in demographics and forestland ownership; forestland loss and fragmentation, and changing product demands are increasing concerns on forest resource sustainability.

The latest timber harvest information shows that we are now harvesting record amounts of pine saw timber and pulpwood and that hardwood saw timber is also recovering to pre-recession levels. While these increased harvests are very positive to Virginia's private forestland owners and the economy, we need to be sure that we continue to actively monitor our resource availability and sustainability to ensure that we can continue to receive all the benefits that we depend on from our forests. The VDOF continues to work with forest industry, Virginia Tech and other partners (in state and regionally) as well as private landowners, who own more than 80 percent of Virginia's forests, to monitor the resource and improve opportunities to expand and maximize working forests and improve markets and value for everyone. These efforts include our continuous analysis of the forest inventory in Virginia; working with Virginia Tech through the newly established Center for Natural Resources Assessment and Decision Support (CeNRADS); continuing research and working with landowners to better manage their forests to meet future needs, and producing better seedlings to produce more productive forests in the future.

The forest industry in Virginia has seen a number of changes with new owners and consolidations. Much of the consolidation has been with hardwood mills to improve the availability of grade hardwoods to both international and domestic customers. These include Baillie Lumber buying American Hardwood Industries, which includes Augusta Lumber's operations, and Northwest Hardwoods buying Fitzgerald's and Shenandoah Hardwood mills. Also, with the merger of Mead-Westvaco and Rock-Tenn into WestRock, half of the pulp and paper mills in VA are now under one company.



The bioenergy sector continues to be a strong growth area in Virginia and includes 10 wood pellet mills for both domestic and foreign markets, five biomass and one hybrid coal/biomass electrical generation plants and several biomass energy plants providing both heat and energy to industrial, commercial and public operations.

The VDOF continues to work to obtain new resources to identify and promote emerging markets as well as opportunities to enhance the traditional markets that have been the backbone of the industry. Maintaining diverse markets, cutting-edge technology and a trained workforce are necessary for all forest-related businesses to remain prosperous and relevant in today's world. Working



FOREST INDUSTRY AND MARKETS,

continued



with VDACS' International Marketing Division, we are increasing our efforts to promote Virginia's forest industry and products around the world to maximize opportunities to participate and improve access to international customers. We continue our efforts to expand the Virginia Grown Forest Products program to increase demand for local forest products and to try to increase other Virginians' awareness to the important role that forest products have in their lives. We continue to work with counties, companies and agencies to utilize state programs like the Agriculture and Forestry Industries Development (AFID) Fund to improve opportunities for new or expanding business.

Working with various agencies, partners and stakeholders, VDOF continues to seek and leverage resources for programs and activities to ensure that forest landowners and industry continue to have markets for their products now and in the future. As part of our efforts to maintain sustainable working forests, we continue to work with partners to improve landowner access to forest certification programs and certified wood markets. As demands for documenting the sustainability of forest products increases, it is important that our landowners and industry can provide those assurances.

VDOF continues to work with the Center for Natural Capital and other partners on the community wood energy program in Virginia. The goal of the program is to help local schools, communities and industry reduce energy costs and improve job and economic opportunities by converting to biomass energy systems that use local resources and producers, while developing markets for low-quality and waste wood that can improve forest management, forest health and waste reduction. Several resources, including the website <http://www.woodenergyva.org/>, education materials, project ranking and evaluation tools and technical assistance, have been developed. This initial work has led to the recent awarding of a USDA Forest Service grant to develop a State Wood Energy Team.

As part of VDOF efforts to improve forests and identify new market opportunities, work is continuing on developing uses for urban wood and increasing service providers who can provide management assistance on small forestland acres and forests in more populated areas. With around 30 percent of Virginia's forestland now considered to be in small acreage or in urban/suburban areas, care of this growing part of our resource is becoming more critical. Surveys of forest operators, municipalities and arborists along with analysis of the information are completed. The results are being used to design educational programs, workshops and demos to help municipalities, new forest operators and service providers focus on better small woodlot or community forest management; increase urban wood use, and on controlling impacts of invasive species control and natural disasters.

VDOF and the Department of Taxation worked with Virginia's forest industry, associations and stakeholders on changes to the Virginia Forest Products Tax to better reflect current timber harvesting and processing activities. The revenue-neutral changes were initiated July 1, 2015 to reduce the tax collection burden on loggers and other temporary or portable operations and have forest industries with fixed (bricks & mortar) operations be responsible for collecting the tax in most cases. These changes should lead to better efficiency and compliance of tax collections, which are used to protect, care and sustain our forests through programs like the Virginia Reforestation of Timberlands (RT) Program.

To be able to provide the needed assistance on forest markets and other forest benefits that landowners, industry and other stakeholders require, the VDOF maintains or has access to information on forest inventory and values, forest industries, new technologies, technical consultants, service providers, agencies and other organizations and other technical support services. The VDOF Utilization and Marketing Program works with partners and other VDOF divisions to keep Virginia at the forefront of assisting our forest landowners, industry and other stakeholders in being able to take advantage of both the traditional and emerging market opportunities and other forest values. This is because, to have healthy sustainable forests, we need healthy sustainable forest industries and markets.

URBAN AND COMMUNITY FORESTRY



Community forests provide multiple benefits to Virginia's cities and towns. The Urban and Community Forestry (U&CF) Program helps Virginia communities maintain and enhance their community forests, and raises citizen awareness as to the multiple benefits these forests provide: clean air, clean water, storm water management, community revitalization, community health and well being, business district enhancement, viewshed protection, aesthetics and contact with nature.

The Urban and Community Forestry Program works with communities of all sizes, providing project coordination and networking, technical assistance, educational opportunities, professional development, academic program support and grants for specific projects. Technical assistance is provided in such areas as tree selection and maintenance, riparian planting and restoration, tree/utility issues and selection of contractors. Educational opportunities include workshops around the state as well professional forums in Northern Virginia and Tidewater. The program also provides scholarship opportunities to statewide, regional and national educational events, such as the Mid-Atlantic Horticulture Short Course, the Municipal Foresters Institute and the Arbor Day Foundation Partners' Conference. VDOF continues to oversee the Tree City USA® program in which 54 communities participate. There are three college campuses in the Tree Campus USA® program and three utility companies in the Tree Line USA® program. Through its Urban and Community Forestry Assistance Program, the Department has supported projects in 127 cities and towns, 57 counties, 112 non-profit organizations and numerous educational institutions, Planning District Commissions and Soil and Water Conservation Districts since the program's inception. Funding for the program continues to be modest – supported by federal funds – but the program is very popular and shows positive results.

The **Virginia Trees for Clean Water (VTCW)** grant program continues to gain popularity. Because of the addition of funds from the Department of Conservation & Recreation, VDOF was able to offer grants statewide in 2015 rather than only in the Chesapeake Bay watershed. There have been 67 active projects with \$259,089 being awarded. To date, this has resulted in more than 18,600 trees being planted with many more of the awarded projects to be planted soon.

The **Richmond Urban Tree Canopy Initiative (RUTCI)** was developed in 2015 by VDOF in cooperation with the Alliance for the Chesapeake Bay with funds from Altria Corporation supplemented by the VTCW grant funds. The funds are targeted for tree planting in the Richmond Planning District Commission localities on public or private lands. In its first granting cycle, there were 10 projects funded. This is a great example of leveraging federal, state, private and local community funding to increase tree canopy in the Richmond, Va., area.

Better utilization of urban wood is becoming a more important focus area for VDOF. A survey initiated in 2014 with our partners at Virginia Tech has now been completed.

The survey of municipalities and commercial

arborists was conducted to determine the degree to which urban wood waste is being diverted from landfills and used productively and/or commercially. Building on the results of this survey, VDOF will be offering a conference on urban wood utilization opportunities in 2016. VDOF and Virginia Tech also assisted the states of North Carolina and Georgia in conducting a similar survey. Another grant project did a specific analysis of existing and potential urban wood utilization in Richmond.

Our partnership with Virginia Tech supports the urban and community forestry curriculum in the School of Forest Resources and Environmental Conservation (FREC), and VDOF continues to have representation on the FREC Advisory Board. VDOF continued its long and productive partnership with the Community Design Assistance Center (CDAC). CDAC continues to provide landscape and environmental planning assistance to communities statewide and completed several significant projects in Kentucky in a cooperative venture between VDOF and KDOF. One of these projects was cited as an outstanding project by the National Association of State Foresters (NASF) and was featured on that organization's web site. With the help of federal funding, VDOF helped expand CDAC activities into western North Carolina where six projects were completed. At the University of Virginia, the U&CF program continues to provide support to the **Virginia Natural Resources Leadership Institute (VNRLI)**, which focuses on critical natural resource issues. The Department also continues to provide assistance to an evolving urban forestry program at Virginia State University.

URBAN AND COMMUNITY FORESTRY,

continued



GREEN INFRASTRUCTURE

The Department continued a strong partnership with the Green Infrastructure Center (GIC). VDOF supported a green infrastructure study in cooperation with the University of Virginia's Planning Program. In addition, the Department has helped promote several green infrastructure workshops across the state and is training its own employees in this land conservation/land-use strategy. A GIC publication, *Evaluating and Conserving Green Infrastructure Across the Landscape* (originally supported by VDOF), has been selected and will be published for national distribution by Island Press. VDOF continues to network GIC with state forestry agencies in other states, resulting in green infrastructure initiatives in both the South and Northeast. In 2015, VDOF received federal Landscape Scale Restoration (LSR) grant funding, and these funds will support green infrastructure planning in 10 selected cities, towns and/or counties in 2016.

CLINCH RIVER VALLEY INITIATIVE (CRVI)

VDOF was the initial funder of the Clinch River Valley Initiative (CRVI) and remains a long-term partner in this collaborative, grassroots initiative working to make the Clinch River Valley a global destination based on its biodiversity, natural beauty and outdoor recreation opportunities. In 2015, the *CRVI Action Plan* was adopted highlighting the vision, goals, action items and next steps for the five action groups of the Initiative that include:

- ▲ Exploring a Clinch River State Park;
- ▲ Develop and Integrate Access Points, Trails and Campgrounds;
- ▲ Enhancing Water Quality;
- ▲ Develop and Enhance Environmental Education Opportunities for all Community Members, and
- ▲ Connect Downtown Revitalization and Outdoor Recreation Efforts along the Clinch River, and Expand Entrepreneurship and Marketing Opportunities.

In 2015, the Virginia General Assembly approved an appropriation to begin development of the proposed state park; several river clean ups were held, and the Hometowns of the Clinch program was launched. The project was identified as the outstanding community forestry grant project in the South at the Arbor Day Foundation Partners' Conference. More details about CRVI is provided at: <https://clinchriverva.wordpress.com>

WORKING WITH THE INTERNATIONAL SOCIETY OF ARBORICULTURE

VDOF has had a long partnership with the Mid-Atlantic Chapter of the International Society of Arboriculture (MAC-ISA) in promoting the *Certified Arborist Program*. VDOF has more ISA-Certified Arborists than any other state forestry agency in the nation. In addition, VDOF hosts an annual training for prospective certified arborists each year at its Headquarters. This training has resulted in almost 500 individuals passing the Certified Arborist exam since the training was first offered in 2000. VDOF also provides continuing education units (CEUs) for ISA-Certified Arborists at all of its education events.

Each year, MAC-ISA presents its *Gold Leaf Award* to deserving landscape beautification and Arbor Day projects. In 2015, four VDOF-assisted projects were recipients of the award:

- ▲ Virginia Beach for its Urban Forest Management Plan;
- ▲ Lexington for its Arbor Day;
- ▲ Woodstock for the growth of its urban forestry program over the last 10 years, and
- ▲ Winchester for its Arbor Day highlighting veterans.

URBAN AND COMMUNITY FORESTRY,

continued



TREES VIRGINIA (VIRGINIA URBAN FOREST COUNCIL)

VDOF continues its strong and longstanding partnership with Trees Virginia (the non-profit Virginia Urban Forest Council). Together with Trees Virginia, the Department hosts quarterly forums, which are attended by urban forestry professionals from area municipalities as well as interested citizens in both Northern Virginia and Hampton Roads. These forums have been tremendously successful and continue to draw a sizable audience for both education and networking. Again in 2015, Trees Virginia and VDOF made major contributions to the Mid-Atlantic Horticulture Short Course (Virginia's major conference for green industry professionals), providing both speaker contacts and numerous scholarships for participants. The partnership with Trees Virginia also continued with the very successful and long-running Waynesboro and Roanoke workshops. The Waynesboro Workshop saw a record audience of more than 330 participants. Proceeds from these workshops are used to fund scholarships in both urban forestry and horticulture programs, and \$4,000 were awarded in 2015. Trees Virginia also continued its practice of offering a scholarship to the national Municipal Forest Institute by sending a representative from Lexington. The volunteer Tree Steward component of Trees Virginia continued to grow with several groups seeing significant increases in membership. The Richmond Tree Stewards hosted the biennial Tree Steward Symposium that drew enthusiastic Tree Stewards from across the state for an excellent program. Trees Virginia also sent several representatives to the Arbor Day Foundation Partners Conference in Charlotte, N.C.

Continued partnership with the *Flora of Virginia Project* has made possible the advancement of the Flora App – a K-12 program with the goal of teaching children botany and ecology outdoors – and four train-the-trainer workshops in the use of the 13 lesson plans created based on the Flora.



REVELL EARNS TWO AWARDS IN 2015

Urban and Community Forestry Coordinator Paul Revell was named the “2015 True Professional of Arboriculture” by the International Society of Arboriculture, and he was recognized as the “2015 Urban Forestry Professional of the Year” by the Southern Group of State Foresters. He feels a deep responsibility to the public and takes special pride in the Urban Forest Strike Teams (UFST) project – a post-storm response program for assessing tree damage caused by natural disasters that he helped organize after Hurricane Katrina. Paul has served as a task specialist, team leader and instructor for UFST and has coordinated response teams for six weather events in four states since 2008.

Paul began promoting ISA certification by offering field staff an annual pre-exam training program. He later collaborated with the ISA Mid-Atlantic Chapter to initiate annual training for anyone interested in ISA certification. To date, 450 individuals have participated in the training, and the VDOF employs 32 ISA-Certified Arborists – more evidence of Paul Revell's dedication to the advancement of arboriculture.



PUBLIC INFORMATION AND EDUCATION



As the state's fiscal year covers only part of a calendar year, this year's State of the Forest Report includes several of the 20+ activities and events that were part of VDOF's 100th Anniversary celebration. Those year-end events included:

- ▲ The first-ever public exhibition of 19 original Rudy Wendelin paintings of Smokey Bear that were loaned to us by the National Agricultural Library. The paintings went on display Aug. 9 – in honor of Smokey's 70th birthday – at The Chrysler Museum of Art in Norfolk. The six-month-long exhibition wrapped up in early February 2015 and was called "one of most successful family exhibitions ever" by the staff at The Chrysler. We owe a tremendous amount of appreciation to the folks at The Chrysler, who really pulled out all the stops to make the exhibition a resounding success. They were simply some of the best people with whom we have ever worked! A special thanks to Fred Turck and Janet Muncy for all of the work they did to support the exhibit, and to Paul Reier, Lisa Deaton and Mike Aherron for making the opening day so very special for the more than 2,000 people in attendance.
- ▲ A forestry-themed decorating scheme inside the Governor's Mansion for Christmas. This included hand-carved and/or hand-turned wooden Christmas ornaments for the 12-foot tree that were made by craftsmen from across the Commonwealth, as well as hand-made woodland animal ornaments by elementary school students in Hanover County. Virginia and John Carroll (retired VDOF Deputy State Forester) donated the trees for the mansion, and Mr. and Mrs. Billy Apperson (retired VDOF forester) donated the evergreen roping used throughout the mansion. Once again, Lisa Deaton played a key role in the success of this event.
- ▲ Governor and Mrs. McAuliffe invited VDOF employees and their families to be their special guests at the lighting of the Christmas tree on the steps of the Capitol following a private reception inside the mansion. The Capitol Christmas tree was a 24-foot Norway Spruce donated by Mary and Barney O'Meara of Moose Hill Farm in Rappahannock County. VDOF employees Erik Filep, Robbie Talbert, Paul Stoneburner, Jack Kauffman and Ed Furlow cut down and hand-carried the enormous tree onto a trailer for delivery.
- ▲ And Smokey Bear riding on a Richmond Fire Department engine in the Richmond Christmas Parade. VDOF staffers Bryant Bays and Dave Slack made this possible.



Hand-carved and/or hand-turned wooden ornaments adorned the tree for the 2014 forestry-themed decorating scheme inside the Governor's Mansion for Christmas.



Governor McAuliffe and family thank John and Virginia Carroll and family of Claybrooke Farm for donating the 2014 Governor's mansion Christmas trees.

The centennial celebration provided numerous opportunities for us to showcase the good work we do and the great VDOF people who protect and serve the citizens of the Commonwealth. Whether you played a large role or a small one, or if you attended an anniversary event or supported our efforts throughout the year, we are forever grateful to each and every one of you who helped make the celebration a success. It simply wouldn't have been possible without you!

PUBLIC INFORMATION AND EDUCATION

continued



While the celebration was a major focal point, it wasn't the only thing we did. A lot of great environmental education took place throughout the year. More than 1,200 formal, non-formal and in-service educators took part in the 60+ Virginia Project Learning Tree workshops held last year. Thousands of schoolchildren were exposed to hundreds of SOL-based environmental education programs delivered by VDOF staffers. Seventy teenagers participated in our week-long residential Forestry Camp. Hundreds of adults attended our forest landowner workshops across the state. And a new program (Virginia Women Landowners) was launched in partnership with American Farmland Trust. This network of landowners and the associated workshops is an outgrowth of the successful program (Women and Land) created several years ago by Area Forester Heather Dowling, who serves on the steering committee for the Virginia Women Landowners program.

We also expanded our social media presence by taking a more active role with our Facebook and Twitter accounts. The number and frequency of our posts have increased substantially; our friends and followers continue to grow, and the number of people we are reaching is now in the thousands. (Our Facebook posts that reach the largest number of people are those that focus on our emergency response efforts. Our single largest post was seen by more than 22,800 people and focused on the high fire danger present that day in the spring of this year.)



Governor and Mrs. McAuliffe invited VDOF employees and their families to be their special guests at the lighting of the Christmas tree on the steps of the Capitol following a private reception inside the mansion.



Forestry campers learn to measure trees in Forest Measurement class.



Holiday Lake Forestry Camp provides campers the opportunity to compete in lumberjack competitions.



Wood turning is an elective exploratory course offered, instructed by Richmond Woodturners.

ACCOMPLISHMENT REPORT

July 2014 - June 2015



Objectives	Target Goal	Accomplished
Goal 1: Protect the citizens, their property and the forest resource from wildfire.		
Measure 1.1.1: Percentage of wildfire responses that are 30 minutes or less.	86%	84.2%
Measure 1.2.1: Percentage of eligible rural volunteer fire departments receiving available state and federal financial assistance.	27%	27.1%
Goal 2: Protect, promote and enhance forested watersheds, non-tidal wetlands and riparian areas.		
Measure 2.1.2: Percentage of harvest sites with sediment not reaching streams.	95%	98.3%
Measure 2.2.1: Cost to conduct a forest harvest water quality inspection.	\$4.50/acre	\$5.11/acre
Measure 2.2.2: Percentage of Best Management Practices properly installed on timber harvesting operations statewide.	90%	93%
Goal 3: Improve the stewardship, health and diversity of the forest resource.		
Measure 3.1.1: Number of acres of trees planted in Virginia.	44,500 acres	47,097 acres
Measure 3.1.2: Number of acres funded by Reforestation of Timberlands Act financial incentives.	50,000 acres	39,502 acres
Measure 3.3.1: Number of acres of all forest management plan types achieved on private and appropriate public forestland.	88,000 acres	189,039 acres
Measure 3.2.1: Number of communities assisted with forest and/or tree resource management.	120 communities	117 communities
Goal 4: Conserve the forest land base.		
Measure 4.1.1: Number of acres protected from conversion to development.	5,250 acres	2,549 acres
Goal 5: Promote forest industry and diversified markets for forest landowners including ecosystem service markets.		
Measure 5.1.1: Number of new and/or expanding forest-related businesses or markets.	4 markets/ businesses	3 markets/ businesses
Measure 5.3.1: Percentage of customers who rate the quality of VDOF's seedlings as satisfactory.	96%	87%



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