

REPORT OF THE
STATE FORESTER, DEPARTMENT OF FORESTRY

**ANNUAL REPORT ON THE ACTIONS, CONCLUSIONS
AND RECOMMENDATIONS FOR CONSERVING THE
COMMONWEALTH'S FOREST SUPPLY**

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA



COMMONWEALTH OF VIRGINIA
RICHMOND
2006

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January 9, 2007

The Honorable Timothy M. Kaine
Governor of Virginia

Members, Virginia General Assembly

Pursuant to §10.1-1119, the State Forester shall develop an “annual report on the actions, conclusions and recommendations for conserving the Commonwealth's forest supply”.

It is my pleasure to present the 2006 Annual Report on the Actions, Conclusions and Recommendations for Conserving the Commonwealth's Forest Supply.

Please feel free to let me know if you have any questions or if I may provide any further information to this regard.

Sincerely,

Carl E. Garrison, III
State Forester

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Preface

The General Assembly authorizes the State Forester to maintain facts and conclusions and annually report on the state of Virginia's forest lands in the Code of Virginia §10.1-1119: *“Preservation of evidence as to conserving forest supply; reports to General Assembly; publications”*. The State Forester administers programs, services and law enforcement activities to conserve and protect Virginia's forest lands. Data, results, and information regarding the efforts to conserve Virginia's forest lands and the methods used to affect this object are summarized in the annual State of Forest Report. The State Forester has released the 2006 State of Forest Report for the public consumption and modified for our report to the General Assembly and the Governor.

Executive Summary

Welcome to the second annual edition of the State of the Forest Report. We received a number of positive comments about our first edition, published last year at this time, and hope that you find this year's issue just as helpful and informative.

The 2005 – 2006 fiscal year brought many new challenges and opportunities to the Virginia Department of Forestry. One of the most troubling issues was – and continues to be – the permanent loss of forest land to development. For the past several years, Virginia was experiencing an average net loss of 20,000 acres of forest land each year. Our analysis this year shows a net loss of more than 26,000 acres – an increase of 30 percent! This is certainly not an increase that Virginians should celebrate.

To put this loss of forest land in perspective, Virginia's largest State Forest (the Appomattox-Buckingham State Forest) is approximately 20,000 acres in size. Losing more forested acreage in one year than what exists in an entire State Forest is an issue that should concern us all since this is land that will never be forested again. Never again will we enjoy the aesthetic beauty, the water and air quality protections or the wildlife habitat afforded us by these forested acres. Unfortunately, this disturbing trend is likely to continue.

On the positive side, within weeks of his inauguration, Gov. Tim Kaine announced his goal to conserve 400,000 acres of land in the Commonwealth by the year 2010. To make this goal a reality, much of the land will be forested acreage that is part of Virginia's working landscape. The Virginia Department of Forestry has one of the lead roles in this conservation effort.

Providing services to forest landowners remains a cornerstone of the Agency. VDOF staff developed forest management plans for private landowners that covered nearly 152,000 acres; assisted with the replanting of nearly 81,000 acres of forest land, and produced 40 million tree seedlings for Virginians.

Another positive item that I'm proud to share with you involves the Agency's efforts to ensure the quality of Virginia's water. During this reporting period, VDOF staff inspected more than 4,700 active timber harvest sites across the Commonwealth – 97 percent of which showed no evidence of active sedimentation. While this is excellent news, we won't rest until 100 percent of the harvest sites are compliant.

The fall 2005 fire season brought great sadness to us all as the chief of one of Virginia's rural volunteer fire departments was killed while battling a wildland fire in Buchanan County. That was followed by spring 2006 fire season, which proved to be the worst we've seen in six years. There were more fires and more acres burned in those 75 days than burned in all of calendar year 2005. Lack of rain, low humidity and high winds combined to make conditions ripe for wildland fire. What's frustrating is that most of these fires wouldn't have happened if people had just taken some basic precautions before burning their debris.

These are but a few of the highs and not-so-highs of the 2005 – 2006 fiscal year. I invite you to learn more about your Virginia Department of Forestry by reading the rest of this report, visiting our Web site (www.dof.virginia.gov) or contacting your local forester or forestry technician. We're here to protect and develop healthy, sustainable forest resources for Virginians.

Virginia Forest Trends

Forested Land

With 15.77 million acres of forested land, Virginia is 61.5% forested. From 2001 to 2004, urban growth and development resulted in an average net loss of 26,100 acres per year, an accelerating rate of loss when compared to the 20,000 acres per year estimate for the 1992 – 2001 period. More acres of forest are developed each year but reversion of some agricultural land to forest partially offsets the loss. If current development trends continue, it has been projected that Virginia will lose a million acres of forest in the next 25 years.

Forest Ownership

While some 2.7 million acres of Virginia's forests are owned by the federal, state and local governments, the greatest amount, 13.0 million acres, is privately owned. The single largest category is the more than 384,000 individuals or families who together own in excess of 10.1 million acres. While family ownership ranges from a few acres to a few thousand acres, most parcels are relatively small. About half of the land owned by families is in parcels of 75 acres or less.

Corporations own two million acres, including one million acres held by forest products firms. Since 1992, forest products firms have sold off more than 662,000 acres of forest land. TIMOs (timber investment organizations) and REITs (real estate investment trusts), which represent a new category of landowner, ended up with about half of the divested industry lands. This new ownership category has slowed the subdivision of former industry land into smaller parcels and has maintained professional forest management on these lands in the short term. The long-term trend is likely to be further subdivision and development of these lands as these corporations seek to maximize investor returns.

Forest Benefits

The extensive cover of forest found in Virginia provides its citizens with many valuable ecological services, including the following:

- Protection of water quality
- Protection of air quality
- Aesthetic quality
- Moderation of climate, including the offsetting of carbon emissions contributing to global warming
- Provision of habitat for many plants and animal species

These non-market services have been conservatively valued at more than \$1.7 billion annually.

In addition, direct economic benefits are derived from:

- More than \$25.2 billion generated annually to the Virginia economy by forest products industry and related activities
- \$276 million paid to forest landowners for the harvest of products in 2003

- 183,898 jobs in forest product industries
- Forest-related recreational spending contributes more than \$2.4 billion annually

Forest Sustainability

“We envision forest resources that support and enhance a healthy living environment.”

“We protect and develop healthy, sustainable forest resources for Virginians.”

-DOF 2014 Shaping Virginia’s Forests (Strategic Plan)

Is the current use and management of Virginia’s private and public forests maintaining healthy forests and is it sustainable? We can first ask whether we are growing as much as we are harvesting. The answer is yes. Programs of reforestation and forest management have maintained the growth of trees at a level higher than the amount removed. For every unit of hardwood volume harvested, 1.23 units are replaced by growth. For every unit of softwood (pine) volume harvested, 1.17 units are replaced by growth.

Are we maintaining a good mix of forest types and a good age structure? Again, the general answer is yes.

Virginia has more than 12.1 million acres of hardwood and hardwood-pine forest, and the area in hardwood types has steadily increased from the 8.1 million acres found in the 1940 survey. The hardwood forests of Virginia are maturing, with more than 7 million acres in stands 60 years old or older. Since the first survey in 1940, board-foot volumes have more than tripled – from 24.3 billion to 90.6 billion board feet. We do face challenges in the regeneration of young oak trees to replace the mature oaks, which dominate our forests. The exclusion of fire and high-grading harvesting practices are the major factors limiting oak regeneration.

Virginia has about 3.0 million acres of pine forest, a decline from the 6.2 million acres found in 1940. Plantations of pine have served to slow the decline in pine forest and now comprise slightly more than half of the pine acres. Pine plantations are able to offset the loss in acreage of pine stands because of higher production from intensive management techniques. This will increase in the future with the continued use of genetically improved seedlings from the Department of Forestry nurseries. Natural pine stands, especially those of shortleaf, pitch and table-mountain pine, have declined significantly – especially in the mountains and largely due to southern pine beetle infestations.

Special forest types found in Virginia include the Atlantic white-cedar swamps of the Great Dismal Swamp; the spruce forests of the Mt. Rogers area; the oak-gum-cypress forests of the Coastal Plain, and scattered remnants of longleaf forest in Southeastern Virginia.

While the sustainability of our use and management is generally high, specific challenges and problems do exist. Some of these will be addressed in the forest health section. What are possibly the largest challenges – maintaining a sufficient area of forest and stemming fragmentation – will be addressed under land base conservation.

Protecting Our Forests

The Department responds to slightly more than 1,200 wildland fires that burn more than 9,500 acres annually (based on a five-year average, 2001 – 2005). Although more than 70 homes and other structures are damaged or destroyed by wildland fire each year, agency efforts protect more than 1,200 others at a value of more than \$151 million.

From July 1, 2005 through June 30, 2006,

- 1,357 fires burned 14,884 acres (1.08 acres lost per thousand acres protected);
- 521 homes were protected with an estimated value of \$162,916,902;
- 360 structures were protected with an estimated value of \$14,848,750;
- 18 homes were damaged at an estimated value of \$2,354,500, and
- 45 structures were damaged at an estimated value of \$1,289,300.

This year was a particularly tough one for those who risk their lives performing the very dangerous job of wildland firefighting. In November 2005, a volunteer fire department chief lost his life battling a wildland fire in Buchanan County. We also experienced a number of rather large (more than 100 acres each) fires – the largest occurring during the Easter weekend in April 2006. Lightning ignited the fire on Bull Mountain in Patrick County that ended up burning more than 4,000 acres of forest land, several homes and other personal property. Nearly 100 VDOF personnel, 200 volunteer firefighters and 35 members of the Virginia National Guard were involved in the suppression effort.

The Department relies on a fleet of 200 4X4 engines, nine specially equipped Hummers, 2 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 local 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. A long history of proactive wildland fire prevention, wildland fire risk assessment, and commitment to the protection of woodland home communities from the risks of wildland fire have made Virginia a national leader in resource protection. Every Department employee has a role in wildland fire prevention and protection, either on the fireline or in support functions.

Dry Hydrant Program

The Virginia Dry Hydrant Grant Program is funded by the General Assembly using money from the Fire Programs Fund Bill. The program is administered by the Department of Fire Programs and the Department of Forestry and is assisted by an advisory committee.

The objectives of the program are to:

- Conserve energy by reducing losses from fires;
- 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. Using the \$100,000 appropriated last year, a total of 50 new dry hydrants were installed through the program.

Fire departments submit grants based on established priority locations; secure any local permits necessary, and obtain the landowner permission. The standard dry hydrant installation is specified, so any special requirements or additional cost would have to be borne by the specific fire department. Communities and homeowner associations can obtain a dry hydrant by working with the local volunteer fire departments to secure a grant.

Volunteer Fire Assistance Program (VFA)

The Volunteer Fire Assistance Program continues to increase the fire protection capability in the Commonwealth by making financial assistance available to Virginia's 585 rural volunteer fire companies for additional training and the acquisition of small equipment and wildland personal protective equipment (PPE). Since the program's inception in 1975, a total of \$1,994,569 has been awarded through 4,586 grants.

In 2005, 176 rural volunteer fire departments received the \$313,479 in Volunteer Fire Assistance funding made available to Virginia. Requests continue to greatly exceed the available funding.

Protecting Virginia's Water Quality

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. The Virginia Department of Forestry has been involved with the protection and enhancement of our forested watersheds since the early '70s with the development of our first set of Forestry Best Management Practices (BMPs) for Water Quality. The Department is now utilizing the fourth edition of those guidelines, and has circulated copies of its latest version nationwide as well as to several countries. 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 is a welcomed opportunity to educate the operators on BMPs and the latest in water quality protection techniques. In fiscal year 2006, VDOF field personnel inspected more than 4,700 timber harvest sites across Virginia on 196,687 acres.

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 Sustainable Forestry Initiative[®] Inc. SHARP (Sustainable Harvesting and Resource Professional) Logger Training Program. Since 1996, this program has enabled VDOF to train 5,283 harvesting professionals in 156 different programs relating to water quality protection. For fiscal year 2006, there were six training programs offered with 241 attendees present.

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 was created to provide Virginia with an enforcement mechanism to address water pollution originating from silvicultural activities. 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 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. The law has been amended twice since 1993: once in 1998 to provide for notification of timber harvesting operations by the harvest operator, and again in 2002 allowing for the assessment of a civil penalty to the harvest operators for failure to notify the VDOF of their harvesting operations. In fiscal year 2006, the VDOF was involved with 394 water quality actions initiated under the Silvicultural Law. Of

these actions, 35 resulted in Special Orders being issued for violations of the law, with four of these proceeding to the issuance of civil penalties. All penalties collected under this law are placed in the Water Quality Penalty Fund, which is a non-reverting fund to be used for education, demonstration and research.

A statewide audit system has been in place since 1993 to track trends in BMP implementation and effectiveness. There have been 22 of these audits since 1993. The latest report shows that harvest operators are making an effort to implement BMPs on 98% of the sites on which they operate, and that there is no evidence of active sedimentation on 97% of those sites. The audit process is under review to add more tracts and to be able to acquire more specific information on areas to concentrate additional training for harvest operators.

During fiscal year 2006, the VDOF developed and implemented a BMP Logger Cost Share Program. Funding for this unique initiative was made available through a grant from the Commonwealth's Water Quality Improvement Fund. This program provides a 50 percent cost share to timber harvesting contractors who implement appropriate BMPs on eligible stream crossings. The projects must be pre-approved by the VDOF prior to application and harvesting contractors must be SHARP Logger certified to be able to participate in the program. The program will cover items including culvert pipes of appropriate size; equipment time to construct water diversion structures, as well as material to revegetate the site. But, probably, the one feature of the program that will have a lasting effect on water quality in the Commonwealth is that the program will provide cost share for the purchase of portable timber bridges that will continue to provide water quality protection for sites beyond the specific site for which they were purchased.

The VDOF also participated in the 30th Annual East Coast Sawmill and Logging Equipment Exposition in Richmond, VA in May 2006. The agency had two exhibit spaces, which promoted forestry BMPs, harvest planning and logger notification to 12,000+ logging contractors from all over Virginia and the eastern U.S. The Expo also enabled VDOF to showcase different types of stream crossing structures and a portable timber bridge was actually built during the show and raffled off to a deserving timber harvest contractor as a fund raiser for "Log-A-Load for Kids" and the Children's Miracle Network.

Establishing and maintaining forests, particularly those near streams and rivers, is very effective in filtering sediment, excess nutrients, and in maintaining stream health. The Department is actively involved with landowners and other cooperators in establishing forested buffers along streams. In 2006, new forests were established along more than 164 miles of streams in Virginia.

Conserving the Forest Land-base

"We are consuming land at a pace that far exceeds the rate of population growth; each person uses from four to five times more land per person than just 40 years ago." Chesapeake Bay Foundation

From 2001 to 2004, urban growth and development resulted in an average net loss of 26,100 acres of forest land in each of these years. If the trend continues, Virginia would lose more than 1 million acres of forest land in the next 25 years. In view of the largely individual and family ownership of forest land, the challenge is to make forest land use an economically viable and attractive option for the forest landowner.

The Department has taken several steps to address the declining landbase. Throughout the state, Department field personnel work with local governments and citizens in comprehensive planning that emphasizes the values and benefits of forests. Department staff also assists with and promotes use value taxation and Agriculture and Forestal Districts, both of which help foster an environment conducive to continued forest use. The Department is heavily involved in promoting active forest management with private forest owners. Active management fosters the growth of productive and valuable forests, which help landowners maintain rural forest lands.

Specific programs that conserve forest land include the Forest Legacy Program, a federal program administered in the state by the Department of Forestry, and the Virginia Land Conservation Foundation. Both programs offer landowners methods to establish permanent conservation easements on their property. The Department also serves Virginia landowners by providing technical information on the value of conserving Virginia's forests.

Landowners, through Forest Legacy easements, have protected 3,866 acres of forest land, with more being considered each year. The conservation of an additional 496 acres of easements under the Forest Legacy program are in the acquisition process; 1,192 acres of easements have been offered by private landowners for funding consideration under the program, and plans are in place to acquire an additional 1,783 acres as a new State Forest. Department-owned State Forest land protects an additional 48,463 acres. These 17 actively-managed forests produce timber and multiple resource benefits, such as outdoor recreational activities and the aesthetic appeal of large forested landscapes, that the Commonwealth's citizens can enjoy. The Department also partners with other state agencies and non-profit groups, such as the Department of Conservation and Recreation, the Virginia Outdoors Foundation and The Nature Conservancy, in land conservation efforts administratively as well as in land management through the state parks system.

Forest Research

The VDOF has a 50-year history of scientific research related to the health and sustainability of Virginia's forests. This year, we continued these long-term efforts in a number of areas.

In the area of genetics and species restoration, we worked with longleaf pine, shortleaf pine and the American chestnut. Our effort to protect and propagate the 100 or so remaining native Virginia longleaf pine trees was furthered with controlled pollinations and seed collections. We also established a study to examine the relative performance of non-local and Virginia seed sources of longleaf pine. For the diminishing shortleaf pine, we started a study looking at different methods of competition control and fertilization for shortleaf restoration plantings.

Our efforts to restore the American chestnut via back-crossing progressed in 2006. We planted more than 300 new seedlings from last year's breeding at Lesesne State Forest and New Kent Forestry Center. More than 250 pollen bags were placed on 24 existing crosses in the breeding orchard, and more than 400 female flowers were pollinated.

The loblolly pine tree improvement program produced 100 percent second-generation improved seed for the current loblolly seedling crop. These trees are straighter, taller and produce 25% more volume than unimproved loblolly pine. In its 50th year, the program is nearing the end of the third-breeding cycle; and the third-cycle seed production orchard is beginning to produce third-cycle seed.

In the areas of pine and hardwood management, we continued studies on early survival and growth of planted white pine; surfactant damage from competition control in pines; pre-commercial thinning of pine; loblolly pine growth and yield; hardwood crop tree release; hardwood planting methods, and the control of epicormic sprouting (water sprouts on the main stem) in white oaks. These studies enable the VDOF to give the best technical advice to landowners on the proper management of working forests.

Forest Stewardship

The key to successful forest management is good planning. Department and cooperating foresters develop professional management plan based on landowners objectives and the conditions of the forest. In the past year, foresters developed plans on 151,737 acres with objectives ranging from timber production to wildlife management to recreational forest use. Renewing forests following harvest, as well as establishing new forests is critical to sustained management. In 2006, 80,776 acres were renewed through tree planting, with pine being the species most commonly planted. In addition, large areas (mostly deciduous or hardwood trees) successfully regenerated naturally into new forests. Active forest management practices, such as forest stand improvement and thinning, were conducted on 69,640 acres. Well-managed forests foster stand health through the culture of the appropriate type of tree growing in the right locations, with sufficient space to thrive.

Planning and professional advice prior to harvest is the key to successful resource management. Pine forests in Virginia have been very successfully and intensively managed through genetic improvement of seed, planting, and intermediate stand treatments. Hardwood forests are more diverse, occupy a much larger acreage and have a longer growth cycle. These forests produce trees that are used for a wide range of products from pallets and crossties to high-quality furniture and flooring. There remain many opportunities to improve management of hardwood forests through proper planning and appropriate management practices.

Forest Diversity

While the acres in pine forest have declined since the 1940 survey, growth rates have increased and have more than kept pace with harvest. Department research efforts have lead to programs of genetic improvement of loblolly pine; high-quality seedling production; proper planting density, and the control of competing vegetation. The net effect has been the ability of Virginia's forests to produce more pine volume on fewer acres, allowing more acres to naturally succeed to hardwood forest types.

Programs of forest genetics and seedling production have been at work for more than 50 years to produce high-quality pine and hardwood seedlings, of locally-adapted and improved genetics, needed for reforestation. The loblolly pine improvement program is in its third generation of improvement and has produced trees with much higher stem quality, and growth rates averaging 30% higher than unimproved trees. In 2005, our nurseries produced 40 million seedlings of pine and hardwoods.

The Department has identified and targeted several species for restoration work. Specifically, the premier southern tree, the longleaf pine, is being promoted in easternmost parts of the state. Remaining remnant individual trees have been mapped, and used to establish areas for seed production. Acreages of shortleaf pine, a high-quality and once widely distributed species, have

plummeted in recent years. Work is underway to establish new seed orchards and increase planting of this species throughout the State. Research is underway to produce American chestnut seedlings that are resistant to the devastating blight that occurred early in the last century.

Taken as a whole, the forests of Virginia are in basic good health, with positive net growth for most forest types, low mortality rates and accumulating biomass. However, specific problems and threats do exist.

Forest Health

The cumulative effects of drought, hurricanes and severe storms in some locations during the past five to seven years have taken their toll on many trees, particularly urban and landscape trees. Drought and record-high temperatures have exacerbated the impacts on previously stressed trees, leading to widespread secondary insect and disease problems and subsequent tree mortality, particularly among oaks and other hardwoods.

This summer, an outbreak of the variable oakleaf caterpillar impacted a 10-county area, to varying degrees, causing severe defoliation to mainly white oaks in forested areas to the west and north of Richmond. Although many trees will recover from this relatively rare event, some previously stressed trees will likely not. All told, baseline mortality levels among hardwoods may as much as double during this and subsequent years. This will likely represent only about 2% - 3% of forest trees and is a relatively normal event when viewed over ecological time frames.

The southern pine beetle has been relatively quiet during the last few years, although the outbreak during the late 1990s had a major impact on pine in the mountains, particularly in Southwestern Virginia. Many isolated areas once dominated by pine will revert to hardwood cover. However, the pine resource in central and southeastern Virginia remains healthy and productive. Federal funds from the USDA Forest Service, Forest Health Protection support our cost-share program with landowners for pre-commercial thinning of overstocked pine stands and will, hopefully, mitigate future impacts of pine beetle outbreaks.

The gypsy moth has abated during 2003 and 2004 due to very wet spring weather, which favors a fungal disease of the caterpillars. However, consecutive dry spring weather in 2005 and 2006 has led to a resurgence of populations in isolated areas, which may portend an upswing in gypsy moth activity in 2007. Significant outbreaks of gypsy moth in the coming years could have a major impact on oak survival, particularly in mountainous areas where many oaks are already undergoing decline from weather and site-related stress factors. Gypsy moth will continue to move farther into southwest Virginia, and outbreaks in the near future will most likely have the greatest impact in the Roanoke and New River valleys.

Hemlocks throughout the Commonwealth continue to die in many locations due to hemlock woolly adelgid infestations. Only a handful of counties in extreme southwestern Virginia remain uninfested. Despite dogged efforts by the USDA Forest Service and several universities to mass produce and release biological controls, this will not save most hemlocks currently infested. Shenandoah National Park has already lost 95% of its hemlock trees. Hemlock has, or will very likely, become ecologically extinct in many areas.

In addition to already established invasive species, such as those mentioned, we face additional threats from a long list of other pests, including the emerald ash borer, Asian long-horned beetle, and European wood-wasp – all of which have been found in other parts of the country and are

causing widespread tree mortality in those areas. Emerald ash borer was recently detected again in Maryland only 10 miles east of the Potomac River and represents a significant threat to Virginia's ash resource. Only constant vigilance through survey, monitoring and eradication of incipient infestations will allow us to avoid these pests.

Finally, invasive weed species, such as tree of heaven and kudzu, have encroached upon many of our forested areas. Invasive exotic species are most common in or near our cities. Continued forest fragmentation and urban sprawl create more disturbed habitat and facilitate establishment of many weeds. While it will be impossible to completely eradicate many of these widespread species, efforts to slow their spread and eradicate them locally can be undertaken. If not, these weeds will continue to significantly alter the ecology, productivity, and beauty of our forests forever.

Urban and Community Forestry

Trees and forests in communities provide many benefits to the citizens of Virginia. The obvious benefits include aesthetic appeal, shade and contact with nature. Less obvious, but just as important, are the positive impact community forests have on clean air, water quality, business district enhancement, view-shed protection, community health and quality of life in general. The Department helps Virginia communities maintain and enhance their community forests through its Urban and Community Forestry Program.

The Department provides technical assistance to communities of all sizes, from large metropolitan areas to small cities and towns. The Department provides expertise on tree selection and tree maintenance through direct contact as well as through a variety of workshops and conferences it organizes and/or supports. The demand for urban and community forestry assistance will increase along with the growth in Virginia.

The Department administers the Tree City USA program that promotes standards for community forestry in 46 cities and towns in Virginia. Participation in this program is expected to reach 50 communities by the end of 2006.

Through its Urban and Community Forestry Assistance Grant Program, the Department supports the capacity building efforts of municipalities, non-profit organizations and educational institutions. The purpose of the program is to strengthen local programs and organizations. Since its inception in 1991, the program has funded an average of 45 projects annually and has assisted 60 cities and towns, 21 counties, 64 non-profit organizations, as well as several universities and community colleges. The program has also funded 22 educational events, several of which continue to be offered on an annual basis.

The Urban and Community Forestry Program has developed strong partnerships with Virginia Tech and the University of Virginia as well as several community colleges. At Virginia Tech, the program helps support the Community Design Assistance Center (CDAC) that provides open space and landscape design planning to interested communities. Research projects funded at Tech's Hampton Roads Agricultural Research and Extension Center have received national attention. The program supports the evolving urban and community forestry curriculum in the School of Natural Resources. At the University of Virginia, the program has a strong partnership with the Virginia Natural Resources Leadership Institute, providing both financial and training support. The Department is also working with several community colleges to support urban forestry-related curricula as well as arboreta.

USDA Forest Service research has shown that urban tree canopy cover can make a significant contribution to water quality and storm flow reduction. The Chesapeake Bay Agreement has identified the development, retention and enhancement of urban tree canopy as an effective strategy to improve the health of the Bay. The Chesapeake Bay Agreement has established a goal of five Virginia communities establishing urban tree canopy goals by 2010. The Department has identified several target communities and will provide technical assistance and grant support to communities that commit to the urban tree canopy strategy. Already the Department has commitments from two communities and will be meeting with several more in the coming year.

USDA Forest Service research has also documented the contribution of urban tree canopy in removing certain air pollutants and improving air quality. The Environmental Protection Agency will now allow tree planting as a voluntary strategy in State Implementation Plans (SIPs) for air quality in designated air quality non-attainment area. The Urban and Community Forestry Program has been communicating this information to communities in northern Virginia through workshops and conferences and will be working with interested localities to have tree planting included as a voluntary strategy in local SIPs.

Through the Virginia Municipal Tree Restoration Program, the Department is working with Virginia's

utility companies and Virginia Tech to promote the planting of utility appropriate species in cities and towns to minimize tree/utility conflicts. Through this partnership, the Department has expanded the number of demonstration sites and utility arboreta. The research sponsored through this partnership has received national attention and some federal funding.

The Department has been encouraging the development of greenway projects throughout the Commonwealth. Greenways are environmental corridors that often contain recreational amenities such as trails and parks. Greenways are recognized as important community assets for recreation, environmental protection and public health. The Department has provided greenway planning funds to several communities, provided technical assistance and sponsored planning workshops. The Department works closely with the Department of Conservation and Recreation (DCR) and the National Park Service (NPS) to assist interested communities. The Department's role in the greenway area is to provide conceptual planning and see that projects gather grassroots support. The other agencies, DCR and NPS, implement detailed planning and construction of greenways on the ground. This partnership with DCR and NPS has resulted in the implementation of several successful projects and there are several projects now in progress.

Finally, land use patterns in Virginia are consuming land at a rate of three to four times the rate of population growth. Many formerly rural areas are now in what is called the "wildland urban interface." This is a landscape where urban and suburban influences intermingle with the rural landscape and present a whole host of forest management challenges. In this setting, conserving the forest land base is critical. The Department, through the Urban and Community Forestry Program, has been promoting the "green infrastructure" approach to strategic land conservation. The Department is working with The Conservation Fund and the New River Valley Planning District Commission on a pilot green infrastructure project over a four-county area. When completed, this project will serve as a model for other regions that are dealing with rapid growth and the resultant pressures on the forest land base.

Public Information and Education

The Public Information Division, which is responsible for internal and external communications, publications, Web site, information displays, media relations, special events, and photography, added a major component – Conservation Education – to its list of services this year.

For many years, VDOF staff members have been educating Virginia landowners about the benefits of conserving the forest land base, and the efforts have had an impact. The addition of a conservation education coordinator in October 2005 has strengthened this vital program across the Commonwealth. The coordinator spent time reviewing and revising the program's content to ensure it met the needs of landowners and that the messages were consistent across county lines. Once the content review was complete, the coordinator set out to teach VDOF field staff how to better deliver the conservation education messages to landowners and to school children.

Underserved Landowner Tours

One new addition to the conservation education effort was a series of forestry tours for underserved landowners. Two of the tours were held during the fiscal year (July 1, 2005 – June 30, 2006) and a third was held in September 2006. A total of 41 forest landowners participated in the February '06 tour in Halifax County. Another 35 landowners took part in the June '06 tour in Powhatan/Prince Edward counties. After the tours, participants reported a significant increase in knowledge of cost-share programs, timber sale planning, forest management, planting and site preparation, stewardship plans, wildlife management, and resource agency contacts. VDOF partnered with Virginia Cooperative Extension, Virginia State University, NRCS, US Fish and Wildlife Service and received funding from the USDA Forest Service for the tour program.

Project Learning Tree

PLT is the pre-eminent K-12 environmental education program in the nation. For years, Virginia's PLT was overseen by the Resource Management Division of the VDOF. With the addition of the Conservation Education program, PLT moved to the Public Information Division in October 2005.

More than 1,300 educators received PLT training through the 77 PLT workshops held (many in urban areas) across the Commonwealth. Among those 1,300 educators were 455 pre-service teachers (college and university students studying to become classroom teachers) who are now prepared to deliver PLT-based education upon entering their first classrooms.

In addition to the successful training, the Commonwealth of Virginia was the host of the 2006 International PLT Conference, held in May at Virginia Beach. PLT directors and facilitators from more than 40 states and several countries took part in the week-long event.

Forestry Camp

Our annual Forestry Camp celebrated its 60th anniversary this year – the longest running camp of its kind in the nation. A total of 65 youth (ages 13 – 16) gathered June 19-24 at the Holiday Lake 4-H Center within the Appomattox-Buckingham State Forest to enhance their understanding of environmental protection, forest ecology, forest management, wildland fire, tree identification, tree reproduction, forest measurement, wildlife, outdoor recreation and careers in forestry.

Hosted by VDOF, the camp has a history of success through its partnerships with a number of other natural resource agencies, organizations, individuals and businesses. This broad support ensures every camper receives the best possible experience at the week-long camp.

Publications and Educational Displays

VDOF has, for many years, produced a number of publications to help landowners make the best of their acreage. This year, the Agency redesigned the look and feel of these reports, pamphlets, brochures, catalogues and newsletters to increase their value to all who received them. The effort has generated a renewed interest among new and existing forest landowners in the educational material available to them.

As part of the redesign, several educational displays were reworked to improve their visibility and their value to the many target audiences with whom we communicate. The biggest change came in the increasingly more important area of water quality as a new 8' by 10' stand-up display was developed to support information exchange with loggers. More than 12,000 timber harvest professionals from the eastern US and Canada saw the exhibit at the biennial Logger Expo held at Richmond International Raceway in May.

Web Site

The Agency's Web site serves as a portal for citizens, landowners, government officials, business professionals, school children and anyone else seeking information on forestry matters and related topics. With more than 4,400 individual pages, the Web site is a comprehensive source of news and information for Virginians.

To ensure this information is available to all, VDOF initiated a project to improve the accessibility of the site. This endeavor involved the recoding and testing of hundreds of individual Web pages so that even those with dial-up Internet connections can quickly open and read these pages.

Equal access to information is the hallmark of the Public Information Division.

The Future of Our Forests

Recognizing that forest resource benefits are dependent on land protected and retained in forest, forest land conservation is paramount and serves as the agency's core foundation. A resource-based, healthy, living environment requires both natural and social interactions with forest land at the center.

If our management of the forest resource is successful, the forests of Virginia will:

- Be protected from damaging fire, theft, insects, pathogens and weeds, including invasive species;
- Be diverse in age, species, location, pattern and size;
- Provide extensive cover in all 13 river basins;
- Include unique and fragile habitats;
- Be available for use and enjoyment of all, and
- Contribute to the state's financial diversity and provide economic vitality to the rural communities.

Specific challenges include:

- Conserving the forest land-base;
- Maintaining the ability to respond to wildfire and other emergency incidents;

- Providing for continued growth and sustainable harvests from our forests;
- Maintaining the diversity and health of our forests;
- Ensuring that benefits of clean water and clean air continue to flow from our forests, and
- Maintaining a well-trained and educated staff.

Accomplishment Report
July 2005 - July 2006

Goal 1: Protect the citizens, their property and the forest resource from wildfire.

Objectives	Accomplished	Not Accomplished	Ongoing
Objective 1.1: Limit acres lost to less than .75 acres burned per thousand acres protected.		✓	
Objective 1.2: By July 1, 2005, and bi-annually thereafter, determine the local needs for VDOF wildfire and emergency response in order to provide necessary resources.	✓		
Objective 1.3: Migrate from the existing enterprise radio system to the Statewide Agency Radio System (STARS) by July 1, 2007.			✓

Goal 2: Protect, promote and enhance forested watersheds, non-tidal wetlands and riparian areas.

Objectives	Accomplished	Not Accomplished	Ongoing
Objective 2.1: By July 1, 2006, ninety percent (90%) of audited silvicultural operations will show no evidence of active or potential sediment pollution.	✓		
Objective 2.2: Increase full BMP compliance to 8% of audited tracts by January 1, 2008.	✓		
Objective 2.4: By July 1, 2007, increase landowner participation in the riparian tax credit by 25%.	✓		
Objective 2.5: By December 31, 2010, establish an additional 3,200 miles of riparian forest buffer in the Chesapeake Bay watershed and 600 miles in the Southern Rivers watershed.			✓

Goal 3: Conserve the forest land-base.

Objectives	Accomplished	Not Accomplished	Ongoing
Objective 3.2: Create a map of prioritized potential forest land by July 1, 2007.			✓
Objective 3.3: Present pertinent conservation information to County Planners in 50% of the Region's counties in 2005 and 50% in 2006.			✓

Goal 4: Improve the stewardship, health and diversity of the forest resource.

Objectives	Accomplished	Not Accomplished	Ongoing
Objective 4.2: Restore shortleaf and longleaf pine on 500 suitable acres by July 1, 2006.	✓		
Objective 4.3: Provide workshops to forest managers, customers, landowners on invasive species, their threat, control options and other information by January 1, 2006.	✓		
Objective 4.4: Provide workshops to forest managers, customers, landowners and entrepreneurs on small woodlot management including harvesting systems by July 1, 2006.	✓		
Objective 4.5: Provide 600 Forest Stewardship plans by September 15, 2006.		✓	
Objective 4.6: Part A. Complete 30,000 acres of natural regeneration and 65,000 acres of artificial regeneration by July 1, 2006.		✓	
Objective 4.7: Part A. Achieve 49 communities with urban forest management plans by July 1, 2007.	✓		
Objective 4.7: Part B. Achieve 46 certified Tree City USA Program communities by July 1, 2007.			✓
Objective 4.8: Establish three Greenways/Blueways by July 1, 2006.	✓		

Objective 4.9: Increase U&CF training opportunities by July 1, 2007.			✓
Objective 4.10: Develop a hardwood management training program by July 1, 2007.			✓

Goal 5: Facilitate the development and implementation of a statewide forest policy.

Objectives	Accomplished	Not Accomplished	Ongoing
			✓

Goal 6: Collect, maintain and communicate forest resource information.

Objectives	Accomplished	Not Accomplished	Ongoing
Objective 6.1: Establish an information system that integrates spatial and statistical data by July 1, 2007.	✓		
Objective 6.2: Have a public information team in place by July 1, 2006.	✓		

Goal 7: Manage agency resources to effectively and efficiently accomplish the Strategic Plan.

Objectives	Accomplished	Not Accomplished	Ongoing
Objective 7.1: By January 1, 2006, examine and revise Water Quality Program so that time/resources allocated are reduced with no loss of effectiveness.	✓		
Objective 7.3: Fully develop and implement career path program for foresters, program support technicians, mechanics, assistant regional foresters and buildings and grounds by January 1, 2007.			✓
Objective 7.4: Fully develop and implement training program by July 1, 2007.	✓		

Objective 7.5: Improve the efficiencies of the state nurseries by showing an increase of 5% net revenue by July 1, 2007.			✓
Objective 7.6: Update all state forest management plans according to the yearly target by July 1, 2008.			✓

Appendixes

1. Legislative Mandate Directing the Report to the Governor and the General Assembly.

§ [10.1-1119](#). Preservation of evidence as to conserving forest supply; reports to General Assembly; publications.

The State Forester shall preserve all evidence taken by him with reference to conserving the forests of the Commonwealth and the methods best adapted to accomplish such object. He shall report his actions, conclusions and recommendations to each session of the General Assembly and from time to time publish for public distribution, in bulletin or other form, such conclusions and recommendations as may be of immediate public interest.

(Code 1950, § 10-41; 1984, c. 750; 1986, c. 567; 1988, c. 891.)