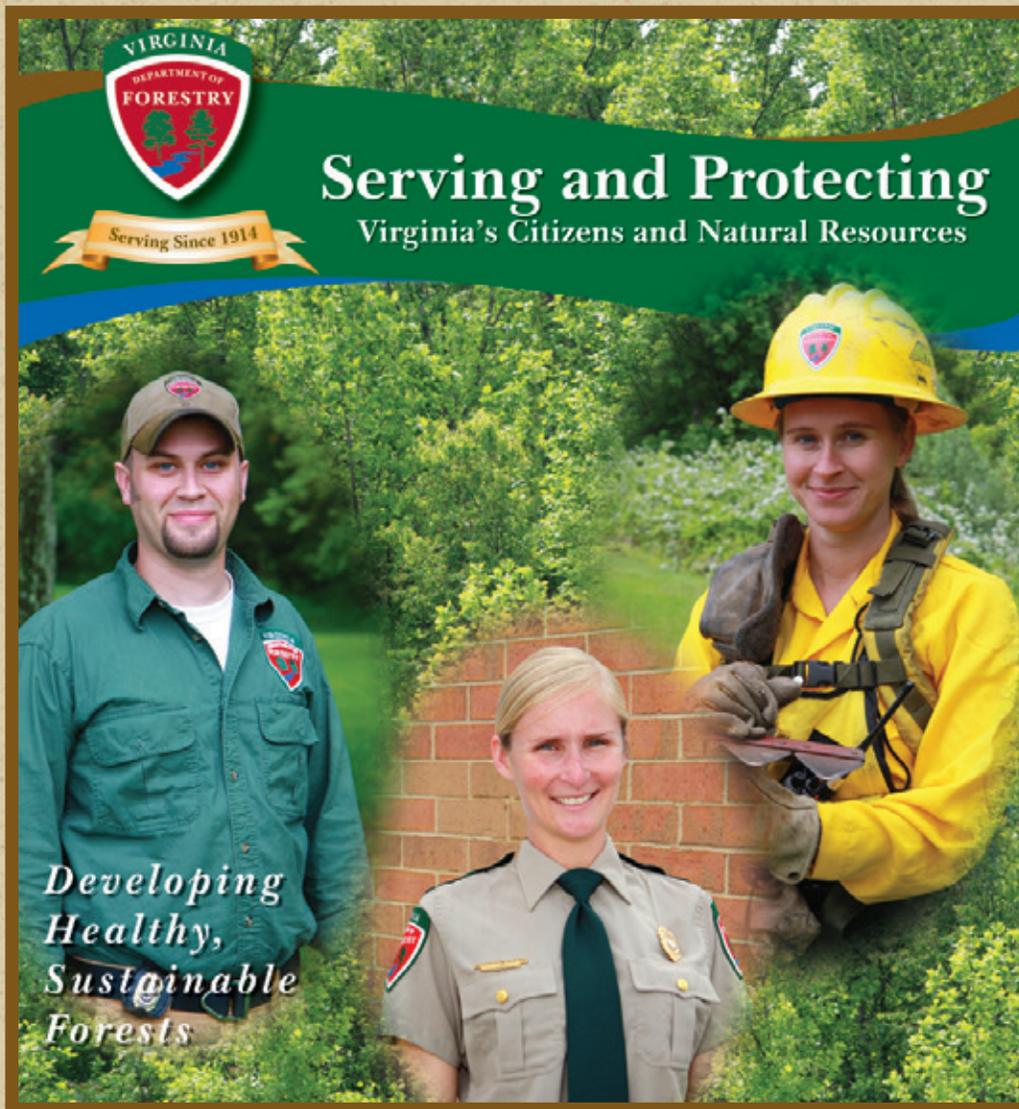




# 2014 STATE OF THE FOREST



ANNUAL REPORT  
ON VIRGINIA'S FORESTS

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# FROM THE STATE FORESTER

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It's an honor to present to you the 2014 State of the Forest Report – my first as your new State Forester of Virginia. Because I didn't begin my position until May of this year – 10 months into the 2014 fiscal year – much of the credit for overseeing all of the good work performed by the men and women of the VDOF belongs to Deputy State Forester Rob Farrell and to my predecessor Carl Garrison, who retired as State Forester in January. I'm grateful to both of them for their efforts in guiding this "ship" prior to my arrival.

While I'm relatively new to the position of State Forester, I do have a significant history with the Virginia Department of Forestry. I began my forestry career here and held a number of increasingly responsible positions during my 14-year tenure at VDOF. My previous experience in senior leadership positions with nonprofit land conservation and natural resource agencies along with the 14 years I worked at the department, prepared me well for the many challenges and opportunities facing forestry and the natural resources arena. I'm thrilled to be back in the Commonwealth working on behalf of the 373,600 Virginians who control approximately 80 percent of the forestland and helping enhance the department's programs and services during its second century.

As you know, 2014 marks the 100th anniversary of the creation of the VDOF, and we've had a varied and diverse set of events throughout the year that have stretched from one end of the Commonwealth to the other to commemorate this milestone. These events and activities wouldn't have been possible without the support of a number of people and entities who partnered with us. We owe a debt of gratitude to Gov. Terry and First Lady Dorothy McAuliffe and their staffs; Lt. Gov. and Mrs. Ralph Northam and his staff; Secretary Todd Haymore and his team; Del. James Edmunds and the Virginia General Assembly; the Board of Forestry; the Virginia Lottery; the Virginia Department of Transportation; the Virginia Museum of Transportation; The Chrysler Museum of Art; the National Agricultural Library; NASCAR Green and the NASCAR race tracks in Richmond, Martinsville, South Boston and Hampton; the Appalachian Chapter of the Society of American Foresters; the Virginia Forestry Association; the Virginia Consulting Foresters; the Shenandoah Apple Blossom Festival; the Virginia Forest Products Association; the Virginia Farm Bureau and the State Fair of Virginia; the Virginia Agribusiness Council; Dominion Resources and the Richmond Christmas Parade, and all of the VDOF employees who helped make this a year to remember.

In the pages that follow, you will read about VDOF's success in the areas of forest management, resource protection, land conservation, water quality protection, forest research, forest health, urban and community forestry, ecosystem services, forest utilization and markets, state forests, tree nurseries and conservation education. I trust that you will enjoy this issue of the annual State of the Forest Report, and I look forward to any feedback you wish to share.

Sincerely,

A handwritten signature in black ink that reads "Bettina K. Ring". The signature is fluid and cursive.

Bettina K. Ring  
State Forester

# PUBLIC INFORMATION AND EDUCATION



The 2014 Fiscal Year was a special one for the Virginia Department of Forestry as the agency celebrated a major milestone – the 100th anniversary of its creation in March 1914. The VDOF is among just a handful of Commonwealth of Virginia agencies to reach this milestone, and the 232 employees are proud to continue the mission of protecting and serving the citizens of the Virginia.

Because the VDOF is a relatively small agency and funding is very limited, the agency partnered with a number of other agencies, organizations and entities to develop a plan to commemorate the anniversary in some very public ways but at little to no cost. The celebration began with a “soft launch” in September 2013 as the VDOF hosted the National Association of State Foresters Annual Meeting, which brought together the heads of the 50 state and 8 US territories forestry agencies, leaders of the USDA Forest Service and a number of non-governmental organizations to Bath County to discuss issues facing forestry and the forest industry.



*Virginia hosted the National Association of State Foresters Annual Meeting.*

In February 2014, the centennial’s “hard launch” took place with a week-long educational display at the General Assembly Building in Richmond. That same week (Feb. 2 – 8), the Virginia Lottery debuted its “Money, Money, Money” scratch-off game. The million-plus \$5 tickets – with four top prizes of \$150,000 – featured information about VDOF and our anniversary on the back of each ticket. Del. James Edmunds was the patron of a General Assembly joint resolution honoring the VDOF for 100 years of protecting and serving the Commonwealth.



*Virginia Lottery ticket "Money, Money, Money" highlights VDOF's 100th anniversary.*

During the months of March and April, the focus shifted to our partnership with NASCAR and its NASCAR Green program. VDOF staff, vehicles and our beloved partner Smokey Bear had a major presence at the races in Martinsville (March 30), South Boston (April 5), Hampton (April 12) and Richmond (April 26). VDOF vehicles led the parade of cars on the tracks before start of the races; Smokey Bear dropped the green flag to start the races and the checkered flag at the finish, and display tables with educational materials and some promotional items were either at the entrance gates or, in the case of Richmond International Raceway, on the track for the fan takeover event. Smokey also helped two NASCAR drivers and several racing dignitaries plant several trees April 24 at James River Park in Richmond.



*VDOF partnered with NASCAR and the NASCAR Green program.*

# PUBLIC INFORMATION AND EDUCATION,

*continued*



*Governor McAuliffe hosted 85 employees at a reception in front of the Governor's Mansion to commemorate the 100th anniversary of the agency.*

The very next weekend, Acting State Forester Rob Farrell and Smokey Bear served as honorary grand marshals at the two Shenandoah Apple Blossom Festival parades (May 2, 3). On May 10, an exhibition of five VDOF firefighting vehicles went on display at the Virginia Museum of Transportation in Roanoke. The exhibit ran for six weeks and was well attended. And VDOF had two booths at the East Coast Sawmill and Logging Expo (May 16, 17), which provided an opportunity to interact with thousands of loggers and forest products professionals at this biennial gathering in Richmond.

In July, the Virginia Department of Transportation issued the 2014-2016 Virginia road map. The 2 million maps feature the VDOF's 100th anniversary and our 24 State Forests through a number of photos and several text panels. The maps are available for free at state Welcome Centers, VDOT offices and online.

On August 9th (Smokey Bear's 70th birthday), we debuted the first-ever public display of 19 original works of Smokey Bear art by renowned artist Rudolph "Rudy" Wendelin at The Chrysler Museum of Art in Norfolk. The National Agricultural Library is loaning the paintings to us for display at The Chrysler until February 2015. More than 2,000 people attended the show's opening day, sang "Happy Birthday" to Smokey, ate birthday cake and enjoyed a number of interactive "fun stations". The Chrysler Museum hosted an invitation-only preview reception August 8th that was attended by more than two dozen members of the artist's family along with many leading members of the national Smokey Bear Association. That evening, Lt. Gov. Ralph Northam presented State Forester Bettina Ring with a Smokey Bear Day in Virginia proclamation from Gov. Terry McAuliffe.

Just over a week later (Aug. 18), Governor McAuliffe invited 85 VDOF employees (more than 1/3 of the agency staff) to a reception in front of the Governor's Mansion to commemorate the 100th anniversary of the agency. The Governor presented State Forester Ring and Secretary of Forestry and Agriculture Todd Haymore with a centennial proclamation. He also recognized Forestry Specialist Ricky Butler by presenting him with the U.S. Forest Service's Browning Award for Excellence in Wildfire Prevention.



*Acting State Forester Rob Farrell served as honorary grand marshal at the two Shenandoah Apple Blossom Festival parades.*



*VDOF partnered with The Chrysler Museum of Art to celebrate 100 years and Smokey's 70th birthday.*



*Rudy Wendelin's Smokey Bear art exhibit at The Chrysler Museum included 19 original works never before displayed.*

# PUBLIC INFORMATION AND EDUCATION,

*continued*



*Lt. Gov. Ralph Northam, State Forester Bettina Ring and Smokey celebrate the Smokey Bear Day proclamation from Gov. Terry McAuliffe.*

VDOF will end the centennial celebration year in two special ways: 1. The Governor's Mansion will feature forestry as the theme of its holiday decorations throughout the month of December, and 2. Smokey Bear will be an honorary marshal December 6th in the Richmond Christmas Parade, which is presented by Dominion.

We owe a debt of gratitude to our partner organizations and their wonderful employees for the tremendous help this year. And, while our goal was to have as many VDOF employees as possible enjoy the various centennial events instead of having to work all of them, it still required a lot of extra effort on the part of a number of VDOF employees to make the 100th anniversary year such a resounding success. Thanks to each of you for your support and assistance. Your efforts are greatly appreciated.



*Smokey and NASCAR drivers and dignitaries planted trees at James River Park*

## BROWNING AWARD



*Gov. McAuliffe recognized Forester Specialist Ricky Butler by presenting him with the U.S. Forest Service's Browning Award for Excellence in Wildfire Prevention.*



*VDOF participated in the two Shenandoah Apple Blossom Festival parades.*

# VIRGINIA FOREST TRENDS



## FORESTED LAND

For 2014, more than 15.8 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.

## 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 2012, ownership of forestland by forest products firms had declined to slightly more than 1 percent (186,700 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 68,625.5 acres of forestland.

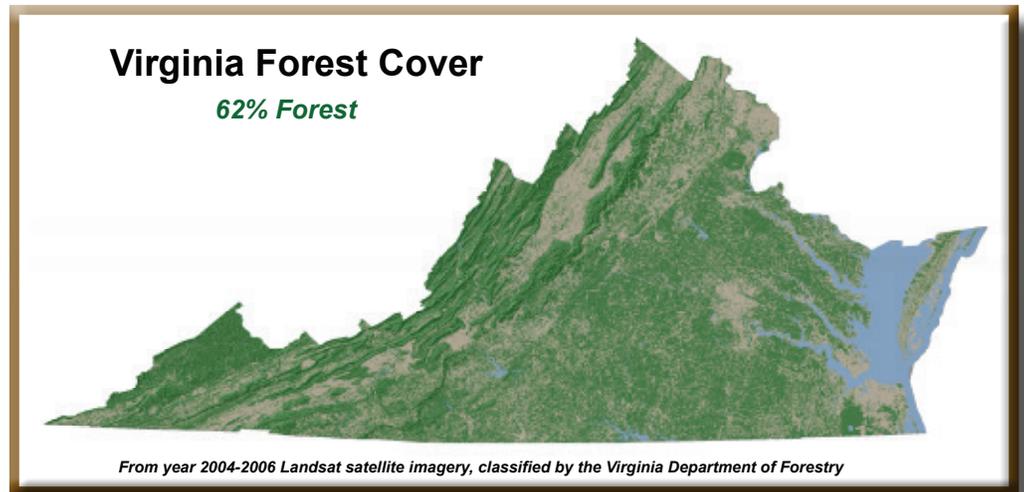


Figure 1 Virginia Forest Cover

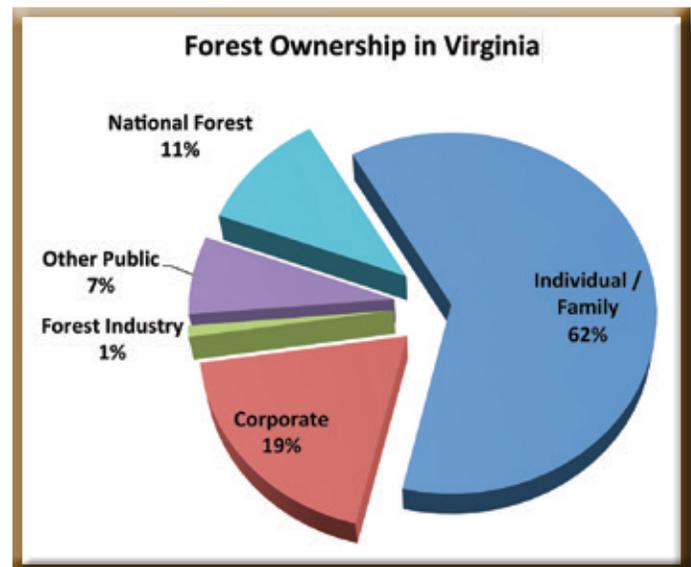


Figure 2 Forest Ownership in Virginia



## 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 million acres (20 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)

## 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. This Center 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. To date, the Center has produced draft resource assessments and is in the process of completing production versions of its modeling projects.

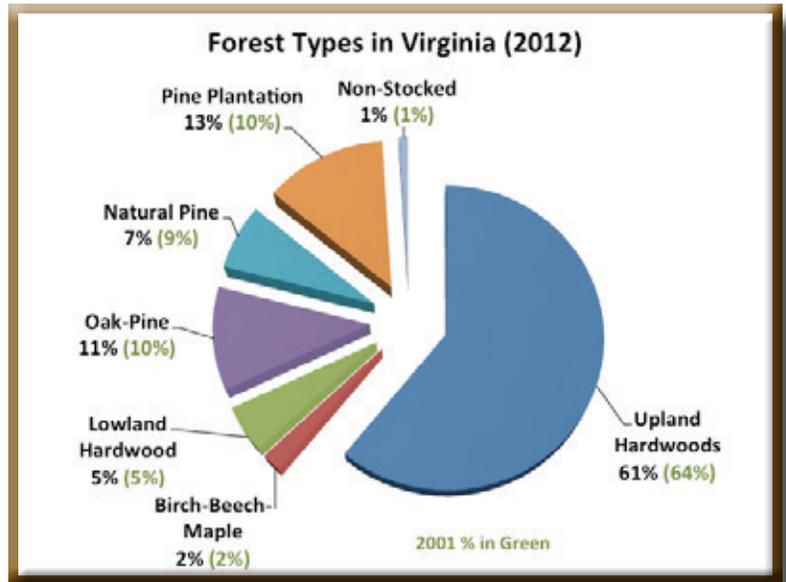


Figure 3 Forest Types in Virginia



# ECOSYSTEM SERVICES



Virginia's forests provide many environmental benefits and services, such as carbon sequestration, biodiversity, pollination, recreation, aesthetics, reducing nutrient loads to streams and enhancing air quality. These regulating and cultural services are in addition to the traditional wood products our forests provide. Our forests are truly the natural infrastructure upon which our quality of life depends. The Department of Forestry 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. Voluntary markets are beginning to emerge to help forest landowners capture a value for the carbon sequestration service. There is also a regulatory market for forest carbon sequestration projects driven by the California state government. The ability of forest growth to sequester carbon dioxide emissions and help provide solutions to climate change is a positive story to tell. However, each year, approximately one million metric tons of carbon dioxide are emitted into the atmosphere due to land-use changes, such as the loss of forest cover.

Other emerging market opportunities include planting trees to enhance water quality. For example, 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. Forestry will have a role to play in reducing nutrient loading in the Chesapeake Bay and other Virginia waters. In addition to playing a key role in getting recognition for existing forest cover into the Chesapeake Bay Phase II Watershed Implementation Plan (WIP), VDOF has been involved with the Commonwealth's effort to expand the Nutrient Credit Trading Program.

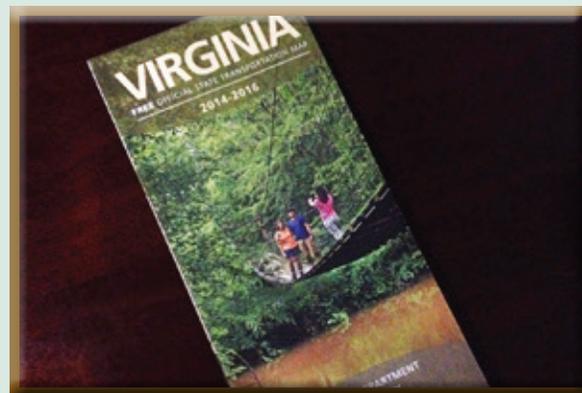
In addition to carbon sequestration and water quality, other forest ecosystem services, such as providing biodiversity and air quality, are extremely important. How we manage our forests and plan for the development of Virginia's landscape need to consider these values. The Department of Forestry, working with Virginia Tech and other State agencies, 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. InFOREST is becoming a valuable tool for doing forest consulting work, environmental impact reviews and developing conservation easements.



*Tree planting projects on open land are another management practice to enhance water quality.*

## VDOF CELEBRATES 100 YEARS



*VDOT's Virginia road map features Virginia's State Forests in celebration of our 100th anniversary.*

# FORESTLAND CONSERVATION



The Virginia Department of Forestry (VDOF) Conservation Easement Program helps assure a sustainable forest resource for the benefit of all Virginians. Our program provides forest landowners with a valuable option to keep their land available for healthy and productive forests, forever.

2013 marked the fifth year of the VDOF Working Forest Conservation Easement Program. The year saw the program eclipse two significant conservation easement milestones as we recorded the program's 100th easement, and we topped the 30,000-acre threshold in easement acreage. The VDOF permanently protected 5,253 acres of open space through 18 conservation easements and another 261 acres in one amendment in 2013; the agency now holds 101 easements covering 30,433 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 easement size in 2013 was 295 acres. The average forested acreage per easement was 275 acres, with 86 percent of that forestland being rated as high forest conservation value, providing a multitude of natural functions and values.

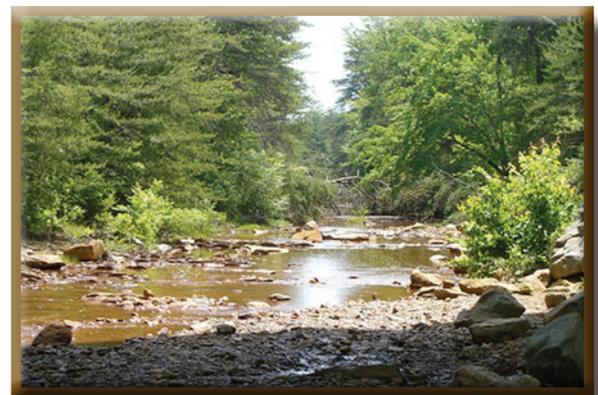
2013's easements included more than 35 miles of watercourses, protecting drinking water supplies and improving aquatic and riparian habitat downstream. The 2013 easements include a portion of the uncommon Central Appalachian chestnut oak-Virginia pine forest community in Roanoke County; populations of the Federally-endangered Michaux's sumac in Dinwiddie County; a historically significant cave in Frederick County, and several thousand feet of trout streams or their tributaries in Madison and Rockingham counties. Others will help maintain viewsheds along the New River in Grayson County; the primary entrance corridor to the historic Hoover Camp in Madison County, and along the East Coast Greenway (a designated scenic bike and pedestrian trail) in Mecklenburg County.

VDOF utilizes the Forest Legacy Program, administered by the USDA Forest Service, to conserve environmentally important forested properties that are threatened by conversion to non-forest uses. This competitive Federal grant program is intended to fund the purchase of conservation easements or fee acquisitions of land for conservation purposes. A combination of surplus Forest Legacy funds from previous transactions that came in under budget was used to purchase the critical 266-acre Bear Deal tract in Suffolk. The property is entirely surrounded by the Department of Conservation and Recreation's (DCR) 1,555-acre South Quay Sandhills Natural Area Preserve (NAP). Bear Deal, like South Quay, contains deep sandy soils that are ideal for the establishment and growth of longleaf pine, which had already been planted by the previous owners on a portion of the property. The property contains several longleaf pine seed trees that produce seed for VDOF's longleaf pine restoration program. In addition to protecting this seed source, the acquisition of the Bear Deal inholding will remove most concerns regarding the management of the longleaf pine community on the adjacent South Quay property. The sellers are pleased that the VDOF has acquired the property to be used in this important program to

support longleaf pine restoration efforts and re-establish longleaf pine over its natural range.

VDOF continued to offer two local sources of funding through 2013 to provide incentives for landowners who donate conservation easements. The Tomorrow Woods program utilized forest mitigation funds to reward landowners for the donation of a conservation easement with enhanced forest protection and management terms. Forests to Faucets is an innovative program that was developed to link urban water users with the landowners who manage the land within the Rivanna River Basin. This watershed provides drinking water to thousands of consumers. One element of this program is an incentive payment to landowners who have donated a conservation easement that contains enhanced protections for water quality, such as wider riparian buffers.

Nearly two-thirds of Virginia's woodlands are in the hands of more than 373,000 family forest owners. These family woodlands are relied upon for not only a sustained flow of forest products but for



has acquired the property to be used in this important program to

# FORESTLAND CONSERVATION,

*continued*



invaluable forest functions and natural values. The management and conservation decisions made by family forest owners play a crucial role in maintaining a viable forestland base in Virginia. Multiple studies show that most of the forestland conversion in Virginia is occurring on family-owned forestland, and that it occurs at the point of intergenerational transfer of the family property. Recognizing that conservation easements are only one tool in our effort to preserve Virginia's legacy of working forests, the VDOF and Virginia Cooperative Extension continue to offer forestland succession planning outreach for forest landowners. This seminar focuses on issues related to the transfer of forestland and its management from one generation to the next. The goal is to help landowners begin to make plans for the inevitable transfer of not just the family land but also the family's land management legacy. Follow-up surveys revealed that more than three-quarters of the participants had begun forestland transition planning with an estimated average family savings of \$625,000 as a result of the program. As these landowners continue executing their plans, 47,000 acres of Virginia's forestland are expected to remain sustainable, family-owned and intact. We also continue to work with our conservation partners, within both the public and private sectors, to encourage sustainable forest management on conserved lands

## VOLUNTARY FOREST MITIGATION PROGRAM ADDRESSES FOREST CONVERSION IN VIRGINIA

Virginia has been losing 16,000 acres of forestland to conversion annually, based on a rolling 10- year average using Forest Inventory Analysis data through 2010. To combat this loss, the Virginia Department of Forestry has been working collaboratively with other state agencies, federal agencies, industry, conservation organizations and other stakeholders to develop ideas for mitigating the loss of upland forests. Upland forests are those forestlands not protected by wetlands regulations. The focus is on three broad categories of mitigation: Preservation, Restoration and Creation. On-site mitigation efforts alone are often insufficient to stem the tide of forest conversion to other, more intensive land uses. Off-site voluntary mitigation is needed as well, and the new VDOF initiative is focused on addressing both concerns. Mitigation responses generally include avoidance of forest conversion through planning; restoration of the forest resource; creating new forests, or an in-lieu payment with the funding used to carry out the mitigation response. VDOF's goal is to create a sustainable forestland mitigation framework that addresses the loss of upland forest environmental functions and values brought on by necessary municipal infrastructure (highways, power lines, gas lines, etc.), urbanization and other development pressures.

Much of this effort has been funded by a USDA Forest Service grant. A strong focus during the first year of the grant has been strengthening forest conversion avoidance efforts. This has

been accomplished through enhancing the project evaluation criteria used to assess impacts of proposed state projects and by the VDOF participating more fully in the Commonwealth's environmental impact review process. Another major thrust this year has been to begin dialogues with its many stakeholders aimed at building consensus on how to standardize mitigation responses through developing a framework. This addresses both the level of mitigation requested and the associated costs. Such a mitigation framework would reduce uncertainty for project proposers and enable project planners to better design and budget for projects. Similarly, VDOF would be able to better plan for and engage the private sector in forest management activities designed to address upland forest loss. Achieving statewide forest conservation goals while simultaneously contributing to economic growth in the Commonwealth is important.



*Workshops educate forest landowners on succession to encourage planning for the transfer of forestland to the next generation.*

# OUR STATE FORESTS



Virginia's 24 state forests, totaling 68,625.5 acres, are unique in their purpose, funding and use by the public. State forestlands have multiple objectives and are managed to provide the greatest range of benefits to the citizens of Virginia while remaining self-supporting and protecting or improving the forest ecosystem.

The purpose of management is for the demonstration of scientific forest management, applied forest research, development of diverse wildlife habitat, watershed protection, forest management to develop diverse timber stands that support biological diversity and to provide for passive outdoor recreation.

The state forests are well distributed around the Commonwealth and vary in size from 121 acres to 19,808 acres. The large state forests in central Virginia and southeastern Virginia are the core of the working-forest concept and provide the majority of the income to fund the forest system.

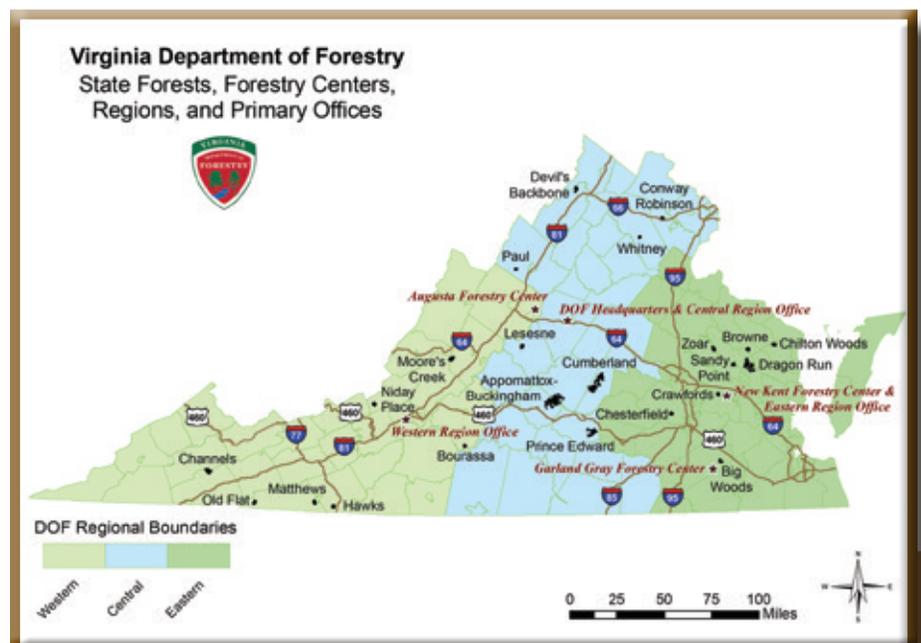
Recreational opportunities on these lands are focused on self-directed activities that are not available on many other state lands. These activities include hiking, bike riding, horse riding, orienteering, hunting, fishing and wildlife viewing. The central Virginia state forests provide for a unique opportunity to enjoy the outdoors due to their large size, which provides for an outdoor experience far removed from many of the distractions found in more densely populated areas. State forest resources are limited, however, and recreational usage must be balanced with good forest management to protect the integrity of the state forest purpose.

As the areas surrounding the state forests continue to grow in population, recreational uses of the land will change along with the expectations from the general public. The department will continue to be conscious of the changing expectations of the public and work towards providing recreational opportunities compatible with state forest timber management objectives while providing a rewarding outdoor recreation experience for the public. A signage program is being expanded within the state forests to help educate the public about silvicultural operations that are required to maintain a healthy forest.

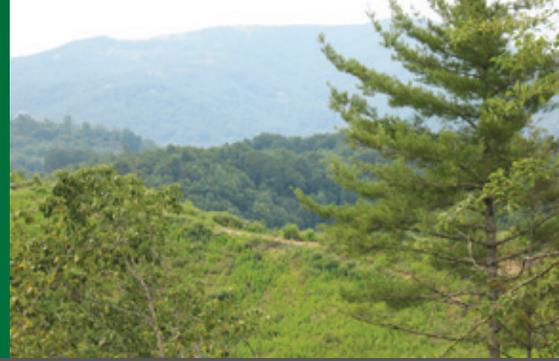
In recent years, forest users have become more diverse as have their expectations of forest accessibility and usage. Traditional uses, such as hunting and fishing, remain popular uses of the forest, while new interests, such as hiking, horseback riding, mountain biking, adventure races, orienteering, bird watching and as a place where people come just for the solitude, are becoming popular uses.

State Forests are also increasingly used for educational efforts associated not only with landowner education but for youth education programs; soil and water conservation district programs; demonstrations and continuing education credits for loggers; ecotourism; outdoor laboratories by various college disciplines, and several Extension programs.

To address the increasing use of State Forests for such activities, VDOF embarked on the establishment of a second forest conservation and education center located at the Matthews State Forest in Grayson County. Construction on this second facility to supplement our Virginia Forest Education Center at New Kent is being primarily funded through a trust established by the late Judge Jack and Clare Matthews. Through partnerships, a 22-mile hiking trail with additional parking was created on the Channels State Forest in Washington County to help with education and ecotourism in that area.



# FOREST MANAGEMENT



The value and quality of forest benefits can be greatly enhanced through planning and implementation of good forest management practices. In 2014, 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 FY2014, foresters completed plans on 189,039 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 FY2014, 3,344 forest management projects were implemented by private landowners throughout the state, 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 1,284 projects on 49,869 acres. Through the history of the program, 44,684 planting or improvement projects have been completed on more than 1.6 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 2014, more than \$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. The Open Lands Tree Planting Initiative was continued in several geographic focus areas with higher concentrations of open land. There are many acres of open land that naturally revert back to forests each year, but only a small percentage of these is purposefully replanted. The goal of the initiative is to identify these lands, reach out to these landowners and encourage planting of high-quality trees at good spacing for multiple resource benefits. The Forestry Quail Habitat Recovery Program was launched in February 2013 and renewed in July of 2014. This is a cooperative program between VDOF and the Department of Game and Inland Fisheries to advance quail recovery. 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, 2013 through June 30, 2014:

- ▲ 872 fires burned 12,675 acres;
- ▲ more than \$6.8 Million of timber was damaged;
- ▲ damage to homes and other buildings amounted to \$1.5 million, and
- ▲ an astounding 1,258 homes, worth more than \$147 Million, along with an additional 1,087 other structures, worth an estimated \$13 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 765 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 California, Colorado, Idaho, 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 responders 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 2014, agency officers issued 136 summons/warrants and had one felony arson arrest on a series of arson-caused wildfires in Buchanan County.

## 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 14th annual statewide Interagency Wildfire Academy. This academy, one of the

four largest in the nation, provided training to almost 300 students representing more than 9,000 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 53 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 36 new dry hydrants were installed through the program last year. The Virginia Dry Hydrant program has now installed a total of 1,649 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, 5,307 grants have been made providing a total of \$3,467,914 in matching grant funds.

The VDOF program is part of a grant that improves the capability and effectiveness of America's 26,000 Rural Volunteer Fire Departments – 585 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 2013, 163 rural volunteer fire departments in the Commonwealth received \$182,137 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.

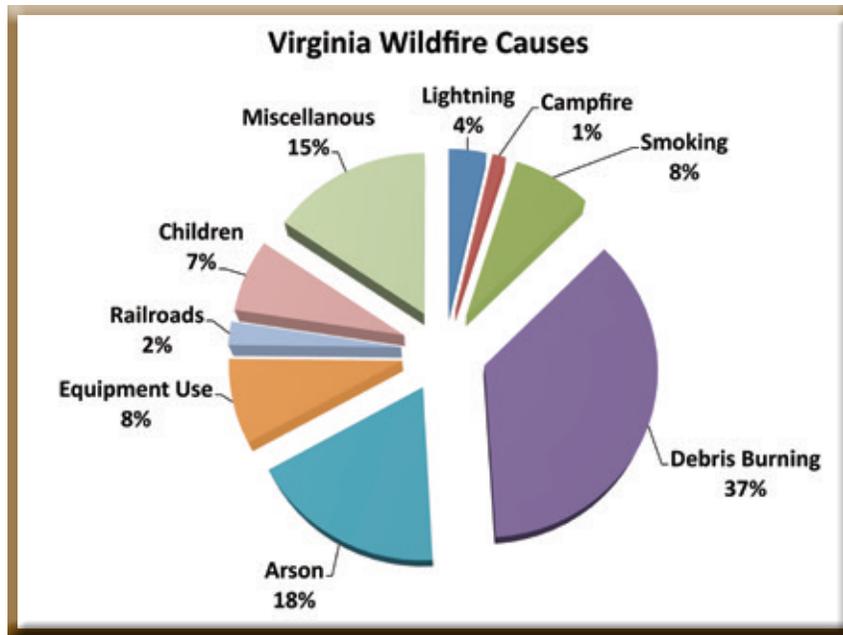


Figure 7 Virginia Wildfire Causes

## 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 56 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](http://www.firewisevirginia.org).

# 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 has been developed for the Chesapeake Bay. Two of the Department'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 2014, VDOF field personnel inspected 5,578 timber harvest sites across Virginia on 232,344.30 acres – a marginally slight decrease in the number of acres harvested more than FY2013.

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 7,442 harvesting professionals in 243 programs relating to water quality protection. For fiscal

year 2014, there were 14 training programs offered with a total of 307 people present. Five of these courses were in the core area (126 attendees), and the remaining nine courses were for logger continuing education (181 attendees). The VDOF also promoted water quality protection and BMPs at the East Coast Logging and Sawmill Equipment Exposition in Richmond, Virginia. This Exposition is designed to exhibit the latest equipment and logging techniques to timber harvesters. Approximately 10,000+ attendees were present to get the BMP message and to celebrate the VDOF's 100th Anniversary.

In July 1993, the General Assembly of Virginia – with the support of the forest industry – enacted the Virginia Silvicultural Water Quality Law, §10-1-

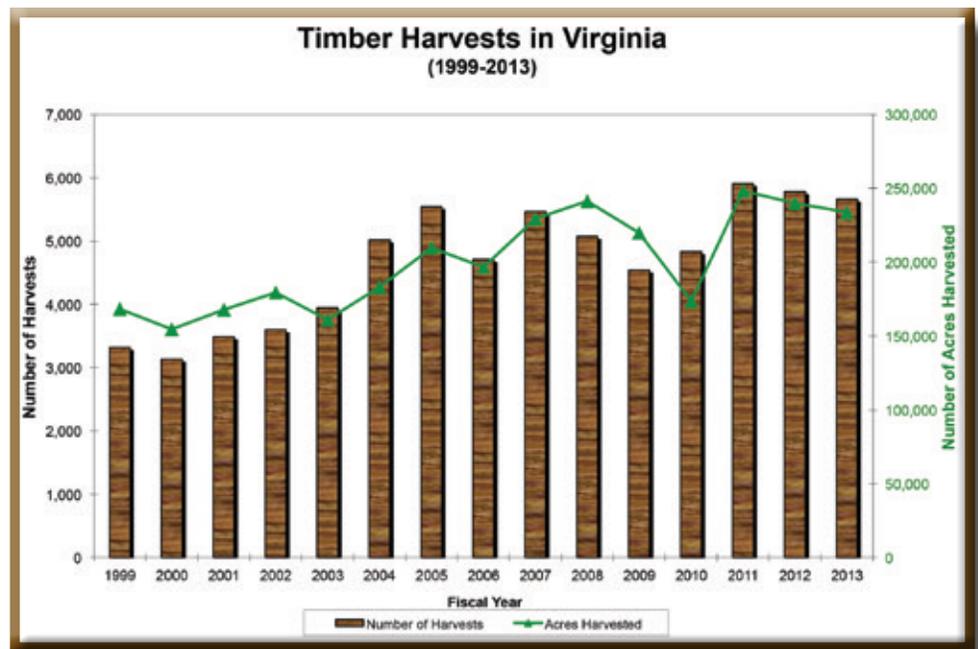


Figure 8 Timber Harvests in Virginia

# WATER QUALITY PROTECTION,

*continued*



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 2014, the VDOF was involved with 333 water quality actions initiated under the Silvicultural Law. This is an increase of 45 percent from FY2013. Of these actions, eight resulted in Special Orders being issued for violations of the law, and one 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 2013 data show that overall BMP implementation on 240 randomly selected tracts is 88.6 percent – a slight decrease of 1.2 percentage points over the previous audit cycle. This is likely due to the increased amount of rainfall and snowfall that was experienced compared to the previous year. 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 2013, the BMP implementation rate tract average for forest harvesting within the Bay Watershed was 91 percent, and the average of all BMPs across all tracts within the Bay Watershed was 90 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 offers 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 program shares the cost of the installation of forestry BMPs on timber harvest sites by harvest contractors. Unfortunately, the program was unfunded again for FY 2014.

## 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 2013 was 64, a 64% increase over the previous year. This watershed protection option provided a tax credit of \$326,182.49 on timber valued at \$1,321,772.37 that was retained in the streamside areas of their property.

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. In the 2014 season, trees were established or protected on 2,653.4 acres of land.

# FOREST HEALTH



The year 2014 has been mixed concerning forest health news in Virginia. Traditional pests, such as gypsy moth and southern pine beetle, have had minimal impacts, while new pests, such as the emerald ash borer and thousand cankers disease of black walnut, continue to spread and threaten Virginia's forest resources.

Although gypsy moth populations have remained low since 2010, native defoliators were quite active this spring. In particular, for the third year in a row a widespread **cankerworm outbreak** materialized in eastern Virginia during April and May, causing scattered, heavy defoliation over an area that spanned thousands of acres from the Richmond area up to the Northern Neck and Fredericksburg. Wet weather in May helped most trees re-foliate relatively quickly. Some trees, primarily oaks, could suffer long-term health impacts and begin to decline if they were severely defoliated over several years. However, a very wet season with ample soil moisture will make oak decline less likely.

The **southern pine beetle** has been relatively quiet during the last 10 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. No significant southern pine beetle activity has been reported in 2014.

A more recent threat is the **emerald ash borer** (EAB). First discovered in Virginia during 2004 in Fairfax County, it has since spread to at least 21 counties across the Commonwealth and is also found to be causing widespread ash mortality in several forested regions throughout Virginia. Virginia and the nation face the prospect of losing all ash species from natural and urban landscapes in the forthcoming decades. In Virginia, the impact may include the loss of the approximately 187 million ash trees in her forests and could eventually cost the Commonwealth many millions of dollars.

The newest threat to Virginia's forests is **thousand cankers disease** (TCD) of black walnut, which, in 2011, was discovered in and around the Richmond area at multiple locations and in Fairfax and Prince William counties during 2012. TCD is spread by a tiny bark beetle called the walnut twig beetle. Quarantines established for this pest aim to limit the spread of this pest complex. To date, 10 counties and six municipalities are included in a state quarantine for black walnut. TCD threatens black walnut trees in urban and forested settings, and there are no effective

*Mature oak forest in northern Caroline County stripped bare by the fall cankerworm in May 2013.*

controls currently available to protect trees.

Other threatening non-native pests and pathogens causing major death and decline to their respective hosts include the **hemlock woolly adelgid**, **dogwood anthracnose**, **beech bark disease** and **butternut canker**. Many species of **non-native invasive** plants also contribute to the degradation of forest values by competing with native flora and reducing biodiversity. In many cases, effective management of these weeds by private landowners is cost-prohibitive without financial assistance through cost-sharing or other programs.

## VDOF CELEBRATES 100 YEARS



*Charlotte County children congratulate Virginia Department of Forestry on its 100th Anniversary.*

# FOREST RESEARCH



*The 2014 planting of VDOF American chestnut third generation backcross hybrids at the Matthews State Forest.*

In its 59th year, the VDOF Applied Forest Research program continues to deliver forward-looking information and solutions focused on improving the health, productivity and sustainability of forests in the Commonwealth. Ownership patterns and objectives continue to evolve, as do the values of forests to different stakeholders and the potential markets for forest products. As a result, it is as important as ever to gather solid information to guide decisions about how to care for forests while respecting these changing perspectives and conditions. In recent years, our research portfolio has expanded to investigate emerging issues, such as climate change, carbon sequestration, biomass / bio-energy production, environmental fate of fertilizers, potential impacts on water quality and invasive species impacts.

The three-person research program staff maintains more than 40 active studies located across the Commonwealth and organized in four general subject areas: pine tree improvement / seed production; diminished species restoration; pine forests, and hardwood forests. During 2014, new test locations have been installed; existing studies protected, maintained and re-measured; new results and recommendations were presented in written reports and oral presentations, and numerous requests for information or advice were answered. All results from VDOF research since 1955 can be found at <http://www.dof.virginia.gov/research/publications.htm>.

## PINE TREE IMPROVEMENT

The VDOF tree improvement effort continues to collaborate with the North Carolina State University Cooperative Tree Improvement Program with a focus primarily on improving the health, productivity and economic value of the 25+ million loblolly pine seedlings used for reforestation across the Commonwealth. We are continuing to breed, field test and select the trees that will make up our fourth generation of seed production orchards. As a result of this ongoing research and analysis, the VDOF nursery is now able to offer seedlings that grow up to twice as rapidly in their first six years after planting as seedlings from wild (unimproved) sources. This accelerates the return of forests on harvest areas and has been calculated to add at least a \$14 million to the combined value of our new plantations each year.

As an additional high point, this past year a team of scientists led by Dr. David Neale at the University of California, Davis, sequenced and assembled the genome of the loblolly pine (*Pinus taeda*) using the tissue from a single pine seed from a VDOF select tree growing in the loblolly pine orchard at the New Kent Forestry Center near Providence Forge, Virginia. At that time, it was the largest genome ever sequenced.

## DIMINISHED SPECIES

Since 1970, the VDOF has conducted ongoing research on selecting and breeding blight-resistant American chestnut. In the last several years, we have been working closely with the American Chestnut Foundation to scale up our

production of our best crosses, which are being planted in seed production areas on the Matthews State Forest. Our intention is to collect nuts from those plantings and field test them in hopes of identifying promising selections to begin distributing for reforestation. At the same time, we are also helping to build new lines of pure American chestnut into the breeding program of the ACF.

Another key diminished species for us is longleaf pine. VDOF has conducted studies in collaboration with the USDA Forest Service Southern Research Station that suggest “northern-source” longleaf pine represents a distinct population with unique character traits. Current restoration efforts on public lands in Virginia rely heavily on seed collected from a few scattered individuals and small stands of wild longleaf in southeastern Virginia and northeastern North Carolina. To increase the availability of seedlings, VDOF is establishing a 10-acre longleaf pine orchard at its New Kent Forestry Center near Providence Forge. With use of improved grafting techniques developed by VDOF studies, cone-bearing trees are expected by 2020. In 2014, we also released an important new publication entitled “From the Brink: The Effort to Restore Virginia’s Native Longleaf Pine,” which summarizes the state of our research and restoration efforts.

Finally, we continue to work in support of shortleaf pine restoration. In the last few years working with faculty at Virginia State University, we have begun studies to compare native VA sources of



shortleaf to seedlings from other locations and to determine the comparative value of planting shortleaf at a range of initial planting densities. Our new shortleaf pine seed orchard has begun to produce a few cones and will reach an operational level in a few years.

*One location of the 4th cycle loblolly pine progeny test series installed at the Hockley Research Forest during the winter of 2013-2014.*

## PINE FORESTS

Loblolly pine is still the primary commercial and reforestation tree species in Virginia, so it remains prominent in our research program. Working with partners at important research cooperatives at Virginia Tech and NC State universities, we are able to leverage our resources to look into topics including climate change; carbon sequestration; environment fate of applied fertilizers; methods to prepare for new market demands, and potential investment returns from various forestry activities. In the past year, we have reported results from studies of planting densities, competition control, fertilizer applications, thinning and drought impacts. The results can help us to recommend a range of options for meeting whatever mix of new and traditional market demands may develop in the coming years. For example, in addition to the value added by planting improved seedlings, our data and models allow us to estimate that releasing young pines from competing hardwoods at age two can nearly double the productivity (and final value) of the stands. Choosing to remove the competition prior to planting (site preparation); thinning at an appropriate time; applying fertilizer, and selecting the very best genetic seedlings can nearly double that again. Our research has identified and continues to refine a wide range of potential for increasing the growth – and therefore sustainability – of many of Virginia’s loblolly pine forests.

## HARDWOOD FORESTS

Like pines, hardwood forests face a future of potentially changing demands and harvest regimes. Our established studies are positioned to inform decisions on both natural and plantation hardwood systems. Our work on crop tree release; harvest method impacts on regeneration, and fire impacts deal with affordable options for small landowners in a more traditional setting. Newer studies on tree shelters and planting hardwoods deal with emerging issues like water quality protection and potential biomass / biofuel production. Working with faculty at Virginia Tech, we continue to narrow down alternatives for hybrid poplar that can be productive in the Piedmont region.

And we have initiated discussions with US Forest Service scientists at Bent Creek, NC, to begin applying and validating new regeneration and growth models for hardwood forests.

## 2014 CROWN AWARD



*John Bassett, chairman of Vaughan-Bassett Furniture Company, displays the 2014 Crown Award after it was presented to him by State Forester Bettina Ring on the floor of the company’s production facility in Galax, Va. The Crown Award is the highest honor that can be bestowed by the State Forester. The Vaughan-Bassett Furniture Company earned the award for surpassing 1 Million tree seedlings purchased by the company and donated to Virginia landowners for planting as part of the company’s successful 1-4-1 Program, which ensures one tree seedling is replanted for every tree harvested to make the firm’s bedroom furniture. Joining John and Bettina for the presentation are Wyatt Bassett, Doug Bassett and Ed Stoots.*

# FOREST INDUSTRY AND MARKETS



Virginia's forest industry and forests provide more than \$17 billion of economic output and several billion more in other benefits, such as recreational activities, wildlife habitat and environmental and other services, annually. They also account for more than 103,000 jobs. As the economy has begun to improve, we are also seeing new and expanding forest-related business in Virginia. There is still a ways to go for many of the markets to return to pre-recession levels, and ongoing challenges that include changing forest markets; continuing slow housing demand; slow foreign economic growth; changing demographics and forestland ownership; loss of forestland, and concerns on the sustainability of the resource, will determine how the recovery goes.

Although the bioenergy sector continues to be one of the strongest growth areas, we are also seeing growth in sawmills, secondary manufacturing and other areas. Two major announcements were the rebuilding of the Independence Lumber Company mill in Independence and development of the Trout River Dry Kiln Facility in Crewe. Both projects were recipients of an Agriculture and Forestry Industries Development (AFID) Fund grant. Additional forest industry expansions in neighboring states are also providing jobs and new markets for Virginians.

While markets and industry expansions are very positive to improving Virginia's economy and employment, there are concerns with volatility; resource availability and sustainability, and competition with existing markets and industry. The VDOF continues to work with forest industry, Virginia Tech and other partners 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.

Virginia forest industries continue to take advantage of overseas demands for wood products to expand market opportunities. VDOF is increasing efforts with VDACS' International Marketing Division and forest industry to maximize opportunities to participate and improve access to international customers.

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. 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.



The VDOF is leading a number of programs to ensure that forest landowners and industry continue to have markets for their products now and in the future. We are continuing work with partners to improve landowner access to forest certification programs and certified wood markets. We are also looking at how to involve more timber harvesters and primary industry in chain-of-custody certification. 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. A website has been developed to provide information on opportunities and advantages of using wood energy at the local level, and educational programs are beginning to be performed. Work on identifying and assisting with potential bioenergy project development will begin soon. The goal of the program is to help local schools, communities and industry reduce energy costs 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 and waste reduction.

Virginia's forest industry helped develop a self-imposed Forest Products Tax in 1970 to provide funds to address concerns about a declining forest resource. The program has been very successful and the forest resource has been increasing since. However, demand for forest resources has been increasing again, and the original law was not designed for several of the current business practices and markets. VDOF is actively working with Virginia Department of Taxation and forest industry to develop new legislation that will better address today's conditions and still meet the goal of providing needed funds for our Reforestation of Timberlands program.

VDOF is working to improve markets for urban wood and develop service providers that can provide management assistance on small forestland acres and forest in more populated areas. Around 30 percent of Virginia's forestland is now considered to be in small acreage or in urban/suburban areas. Surveys of forest operators, municipalities and arborists have just been completed. The analysis of the information will be used to design educational programs, workshops and demos to help new forest operators and service providers focus on small woodlot or community forest management; utilize urban wood; harvest biomass for energy production; provide invasive species control and natural disaster mitigation, and provide ecosystem services assistance.

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.

Although a small program area within the VDOF, Utilization and Marketing is working 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.

## VDOF CELEBRATES 100 YEARS



*As Secretary of Agriculture and Forestry Todd Haymore looks on, Gov. Terry McAuliffe presents State Forester Bettina Ring a proclamation honoring VDOF's 100th anniversary of protecting and serving the Commonwealth.*



*Film Director and Actor Tom Hanks took a moment to pose with Smokey, Gov. McAuliffe and the First Lady, and Secretary Todd Haymore.*

# 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 raise 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 Partner's Conference. VDOF continues to oversee the Tree City USA® program in which 56 communities participate. And there are now two college campuses in the Tree Campus USA® program as well as two utility companies in the Tree Line USA® program. Through its Urban and Community Forestry Assistance Program, the Department has supported projects in 78 cities and towns, 28 counties, and 106 non-profit organizations and several 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.

- ▲ An exciting new grant program gained momentum in 2014. Initiated in late 2013, the Virginia Trees for Clean Water program funded 35 tree planting projects in 2014, and there is enthusiastic demand for more project funding.
- ▲ The Urban and Community Forestry program also continues to be the leader in emphasizing the importance of tree canopy cover to communities. VDOF has engaged 27 communities in conducting urban tree canopy (UTC) analyses and continues to work with selected communities to develop goals and public policy for expanding their tree cover.

Better utilization of urban wood is now a focus of VDOF efforts. Working with Virginia Tech, a 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 late 2015 or early 2016.

Our partnership with Virginia Tech supports the urban and community

forestry curriculum in the School of Forest Resources and Environmental Conservation (FREC); the Community Design Assistance Center (CDAC), as well as activities to help develop the Fishburn tract property near the campus. In 2014, the U & CF coordinator continued to serve on the FREC advisory board and is an adviser on a large NUCFAC grant project being headed by Virginia Tech that will focus on increasing urban forestry program enrollment on several East Coast campuses. 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. At the University of Virginia, the 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.

## GREEN INFRASTRUCTURE

The Department continued a strong partnership with the Green Infrastructure Center (GIC). VDOF is supporting a green infrastructure study in Albemarle County in 2014 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. VDOF has networked GIC with state forestry agencies in other states, resulting in green infrastructure initiatives in South Carolina and Arkansas. In

# URBAN AND COMMUNITY FORESTRY,

*continued*



addition, GIC has been able to conduct training in North Carolina, Arkansas, Pennsylvania, Michigan and Georgia. GIC and VDOF also hosted a visit by the Ecological Society of Japan, Japan's largest environmental organization, to showcase our green infrastructure efforts.

## LANDSCAPE PLANNING, GREENWAYS AND RECREATION

The Department continues a strong partnership arrangement with Virginia Tech's Community Design Assistance Center (CDAC). In addition to conceptual planning for an educational site on Virginia Tech's Fishburn tract, CDAC also developed plans for river access points as part of the Clinch River Valley Initiative. Several CDAC projects generated significant financial leverage. One plan developed for Front Royal in 2008 resulted in an \$800,000 Recreational Trails Grant to the town. Work done in the Town of Cleveland in cooperation with the Department of Housing and Community Development (DCHD) helped the town secure more than \$900,000 in grant funding. Plans prepared for Strasburg several years ago were utilized to help secure \$800,000 in streetscape improvement funds from VDOT.

In the Town of St. Paul, the Bluebell Island Trail was opened and is getting heavy use. CDAC also completed plans for an outdoor environmental classroom and trail at a Washington County public school. Other conceptual planning work was done for the Town of Bridgewater and Newport Village.

VDOF assisted the Department of Conservation & Recreation with its Virginia Outdoor Plan, participating in and hosting several executive committee meetings.

Also in 2014, the Redbud Run Greenway, supported jointly by DGIF and VDOF, was dedicated in the Winchester area.

## NATURAL DISASTER RESPONSE

Fortunately, there were no natural disasters impacting Virginia's urban forests during the year. However, VDOF continued to add to its cadre of Urban Forest Strike Team members and participated in trainings in North Carolina and Washington, D.C. Some VDOF staff served as trainers at these events. There were six strike team members who completed the ISA Tree Risk Assessment Training and became qualified tree risk assessors using the new TRAQ protocols.

## TREES VIRGINIA (VIRGINIA URBAN FOREST COUNCIL)

VDOF continues its strong and longstanding partnership with Trees Virginia (the non-profit Virginia

## VDOF CELEBRATES 100 YEARS



*An exhibit of five VDOF vehicles was on display for six weeks at the Virginia Museum of Transportation.*

Urban Forest Council). Together with Trees Virginia, the Department hosts quarterly forums in both Northern Virginia and Hampton Roads attended by local urban forestry professionals from municipalities. Again in 2014, Trees Virginia and VDOF made major contributions to the Mid-Atlantic Horticulture Short Course (Virginia's major conference for green industry professionals). The partnership with Trees Virginia also continued with the very successful and long-running Waynesboro and Roanoke workshops. Trees Virginia also continued its practice of offering a scholarship to the national Municipal Forest Institute by sending a representative from Norfolk. The volunteer Tree Steward component of Trees Virginia continued to grow with several groups seeing significant increases in membership.

# ACCOMPLISHMENT REPORT

July 2013 - June 2014



Objectives	Target Goal	Accomplished
<b>Goal 1: Protect the citizens, their property and the forest resource from wildfire.</b>		
Measure 1.1.1: Percentage of wildfire responses that are 30 minutes or less.	85%	83.7%
Measure 1.1.2: Percentage of eligible rural volunteer fire departments receiving available state and federal financial assistance.	25%	28.1%
Measure 1.1.3: Agency preparedness assessment score.	100	100
<b>Goal 2: Protect, promote and enhance forested watersheds, non-tidal wetlands and riparian areas.</b>		
Measure 2.1.1: Cost to conduct a forest harvest water quality inspection.	\$4.60/acre	\$4.74/acre
Measure 2.1.2: Percentage of harvest sites with sediment not reaching streams.	95%	98.3%
<b>Goal 3: Improve the stewardship, health and diversity of the forest resource.</b>		
Measure 3.1.1: Percentage of eligible Reforestation of Timberlands incentive received by landowners.	95%	90%
Measure 3.1.2: Number of forestry management projects implemented on private land.	2,600 projects	3,344 projects
Measure 3.1.3: Number of acres of all forest management plan types achieved on private and appropriate public forestland.	88,000 acres	189,039 acres
Measure 3.1.4: Number of communities assisted with forest and/or tree resource management.	115 communities	114 communities
<b>Goal 4: Conserve the forestland base.</b>		
Measure 4.1.1: Number of acres of forestland established and/or protected in Virginia watersheds.	3,500 acres	2,653 acres
Measure 4.1.2: Number of acres protected from conversion to development.	5,500 acres	4,353 acres
Measure 4.3.1: Percentage of annual allowable harvests actually harvested.	85%	97%
<b>Goal 5: Promote forest industry and diversified markets for forest landowners including ecosystem service markets.</b>		
Measure 5.1.1: Number of new and/or expanding forest-related businesses or markets.	3 markets/ businesses	3 markets/ businesses
<b>Goal 7: Manage agency resources to effectively and efficiently accomplish the strategic initiatives.</b>		
Measure 7.1.1: Percentage of customers who rate the quality of VDOP's seedlings as satisfactory.	95%	95%
Measure 7.1.2: Percentage annual increase in nursery cash balance.	9.2%	0.7%



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