COMMONWEALTH OF VIRGINIA

Senate Joint Resolution 367

BOARD OF FORESTRY

A CONTINUING STUDY ON THE PROVISION OF INCENTIVES TO PRESERVE PRIVATE FOREST LAND IN THE COMMONWEALTH OF VIRGINIA

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Preface

During the 2005 General Assembly, Senator Patricia Ticer, Fairfax, Virginia, introduced Senate Joint Resolution 367 (SJR 367) calling for a legislative study on … "incentives to private landowners to hold and preserve their forest land and to study the impacts, financial and otherwise, of local ordinances on the ability of private, non-industrial landowners to manage their forest land." The Virginia Board of Forestry (BOF) is charged with this study responsibility. SJR 367 is a continuation of SJR 75 passed during the 2004 General Assembly.

The Virginia Board of Forestry is composed of private citizens, forest consultants, and forest industry representatives. This group is appointed by the Governor, but is advisory to the State Forester. Their main purpose is to offer guidance on pertinent issues relating to the Mission and Vision of the Department of Forestry as well as other forest resource-related issues. Virginia Department of Forestry staff assisted the Board of Forestry with this study. Five recommendations are provided as a result of this Legislative study.

A thorough evaluation of other state's programs was conducted throughout the SJR 75 and 367 time frames. While this review was useful in characterizing related programs, in many instances, there was not direct correlation between the states due to sometimes distinctly different legislative, legal and resource management frameworks.

The Board recommends the following five (5) actions take place: 1) examine land protection agreements as a model to conserve forest and other land; 2) increase and maintain funding for the Virginia Land Conservation Foundation (VLCF) and separate the farm and forest categories within VLCF and fund equitably; 3) support the continuing strong role of the Virginia Conservation Tax Credit; 4) collaborate with local government to effectively amend the Right To Practice Forestry Act (10.1-1126.1); and 5) examine the efficacy for a statewide Land Use Taxation rate for agriculture, forestry and open space lands.

The Board of Forestry wishes to recognize the role of Dr. Michael Mortimer, Dr. Steve Prisley, David Daversa and Lauren Stull of Virginia Tech, College of Natural Resources, for their work on evaluating the impact of local ordinances on the management of non-industrial private forest land. Also, we thank Donna Hoy, Virginia Department of Forestry, for her clerical work in improving this document.

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Background and Recommendations

The long-term sustainability of our woodlands and working landscapes depends heavily on the working relationships between private non-industrial landowners, public officials, and the forestry community. Forest loss in Virginia is over 20,000 acres per year, resulting in decreased landowner economic viability and returns on investment and reduced environmental benefits for the Commonwealth's citizens.

During the 2004 General Assembly, Senator Patricia Ticer, Fairfax, Virginia, introduced Senate Joint Resolution 75 (SJR 75) calling for a legislative study on … "incentives to private landowners to hold and preserve their forest land" and charged the Virginia Board of Forestry (BOF) with this study responsibility. As a part of SJR 75, the Board of Forestry is directed to … "seek comments and recommendations from citizens across Virginia." SJR 367 is the continuation of the initial work and contains additional work related to examining the impact of local ordinances on the ability of private, non-industrial landowners to manage their forest land.

Recommendation 1: Examine Land Protection Agreements as a model to conserve forest and other land. The Department of Forestry requests $150,000 to conduct this examination involving model development including economic analysis, legal issues, and related geographic information systems work.

Many Virginia private farm and forest landowners have conserved their lands in perpetuity through the use of conservation easements. Virginia has been and is a national leader in securing perpetual easements. For many other landowners, perpetual easements are not possible, yet they have the desire to conserve their land for future generations. Consequently, a new concept -- called a land protection agreement -- could allow for long-term protection but not necessarily perpetual. Appendix 2 shows an excerpt from Virginia's Open Space Preservation Lands Act listing agreements of longer than five (5) years as legally appropriate. A conceptual model for this type of conservation lease agreement follows:

This voluntary, long-term forest land protection program rewards landowners who agree to protect their forest land from development and fragmentation; sustainably manage their forest land to improve its overall health, productivity and quality; protect stream water quality, and conserve the valued natural and ecological resources within forests that provide essential benefits, such as clean air, clean water and improved wildlife habitat.

The purpose of this model is to financially compensate landowners for forest land and open space values they are currently providing to society for free. The premise is that tools, like conservation easements, purchased development rights, land-use taxation, etc., are not accomplishing the degree of conserving the forest land base that we believe necessary to achieve a stable, working landscape. These are effective conservation strategies and are important tools, but we need more conservation occurring on the ground. This idea is very simple in that it puts a *periodic annual payment* into the hands of landowners to encourage them to maintain their

current land use. In effect, society is financially compensating landowners for the myriad of societal values they provide.

An important step would be to identify the many groups with whom the Virginia Department of Forestry could partner. They could be special interest groups, government agencies (federal, state, local), conservation organizations, etc. ***This concept could include a Resource Value Group (RVG) to reflect the interests of agriculture and open land. This would bring another group of partners*** (***agricultural community) to the table and help this idea appeal to a broader audience. This would likely result in additional revenues being brought in to the payment trust fund.***

Partnerships would be developed through the various RVGs. Each RVG would be comprised of different partners. An initial challenge/opportunity would be to identify these partners and determine their level of program interest and financial commitment.

This concept emphasizes "strength in numbers," bringing all parties to the table who are sometimes perceived as being at opposing ends of the land conservation spectrum. For example, environmental groups and forest industry may differ over how we use and manage the forest but both groups share the vision that forests and other rural lands should be conserved. These partners could be non-government conservation groups, other government agencies, or corporate entities. All partners could encourage landowners to maintain their rural land use.

An important point to consider with this program is that it is **not a total** government subsidy. Program funding is primarily generated from the financial contributions of society's RVG's. This makes for a very positive program in that government simply becomes a facilitator to identify these societal values and deliver compensation into landowners' hands. Admittedly, there are good possibilities that some of the partners in the RVG's may be agencies in federal, state and local governments. For example, a partner in the "Carbon Sequestration RVG" could very well be the U.S. Department of Energy. The point to stress is to secure funding from many sources outside of government. This idea stresses the free market economy in that society will be placing its value on the many natural resource values that landowners currently provide for free. ***In effect, the landowner is simply bidding the periodic annual payment value against the value to develop the land.***

A payment matrix could be developed where the various RVGs financial contribution to a given property would be determined. For example, a property in a critical municipal watershed or a property with numerous water resources would rate higher in contributions from the Water Quality RVG than a property with minimal water resources. The sum total of the various RVGs financial contribution to a given property would then determine the periodic annual payment offered to the landowner. This would be a very good application of a GIS (Geographic Information System) with each layer corresponding to a RVG. A GIS may solve the calculating of the periodic annual payment better than a simple payment matrix.

Identifying important properties is already part of the Virginia Department of Forestry's strategic plan. For a property to be considered in a program such as this, certain criteria would need to be established. For example, there would need to be a minimum acreage threshold. Also, the periodic annual payment would need to be based on total acreage within a given landowner

ownership. Could this periodic annual payment be used to entice a landowner to enter into a conservation easement? If so, the payment matrix might value that property higher. This concept could also encourage afforestation, if we choose to weigh forested acreage higher than open fields. The landowner may opt to afforest to capture a higher periodic annual payment.

The RVG partners become the stakeholders and the properties receiving financial compensation through the program are their dividends. Some type of trust fund would need to be set up for RVG partners to pay into. The funding level in this trust fund will determine the acreage the Virginia Department of Forestry is able to bring into the program. For the water quality RVG, the Virginia Water Quality Improvement Fund (WQIF) could serve as a core funding amount supplemented by private funding sources. Appendix 3 gives an example of a funding scenario utilizing WQIF.

REVIEW OF OTHER STATES PROGRAMS - FORESTRY AND TAX PROGRAMS

Appendix 4 shows a forestry program review of six (6) states (Minnesota, Washington, Oregon, Wisconsin, California and Iowa), as well as a property taxation review of all 50 states with specific case studies of seven (7) states (California, Georgia, Minnesota, New Hampshire, Wisconsin, Indiana and Michigan). There are a number of federal and state government programs that provide money or technical assistance to forest landowners to improve forest management and conserve or preserve forest land. Many of these programs are direct incentives for good forest management. They help property owners improve the quality of the forests by providing up-front capital for investments in the property and by increasing rates of return at harvest. They also directly help to educate and assist property owners in exercising good forest management. Improvements in the efficiency of the programs might include lowering cost-share rates, particularly in times of increasing stumpage prices.

Virginia possesses all the same federal cost-share and other programs as the other states. In addition, the Reforestation of Timberlands Program, established in 1970, offers cost-sharing for certain tree planting and other management practices. In essence, Virginia is comparable to other states, except for Minnesota and Oregon. Minnesota has the Sustainable Forest Incentive Act allowing an annual payment as an incentive for long-term forest management. In this respect, the model scenario presented under this recommendation aligns itself with this concept.

In Oregon, the state and landowner enter into a “venture capital” arrangement called the Forest Resource Trust where the state provides forest establishment and technical assistance and the landowner reimburses the state from any timber revenue. There is no absolute requirement for the landowner to harvest any timber.

The taxation arena represents the most critical problem area for private forest landowners, as well as the most potential for improving conservation incentives. Property tax operates as a kind of carrying cost, a yearly cost incurred simply to own the property. Because forest property can be productive without realizing income for many years, there is often no income to offset this cost. In years when this happens, forest landowners effectively own and operate their land at a net financial loss. At the eight (8) public meetings held across Virginia in 2004 pertaining to Senate Joint Resolution 75, the most often raised issue was the financial burden of property taxes and the inequality in property tax rates throughout the Commonwealth.

Because property taxes are not imposed directly on management activities, they may, at first, appear not to be related to forest management. However, many researchers suggest that the tax can be a disincentive for good forest management in several ways.

IMPACT ON FOREST MANAGEMENT

Researchers claim that property taxes can create disincentives for good forest management in three ways. First, to avoid operating at a net loss, property owners may sell or convert the land to other, more productive and often more developed uses. Second, the tax may consume funds that would otherwise be invested in the property. Third, property owners may keep the land but cut and sell timber prematurely or not follow sound technical advice in order to pay the tax.

The effect of property taxes on land-use decisions, however, is more disputed. Louis Borie, in an article titled "Use Value Assessment: Tax Break or Management Incentive," reports that the evidence is mixed, and that while lower taxes might provide an additional incentive not to develop forest land, such decisions are based on a variety of financial and other factors.

Likewise, the University of Idaho study suggests that development decisions may depend more on location, reasons for owning the property, development pressures, and other pressures not including tax rates. Nonetheless, Virginia forest landowners have unanimously expressed their desire for the Commonwealth to adopt a more equitable and standardized property tax statute as an incentive for long-term forest land management and ownership.

Recommendation 2: Increase and maintain funding for the Virginia Land Conservation Foundation (VLCF) at the rate of $50 million per annum and establish separate "farm and forestry" categories within the VLCF funding scheme and ensure independent, equitable funding amounts.

Chapters 900 and 906 of the *Virginia Acts of the Assembly* established the Virginia Land Conservation Foundation, Fund, and Board of Trustees. These acts and recent amendments are codified at Sections 10.1-1017 through 10.1-1026 of the *Code of Virginia*. The VLCF is Virginia's funding mechanism for preserving our disappearing landscape. The Foundation was created in 1999 by the Virginia General Assembly.

Natural resource conservation programs currently represent just one percent of the state's budget. The state's Chesapeake Bay 2000 Agreement called for … "20% of the watershed of the Bay preserved by 2010." The main goal of VLCF is to provide funding for the purchase of conservation easements and fee simple acquisition. Since that time, it is the overall opinion of the conservation community that VLCF has not been funded adequately to stem the tide of land conversion. The Foundation was only marginally funded since its inception and has not been funded since the year 2000.

The coalition of Virginia conservation groups including VaULT (Virginia United Land Trusts) has requested $50 million annually for the Foundation through the *Blueprint to Conserve Our Lands and Restore Our Waters* effort. Coupled with both federal and local conservation

programs, the Virginia Land Conservation Foundation can and should provide the bulk of state conservation successes. With $50 million for land conservation, Virginia can:

- **Acquire new public lands: state forests, wildlife management areas, parks and natural area preserves.** These are places where every Virginian can enjoy hunting, fishing, hiking, camping and other outdoor activities. Other benefits include wildlife habitat conservation, water-based recreation, and environmental education.

- **Provide assistance to localities with purchase of development rights programs.** These are programs under which localities compensate property owners for restricting future use of their land. This can make it affordable for farmers and forest landowners to keep their land in rural use and allow localities to protect natural resource lands that benefit the public.

- **Provide matching grants to leverage private, local and federal investment throughout Virginia.** The Virginia Land Conservation Foundation makes matching grants to land trusts and others for historic preservation, farm and forest land protection, natural areas, and open space. Many of the projects that receive VLCF grants are conservation easements and Civil War battlefields. The Forest Legacy and Coastal Estuarine Protection program both require non-federal matches to finalize land conservation projects.

The farm and forestry category comprises one of four (4) primary funding categories within the Virginia Land Conservation Foundation framework. The other three categories are: 1) Natural Area Protection, 2) Open Space and Parks, and 3) Historic Area Preservation. All categories are critical to preserving what is important to the Commonwealth's citizens, however, 16 of 52 (31%) applications from the most recent funding period (September 2005) was in the farm and forest category. Half of those tracts (8) fell into the forested category. From these eight (8) tracts, we are estimating only two (2) will be funded. The splitting of the funding between these two (2) major categories does not fully benefit either category.

The Board of Forestry recognizes there is overlap in these four categories, i.e., most agricultural tracts have some forest land, however, it is not meeting the intent of the VLCF to not consider more fully the most dominant land use in the Commonwealth. Furthermore, the Board recommends the identification of a dedicated funding source for the VLCF.

Recommendation 3: Support the continuing strong role of the Virginia Conservation Tax Credit in increasing Virginia conservation efforts.

Ten (10) states offer conservation tax credits (CA, CO, CN, DE, MD, MS, NM, NC, SC, VA). Virginia and Colorado have been widely touted as the most successful at utilizing tax credits to conserve land. In Virginia, it is widely accepted that this credit has spiked an increase in conservation easements. Briefly, the Virginia Land Conservation Incentives Act of 1999 gives donors of conservation land and easements a credit against state income taxes of one-half the value they give away. This tax credit can now be sold for cash. Unused credits may be carried forward and used in five (5) more tax years after the year of the original donation. This credit is particularly helpful to low-income landowners who do not pay enough tax to utilize the credit

and to generally encourage more land conservation. Listed below are three (3) areas of benefit regarding this law:

Benefits to the landowner:

- Rewards private landowners who voluntarily protect important lands in Virginia (such as those necessary to meet Virginia's commitment under the Chesapeake 2000 Agreement).
- Helps landowners keep their family land by providing a financially attractive alternative to selling the land for development.
- Can reduce or eliminate state income tax liability by making a conservation gift.
- Enables landowners to obtain a more attractive financial return from a gift.
- Benefits landowners in all income categories, not just the wealthy.

Benefits to conservation:

- Establishes a market-based incentive to encourage conservation donations.
- Makes conservation of lands owned by "land-rich/cash-poor" citizens financially feasible.
- Makes conservation of lands in the most threatened parts of the state, where rapid development is causing land values to rise, financially feasible.

Benefits to Taxpayers/Commonwealth**:**

Conservation easements and land donations protect many resources of value to the citizens of the Commonwealth, now and for future generations. Among the resources protected by conservation easements are:

- Watershed protection for crucial drinking water supplies.
- Protection of the Chesapeake Bay and helping meet the Chesapeake 2000 commitment.
- Prime agricultural soil protection, often helping to preserve a critical mass of farmland for continued farming.
- Historical and cultural resource protection, especially the landscape context of such resources.
- Civil War battlefield preservation.
- Scenic viewshed protection, including the edges of parks, scenic roads and rivers, and highway corridors.
- Open space and recreational land preservation.
- Wildlife habitat and wildlife corridor protection, including threatened or endangered species.
- Forest protection, including sustainable forestry harvesting and for old-growth forest protection.
- Benefiting the Commonwealth's world-renowned tourism appeal, by permanently protecting the precious resources outlined above.

This past year, there has been legislative scrutiny of the Tax Credit Program in Virginia. There is some concern over program integrity with Legislative members who have discussed limiting (capping) the amount of tax credit, thereby reducing its overall conservation effectiveness.

In May 2004, members of the Virginia conservation community requested a ruling on two of the major issues surrounding the Virginia Conservation Tax Credit. The first was whether the Virginia Department of Taxation would accept a Virginia tax credit if the application did not meet the IRS 170(H) provision pertinent to land conservation efforts nationwide. The second issue is whether Virginia corporations can utilize these same credits and subsequently sell or transfer these credits. The tax commissioners' rulings are shown in Appendix 5 in their entirety.

While program modifications may be appropriate, the conceptual framework represented by the Conservation Tax Credit is valid and is serving Virginia citizens and land conservation well.

Recommendation 4: **In collaboration with local government and other stakeholders, examine the Right to Practice Forestry Act (10.1-1126.1) to more effectively contribute to non-industrial private forest landowners' management. The Department of Forestry, in conjunction with the forest stakeholder community, will lead this collaborative effort to examine and recommend any appropriate legislative changes to the Act and other forestry laws as it pertains to the preservation of private forest lands.**

Virginia, as well as many other states, faces local legal conflicts regarding timber harvesting and other agribusiness matters. Appendix 6 shows recent legislation passed by the North Carolina General Assembly. In an effort to reduce the number of these conflicts and protect landowners from unnecessary restrictive ordinances, "The Right to Practice Forestry Law" was passed during the 1997 Virginia General Assembly session and is codified in Section 10.1-1126.1 and partially shown below and completely in Appendix 7.

In addition, the law was meant to give landowners flexibility to utilize their property in profit-making ways while meeting environmental regulations and voluntary practices. There has been an increasing frequency on the part of localities to control/monitor land use activities, which has led to a mixture of local ordinances that differ from locality to locality. This regulatory hodge-podge has left many landowners surprised and confused on the local-level requirements. Landowners need regulatory certainty to invest in forest conservation.

One such challenge to the "Right To Practice Forestry Law" was the Ann F. Dail, et. al. v. York County, et. al. (Record No. 991591). Briefly, this case was heard in Spring 2000 when Ms. Dail argued that the York County ordinance, which asked her to leave a highway buffer as well as possess a forest management plan prior to harvesting, preempted "The Right To Practice Forestry Law" and she should not have to follow the county ordinance. The local Circuit Court dismissed the case ruling that the ordinances were not preemptive. The case went to the Virginia Supreme Court, which also allowed the ordinances to remain, hence, requiring a buffer on her property with the buffer area not available for harvesting.

The Right To Practice Forestry Act, Section 10.1-1126.1.B. begins…Notwithstanding any other provision of law, silvicultural activity, as defined in § 10.1-1181.1, that (i) is conducted in accordance with the silvicultural best management practices developed and enforced by the State

Forester pursuant to § 10.1-1105 and (ii) is located on property defined as real estate devoted to forest use under § 58.1-3230 or in a district established pursuant to Chapter 43 (§ 15.2-4300 et seq.) or Chapter 44 (§ 15.2-4400 et seq.) of Title 15.2, *shall not be prohibited or unreasonably limited* by a local government's use of its police, planning and zoning powers. Local ordinances and regulations shall not require a permit or impose a fee for such silvicultural activity. Local ordinances and regulations pertaining to such silvicultural activity shall be reasonable and necessary to protect the health, safety and welfare of citizens residing in the locality, and shall not be in conflict with the purpose of promoting the growth, continuation and beneficial use of the Commonwealth's privately owned forest resources. Prior to the adoption of any ordinance or regulation pertaining to silvicultural activity, a locality may consult with, and request a determination from, the State Forester as to whether the ordinance or regulation conflicts with the purposes of this section. Nothing in this section shall preclude a locality from requiring a review by the zoning administrator, which shall not exceed ten working days, to determine whether a proposed silvicultural activity complies with applicable local zoning requirements.

The language used in The Right To Practice Forestry Act is written to explicitly limit the locality's right to intervene in a landowner's ability to responsibly manage their forest land. Even the italicized phrase shown above… "shall not be prohibited or unreasonably limited..." has not prevented the locality's intervention in this basic landowner right.

Dr. Mortimer, et al. (2005) examined the impacts of local ordinances on the private non-industrial landowner's ability to manage his/her woodland. This report is the culmination of research and analysis conducted through the summer 2005. This research obtained information from all of Virginia's 95 counties and 40 incorporated cities regarding current forest-related ordinances. Internet research, telephone interviews, and site visits were conducted to inventory the following categories of local ordinances that might have a direct or indirect effect on the practice of forestry or on timber-harvesting activities:

- Erosion and sediment control
- Fire/open burning
- Floodplain
- Scenic limitation
- Watershed/Chesapeake Bay
- Timber harvesting
- Pesticides

Additionally, Geographic Information System (GIS) analyses were performed on four (4) specific counties (Clarke, James City, Prince William, and York) to assess the effects on timber availability and forest ownership patterns resulting from the ordinances currently found in those counties.

INVENTORY RESULTS

The ordinance inventory generated several observations:

- This study detected 261 forest-related ordinances at the county level and 118 at the city level. All but four (4) of the localities examined currently possess ordinances that affect forestry at some level. This study confirms earlier studies that suggests an increase in local forest-related ordinances may be occurring (44 in 1992; 77 in 2000; 379 in 2005).

- Forestry is treated inconsistently by local erosion and sediment ordinances. While completely exempted by some counties and independent cities, permits are required in others. In many of those counties that exempt forestry, the exemption is conditioned upon reforestation of the subject property.

- Regulation of fire for forest management varies greatly across the Commonwealth. While many local government codes do not mention the use of fire or open burning, some specifically require a permit; some prohibit open burning; others impose burning restrictions; and several explicitly exempt forest management from any permit requirements.

- Forestry operations in floodplains are treated inconsistently across the Commonwealth. Nearly half of the local governments allow for forestry in floodways as a matter of right, while another large segment requires a permit. The remainder does not appear to address the matter.

- Nearly two dozen localities have enacted some form of specific timber harvesting restriction or restriction based on ensuring scenic values.

- Several localities have enacted some form of restriction on the use or storage of pesticides/herbicides.

- Several local governments specifically permit forestry activities in wetlands, while the vast majority does not address it.

- A number of local governments explicitly exempt forestry operations from the requirements found within their Chesapeake Bay ordinances, but mandate the use of the Virginia Department of Forestry's Best Management Practices (BMPs).

- Several counties require streamside buffers well in excess of the recommendations of the Virginia Department of Forestry.

GIS ANALYSES

Geographic Information System (GIS) analysis was performed on four counties: Clarke, James City, Prince William, and York. The analysis was designed to assess the impacts of the respective local ordinances on the private forests located in those counties:

- Ordinances have both direct and indirect effects on forest lands, both of which can be measured by the forest areas affected by the ordinances. Direct effects include forest land areas subject to management restrictions. Indirect effects include the parcelization of forest management units through splitting of forest patches by ordinance buffers. Management units generally need to be 20 acres or more to be commercially operable.

- In the four study counties (Clarke, James City, Prince William, and York), ordinances affected 29 percent of operable forest land (e.g. parcels initially at least 20 acres in size).

- For every three (3) acres of forest directly affected by ordinances, another acre is indirectly affected by the reduction in operable forest patch size.

- Ordinances restricting harvesting adjacent to property boundaries had the overall greatest impact.

- Ordinances designed to protect visual quality (e.g. road and parcel boundary buffers) affected twice as much land as ordinances designed to protect water quality.

While we would not describe the forest-related local ordinance situation in Virginia as epidemic, there certainly is an extensive number of ordinances. We also may be observing an increase in both the number of local ordinances and the number of local governments involved. While the Southern Forest Resource Assessment reported 44 local forest-related ordinances in 1992 and 77 in 2000, this report detected 379 in 2005.

Additionally, all but four (4) local governments were engaged in some form of forest-related regulation. More importantly, the report observed a fragmented, inconsistent, and confusing local regulatory landscape across the Commonwealth. Variations in how localities are treating the same issue; potential conflicts with state directives; duplicative regulations that add costs but may not contribute solutions, and the adoption of prescriptive standards fuel a situation wherein private forest landowners must face spatial limitations on the use of their properties, and the associated economic costs. Appendix 8 shows the complete report.

Recommendation 5: Examine the efficacy of adopting a statewide Use-Value Taxation Program for Agriculture, Forestry and Open Space Lands. It is recommended that the General Assembly allocate $50,000 for this statewide land use study. Participation in this one-year study should include the Secretariats of Agriculture and Forestry and Natural Resources, the Department of Taxation, the Colleges of Agriculture and Life Sciences and Natural Resources at Virginia Tech, along with the Virginia Association of Counties and the Virginia Municipal League, plus other interested stakeholders.

Use-value taxation has been a Virginia local option since the 1970's. Many counties have adopted different tax rates for agricultural, forest, or open land. These reduced tax rates are based locally on soil productivity and other natural and economic factors. However, each county is independent of every other county with its assessed rates. If one considers forest land

preservation to be an important statewide issue, then the combination of different rates coupled with counties without use-value taxation makes consistent local preservation efforts unpredictable and difficult to implement. Currently, counties have the option to adopt land-use taxation rates.

There appears to be three (3) definitive reasons that the local option for land-use value taxation is not more widespread. First, lack of awareness and education that this option exists is present. Turnover in county staffing is a factor. Second, the issue of lost revenue when a county reduces the tax rate and how does the county make up that difference. Agricultural-forestal districts are a special part of this reduced taxation scenario but only to certain geographical areas of the locality. Lastly, the notion with this type of tax situation that a landowner is only deferring development to a later date and, in the meantime, the county is subsidizing this activity.

Groover, et al. (2004) conducted a research effort entitled "Results of Agricultural and Horticultural Use-Value Taxation Survey" through Virginia Tech's Rural Economic Analysis Program contained within the College of Agriculture and Life Sciences. This survey was conducted in 2003 with 90 county and city employees as well as constitutional officers. The survey contained 30 questions relating to land use-valuation issues and whether they were successful in achieving a satisfactory level of land preservation in their respective jurisdictions.

About half of the survey respondents indicated they believed that the land-use program did achieve a successful level of preservation. However, serious concerns were raised on five (5) different issues from the survey results:

- As the land market value increases and use-value declines, localities face the issue of declining revenues to fund government services to implement the program.
- A reduction in the amount of intensively-cropped acreage to lesser managed land uses, such as pasture, will cause further incidences of localities repealing the program.
- Continuing the decline of revenues will increase the scrutiny to ensure only bona fide operations continue in the program. Administrative costs, as well as landowner frustrations, have increased causing declining program participation.
- Program administration was not uniform across the Commonwealth leading to confusion and an unsupportive administrative structure.
- Tract sizes needed to be increased to limit program abuse.

A uniform statewide use-value taxation can offer landowners reduced land tax rates, predictable management alternatives and a stable ownership future. Program flexibility can still rest with the locality; however, the option to not have a use-value taxation program would not be present. Other program parameters such as tax-rate structure options and landowner applicability would still need to be determined.

A thorough examination of this approach needs to be conducted. This examination should include the current status of counties involved in land use, an analysis of lost revenue now and if statewide land use tax was adopted, the importance of an aging rural population within the land use tax context, and recommendations on the structure and framework of a statewide program.

Appendices

Appendix 1

SENATE JOINT RESOLUTION NO. 367

Requesting the Board of Forestry to continue its study of providing incentives to private landowners to hold and preserve their forestland.

Agreed to by the Senate, February 2, 2005
Agreed to by the House of Delegates, February 24, 2005

WHEREAS, Senate Joint Resolution No. 75 (2004) requested the Board of Forestry to study the provision of incentives to private landowners to hold and preserve their forestland; and

WHEREAS, the Board held eight public meetings in 2004 to seek comments and recommendations from citizens, conservation groups, farm and forest landowners, association representatives, and forest industry association representatives concerning the various mechanisms that would provide incentives to private landowners to maintain and preserve their forestland; and

WHEREAS, the Board reviewed the laws and programs of other states, localities, and agencies that provide such incentives; and

WHEREAS, the Board conducted a focus group composed of representatives of localities, conservation groups, associations, and the forest industry to review draft recommendations; and

WHEREAS, the Board submitted an executive summary and report of its findings and recommendations to the Governor and General Assembly on December 29, 2004; and

WHEREAS, the Board's report recommends that the study be continued to consider developing a voluntary, statewide forest protection program and to examine the impact, financial or otherwise, of local ordinances on the ability of nonindustrial, private landowners to manage their forestlands; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, that the Board of Forestry be requested to continue its study of providing incentives to private landowners to hold and preserve their forestland.

In conducting its study, the Board shall examine (i) the relative merits of developing a voluntary, statewide forest protection program and (ii) the impact, financial or otherwise, of local ordinances on the ability of nonindustrial, private landowners to manage their forestlands.

Technical assistance shall be provided to the Board by the Department of Forestry. All agencies of the Commonwealth shall provide assistance to the Board for this study, upon request.

The Board shall complete its meetings by November 30, 2005, and shall submit to the Governor and General Assembly an executive summary and a report of its findings and recommendations for publication as a House or Senate document. The executive summary and report shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports no later than the first day of the 2006 Regular Session of the General Assembly and shall be posted on the General Assembly's website.

SENATE JOINT RESOLUTION NO. 75

Requesting the Virginia Board of Forestry to study the provision of incentives to private landowners to hold and preserve their forestland.

Agreed to by the Senate, February 17, 2004
Agreed to by the House of Delegates, March 9, 2004

WHEREAS, Virginia's forestland covers two-thirds of the Commonwealth's land cover and is one of our most valuable natural resources; and

WHEREAS, the 15 million acres of forestland protect our watersheds, provide food and cover for wildlife, help purify air, provide products for Virginians' daily needs, and afford recreational opportunities for its citizens; and

WHEREAS, almost 80 percent of Virginia's forestland is owned by private individuals and small corporations that invest their resources in providing stewardship of these lands; and

WHEREAS, Virginia's population continues to increase, with development extending further into rural areas, resulting in the loss of forestland as it is converted to other uses; and

WHEREAS, restrictive regulations, escalating real estate taxes, increasing zoning and local ordinances act as disincentives for retaining forestland and open space; and

WHEREAS, Virginia's continued loss of forestland will have an undesirable effect on our environment and economic well-being; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Virginia Board of Forestry be requested to study the provision of incentives to private landowners to hold and preserve their forestland.

In conducting its study, the Virginia Board of Forestry shall (i) review laws and programs of other states, localities, and agencies and (ii) seek comments and recommendations from citizens, conservation groups, farm and forest landowner association representatives

and forest industry association representatives for the purpose of recommending mechanisms that will provide incentives to private landowners to maintain and preserve their forestland for the environmental and economic benefit of the Commonwealth. Technical assistance shall be provided to the Virginia Board of Forestry by the staff of the Virginia Department of Forestry.

All agencies of the Commonwealth shall provide assistance to the Virginia Board of Forestry for this study, upon request.

The Virginia Board of Forestry shall complete its meetings by November 30, 2004, and shall submit to the Governor and the General Assembly an executive summary and a report of its findings and recommendations for publication as a document. The executive summary and report shall be submitted as provided in the procedures of the Division of Legislative Automated Systems.

Appendix 2

Excerpt from the Open Space Preservation Lands Act

§ 10.1-1701. Authority of public bodies to acquire or designate property for use as open-space land.

To carry out the purposes of this chapter, any public body may (i) acquire by purchase, gift, devise, bequest, grant or otherwise title to or any interests or rights of not less than five years' duration in real property that will provide a means for the preservation or provision of open-space land and (ii) designate any real property in which it has an interest of not less than five years' duration to be retained and used for the preservation and provision of open-space land. Any such interest may also be perpetual.

The use of the real property for open-space land shall conform to the official comprehensive plan for the area in which the property is located. No property or interest therein shall be acquired by eminent domain by any public body for the purposes of this chapter; however, this provision shall not limit the power of eminent domain as it was possessed by any public body prior to the passage of this chapter.

Appendix 3

Commonwealth of Virginia

Conservation Lease Agreements

DRAFT

Purpose: To formulate a plan for conservation lease agreements within the Commonwealth of Virginia.

Background: Virginia has been active in Nutrient and Sediment Reduction Tributary Strategies for the Chesapeake Bay Basins. These strategies build upon previous work and looks to shape actions to restore the Bay. The reduction goals for nutrients and sediment are far greater than any set before. Hence, water quality improvements in the Chesapeake Bay and the rest of Virginia are critical. For example, riparian forest buffer goals have been set at 30,000 new miles by 2010 where the previous attained goal was 610 miles by 2010.

At the same time, many Virginia private farm and forest landowners have conserved their lands in perpetuity through the use of conservation easements. Virginia has been and is a national leader in securing perpetual easements, particularly the Virginia Outdoors Foundation efforts since 1966. For many other landowners, perpetual easements are not feasible or appropriate yet have the desire to conserve their land for future generations. The latest data show farm and forest loss continuing at an approximate rate of 45,000 acres per year. Despite the increase in perpetual easements due to the generous Virginia tax credit program and higher level of stewardship among landowners, conversion rates remain high.

Consequently, goals for water quality and land conservation are mutually beneficial and align well. Hence, the concept of a conservation lease agreement which would allow for long-term protection but not necessarily perpetual would serve both restoration and conservation. The Virginia Open Space Land Preservation Act speaks to ‘conservation lease agreements” as an acceptable conservation scenario. Appendix 1 shows the Code of Virginia listing for this reference.

General Proposal: This voluntary, long-term farm and forestland protection program would reward landowners who agree to a high level of Best Management Practices (BMP) implementation as well as protect their “working landscape” from development and fragmentation by agreeing not to convert to a on-working landscape us; manage their land to improve its overall health, productivity and quality; protect stream water quality; and conserve the valued natural and ecological resources that provide essential benefits such as clean air, clean water and improved wildlife habitat.

The purpose of an initiative like this is to partially compensate landowners for farm and forestland including open space values that they are currently providing to society for free. This idea is very simple in that it puts a periodic annual payment into the hands of a landowner to encourage them to maintain their current landuse. In effect, public and private funding would

financially compensating them for the myriad of societal values they provide. More practically, annual compensation would forestall any development, and possibly further instill the conservation ethic which could lead to permanent protection. The DCR Office of Land Conservation is proposed as the point of contact and program lead.

Proposal Elements: There are options and challenges as we begin discussing the actual details of such a program. Please see below as one agreement model. However, the conceptual framework could be as follows:

A farm, forest or farm/forest landowner or farm operator would indicate interest in signing up for a 20, 25, or 30 year conservation lease agreement. This signup could be through the SWCD, DCR, DOF, or VOF office. The landowner or operator with landowner consent complete the agreement document and file it with DCR, Office of Land Conservation. Contained in this agreement is a listing of land management commitments. They complete the measurements necessary to fill out the document including an annual incentive per commitment they will accept to keep that commitment/practice for the length of the agreement. Those individual commitments with their respective annual incentives are added to attain a total incentive package. They are placed on a statewide register for these conservation lease agreements. A respective state agency person inspects the land and verifies the management commitments. Some binding legal arrangement is consummated including notarization. They are paid by the Virginia Water Quality Improvement Fund annually as long as the Fund is active.

Any failure of the Fund to pay the annual incentive 6 months past the anniversary date nullifies the agreement.

Agricultural and Forest Land Management Agreement

Between the Virginia Department of Conservation and Recreation and

_____ (Farm/Forest Owner and/or Operator)

Effective date of this agreement: _____
For a period of (circle one): 20 yrs 25 yrs 30 yrs
This agreement ends, midnight _____ (date)

Farm/Forest Operation and Acreage:

The farm/forest, located in the county(ies) of _____, is comprised of the following:

Cropland, hay/pasture:
Total cropland: _____ acres
Total hay land: _____ acres
Total pasture: _____ acres

Forest:
Total planted pine: _____ acres
Total hardwood: _____ acres
Total mixed _____ acres

Other: wetland, fallow fields…(specify land cover and acreage)
_____

Does your land support any historical structures or designated historical sites? Please let us know how many or how much acreage.
_____

Land Management Commitments:

Farm/forest owner and/or operator completes **Unit of Measure** amounts, and the **Annual Incentive** rate required to maintain the applicable **Farm/Forest Management Practices** for the agreed upon lifespan of this agreement:

	Farm Management Practices*	**Unit of Measure (A)**	**Annual Incentive (B)**	**Total (A times B)**
1	**Nutrient Management Plan or Forest Stewardship Plan Implementation** Cropland: Hay land: Pasture: Forest:	_____ acres _____ acres _____ acres _____ acres	$_____ per acre $_____ per acre $_____ per acre $_____ per acre	$_____ $_____ $_____ $_____
2	**Forest or Vegetative Buffers –35 ft. Min.** **(bordering flowing waters)** Buffer maintained in undisturbed vegetation	____ Linear Ft.	$___ per linear ft.	$_____
3	**Livestock Exclusion (bordering flowing waters)** Fenced buffer maintained in undisturbed forest or other vegetation, 35 ft. minimum buffer width	____ Linear Ft.	$___ per linear ft.	$_____

4	**Implementation of Year-round Cover on Cropland** Cropland:	_____ acres	$_____ per acre	$_____
5	**Management/Repair of Highly Erodible Land; Forest Management** (See "Landowner commitments")			
	TOTAL ANNUAL INCENTIVE :			$_____

* See explanation of these components under Farm/Forest Owner and/or Operator Commitments that follows

Farm/Forest Owner and/or Operator Commitments:

Through endorsement of this agreement, and acceptance of annual incentive compensation, the following commitments are accepted:

Nutrient Management Plan Implementation: A plan prepared by a certified nutrient management planner, following guidance provided by the Commonwealth pertaining to planning criteria and frequency of plan updates and revisions.

Riparian Forest or other Natural Vegetative Buffers –35 foot minimum: No less than 35 feet from the edge of any farm field to the edge of an established perennial, or storm channeled flowing water (or top of the bank of any channeled waterway). Forest or vegetative cover will be established and left undisturbed for the period of this agreement. Sparse vegetation and/or denuded portions of the buffer will be repaired to achieve the filtering benefits of this best management practice.

Livestock Exclusion (bordering flowing waters): Grazing livestock are denied direct access to flowing waters with a natural, undisturbed vegetative buffer maintained with a width of no less than 35 feet.

Implementation of Year-Round Cover on Cropland: At a minimum, agreed upon cropland acres will be managed through a conservation tillage/cover crop system so that vegetative cover and/or crop residue is maintained year-round. More intensive systems that further enhance uptake of nutrients and minimize soil erosion are encouraged. These more intensive systems include cover crop varieties that exhibit greater utilization of available nutrients, earlier planting dates and later kill/removal dates, as well as conservation tillage management that maximizes residue coverage.

Management/Repair of Highly Erodible Land; Farm/Forest Management:

A) Management/Repair of Highly Erodible Land: The farm/forest owner and/or operator further agree to repair in a timely manner, and/or manage highly erodible portions of the farm/forest including any farm/forest roads and trails. These portions of the farm/forest may include gullies that occur from rainfall events, eroding stream embankments, fields with steep slopes and soils with significant erosion potential.

B) Forest Management: During the life span of this agreement, the farm/forest owner and/or operator will abide by forest planting, harvesting guidance, and BMP implementation as prescribed by the Department of Forestry through a Forest Stewardship Plan or Forest Harvest Plan.

Conservation of Existing Farm/Forest Land Use: The farm/forest landowner agrees to not convert the land use from farm/forest to any residential and/or commercial development or other land use not characteristic of a rural working landscape under the terms of this agreement. Building construction (i.e. barn) is permitted with approval of DCR if consistent with the terms and conditions of this conservation lease agreement

The Virginia Department of Conservation and Recreation (DCR) commits to:

Establish the following point of contact for all matters pertaining to the administration and funding of this agreement:

Department of Conservation and Recreation
Office of Land Conservation
203 Governor St., Suite 206
Richmond, VA 23219

Issue to the farm/forest owner and/or operator (individual endorsing this agreement), the agreed upon annual incentive payment. The initial annual amount will be issued upon full completion and endorsement of this agreement by both the applicant and DCR. Thereafter, the annual payment will be issued on or about the anniversary date of full endorsement of this agreement, through the lifespan of the agreement.

In addition, the farm/forest owner or operator is eligible for the Virginia Agricultural BMP Cost-Share Program or Federal Agricultural Cost-Share such as the Conservation Reserve Enhancement Program for all restoration work pertaining to this conservation lease agreement.

It is mutually agreed that:

1. THE AGREEMENT MAY BE AMENDED IN WRITING BY MUTUAL CONSENT OF THE PARTIES TO THIS AGREEMENT.

2. THE FURNISHING OF FINANCIAL AND ANY OTHER TECHNICAL OR ADMINISTRATIVE ASSISTANCE PROVIDED BY DCR OR DOF IS CONTINGENT UPON FUNDS APPROPRIATED BY THE VIRGINIA GENERAL ASSEMBLY, MADE ADMINISTRATIVELY AVAILABLE, AND/OR AUTHORIZED BY LAW.

3. PRIVACY OF INFORMATION RELATING TO NATURAL RESOURCE CONSERVATION WILL COMPLY WITH STATE AND FEDERAL STATUTES AND RELATING REGULATIONS AND GUIDELINES.

4. PENALTIES FOR PROGRAM WITHDRAWAL: ANY PAYMENTS RECEIVED BY THE FARM/FOREST LANDOWNER OR OPERATOR WILL BE SUBJECT TO TREBLE PENALTY IF ALL OR PART OF THE LAND IS WITHDRAWN FORM THE PROGRAM PRIOR TO THE COMPLETION OF THE LEASE AGREEMENT TIME FRAME.

5. DCR, DOF, SWCD, OR VOF MAY ACCESS ANY PORTION OF THE FARM TO ASSESS FULFILLMENT OF FARM/FOREST MANAGEMENT PRACTICES REQUIRED THROUGH THIS AGREEMENT.

6. FAILURE TO FULLY COMPLY WITH PROVISIONS OF THIS AGREEMENT MAY RESULT IN REDUCTIONS OF ANNUAL PAYMENTS ISSUED BY DCR TO THE FARM/FOREST OPERATOR.

VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION:

BY: _____

TITLE: DIRECTOR

DATE: _____

FARM/FOREST OWNER OR OPERATOR

BY: _____

NAME & TITLE (PRINT): _____

DATE: _____

Appendix 4

The following information details the research aspects of SJR 75 and clarifying research during SJR 367. After an initial literature review, several progressive states were examined with respect to land conservation, taxation, and forest management programs. Comparisons to Virginia were considered and discussion included where appropriate.

Introduction[1]

There are a number of federal and state government programs that provide money or technical assistance to forestland owners to improve forest management or conserve or preserve forestland.

Many of these programs are direct incentives for good forest management. They help property owners improve the quality of the forests by providing up-front capital for investments in the property and by increasing rates of return at harvest. They also directly help to educate and assist property owners in exercising good forest management.

Improvements in the efficiency of the programs might include lowering cost-share rates, particularly in times of increasing stumpage prices. Another would be to in some way identify landowners without harvest revenues available to establish plantations, as opposed to those who likely would have planted without cost share assistance[2].

For the remainder of this discussion, the research will focus on programs that, if implemented, could possibly act as incentives for Virginia forestland owners to practice long-term, sustainable, and responsible forestry.

State: Minnesota

Program: Sustainable Forest Incentive Act

Benefit to Landowners[3]: The Sustainable Forest Incentive Act, passed in 2001, allows annual payments to be made to enrolled owners of forested land as an incentive to practice long-term sustainable forest management.

Requirements: In order to qualify for the SFIA program, applicants must own 20 or more contiguous acres, of which 50 percent is forested. No delinquent tax is allowed and no other federal cost-share participation is permitted. The program is open to both residents and nonresidents of Minnesota but there can only be one claimant per parcel of land. The land must also have an active forest management plan in place (including goals for the property, legal description, forest cover type inventory, map of boundaries, etc.) which was prepared by an

[1] Tax and Related Incentives for Forest Management. Research Report 307. Legislative Research Commission. Frankfort, Kentucky. January 2003.
[2] ibid
[3] http://www.taxes.state.mn.us. Keyword: Sustainable Forest Incentive Act

approved plan writer within the past ten years. All applicants agree to be enrolled in the program for a minimum of *eight* years and agree not to develop the land.

Administration: Each year, Minnesota determines a statewide payment-per-acre rate using three formulas based on the average property tax for timberland. The formula that provides the largest payment-per-acre will be used. The minimum amount per acre is $1.50. The amount each participant will receive is determined by multiplying the payment-per-acre by the number of enrolled acres. This program is self-certifying.

Withdrawal Penalty: You may choose to cancel enrollment from the program after four years by filing a written request with the department. Once filed, the cancellation will take effect four years from the date of your written request. You will continue to receive incentive payments during the four-year waiting period. Once you withdraw, the land cannot be reenrolled in the program for at least three years. A penalty will be assessed if you do not complete eight years of enrollment. The penalty is equal to the total payments you received for the past four years, plus interest. If the land changes hands, the new buyer can opt to not be enrolled in the program.

State 2: Washington

Program: Forestry Riparian Easement Program

Benefit to Landowners: The only program of its kind in the country, Washington's Forestry Riparian Easement Program partially compensates eligible small forest landowners in exchange for a 50-year easement on "qualifying timber". This is the timber the landowner is required to leave unharvested as a result of new forest practices rules protecting Washington's forests and fish. Unlike a typical easement involving property or a road, a forestry riparian easement covers only that timber leased to the state by a small forest landowner.

Requirements: Eligible landowners must own 20 or more contiguous acres of forestland or 80 acres total, part of which must be next to a river, stream, lake, pond or wetland that the landowner plans to harvest in the near future. Historically, the landowner must not have harvested more than 2 million board feet of timber each year from all ownerships. Most importantly, the landowner must be willing to enter into a fifty year agreement with the state of Washington. Furthermore, the state must have access to the property by foot or by vehicle on occasion to visit the site. Trees covered by the easement may not be cut or removed for 50 years.

Administration: In setting up the easement, the landowner must initially cover all costs associated with setting up and recording the easement. These costs may include hiring a consulting forester to measure and mark the easement boundaries, developing a stewardship plan, filing fees, and mortgage company fees. However, once the landowner has formally enrolled in the easement program, all of these compliance costs will be reimbursed. After being approved for the program and setting up the easement, landowners will receive a minimum of *50 percent of the fair market stumpage value* for the qualifying timber. The landowner can choose to have the value of his or her timber assessed either on the date the application is submitted or the date when harvesting begins.

Withdrawal Penalty: It is not possible to withdraw from the easement program once an easement has been established. Easements will remain in effect for 50 years from the date the easement is signed.

Assessment: The Forest Riparian Easement Program is a unique program designed to act as a compromise between the need to protect state water resources and the right for landowner(s) to harvest timber. At the eight public meetings across Virginia, many forestland owners complained about the financial burden resulting from the inability to harvest timber near water sources. Washington's Forest Riparian Easement Program addresses this issue by "leasing" the rights to harvest timber in riparian areas from landowners for a period of 50 years. Landowners are partially compensated and the state of Washington utilizes a relatively cheap and simple method of ensuring water quality for its citizenry. When compared against the costs of constructing new water treatment facilities, the Forest Riparian Easement Program is a cost effective way of safeguarding Washington's water resources into the future while also providing much needed financial assistance to small landowners.

State 3: Oregon

Program: Forest Resource Trust

Benefit to Landowner: The Forest Resource Trust is the only program of its kind in the United States. Enacted in 1993, the Forest Resource Trust provides financial, technical and related assistance to nonindustrial private forestland owners to establish forest stands and improve management of forestlands for timber production, wildlife, water quality and other environmental purposes. In contrast to true cost share programs, the trust is a venture capital program where the State and the landowner share the risks and benefits of reforesting "underproducing" lands that at one time were forested. The state provides up to 100% of the initial costs of reforestation (up to a maximum of $100,000 over a two year period). In exchange, the landowner agrees to reimburse the state when timber from the assisted acreage is harvested. There is no requirement, however, for the landowner to harvest timber at any time.

Requirements: Eligible landowners must own at least 10 contiguous acres of forestland and no more than 5,000 acres. The forestland must be "underproducing" as specified in the standards set forth by the Oregon Department of Natural Resources.

Administration: Reimbursement is based on a pre-determined percentage of after tax harvest revenues ranging from 10-25%. The formula includes factors such as reforestation costs, future timber prices, a set rate of return, and inherent worth of the site. The land becomes free and clear of the trust contract when the expected volume stated in the contract is harvested from the forest stand and the payback percentage is paid, or after 200 years.

Source of Funding: Lottery Revenues and PacifiCorp contributions

Withdrawal Penalty: A buyout option is included in the contract whereby owners may terminate the contract at any time during the first twenty five years by repaying all trust funds with 6.8% interest. Payments from the revenue sharing and buyout options are reinvested into the trust to reforest even more underproducing forestland

Assessment: Landowner response was low in the years immediately following the program's inception and has subsequently grown slowly over the last decade. The Forest Resource Trust is a noble and original effort to provide landowners with assistance to reforest "underproducing" lands, but there have been many objections to the program. The complexity of the contractual agreement has been cited by many landowners as a reason for not enrolling in the program. Furthermore, the requirement that a lien on the property be retained by the State has acted as a disincentive for landowners to enroll in the program.

State 4: Wisconsin

Program: Wisconsin Forest Landowner Grant Program

Benefit to Landowners: The Wisconsin Forest Landowner Grant Program is a state-funded program that provides forestland owners with up to 65% cost sharing assistance for the following forest related activities: management plan preparation, tree planting (both hardwoods and softwoods), timber stand improvement, soil and water protection, fencing, various wildlife practices, buffer establishment, and threatened and endangered species protection.

Requirements: Eligible landowners must have at least 10 contiguous acres and not more than 500 acres of non industrial private forestland. In order to qualify for the program, the applicant must have an existing forest stewardship plan or create one for the property upon application.

Administration: The minimum grant is $100 per year for each landowner; the maximum amount of cost share assistance a landowner can receive is $10,000. Program administrators create a list of high priority activities that receive 80% of the available funding. The remaining 20% is assigned to the low priority activities. Landowners cannot begin a practice before they receive written approval from the Department of Natural Resources lest they become ineligible for reimbursement.

Source of Funding: The program is funded with an annual $1,000,000 dollars appropriation from the state legislature

Assessment: The Wisconsin Forest Landowner Grant Program is a flexible cost share apparatus that allows for landowners to be reimbursed for a wide variety of activities on their forestland. As new threats to Wisconsin's forests arrive each year, the program adjusts its list of high priority activities to provide more funding to address these challenges. Since its inception in 1998, the program has provided more than four million dollars in reimbursement to over 4,000 landowners.

State 5: California

Program: California Forest Improvement Plan

Benefit to Landowners: The California Forest Improvement Program (CFIP) is a forestry incentive program that provides up to 75% cost share assistance to landowners for management plans, riparian forest supervision, site preparation, tree planting, thinning, pruning, follow-up, release, land conservation, and improvement of fish and wildlife habitat. CFIP's purpose is to encourage private and public investments in forestlands and resources within the state to ensure adequate future high quality timber supplies, related employment and other economic benefits, and to protect, maintain, and enhance the forest resource for the benefit of present and future generations.

Requirements: To be eligible for the program, landowners must own between 20 and 5,000 acres of forestland in California. Landowners that own less than 20 acres may qualify if they submit a joint application with neighboring landowners and the combined acreage is a minimum of 20 contiguous acres of forestland. The land must be able to support 10 percent or more tree cover with trees native to California, including native oaks and must also be zoned to allow forest resource management.

Administration: If the application is approved, the landowner will be provided with a formal contract called California Forest Improvement Program Agreement. By signing the contract, landowners agree to perform the project as proposed in return for financial assistance. Replanting forestland that has burned and conservation projects generally are the first to be funded, but most eligible projects can be funded given adequate lead-time.

Source of Funding: Timber harvest receipts from state lands.

State 6: Iowa

Program: The Iowa Resource Enhancement and Protection Program

Benefit to Landowners: In order to increase the economic viability of private woodlands, the REAP program reimburses landowners for 75% of their expenses. Eligible activities include site preparation for natural regeneration and tree planting, timber stand improvement, fencing, and establishment of restoration of windbreaks.

Requirements: For reimbursement of tree planting activities, a minimum of three forested acres is required. For timber stand improvements activities, a minimum of five acres is required.

Administration: The REAP program offers a maximum payment of $365 an acre for approved activities. Since the program was created in 1989, however, funding has decreased steadily due to budgetary problems.

PROPERTY TAXATION

Introduction[4]

Forestland owners routinely list property taxes as their biggest complaint. The tax operates as a kind of carrying cost, a yearly cost incurred simply to own the property. Because forest property can be productive without generating income for many years, there is often no income to offset this cost. In years when this happens, forestland owners effectively own and operate their land at a net financial loss. At the eight public meetings held across Virginia pertaining to this study, the most often raised issue was the financial burden of property taxes and the inequality in property tax rates throughout the Commonwealth.

Because property taxes are not imposed directly on management activity, they may at first appear not to be related to forest management. However, many researchers suggest that the tax can be a disincentive for good forest management in several ways.

Impact on Forest Management[5]

Researchers claim that property taxes can create disincentives for good forest management in three ways. First, to avoid operating at a net loss, property owners may sell or convert the land to other, more productive and often more developed uses. Second, the tax may consume funds that would otherwise be invested in the property. Third, property owners may keep the land but cut and sell timber prematurely to pay the tax.

The effect of property taxes on land-use decisions, however, is more disputed. Louis Borie, in an article titled "Use Value Assessment: Tax Break or Management Incentive," reports that the evidence is mixed, and that while lower taxes might provide an additional incentive not to develop forestland, such decisions are based on a variety of financial and other factors. Likewise, the University of Idaho study suggests that development decisions may depend more on location, reasons for owning the property, development pressures, and other pressures not including tax rates. Nonetheless, Virginia forestland owners have unanimously expressed their desire for the Commonwealth to adopt a more equitable and standardized property tax statute as an incentive for long-term forestland management and ownership.

Taxation Methods

In order to lessen the impact of property taxes on forest management, it is possible to change the method of calculating the tax to factor in more accurately the timing of the timber cycle and the income-producing potential of the property. There are several methods of taxing forest property.

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[4] Tax and Related Incentives for Forest Management. Research Report 307. Legislative Research Commission. Frankfort, Kentucky. January 2003.
[5] Ibid

Aside from the resulting tax level, the timing and manner of each method can affect forest management decisions.

State Taw Laws

Ad valorem property tax (Current Use) - A tax, duty, or fee which varies based on the value of the products, services, or property on which it is levied.

Flat property tax - under this system the same amount of money per acre is collected on any acre of timberland regardless of its value.

Yield Tax - is a tax on the value of the harvested timber. The tax is collected after the timber is harvested.

Severance Tax - is a flat tax on a specific unit of volume harvested (i.e., board feet, cubic feet, cords, tonnage etc.). The tax is collected after the timber is harvested.

State	Ad Valorem	Flat	Exemption	Severance Tax	Yield Tax
Alabama	X			X	
Alaska			X		
Arizona		X		X	
Arkansas	X			X	
California	X			X	
Colorado	X				
Connecticut	X[1]				
Delaware	X		X		
Florida	X				
Georgia	X			X	
Hawaii	X[2]				
Idaho	X				X
Illinois	X				X
Indiana	X	X			
Iowa	X		X		
Kansas	X[2]				
Kentucky	X				
Louisiana	X				
Maine	X[1]				

Maryland	X				
Massachusetts		X[4]			X
Michigan		X			X
Minnesota		X[3]			
Mississippi	X				
Missouri		X			X
Montana	X			X	
Nebraska	X				
Nevada	X				
New Hampshire		X			X
New Jersey	X				
New Mexico	X				X
New York	X	X[3]			X
N. Carolina	X			X	
N. Dakota		X			
Ohio	X	X[3]			
Oklahoma	X[2]				
Oregon	X[1]				
Pennsylvania	X[1]				
Rhode Island	X		X		
S. Carolina	X				
S. Dakota	X[2]				
Tennessee	X				
Texas	X				
Utah	X				
Vermont	X				
Virginia	X[5]			X	
Washington	X[1]				
W. Virginia	X				X
Wisconsin		X			X
Wyoming	X				

X[1]Current use based on forest productivity

X[2]Current use based on agricultural productivity

X[3]Reduction in Fair Market Value (FMV)

X[4] Reduction in FMV for land classified as forestland or recreational lands; Flat tax for land classified as agricultural & horticultural land.

X[5]Current use based on site productivity

Additional Detail on the most popular Taxing Systems

Ad Valorem[6]: The ad valorem valuation method is based on the fair market or highest and best use value of the property. This type of property taxation includes the value of the standing timber on the property, although some states have referred to their method as ad valorem without including the timber in the property assessment. Currently, around ten states use this tax rate. Among the most common complaints against the ad valorem tax is that the land and timber are taxed year after year, resulting in multiple taxing of each year's timber growth. Another complaint is that the tax is levied against unrealized income. This forces the landowner to bear all the risk of growing the timber while still providing revenue to the taxing jurisdiction. This is most likely an undesirable alternative for Virginia forestland owners.

Current Use Taxation[7]: Also known as "productivity" taxation, these programs use valuation methods other than fair market value. Virginia, along with 30 other states, currently uses current use taxation valuation methods. This tax is based on the current use of the property, not the highest and best, and is often coupled with a severance or yield tax upon timber harvest. (Virginia has a severance tax on timber that has been used to fund the Reforestation of Timberlands program). Using this method, timber volume (by species or productivity class) is multiplied by stumpage price to arrive at a value for the property based on the forest's potential to produce revenue. A current use valuation program usually employs one of two broad valuation mechanisms. Either the tax is based directly on the annual growth of the forest, or the tax is based on the gross or net mean annual income of the parcel as a function of annual growth. According to some researchers, this taxation method is the best for forest management. One problem often raised with this method is that because the tax remains constant and based on soil productivity values, different stocking values would elicit the same amount of tax.

Flat Property Tax: Several states use this method to tax all forestland at a flat rate per acre. This tax has little effect on timber rotation and is easy to administer (requiring no calculations or evaluations). It provides a stable source of revenue and it is easy for the public to understand. However, one problem with using a flat property tax rate is that it places a heavier burden on less productive land.

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[6] Hibbard et al. "Property Tax Programs Focused on Forest Resources: A Review and Analysis". Staff Paper Series 150. University of Minnesota College of Natural Resources. January 2001.
[7] Ibid

Exemption: In many states, exempting forestland from property taxation is used as an alternative to the above methods of valuation. Alaska, Delaware, Iowa, and New York all have complete or partial exemptions. This method is rarely adopted and carries with it problems relating to revenue generation for the state.

Case Example Review of State Programs

The states below were selected using the following criteria: (1) each state represents different types of tax structures with unique design elements, (2) each program has been proclaimed as at lease partially successful in achieving policy objectives, and (3) each represents different areas of the country.

State 1: California[8]

Program: Enforceably Restricted Land Program and the Open-Space Program

California real property is assessed at its full cash value; however, three special taxation programs may be applied to specified forested lands; the Enforceably Restricted Land Program, which establishes Timberland Production Zones (TPZs); the Agricultural Preserve or Open-Space Program; and the Timber Yield Tax. The first two programs are exclusive of each other, while the third applies to all forest lands. Note that the program involving TPZ is a zoning program whereas the Open-Space Program is a more traditional current use program.

Requirements: Timberland Production Zone land, designated by the county board, must be devoted to timber production and be capable of growing 15 cubic feet of wood fiber per acre per year. The zoning designation requires a management plan and adherence to the state forest practice rules. To be considered for the Open Space program, forestland must be in an agricultural preserve with its use restricted for a minimum of ten years. State forest practice rules are mandatory, but there is no requirement for a management plan.

Valuation Technique: The methodology for TPZ land valuation is mandated by statute and the values are assigned for three regions, each containing five site classes. The statute concerning land values is updated based on changes in five-year average stumpage values. Open space forestland is valued using an income capitalization method or current use formula similar to Virginia's. All forestland is currently subject to a 2.9 percent yield tax in California. The yield tax does not apply if the harvesting is for personal use or the value of the harvesting in any fiscal quarter is less than $3000.

[8] Kilgore et al. "Property Taxation of Private Forests in the United States: A National Review". Journal of Forestry. April/May 2003.

Withdrawal Penalties: The TPZ program is a ten-year rolling program. The owner may request rezoning, which results in no penalty; however it requires county board approval and a ten-year period before the use of the land can change. If the landowner requests immediate rezoning with land use change, upon approval, the landowner must pay a tax recoupment fee that is in excess of the difference in annual taxes. There is no penalty for nonrenewal of the Open-Space program ten-year contract; however, if the landowner cancels the contract there is a cancellation fee of 12.5 percent of the fair market value of the parcel, and a tax recoupment fee similar to the TPZ fee.

Assessment: According to the Northern Forest Land Council's Forest Taxation Project, state officials claim administration of the program is efficient. The TPZ program improves long-term economic viability of forest management, but may well transfer or increase development pressures onto non-TPZ land. Romm et al. (1987) observed that a high percentage of nonindustrial private forest lands had been excluded from the TPZ's, lessening the incentives on these lands for forestry investment.

State 2: Georgia[9]

Program: Along with Alabama and Oregon, Georgia has the most total acreage of forestland in the country. Georgia classifies land into ten categories. Forestland in Georgia is generally classified in three ways: agricultural property, conservation use property, or environmentally sensitive property. Forestland may be valued for taxation purposes in a few different ways. If it qualifies as conservation use property or environmentally sensitive property, forestland may qualify for the preferential assessment program or it may qualify for current use valuation.

Requirements: All three programs or classifications have a maximum acreage limit of 2,000 acres. Unlike most other states, this limit applies to the owner not the parcel, meaning the owner cannot enroll more than total of two thousand acres of land into the program. All three programs also require the applicant to be a natural or naturalized citizen. Environmentally sensitive land must be certified by the Georgia Department of Natural Resources before classification. To qualify as conservation use land, the land must be used primarily in the production of timber, yet the law allows up to 50 percent of the land to lie dormant at any one time.

Valuation Mechanism: Property under the preferential assessment program is valued at 75 percent of its fair market value. This is instead of the standard valuation at 100 percent of fair market value. Conservation use and environmentally sensitive lands use a "current use" valuation in determining an assessment. This valuation is a combination of an ad valorem valuation and an income capitalization valuation. Sixty five percent of the value is based on a five-year weighted average of per acre income from both hardwood and softwood in the state. Thirty-five percent of the valuation is based on market studies

[9] Ibid

of sales data of comparable lands. These values are determined annually at the state level of nine productivity classes in nine regions. Standing timber is exempt from property taxes, but is assessed at 100 percent of its fair market value at the time of harvest or sale.

Withdrawal Penalties: The conservation use and environmentally sensitive property upon approval of application is entered into a ten-year agreement. If the land use changes or other requirements of eligibility are violated, the county will levy a penalty consisting of rollback taxes, interest, and depending on time of the withdrawal, additional penalties. This penalty applies to the total parcel, even if the violation only involved a portion of the parcel.

State 3: Minnesota[10]

Program: Minnesota employs a combination of taxes that apply to forest lands: an ad valorem tax, a productivity tax, and a flat tax with a yield tax. Minnesota has a unique property tax system that is meant to hedge against the general regressive nature of a property tax. First, Minnesota has a multi-tiered property tax rate structure, meaning different land types or land uses are taxed at different rates and certain amounts of value are also taxed at different rates. For instance, the first 75,000 of market value of a residential homestead is taxed at 1.0 percent, whereas the market value that exceeds $75,000 is taxed at 1.7 percent. This, at least in theory, is to correct for the regressive nature of the property tax, as the property tax is not well based on the taxpayer's ability to pay. Second, the tax is complemented by a progressive property tax refund system. Within this system, the refund amount to the taxpayer is equal to the amount that their property tax exceeds a certain percentage of the landowners' or renters' income.

Valuation Mechanism

Ad Valorem**.** The most common and well-known property tax type in Minnesota is the ad valorem tax. Different rates, established by state statute, are applied to different classes of property. The 2b classification is that for timberland; however timberland may be classified as 2a if it is part of a farm. Currently, more than 1.8 million acres of property are enrolled in the 2b classification. The law, which governs the classification system, states that real estate in class 2b, must be used exclusively for the growing of trees. Though this definition seems fairly clear-cut, it was found that there is much room left for interpretation by assessors as to how land is classified. The class rate for 2b land is 1.2%. This rate, which is determined by state statute, is then multiplied by the market value of the land. The market value of each parcel is determined by the county assessor annually, basing the valuation of the parcel on recent sales of similar property. Once the
class rate is multiplied by the market value, this product is multiplied by the local tax rate. The local tax rate is the sum of all tax rates from the districts that contain the specific parcel. This is determined by the county auditor who divides the dollar amount of the levy by the total taxable

[10] Ibid

valuation. The ad valorem tax formulation is as follows: Estimated Market Value x Class Rate x Local Tax Rate= Tax Payable.

Minnesota Tree Growth Tax. The Minnesota tree growth tax, similar to the auxiliary forest tax, is in lieu of ad valorem property tax. This tax is based on the value of the annual timber growth on a parcel of land. Individual counties may choose to adopt this program, although some are currently closed to new enrollments. The program requires that a parcel be a minimum of five acres and that the landowner must submit an application to the county board including the following items:

- A legal description of the property
- A map of the forest types present on the parcel
- A statement of intention to reforest temporarily nonproductive land

- A signed and sworn statement that the land will be used exclusively for growing continuous forest crops in accordance with sustained yield practices and will be open to the public for fishing and hunting

After the parcel meets the above requirements, it is classified into one of three categories provided in the law: a commercial forest type, a temporary nonproductive forest type, or as permanently nonproductive land.

The commercial forest type category is defined as able to produce at least three cords of pulpwood or sawlogs per acre or that the parcel contains 500 stems per acre. Tax for this classification is calculated at 30 percent of the value of the estimated average annual tree growth for each forest type contained on the specific parcel. The growth rate for each forest type is determined by the local county board every ten years and is based on Minnesota Department of Natural Resources and US Forest Service survey data. The stumpage value is calculated biennially, in the even years. This value is based on timber sales receipts on state land in the specific county over the previous two years. The formulation is as follows: Growth Rate (cords/acre) x Stumpage Value/Cord x 0.30= Tax Payable.

The temporarily nonproductive forest type is defined as capable of producing, but does not presently contain sufficient volume to be classified as a commercial forest type. The land is taxed at a flat rate of $0.05 per acre per year. The tax is levied with the stipulation that the owner must agree to reforest within ten years. If the owner fails to reforest within the ten-year period, the owner is then levied a tax of $0.15 per acre per year. This classification also provides for a tax credit of $0.50 for each acre planted and maintained with a minimum of five hundred threes. This credit may be taken annually for up to ten years. Many counties require landowners to sign an agreement relinquishing their right to this credit (Baughman 2000).

The Permanently Nonproductive Land is defined as unsuitable for growing commercial forest types. The tax for this classification is $0.05 per acre per year.

Withdrawal Penalties. Should a landowner decide to withdraw from the tree growth tax program a penalty of the difference in taxes between the ad valorem system and the tree growth program is assessed for up to ten previous years of enrollment. In comparing the ad valorem system and the tree growth tax program, for payable 1998 figures, the state average tax for the 2b timberland classification was **$2.18 per acre**. It is important to note that these are averages.

Assessment. There are a number of problems with the forest taxation programs in Minnesota. The counties may choose to adopt the Tree Growth Tax Law, and given the chance, only ten counties have chosen to do so. This is already a significant problem for forestland owners in Virginia. Complicating matters, these counties have all added additional requirements or closed the program to new entrants. This results in a lack of equity in the taxation of forestland on a statewide basis. Another problem is that the Tree Growth Tax Law, which is supposed to provide a tax reduction to qualifying forest property owners, in some cases actually results in higher taxes than the normal ad valorem classification would. This is due to the steep increases in stumpage prices over the last ten years.

State 4: New Hampshire

Like Virginia, New Hampshire uses a current use valuation method to assess property taxes on forestland.

Requirements. In order to have land considered under the Current Use Law for reduced valuation, the parcel under consideration must be greater then ten acres, able to produce an annual gross income of at least $2500, or be designated as a Certified Tree Farm. These requirements are very inclusive and, if implemented in Virginia, would address the problem of inequity in the Commonwealth's current statute that leaves it up the county to adopt current use taxation. In New Hampshire, a management plan is not required but is often used as documentation of "responsible
land stewardship". This additional classification of practicing responsible land stewardship reduces the "current use" value by about 50 percent. New Hampshire also allows a 20 percent reduction in land valuation if the landowner allows year-round nonmotorized public access.

Administration. The landowner applies to the local assessor for current use assessment. The Current Use Board, a statewide entity, annually establishes a schedule of taxable current use values. The Department of Revenue Administration administers and enforces all other aspects of the program.

Valuation Mechanism. The land is valued according to a schedule of taxable values set by the Current Use Board. These values are based on an income capitalization method for timber production. These values are broken down into four cover type classifications. Each classification is given two values, on reflecting the added costs of "responsible land stewardship". The value may then be further reduced if the landowners allow public access.

The value is then subject to the local property tax rate. This law is accompanied by a yield tax of 10 percent of the stumpage value.

Penalties. If the owner is changing the land use to a nonqualifying one, the penalty due is 10 percent of the fair market value of the parcel.

Assessment. An assessment of certain program elements was documented in interviews conducted by the Northern Forest Lands Council (1994) forest taxation project. Most persons interviewed found the program ineffective as a deterrent to land conversion, and a problem in that there is no direct reimbursement mechanism from the state to county governments. However, New Hampshire is an example of state statute that sets very minimum requirements for its forestland owners to qualify for current use taxation.

State 5: Wisconsin[11]

Program: The Managed Forest Land tax program is different from others discussed in that it establishes a tax burden rather than setting taxable values. It is a flat tax with a small penalty for closing private forestland to public access. In addition, there is also a yield tax of 5 percent of the stumpage value.

Requirements: The minimum parcel acreage allowed is ten acres with 80 percent of that land required to be suitable for timber production. The program requires a management plan and public access, of which 80 acres may be exempted from the public access requirement by the landowner for an additional cost. The landowner must enter into a 25- or 50-year contract.

Valuation Mechanism: The land is taxed at one rate set by state statute. The current rate is $0.74 per acre per year. An extra $1.00 per acre per year is paid for land closed to public access.

Withdrawal Penalties: The penalty for withdrawal is the greater of: (1) the difference in what taxes would be owed according to the ad valorem system and taxes actually paid while enrolled in the managed forestland program multiplied by the number of years since entry into the program, or (2) 5 percent of the stumpage value. Fifty percent of any penalty paid is disbursed to the Wisconsin Department of Natural Resources and 50 percent is given to the county containing the parcel.

Assessment: The Managed Forest Land tax gives landowners substantial tax savings and promotes the management of forested lands. However, the yield tax has become an administrative nightmare, costing the state two and half times what it brings in. Studies by Barrows and Rosner and Stier (1992) found the most frequent reason for not enrolling in the

[11] Ibid

program was the public access requirement, but this was amended to allow 80 acres for exemption of public access. Another reason given for a lack of enrollment was concern about the penalty, which can exceed the actual land value. This is seen as a strong disincentive to participation.

State 6: Indiana

Program: Classified Forest Program

Requirements: A minimum of 10 contiguous forested acres is required to enroll in the program. In order to qualify for the program, the forestland must support a growth of native or planted trees which have been set aside for the production of timber and wildlife, the protection of watersheds, or the control of erosion. Land enrolled in the program cannot be cleared, developed, or used in any fashion that disturbs the natural wildlife or productivity of

the forestland. Land enrolled in the Classified Forest program must follow minimum standards of good timber management. The landowner must also follow a written forest management plan that is approved by the district forester. This plan should describe the forest in its present condition, provide goals that will match the objectives of the owner, and must also be revised at times as the land develops and the landowners' goals change.

Valuation Mechanism: Enrolled forestland owners pay $1.00 per acre in property taxes on enrolled forestland. This helps alleviate the property tax burden on forestland, freeing up funds for landowners to reinvest in their property or use as extra income. As another benefit to landowners, regular forest inspections are provided by a professional forester in order to maximize land productivity and health.

Withdrawal Penalties: In order to withdraw land from the program, the landowner must contact a county real estate assessor in order to determine the amount of property taxes that would have been paid had the property not been enrolled in the program. The difference between the two property tax rates must be paid by the landowner up to but no more than ten years with an additional 10% on top in interest.

Assessment: The Indiana Classified Forest program is among the nation's most thriving and longest running forest stewardship programs in the United States. The qualifications for enrolling in the program are not strict and the requirements allow for both small and large forestland owners to enjoy the tax break. Regardless of what county a citizen of Indiana owns forestland in, every qualifying landowner pays a standard, reasonable, and flat property tax rate that rewards the landowner for good stewardship. It is important to note, however, that Indiana is only 22% forested, compared with over 60% in Virginia. The requirements and restrictions of the Classified Forest Program are relatively lax and the property tax rate is so low because the cost of the program itself is much smaller than it would be in state like Virginia.

State 7: Michigan

Program: Commercial Forest Program

Requirements: A minimum of 40 contiguous forested acres (land managed for Christmas trees not eligible). Land must be devoted to commercial forest management. The landowner must also have a forest management plan written by a registered forester or forestry professional. Land enrolled in the Commercial Forest Program cannot be used for agriculture, mineral extraction, grazing, industry, developed recreation, residences, resorts, commercial purposes, or development purposes. Lands listed in this program *must be open to the public for hunting and fishing*. These lands are private lands under the control of private owners, who through the Commercial Forest Program allow the public the privilege of hunting and fishing. The right for the public to hunt and fish on these land does NOT include the right to camp, destroy brush, construct blinds, or use ATV's or other all terrain vehicles where prohibited.

Valuation Mechanism: Enrolled forestland owners pay $1.10 per acre annually in general property taxes. This flat rate is a significant reduction from the property tax rate calculated under the normal ad valorem evaluation. Additionally, the State of Michigan pays $1.20 per acre annually to each county where land is listed in the program.

Withdrawal Penalty: Landowners wishing to withdraw from the CF program can do so by submitting an application to Michigan's Department of Natural Resources. A withdrawal penalty will be assessed using *ad valorem* information provided by the county or local governments.

Assessment: The mission of the CF program is to reward private forestland owners for providing the residents of Michigan with aesthetic beauty, clean air, clean water, and a variety of other public benefits that come from healthy forestland. Landowners enrolled in the CF program enjoy a significantly lower property tax rate on qualifying land than land assessed using the normal *ad valorem* method. In return, however, enrolled landowners must provide a very tangible and concrete service for the public: recreational access to their private forestland. The citizens of Michigan subsidize this tax break for private landowners and, in return, gain access to privately owned pristine wilderness. This unusual *quid pro quo* makes it easier to sell the public, yet it is understandably the most frequent objection to the program. While the stipulations of the CF program call for the public to hunt and fish *responsibly* on private lands, this certainly does not always happen. While the majority of hunters and fishers act as proper stewards of Michigan's environmental heritage, there will always be the occasional outdoorsmen who litters, destroys trees and other plant life, and generally disrespects private property. Nonetheless, unusually high property tax rates in Michigan make this program an attractive incentive for landowners.

Appendix 5

Document Number: 05-122
Tax Type: Individual Income Tax
Rulings of the Tax Commissioner
Brief Description: Land Preservation Tax Credit
Topics: Credits
Date Issued: 07/22/2005

Supersedes P.D 05-76

July 22, 2005

Re: Ruling Request: Individual Income Tax

You requested a ruling on the eligibility of a conservation easement for Land Preservation Tax Credits (the "Virginia credit") authorized under the Virginia Land Conservation Incentives Act of 1999 (the "Act"). You wish to know whether a determination by the Internal Revenue Service ("IRS") that, for federal income tax purposes, a donation of a particular land conservation easement does not qualify as a deductible charitable donation under Internal Revenue Code ("IRC") § 170(h), would necessarily render that donation ineligible for tax credits under the Act. The Department of Taxation (the "Department") initially responded to this inquiry on May 19, 2005, which was published as Public Document ("P.D.) P.D. 05-76 (May 19, 2005).

Following publication of P.D. 05-76, the Department received additional information concerning widespread variations in certain clauses and language that may, or in some cases should, be included in the documents conveying conservation easements to various donees. After eviewing this information, the ruling published as P.D. 05-76 is hereby withdrawn and revoked, and this ruling is issued in its place.

FACTS

The Department has recently been informed that Land Preservation Tax Credits have been claimed on Virginia tax returns based upon several land conservation easements that may possibly be defective as to the form of the instrument. While these easement instruments may convey enforceable preservation rights to eligible conservation entities, they lack certain language that is arguably required to qualify for the federal charitable deduction under IRC § 170(h) and, thus, for the Virginia credit. At this time, the Department is unaware that the IRS has ruled that any Virginia conservation easements are defective for tax purposes because of the absence of certain language.

You are writing to request that the Department institute a policy that will allow the Virginia credit to be claimed and maintained in spite of the fact that the credits are based on easement instruments that are found to be defective under IRC § 170(h). You ask that this policy remain in place even if the IRS disqualifies those easements under IRC § 170(h).

RULING

The Act, codified at Va. Code § 58.1-510, et esq., provides a credit equal to fifty percent of the value of real property, or an interest in real property, donated to an eligible charitable organization or instrumentality of the Commonwealth for qualifying land conservation purposes. In order to qualify for the Virginia credit, a donation of a less than fee simple interest in real property must qualify as a charitable deduction under IRC § 170(h). See Va. Code §§58.1-511 and 58.1-512 B 2. This section of the IRC and the regulations issued pursuant to it contain several requirements that must be met in order for an easement to be eligible for a charitable deduction.

You have requested that the Department disregard any findings made by the IRS pertaining to whether the easements qualify as charitable deductions under IRC § 170(h). In other words, you are urging the Department to allow Virginia taxpayers to claim conservation easement tax credits, notwithstanding the fact that the instruments by which the easements were conveyed, failed to meet the requirements of IRC § 170(h) and its regulations.

Because the Act grants a credit or abatement of tax, it must be strictly construed. Forst v. Rockingham Poultry Mktg. Coop., 222 Va. 270, 279 S.E.2d 400 (1981)1. This means that an easement must qualify as a charitable deduction under IRC § 170(h). If the easement does not meet any of those requirements, it also does not meet the conditions established under the Act, and, therefore, the easement cannot qualify for the Virginia credit. The statute provides no authority for the Department to allow an exception.

Furthermore, the Department cannot ignore noncompliance. Thus, should the IRS review a land conservation easement and disallow the associated charitable deduction for failure to qualify under IRC §170(h), the Department is required by Va. Code § 58.1-512 B 2 to make corresponding adjustments to Virginia taxable income and also disallow the Virginia Credit. If, upon such a review, the IRS determined to allow the charitable deduction, however, the Department will accept that decision and allow the Virginia credit if it otherwise qualifies under the Act. In any event, the Department is not required to wait for a decision from the IRS.

Instead, the Department may act and, in its own right, disallow the Virginia Credit.

Regardless of whether shortcomings existed in any land trust organizations' template instruments suggested for use by a taxpayer contemplating a donation of an interest in land for a conservation purpose, that does not mean that any donations of conservation easements held by such organizations are necessarily ineligible for the Virginia Credit.

Frequently, donors' legal advisers draft original instruments or modify templates to conform to the donors' wishes and other requirements of the law. I am certain that many practitioners pay

particular attention to the requirements of IRC § 170(h) to ensure the donor is eligible for all tax benefits that may accrue. Thus, as noted above, each donation must be examined on a case-by-case basis to determine eligibility for the Virginia Credit.

Moreover, I note that some of the requirements of IRC § 170(h) addressed indirectly in this letter do not apply in the circumstances where the donation of the conservation interest in land is in fee simple.

In the unusual circumstance that a recorded instrument does not qualify for the Virginia Credit because of missing or defective language, but still conveys an enforceable easement and the parties intended for the document to comply with the IRS requirements, existing law may allow the document to be reformed, and the conveyance would then qualify for the credit from the date of reformation. The value of the easement, however, would be governed by the value on the date that the enforceable easement was originally conveyed, not the date that the documents were reformed to qualify for tax benefits. A different conclusion would be reached, of course, if the IRS acted to deny the charitable deduction regardless of the reformation, or issued a ruling that accepts the reformation yet establishes a different value. Nothing in this letter is intended to rule ultimately on either the real property or federal tax law issues discussed in this paragraph. Again, each donation would have to be examined on a case-by-case basis.

In conclusion, should a taxpayer have a Land Preservation Tax Credit that is based on an easement that lacks language that is arguably required under IRC § 170(h), he or she should consult with his or her tax advisor to determine eligibility for any intended tax benefits and to choose an appropriate course of action.

1 "The rule of strict construction stems from the announced policy of this Commonwealth to distribute the tax burden uniformly and upon all property. Va.Const. art. X, § 1. Thus, any provision granting an immunity from taxes, whether called an exclusion, limitation or exemption is narrowly construed." Forst v. Rockingham Poultry Coop., 222 Va. 270, 276, 279 S.E.2d 400, 403 (1981).

2 See, e.g., United States of America v. Peter F. Blackman, Supreme Court of Virginia, Record No. 042404, June 9, 2005, at pp. 12, 14-15 [A valid conservation easement may be conveyed irrespective of whether the easement meets the tests of common law (or, impliedly, other statutes for different, though closely related purposes, or later-enacted statutes).]
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Rulings of the Tax Commissioner

Document Number: 05-125
Tax Type: Corporation Income Tax
Brief Description: Land Preservation Tax Credit
Topics: Credits
Date Issued: 07/26/2005

July 26, 2005

Re: Ruling Request: Land Preservation Tax Credit

This is in response to your letter of May 4, 2004, in which you requested a ruling on the Land Preservation Tax Credit (the "Credit") for the ***** (the "Taxpayer").

FACTS

The Taxpayer is a § 501(c)(3) corporation under the Internal Revenue Code. According to its Certificate of Incorporation, the purposes of the Taxpayer are to maintain and operate museums, parks and places of historical interest in Virginia; to promote and further the spiritual, mental, moral and cultural welfare of the people of
Virginia; and to make voluntary donations to corporations, trusts or foundations or other organizations which are organized and operated exclusively for charitable, scientific, literary, education or other benevolent purposes. The Taxpayer is not eligible to hold conservation easements.

The Taxpayer currently owns three tracts of land in Virginia. The Taxpayer would like to give an open-space easement on two of these properties to an organization eligible to hold a conservation easement. The Taxpayer would like to earn Land Preservation Tax Credits from this gift and then sell these credits.

You are writing first to inquire whether the Taxpayer meets the requirements to be considered a taxpayer under the Virginia Land Conservation Incentives Act of 1999 (the "Act"). You also ask if the proposed donation by the Taxpayer would qualify for Land Preservation Tax Credits and, if so, whether the Taxpayer may transfer or sell any credits that are earned.

RULING

In order to qualify for Land Preservation Tax Credits, a donation of land must be made by a "landowner/taxpayer." Va. Code § 58.1-512 A. Section 58.1-1 of the Code defines the term "taxpayer" as "every person, corporation, partnership, organization, trust or
estate subject to taxation under the laws of the Commonwealth, or under the ordinances, resolutions or orders of any county, city, town or other political subdivision of this Commonwealth." In addition, the Attorney General has addressed the specific situation of

eligibility under the Land Preservation Tax Credit. A November 2002 Opinion of the Attorney General states, "[a]ny person, corporation, partnership, organization, trust or estate falling into these categories could hold and transfer a tax credit. For example, a nonprofit corporation subject to sales tax, but not income tax, may transfer its credit to a taxpayer subject to income tax." Opinion of the Attorney General 02-094 (11/19/02).

The example offered by the Opinion of the Attorney General would seem to cover this situation. The Taxpayer is a nonprofit organization and is exempt from income taxes. The Taxpayer states, however, that it is subject to the retail sales and use tax and all state employer taxes. Thus, the Taxpayer would be considered a taxpayer for the purposes of the Act.

While the Taxpayer is an eligible taxpayer, it still must make a qualified donation in order to be eligible for Land Preservation Tax Credits. Under the Code, qualified donations include "the conveyance in perpetuity of a fee interest in real property or a less-than-fee interest in real property, such as a conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction, provided that such less-than-fee interest qualifies as a charitable deduction under § 170 (h) ofthe U.S. Internal Revenue Code . . . ." Va. Code 58.1-512 B 2. This section of the IRC requires among other things, that each contribution of a qualified real property interest be made exclusively for conservation purposes to a qualified organization.

One such conservation purpose is for "the preservation of open space . . . ." IRC § 170(h)(4)(A)(iii).

The Taxpayer intends to donate an open-space easement for approximately one thousand fifty-two acres of land in two separate parcels to an organization eligible to hold a conservation easement. So long as this conveyance is in perpetuity and all of the other criteria of the Act and of IRC § 170(h) and its regulations are met, it appears that this donation would qualify for Land Preservation Tax Credits.

Please note that this outcome would be different if the Taxpayer itself was eligible to hold the conservation easement. This is because the purpose of the Act would be accomplished once ownership of the land is held by a conservation agency that is able ensure that the land is preserved. Any subsequent transfer of the land, or any interest in the land, to a similarly qualified organization would be redundant and would merely be done to gain tax credits.

Because transferring land or an interest in land to obtain credits does not qualify as an approved purpose under the Act, Land Preservation Tax Credits would not be granted in that situation.

Finally, Va. Code § 58.1-513 C provides that, "[a]ny taxpayer holding a credit under this article may transfer unused but otherwise allowable credit for use by another taxpayer on Virginia income tax returns." Because the Taxpayer would obtain credits from its donation of land, it would hold credits that it could then transfer or sell. The only restriction on this is that the credits must be transferred or sold to another taxpayer who may actually use the credits on a Virginia income tax return. Thus, transferring or selling the credit to another nonprofit agency is not allowed.

Appendix 6

GENERAL ASSEMBLY OF NORTH CAROLINA

SESSION 2005

SENATE BILL 681*
Agriculture/Environment/Natural Resources Committee Substitute Adopted 5/12/05
Third Edition Engrossed 5/17/05
House Committee Substitute Favorable 8/9/05

Short Title: Clarify Regulation of Forestry. (Public)

Sponsors:

Referred to:

March 21, 2005

A BILL TO BE ENTITLED

AN ACT TO CLARIFY THE ROLE OF COUNTIES AND CITIES IN REGULATING CERTAIN FORESTRY ACTIVITIES.

The General Assembly of North Carolina enacts:

SECTION 1. Article 23 of Chapter 153A of the General Statutes is amended by adding a new section to read:

"**§ 153A-451. Restriction of certain forestry activities prohibited.**

(a) The following definitions apply to this section:

(1) Development. – Any activity, including timber harvesting, that is associated with the conversion of forestland to nonforest use.

(2) Forestland. – Land that is devoted to growing trees for the production of timber, wood, and other forest products.

(3) Forestry. – The professional practice embracing the science, business, and art of creating, conserving, and managing forests and forestland for the sustained use and enjoyment of their resources, materials, or other forest products.

(4) Forest management plan. – A document that defines a landowner's forest management objectives and describes specific measures to be taken to achieve those objectives. A forest management plan shall include silvicultural practices that both ensure optimal forest productivity and environmental protection of land by either commercially growing timber through the establishment of forest stands or by ensuring the proper regeneration of forest stands to commercial levels of production after the harvest of timber.

(5) Forestry activity. – Any activity associated with the growing, managing, harvesting, and related transportation, reforestation, or protection of trees and timber, provided that such activities comply with existing State rules and regulations pertaining to forestry.

(b) A county shall not adopt or enforce any ordinance, rule, regulation, or resolution that regulates either:

(1) Forestry activity on forestland that is taxed on the basis of its present-use value as forestland under Article 12 of Chapter 105 of the General Statutes.

(2) Forestry activity that is conducted in accordance with a forest management plan.

(c) This section shall not be construed to limit, expand, or otherwise alter the authority of a county to:

(1) Regulate activity associated with development. A county may deny a building permit or refuse to approve a site or subdivision plan for either a period of up to:

a. Three years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under county regulations governing development from the tract of land for which the permit or approval is sought.

b. Five years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under county regulations governing development from the tract of land for which the permit or approval is sought and the harvest was a willful violation of the county regulations.

(2) Regulate trees pursuant to any local act of the General Assembly.

(3) Adopt ordinances that are necessary to comply with any federal or State law, regulation, or rule.

(4) Exercise its planning or zoning authority under Article 18 of this Chapter."

SECTION 2. Article 19 of Chapter 160A of the General Statutes is amended by adding a new section to read:

"**§ 160A-458.5. Restriction of certain forestry activities prohibited.**

(a) The following definitions apply to this section:

(1) Development. – Any activity, including timber harvesting, that is associated with the conversion of forestland to nonforest use.

(2) Forestland. – Land that is devoted to growing trees for the production of timber, wood, and other forest products.

(3) Forestry. – The professional practice embracing the science, business, and art of creating, conserving, and managing forests and forestland for the sustained use and enjoyment of their resources, materials, or other forest products.

(4) Forest management plan. – A document that defines a landowner's forest management objectives and describes specific measures to be taken to achieve those objectives. A forest management plan shall include silvicultural practices that both ensure optimal forest productivity and environmental protection of land by either commercially growing timber through the

establishment of forest stands or by ensuring the proper regeneration of forest stands to commercial levels of production after the harvest of timber.

(5) Forestry activity. – Any activity associated with the growing, managing, harvesting, and related transportation, reforestation, or protection of trees and timber, provided that such activities comply with existing State rules and regulations pertaining to forestry.

(b) A city shall not adopt or enforce any ordinance, rule, regulation, or resolution that regulates either:

(1) Forestry activity on forestland that is taxed on the basis of its present-use value as forestland under Article 12 of Chapter 105 of the General Statutes.

(2) Forestry activity that is conducted in accordance with a forest management plan that is prepared or approved by a forester registered in accordance with Chapter 89B of the General Statutes.

(c) This section shall not be construed to limit, expand, or otherwise alter the authority of a city to:

(1) Regulate activity associated with development. A city may deny a building permit or refuse to approve a site or subdivision plan for either a period of up to:

a. Three years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under city regulations governing development from the tract of land for which the permit or approval is sought.

b. Five years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under city regulations governing development from the tract of land for which the permit or approval is sought and the harvest was a willful violation of the city regulations.

(2) Regulate trees pursuant to any local act of the General Assembly.

(3) Adopt ordinances that are necessary to comply with any federal or State law, regulation, or rule.

(4) Exercise its planning or zoning authority under this Article.

(5) Regulate and protect streets under Article 15 of this Chapter."

SECTION 3. This act is effective when it becomes law.

Appendix 7

§ 10.1-1126.1. Silvicultural practices; local government authority limited.

A. Forestry, when practiced in accordance with accepted silvicultural best management practices as determined by the State Forester pursuant to § 10.1-1105, constitutes a beneficial and desirable use of the Commonwealth's forest resources.

B. Notwithstanding any other provision of law, silvicultural activity, as defined in § 10.1-1181.1, that (i) is conducted in accordance with the silvicultural best management practices developed and enforced by the State Forester pursuant to § 10.1-1105 and (ii) is located on property defined as real estate devoted to forest use under § 58.1-3230 or in a district established pursuant to Chapter 43 (§ 15.2-4300 et seq.) or Chapter 44 (§ 15.2-4400 et seq.) of Title 15.2, shall not be prohibited or unreasonably limited by a local government's use of its police, planning and zoning powers. Local ordinances and regulations shall not require a permit or impose a fee for such silvicultural activity. Local ordinances and regulations pertaining to such silvicultural activity shall be reasonable and necessary to protect the health, safety and welfare of citizens residing in the locality, and shall not be in conflict with the purposes of promoting the growth, continuation and beneficial use of the Commonwealth's privately owned forest resources. Prior to the adoption of any ordinance or regulation pertaining to silvicultural activity, a locality may consult with, and request a determination from, the State Forester as to whether the ordinance or regulation conflicts with the purposes of this section. Nothing in this section shall preclude a locality from requiring a review by the zoning administrator, which shall not exceed ten working days, to determine whether a proposed silvicultural activity complies with applicable local zoning requirements.

C. The provisions of this section shall apply to the harvesting of timber, provided that the area on which such harvesting occurs is reforested artificially or naturally in accordance with the provisions of Chapter 11 (§ 10.1-1100 et seq.) of Title 10.1 or is converted to bona fide agricultural or improved pasture use as described in subsection B of § 10.1-1163.

The provisions of this section shall not apply to land that has been rezoned or converted at the request of the owner or previous owner from an agricultural or rural to a residential, commercial or industrial zone or use.

Nothing in this section shall affect any requirement imposed pursuant to the Chesapeake Bay Preservation Act (§ 10.1-2100 et seq.) or imposed by a locality pursuant to the designation of a scenic highway or Virginia byway in accordance with Article 5 (§ 33.1-62 et seq.) of Chapter 1 of Title 33.1.

(1997, c. 7.)

Appendix 8

A Report on the Prevalence and Effects of Local Forest-Related Ordinances in the Commonwealth of Virginia

Submitted November 10, 2005 to the Virginia Forestry Association's Sustainable Forestry Initiative Implementation Committee, the Virginia Department of Forestry, the Virginia Society of American Foresters, and the Virginia Loggers Association

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Executive Summary:

Overview:

This report is the culmination of research and analysis conducted during 2005 to obtain information from all of Virginia's 95 counties and 40 incorporated cities regarding current forest-related ordinances. Internet research, telephone interviews, and site visits were conducted to inventory the following categories of local ordinances that might have a direct or indirect effect on the practice of forestry or on timber harvesting activities:

- Erosion and sediment control
- Fire/open burning
- Floodplain
- Scenic limitation
- Watershed/Chesapeake Bay
- Timber harvesting
- Pesticides

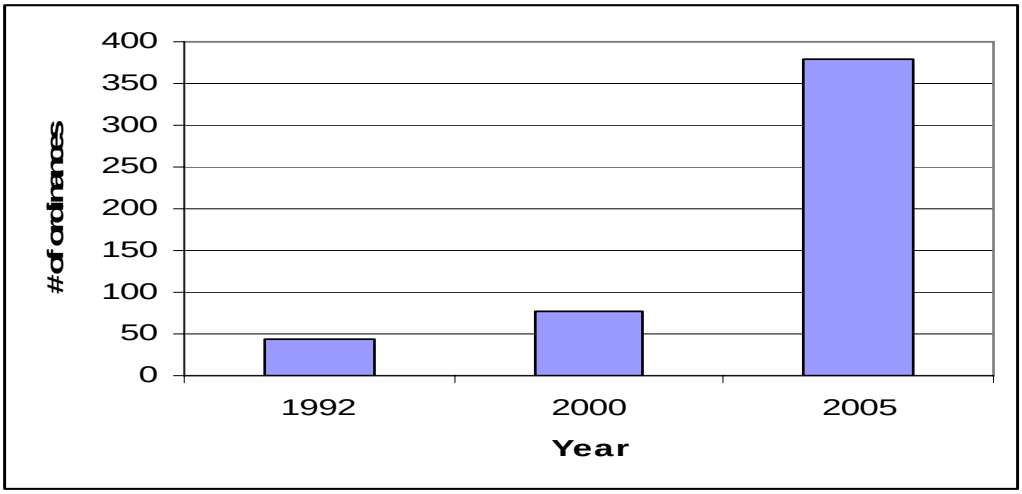
Additionally, Geographic Information Systems (GIS) analyses were performed on four specific counties (Clarke, James City, Prince William, and York) to assess the effects on timber availability and forest ownership patterns resulting from the ordinances currently found in those counties.

Inventory Results:

The ordinance inventory generated several observations:

- This study detected 261 forest-related ordinances at the county level and 118 at the city level. All but four (4) of the localities examined currently possess ordinances that affect forestry at some level. This study confirms earlier studies that suggest an increase in local forest-related ordinances may be occurring (44 in 1992; 77 in 2000; 379 in 2005).

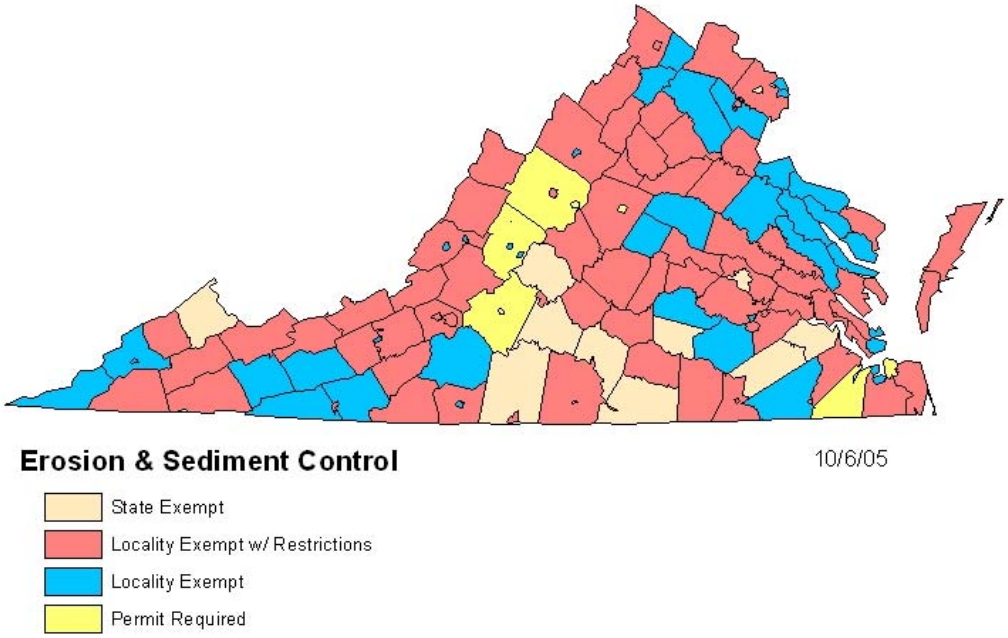
Figure 1. Quantity of local-forest related ordinances in Virginia



Erosion & Sediment

Local erosion and sediment control ordinances are generally designed to prevent pollution associated with development or other land-use conversion. How these ordinances treat forestry varies considerably across the state (Figure 2) and can present a confusing situation for forestry operations that cross political boundaries. It is important to recognize that forestry practices must adhere to the Virginia Silvicultural Water Quality Law, commonly known as the "Anti-Sediment Law." (§10.1-1181.1 *et seq*. Va. Code Annotated) This law provides the VDOF with authority to protect water quality by preventing sedimentation resulting from silvicultural operation anywhere within the Commonwealth. It also authorizes the agency to halt harvesting operations, issue fines, and require corrective action.

Figure 2. Erosion and Sediment Control Ordinances



Forestry is treated inconsistently by local erosion and sediment ordinances, though most local governments (90%) have addressed the issue in some manner. Localities have chosen to either 1) exempt forestry practices; 2) exempt the practices with various restrictions; or have chosen to 3) require a permit. Local erosion and sediment ordinances have not been adopted in 12 counties and in 4 cities. In those cases, the Virginia Silvicultural Water Quality Law exempting forestry practices is applicable.

Twenty-nine (29%) percent of localities have enacted local erosion and sediment ordinances that explicitly exempt forestry. However, the majority of municipalities (55%) that have chosen to enact local ordinances that exempt forestry have conditioned
this exemption upon the reforestation of the property in accordance with Virginia's Seed Tree Law (§10.1-1163 and 1164 Virginia Code). The Seed Tree Law ensures proper pine forest regeneration following a timber harvest. The law only applies to areas of 10 or more acres on

which loblolly or white pine constitute at least 25% of the live trees on each acre and does not apply to hardwoods or other softwood species. While the linkage to this law is apparently designed to address the local planning concern that development harvesting could occur under the guise of *bona fide* timber management, the practical effect of this provision and approach to the problem is questionable.

Permits are required to conduct land-disturbing forestry operations in three (3) counties and five (5) cities. For example, the City of Charlottesville requires that "no person shall engage in any land-disturbing activity within the city limits until he has acquired a permit from the zoning administrator." Augusta and Rockbridge counties both require erosion and sediment control plans for land-disturbing activities before the required permits may even be sought. Forestry is not exempted from the required plans and permits in either of these two county codes.

The inconsistency in how erosion and sedimentation is addressed by localities demonstrates a fragmented and inconsistent approach to the issue, and one with the potential to sow confusion among forest landowners and forest operators. The state has made a policy decision to rely upon the Silvicultural Water Quality Law to prevent unwanted sedimentation and to exempt forestry operations from further erosion and sediment control requirements. Localities should likewise rely on the Virginia Silvicultural Water Quality Law and the implementation of best management practices. Restrictions or permitting that exceed current state mandates can impose unwarranted costs and delays on forest management activities, and should be avoided.

Ordinance Samples:

Goochland: "…this exception shall not apply to harvesting of forest crops unless the area on which harvesting occurs is reforested artificially or naturally in accordance with the provisions of Chapter 11 (Section10.1-1100 et seq.) of the Code of Virginia…"

City of Charlottesville: "…no person shall engage in any land-disturbing activity within the city limits until he has acquired a permit from the zoning administrator"
"Land disturbing activity means any land change which may result in soil erosion from water or wind and the movement of sediments into waters or onto lands in the city or adjacent jurisdictions, including, but not limited to clearing, excavating…."

Rockbridge: "…no person may engage in any land-disturbing activity until such person has submitted to the county and has been reviewed and approved by the county, an erosion and sediment control plan for such land disturbing activity unless exempted by law." Forestry is not exempted in the Rockbridge erosion and sedimentation control code.

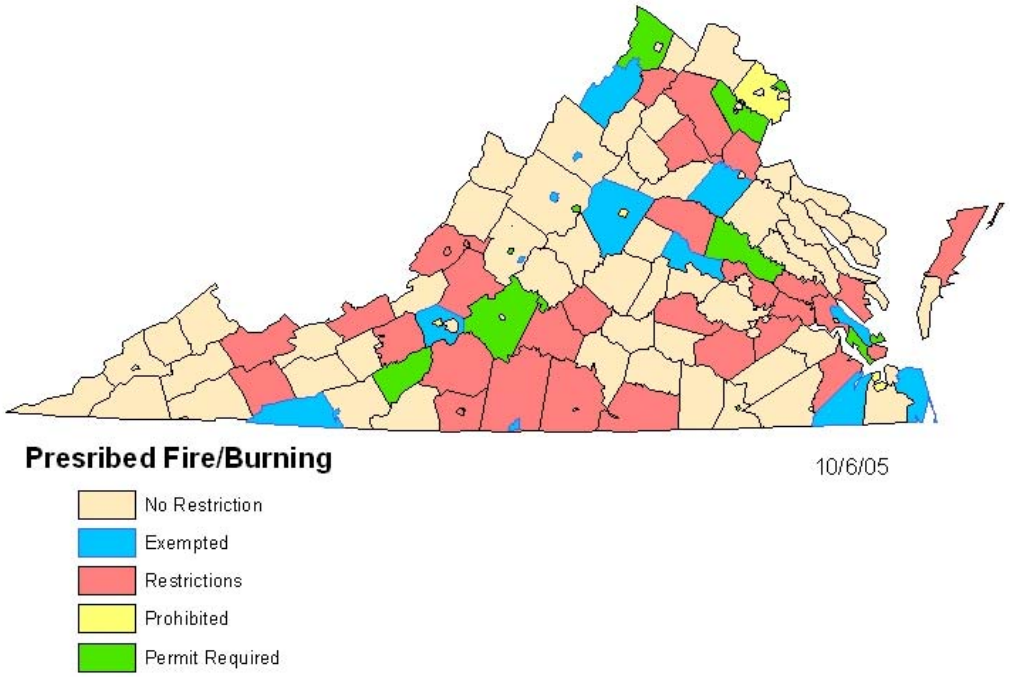
Augusta: requires erosion and sediment control plans to be submitted and reviewed by the county and upon approval a Land Disturbing Permit may be sought.

Fire for Forest Management

Prescribed fire is a tool used in forest management to achieve numerous goals. It may be used to prepare a site for planting, improve wildlife habitat, or for silvicultural purposes in plantations.

Forest management goals may not be achievable when the use of fire is eliminated. The use of fire for forest management is addressed differently across the state (Figure 3).

Figure 3. Prescribed Fire/Burning Ordinances



The majority of localities (55 counties/16 cities or 53%) in the Commonwealth do not address prescriptive fire or open burning regulations in their codes. Open burning for forest management purposes is specifically exempted in 7 counties and 7 cities (10%), while 28 counties and 4 cities (24%) also exempt the forestry use of fire conditioned upon certain restrictions.

In other counties however, the locality has elected a more rigorous approach to the use of fire, relying upon permits or other approvals. A permit is required for open burning in 6 counties and 8 cities (10%). For example, Prince William County allows open burning only after "obtaining a permit…for recognized agricultural, silvicultural…practices." Arlington County also requires that controlled burning be approved by the code official.

In some counties, the decision has been made to prohibit any use of prescribed fire or other open burning. Open burning is prohibited in 1 county and in 4 cities. Fairfax County bans open burning but does not explicitly exempt forestry. Only fires set in the "course of agricultural operations in growing crops… and the agricultural operation meets the requirements established by the Director" are exempted. While one might argue that forestry is a form of agriculture in this context, and thus also exempt, it would be far preferable to have explicit ordinance language to that effect.

One can observe the inconsistency of open burning regulations by examining the localities surrounding Powhatan County. Powhatan has not addressed the use of prescribed fire or open burning in its county code, and therefore we must presume the state burning law would be

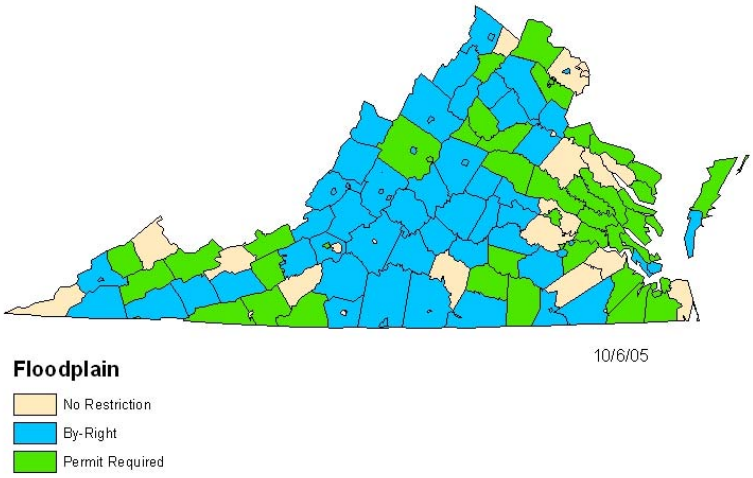
applied. However, Goochland, to the north, has a local ordinance which clearly exempts forestry operations. Nearby Louisa also has a forestry exemption, but it is conditioned upon care and precautions to prevent the spread of fire. Further illustrating the unpredictability of the ordinances is Hanover County, which requires a permit for all open burning and the City of Charlottesville which prohibits all open burning.

The use of prescribed fire presents another instance in which the state has chosen to establish a policy (*see* §10.1-1142 Virginia Code) for the use of fire in forested conditions. While the state law applies in one half of the localities in this study, in the other half municipalities have chosen to approach prescribed fire in different ways, with differing restrictions or permit requirements. This again reflects inconsistency among the local jurisdictions, and in many cases conflicts with the intent and language of the state law. While local conditions and needs might well dictate the need for tailored approaches to regulating open burning, prescribed fire is a unique form of burning, and when professionally supervised by certified prescribed burn managers might warrant relief from excessive local regulation.

Floodplains/Floodways

Floodplains are important sources of timber for Virginia--often very valuable timber. Therefore, a partial or complete exclusion of harvesting or other silvicultural activities in floodplains is not necessarily desirable. While the state has chosen not to specifically address forestry activities in floodplains, it has empowered local governments to zone for permitted uses in floodplains (§15.2-2280 Virginia Code). Consequently, while most localities appropriately exempt forestry operations in floodplains, some have enacted ordinances that require permits for any activity within floodways. Forestry is explicitly allowed in floodplains by-right in 47 percent of the localities within the state. However, 47 localities (35%) require a permit before forestry operations are an acceptable activity within the floodway. Twenty-five (19%) localities do not address the issue in their local code.

Figure 4. Floodplain/Floodway Ordinances



Virginia now has three standards for forestry operations occurring in floodplains: *exempt*, *permit required*, or *not addressed*. This inconsistency from the state to the county and between counties

is largely undesirable for forestry operations in the state. The status of forestry operations in the counties that do not address the floodplain issue can also create uncertainties. It would be useful for each locality to explicitly determine the activities that are appropriate within floodplains and floodways.

Finally, Virginia's Right to Practice Forestry Law (§10.1-1126.1 Virginia Code) prohibits local ordinances and regulations from requiring a permit or imposing a fee on silvicultural activities. Thus, we observe a situation in which floodplain permitting requirements may conflict with the Right to Practice Forestry Law.

Ordinance Samples:

Prince George: "…all uses, activities, and development occurring within any floodplain district shall be undertaken only upon the issuance of a zoning permit."

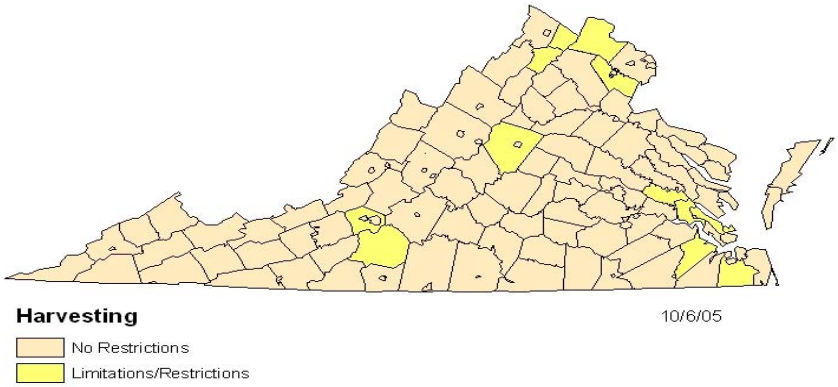
Russell County: "…all uses, activities, and development occurring within any floodplain district shall be undertaken only upon the issuance of a building permit."

Isle of Wight: "Agricultural, outdoor recreational activities and functionally dependent uses…are permitted unless they are proposed within the floodway, or require structures, fill, or storage of materials and equipment."

Harvesting & Scenic

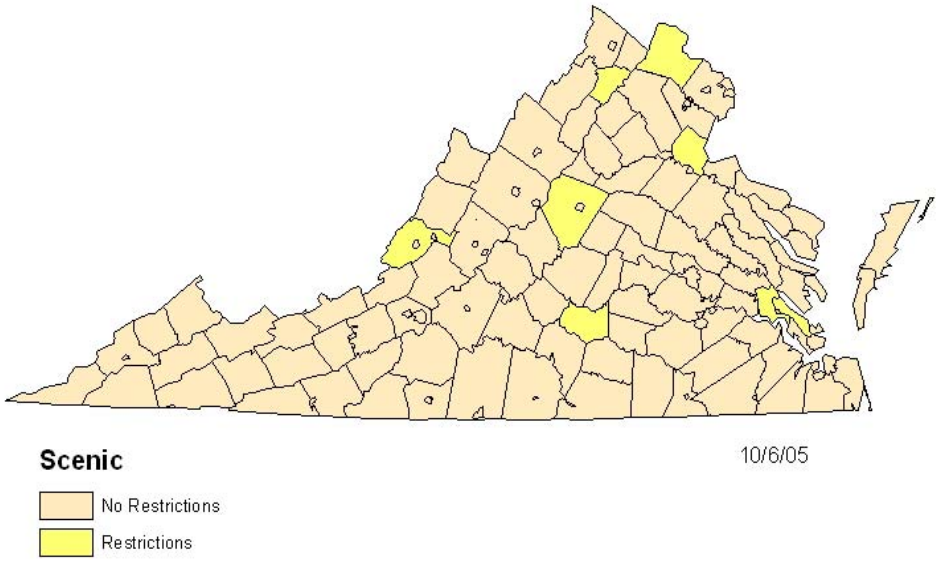
Unlike the other categories of local ordinances which are primarily focused upon preventing harm to other properties or property owners, harvesting and scenic restrictions are more often linked to concerns for viewsheds and aesthetics. In some instances,
resource concerns are linked to the ordinance, but restrictions such as harvesting buffers along property lines and highways reflects more of a concern for the visual effects of timber harvesting rather than for the integrity of the forest resource.

Figure 5. Timber Harvesting Ordinances



Thirteen (13) localities have some form of timber harvesting ordinance. These restrictions range from requiring a pre-harvest plan to posting a bond for reforestation.

Figure 6. Scenic Ordinances



Additionally, eight (8) localities have a scenic buffer requirement or other similar restriction placed upon forestry operations.

While local governments clearly have the primary role in regulating land use, it is nonetheless important to recognize that setbacks and buffers impose costs both in terms of direct impacts to landowners, and indirect impacts to the commercial timber value of parcels as they drop below operable acreages (<20 acres) due to the no-harvest zones. For example, in the Dail case, York County's buffer requirements affected nearly ten (10%) percent of the Dail property, removing the merchantable timber in those buffers both from the Dails' portfolio and from the operable timber base of York County.

It should be noted that no state-level requirements exist regarding timber harvesting or scenic restrictions. The decision by local governments to engage those regulatory areas reflects perceived needs well beyond the forestry policies established by the Commonwealth. Those needs should be closely scrutinized in an environment where concerns for the continued vitality of working forests is prominent.

Ordinance Samples:

New Kent: (in many zones) "any forestal use…shall not commence commercial timber harvesting of lands zoned…until a plan for development (subdivision or site or reforestation plan) has been approved by the planning commission or the zoning administrator, as the case

may be. Any plan for reforestation shall require a posting of bond in an amount sufficient to reforest the area…"

Clarke:
-No logging for commercial purposes without pre-harvest plan approved by VDOF and a timber harvest permit from the zoning administrator
-25' buffer along public right-of-ways
-25' buffer along property lines (cannot thin over 50% crown cover)

York: "In no case shall a forestry operation on land in the county's land use tax program designated for forest use proceed without the approval of the zoning administrator"
"All heritage, memorial, and specimen trees shall be protected and preserved during and after harvest"
-Minimum of 5 acres required for forestry operations
-Forest management plan for all forestry operations, approved by VDOF and zoning administrator
-50' buffers along public roads (no cutting)
-25' buffers along side and rear property lines (take 50% crown cover)
-SMZ at least 50' (no harvest) on each side of all perennial and intermittent streams, can take 50% if you increase to 100' width
-200' buffer along any "tributary" stream, maintained in natural state

James City County:
-Ag Zone-50' buffer from any public road right-of-way, known as setback for timbering
-All other zones-75' buffer public roads
-Violations subject to criminal sanctions
-Residentially zoned-150' buffer on community character corridors

Isle of Wight: "clearcutting shall not occur within at least 70' from any of the arterial right-of-ways as designated…"

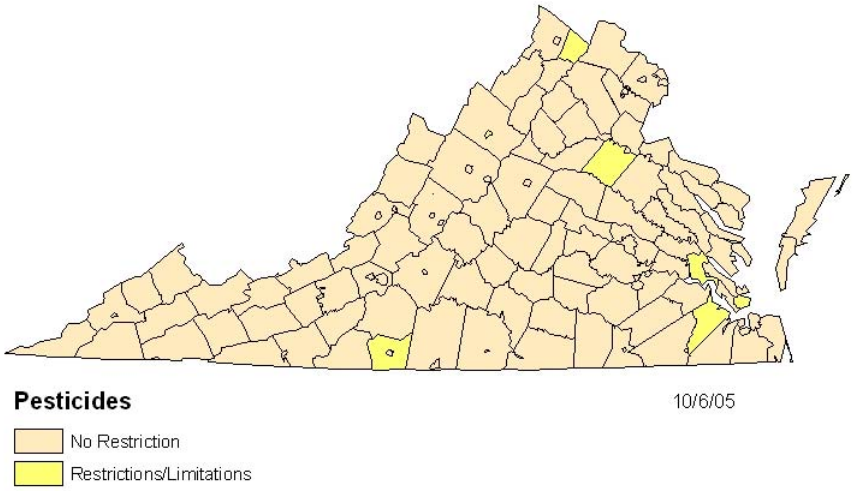
Albemarle: In districts other than the RA, cutting of tress shall be limited to dead trees and trees of less than 6 inches in diameter

Loudon: Timber harvest plan, buffers in certain districts

Pesticides

Pesticides and herbicides are important tools for forest managers that have varying silvicultural uses. For example, they may be used to prevent or control damage by insects and disease, for site preparation, to change forest composition, or to control competition from unwanted vegetation among other uses. Seven (7) localities have placed restrictions upon the use or storage of pesticides.

Figure 7. Pesticide Ordinances



These compounds are primarily regulated in Virginia by the Pesticide Control Board and the Virginia Pesticide Control Act. (§3.1-249.27 *et seq.* Virginia Code). The state code explicitly limits local authorities from regulating pesticides. The code states that "the Board shall have the exclusive authority to regulate pesticides…the Board's authority to regulate pesticides…shall not be delegated to any county, city or town." Similar to the Right to Practice Forestry Law, this observation presents a potential conflict between state and local authorities. There are sound reasons for regulating pesticide use and storage uniformly across the Commonwealth.

Ordinance Samples:

Clarke: The Spring Conservation Overlay District, "In no event shall the following uses or development of the land within the district be permitted: …application, depositing, spreading or spraying of any hazardous or toxic chemical and/or biological materials or substances except applications of such pesticides and/or herbicides as may be required under emergency situations and as such applications of pesticides and/or herbicides may be permitted by the Zoning Administrator upon an affirmative recommendation from the VA Cooperative Extension Service."

Within the Stream Protection Overlay District, "pesticides shall not be applied, except by licensed applicators following pesticide label requirements"

Henry: "…storage, compounding, and application of herbicides, insecticides, pesticides, and fertilizers as a use incidental to agricultural and forestry operations shall be permitted if the substances are used and stored in accordance with manufacturer's directions and all federal and state regulations are met or exceeded."

James City Co & Isle of Wight: "The following uses shall be specifically prohibited within all floodplain districts:" …following products shall be specifically included: substances containing the active ingredients of poisons that are or were ever registered in accordance with the provisions of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended."

Water Issues

It is the concern for water quality where the management of forest practices becomes of premier importance. Potential direct impacts to water quality from sedimentation and erosion, as well as potential indirect effects resulting from the removal of tree canopies and streamside shading have spawned some degree of operational guidance or regulation in nearly every state with substantial forest assets. Additionally, multi-jurisdictional compacts such as the Chesapeake Bay Preservation Act require that states and localities within the Bay watershed consider how to mitigate for undesirable pollutants while still providing for the economic needs of their communities.

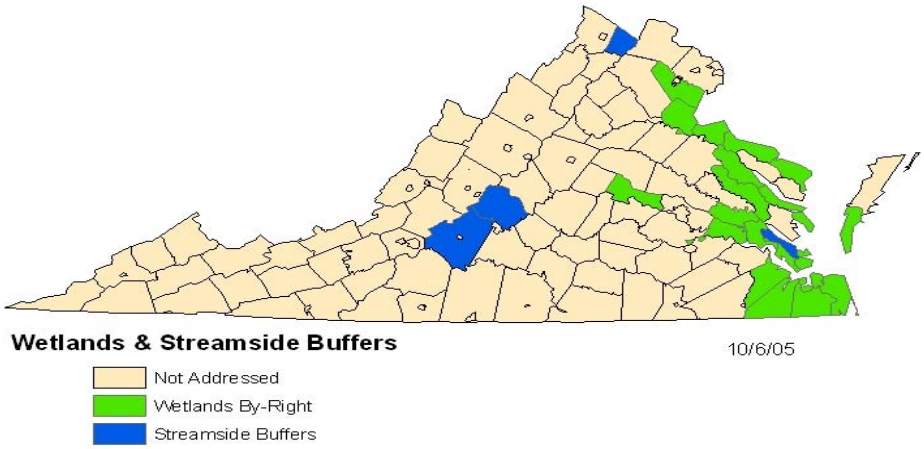
This study examined how localities have addressed three particular areas related to water: forestry operation in wetlands, local efforts to comply with the Chesapeake Bay Preservation Act, and whether mandatory streamside buffers had been implemented.

Wetlands

The Virginia Code directly addresses the local regulation of wetlands. (§28.2-1302 Virginia Code). The state has directed municipalities choosing to adopt a wetland ordinance to comply with language established in statute. Counties have the option of adopting the ordinance, but Virginia code states that the ordinance "shall serve as the
only wetlands zoning ordinance under which any wetlands board is authorized to operate." The Virginia statute authorizes forestry activities in wetlands. The federal government has also addressed the wetland issue through Section 404 (f) of the Federal Clean Water Act Amendments of 1977 which provides an exemption for normal and established silvicultural activities in wetlands.

While 15 counties/12 cities (20%) specifically permit forestry activities in wetlands, the vast majority (80%) of Virginia localities do not specify authorized uses or activities within wetlands. The counties that do address wetlands by local ordinance are primarily located in the eastern portion of the state and would include New Kent and Fairfax, which have adopted the state wetlands ordinance.

Figure 8. Wetland Ordinances



In those counties that have to date not adopted a wetland ordinance, one must presume that forestry operations are nonetheless authorized, as state law seems to suggest. It would be preferable, however, for local codes to explicitly reflect the requirements of the state model wetland ordinance (§28.2-1302 Virginia Code). Finally, in light of the fact that both the federal government and the Commonwealth have addressed permitted uses in wetlands, it begs the question of whether local regulation of wetlands is even necessary or desirable.

Ordinance Samples:

James City County, Fairfax, & New Kent: Adoption of state ordinance-- "The following uses of and activities in wetlands are authorized if otherwise permitted by law: …Grazing, haying and cultivating and harvesting agricultural, forestry or horticultural products"

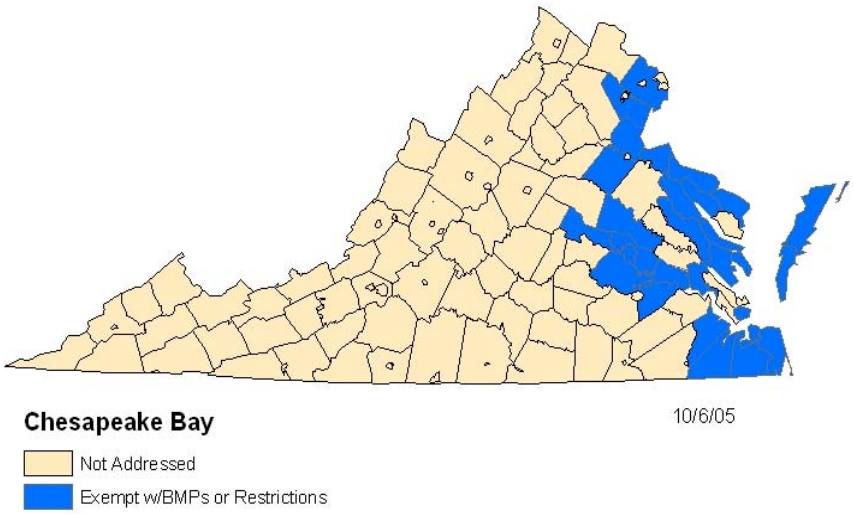
Chesapeake Bay

The Chesapeake Bay Preservation Act (§10.1-2100 *et seq.* Virginia Code) requires "that all localities within Tidewater Virginia incorporate general water quality protection measures into their comprehensive plans, zoning ordinances, and subdivision programs, in accordance with criteria established by the Commonwealth, that define and protect certain lands called Chesapeake Bay Preservation Areas." Silvicultural activities in these preservation areas are exempt from regulations "provided that [the] silvicultural operations adhere to water quality protection procedures prescribed by the Department of Forestry in its 'Forestry Best Management Practices Handbook for Water Quality in Virginia." However, Virginia's implementing regulations define 'silviculture' as forest management activities…that are conducted in accordance with silvicultural best management practices developed and enforced by the State Forester…and are located on property defined as real estate devoted to forest use under §58.1-3230 of the Code of Virginia (§9-20-120 Virginia Administrative Code). In effect, this makes DOF best management practices mandatory in Tidewater Virginia, and anywhere else a locality may choose in the future to adopt the state model ordinance. It also raises a concern

that the exemption from the Chesapeake Bay ordinances may only apply to those lands that meet the standard established by the VDOF for "forestry land use."

The majority of localities in eastern Virginia exempt forestry operations from the requirements within their Chesapeake Bay ordinances. Most of these exemptions are conditioned upon the use of VDOF best management practices or other restrictions. 23 counties and 10 cities require the use of best management practices or employ other restrictions upon forestry operations.

Figure 9. Chesapeake Bay Ordinances



The Virginia Silvicultural Water Quality Law was designed to protect streams from undesirable erosion and sedimentation due to silvicultural operations. This law does not mandate a particular set of practices to ensure water quality; relying instead on the application of best available technology. This raises the question: could localities instead simply require compliance with the existing state law instead of prescribing a fixed set of management standards? Again, the answer might well lie in how the Right to Practice Forestry law is applied.

Ordinance Samples:

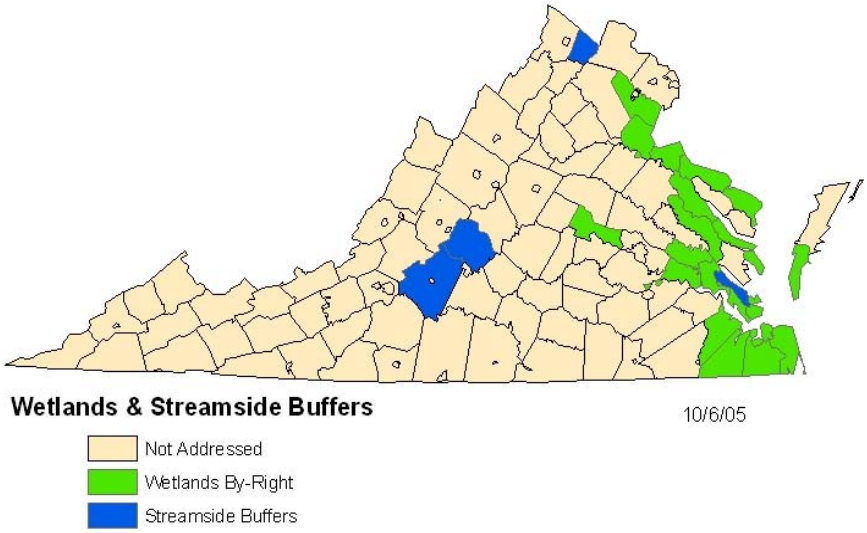
James City County: Chesapeake Bay Preservation Chapter "Silvicultural activities are exempt from the requirements of this chapter, provided that silvicultural operations adhere to water quality protection procedures prescribed by the Department of Forestry in its *Virginia's Forestry Best Management Practices for Water Quality*."

Streamside Buffers

Streamside management zones (SMZs), also known as buffer strips or streamside buffers, are designed to protect the water quality of streams adjacent to timber harvesting operations or other forest management activities. The VDOF best management practices recommend streamside management zones on perennial and intermittent streams of a minimum of 50 feet in width. The VDOF suggests that that up to 50 percent of the basal area or 50 percent of the forest canopy may be harvested from this buffer.

While relatively few counties currently require streamside buffers, the existing requirements tend to exceed the VDOF BMPs.

Figure 10. Streamside Buffer Ordinances



Sample Ordinances:

York: SMZ at least 50 feet in width, no timbering inside, shall be preserved on each side of all perennial and intermittent streams (Standards for Forestry Operations)
(Overlay Districts-WMP)—200 foot buffer strip shall be maintained along the edge of any tributary stream or reservoir…buffer shall be maintained in its natural state.

Bedford: 100 ft. vegetative buffer area shall be retained and maintained if present or established and maintained where it does not exist (Roanoke River).
-Alternative buffer may be used if approved by zoning administrator (50 ft minimum), no vegetation may be cleared within buffer area, silvicultural thinning may be conducted based upon best available technical advice of professional forester
-Silviculture exempted if practices adhere to water quality protection in BMP manual

III. Impact Analysis:

Introduction

County governments throughout the Commonwealth have passed ordinances that have the potential to seriously impact the forest industry, and to negatively affect the ability of private forest landowners to derive forest-based incomes from their properties. This study looks at a sample of four counties: Clarke County, James City County, Prince William County, and York County. Local ordinances passed in these counties were examined and their impact on forests assessed. The primary type of ordinances considered in this study require vegetative buffers along streams, roads, and/or property boundaries; harvesting is either prohibited or restricted in these buffers. These four counties were selected as their respective ordinances constitute some of the most comprehensive and restrictive in the Commonwealth. Should other localities embrace these ordinances as models for their own use it will be important to appreciate the impacts on forests and forest landowners.

We found that the ordinances passed by county governments impact forest management in direct and indirect ways. First, forestland that falls within the buffer boundaries is subject to restrictions that limit management options. The impact of the ordinance on a landowner or forestry operation may range from additional operational and monitoring costs to ensure compliance to partial or complete removal of timber resources from the potential commercial market. Second, these buffers create an indirect effect by fragmenting existing forest management units into smaller discontinuous blocks. Because forest harvesting relies on economies of scale for economic efficiency, commercial timber operations usually require a forest tract of at least 20 acres in size. While there are certainly exceptions, for the purposes of this analysis we consider discontinuous forested parcels (under a single ownership) less than 20 acres to be commercially inoperable. In many instances, the buffers required by ordinances parcelize once-operable forest tracts (those at least 20 acres in size) into inoperable forest tracts (less than 20 acres in size). By assessing the total forest area directly affected by these ordinances as well as those forest patches deemed inoperable as a result of ordinance implementation, we can better understand the potential impact of ordinances on a land area basis.

Methodology

The objective of the spatial analysis was to estimate forest land areas that might be affected, directly or indirectly, by ordinances regulating forest cover. To do this, we compiled data on forest cover within the Commonwealth of Virginia, as well as spatial data relevant to ordinances in the study counties (e.g., roads, streams, ownership parcels, topography, protected areas, and zoning overlays). A list of the data layers and sources used in this study is presented in Appendix E. The general analysis approach was simply to identify land areas subject to ordinances by depicting areas within a specified proximity (buffer) of relevant features such as streams, roads, or parcel boundaries. Forest areas (as defined by the Virginia Forest Land Use layer from VDOF) that lie within these buffer zones are deemed to be subject to the restrictions imposed by the ordinances. Existing protected areas, such as parks, preserves, and easements, were identified using data obtained by various federal and state agencies (Appendix E). These

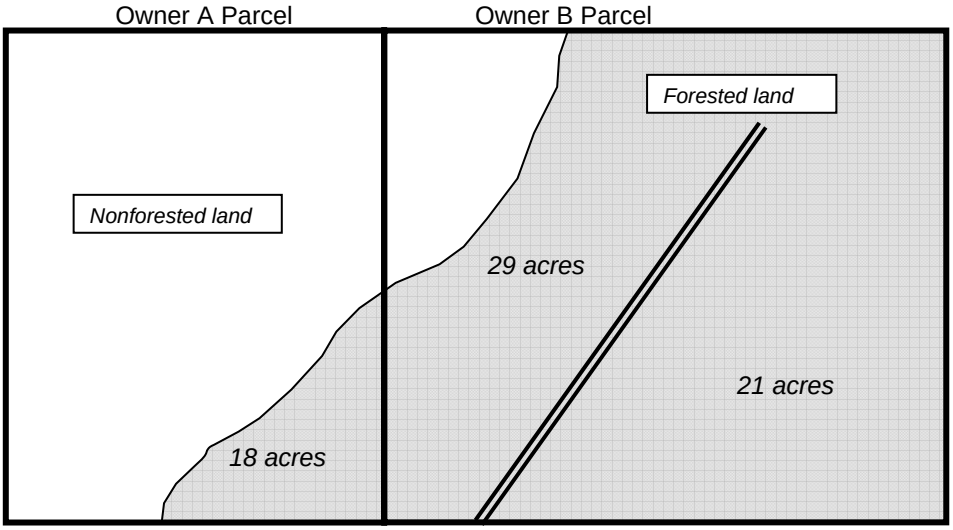
protected areas were omitted from this analysis as management is already restricted in these areas. All spatial analyses were conducted using ArcGIS 9.1 Geographic Information System (GIS) software from Environmental Systems Research Institute (ESRI).

A hypothetical example of the analysis for two owners with 68 acres of forest land is depicted in Figure 11 (not drawn to scale). Prior to simulation of ordinances (a), Owner A begins with a parcel containing 18 acres of forested land. Owner B has a parcel with 50 acres of forested land with a public road crossing the property. Because Owner A's forest contains less than 20 acres, we consider it commercially inoperable even prior to ordinance implementation. We simulate ordinances restricting harvest within a specified distance of property boundaries and roads by creating buffers adjacent to these features (b). Owner A now has 4 acres in parcel buffer; 14 acres remain commercially inoperable. Owner B now has 7 acres of forest within a road buffer, 9 acres of forest within a parcel buffer, and 3 acres that lie within both buffer zones and are therefore duplicated. Because of this duplication, the combined buffer area is 17 acres. Of the remaining forest outside buffer zones, 16 acres are now in a discontinuous piece and therefore considered commercially inoperable. Owner B has 21 acres of commercially operable forest land remaining. We summarize the impact of the ordinances on the hypothetical 68 acres of forested land as follows:

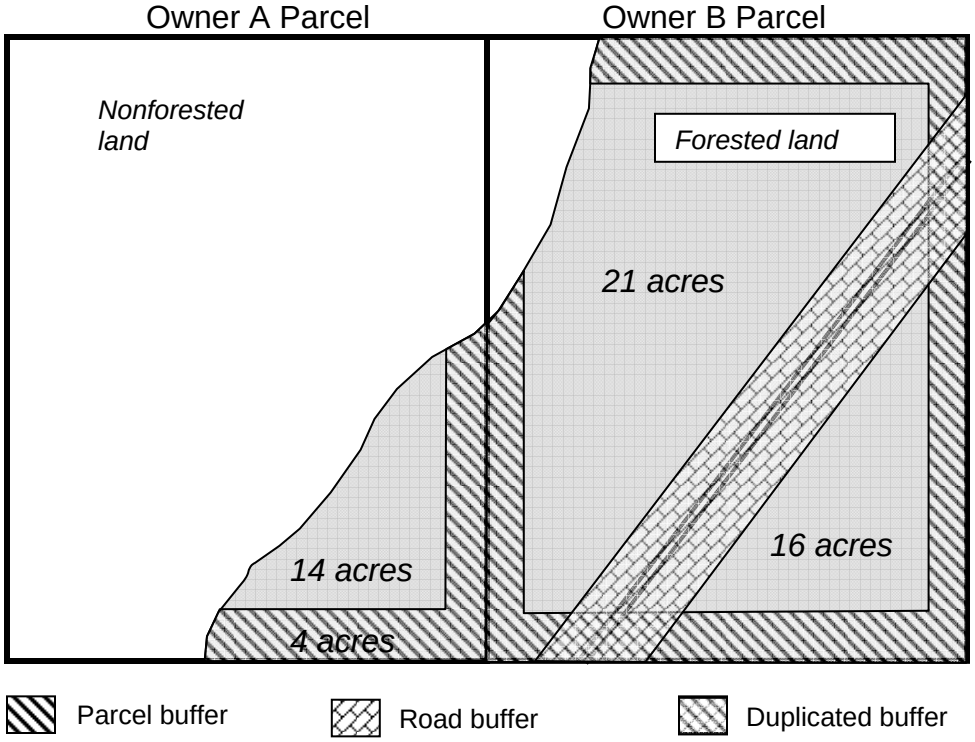
Pre-ordinance inoperable:	14 acres
Parcel buffer:	13 acres (4 in A; 9 in B)
Road buffer:	7 acres
Duplicated buffer:	3 acres
Combined buffer:	17 acres (13 + 7 - 3)
Post-ordinance inoperable:	16 acres
Unaffected:	21 acres

Figure 11. Hypothetical maps illustrating simulation of forest ordinances for two landowners.

(a) Before implementation of ordinances



(b) After implementation of ordinances



Results

The potential impacts of the ordinances in the four study counties are summarized in Table 1. The evaluation begins with identification of total forest area within the county, as measured by the forest land cover data from VDOF that falls within the county boundaries. Next, existing protected areas are subtracted to provide net forest area. Forest patches identified as being commercially inoperable prior to ordinance implementation were subtracted, resulting in "Current Operable Forest Area".

Forest areas subject to various ordinances were identified and categorized as road, stream, or parcel boundary ordinances. The combined area of ordinance buffer is the measure of the direct effect of ordinances within a county. After identification of areas directly affected by ordinances, the indirect effect of creation of inoperable small parcels was measured. Finally, the ordinance impact is expressed as the percentage of forest area affected both directly and indirectly by county ordinances. These figures are presented as both percent of total forest area and percent of current operable forest area.

Direct impacts ranged from 10% of operable forest area (James City County) to 33% (York County). Indirect impacts ranged from 2% of operable forest (James City and Prince William Counties) to 23% (York County). In general, indirect impacts amounted

to about one-third of direct impacts, meaning that for every three acres of forest land in ordinance buffers, another acre is likely to be removed from management due to reductions in forest patch sizes. The county with the least area affected by ordinances was James City County, which did not have a parcel boundary buffer ordinance. York County had the highest proportion of forest affected by ordinances, with over half of the operable forest affected directly or indirectly.

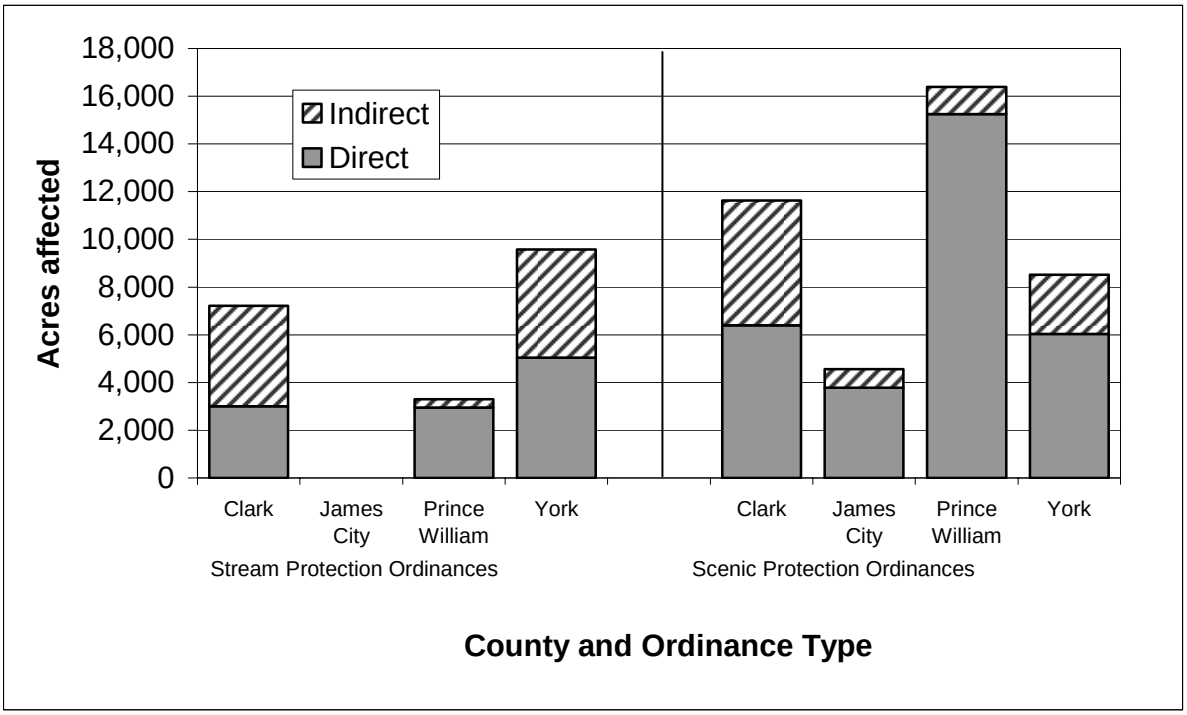
Different types of ordinances had different relative impacts. Stream buffer ordinances are generally intended to protect water quality; roadside and parcel boundary buffer ordinances are enacted to protect visual impacts from forest harvesting. Taken together, these ordinances designed to improve scenic values affected 31,857 acres directly and 9,625 acres indirectly. This may be compared to stream protection ordinances which directly and indirectly affected 11,400 acres and 9,052 acres, respectively (Figure 11). Thus, visual quality ordinances have more than double the impact of water quality protection ordinances.

Table 1. Area (acres) of forest and potential ordinance impacts by ordinance type and by county.

	Clarke County	**James City County**	**Prince William County**	**York County**	**Total**
Total Forest Area	53,796	62,308	124,558	45,858	287,118
Existing protected areas	2,907	5,350	16,236	14,525	39,018
Net Forest Area	50,889	56,958	108,321	31,334	248,100
Currently commercially inoperable (< 20 ac)	14,004	16,955	39,196	9,468	79,623
Current Operable Forest Area	36,885	40,003	73,081	21,866	168,477
Road ordinance buffers	1,791	3,781	-	1,935	7,507
Stream ordinance buffers	3,004	-	2,955	5,040	11,400
Parcel boundary ordinance buffers	4,608	-	15,247	4,096	24,350
Combined Ordinance Buffers	8,584	3,819	16,542	7,201	36,089
Post-ordinance inoperable forest	4,879	748	1,252	5,069	11,948
Total ordinance impact (acres)	13,463	4,567	17,840	12,270	48,037
Ordinance Impact (% of total forest area)	25%	7%	14%	27%	17%

Ordinance Impact (% of current operable forest)	36%	11%	24%	56%	29%

Figure 12. Areas affected directly and indirectly by stream protection ordinances and scenic protection ordinances (i.e., road and parcel boundary buffers).



Individual County Results

Clarke County

Clarke County has passed zoning ordinances that create buffers along property boundaries, roads, and streams. The current ordinances in Clarke County examined in this study include:

1. 25 foot buffer along public right-of-ways (thinning can not exceed 50% of crown cover or basal area);
2. 25 foot buffer along property lines (thinning can not exceed 50% of crown cover or basal area);
3. If a perennial stream or wetland flows through parcels qualifying for the Land Preservation Assessment (at least 20 acres in size), the following streamside buffer regulations apply:
    - Streambank is less than a 15 percent slope: 100 foot buffer
    - Streambank is between a 15 and 25 percent slope: 125 foot buffer
    - Streambank is at least a 25 percent slope: 150 foot buffer

4. If a perennial stream or wetland flows through parcels too small to qualify for the Land Preservation Assessment (less than 20 acres in size), the following streamside buffer regulations apply:
    - Streambank is less than a 15 percent slope: 35 foot buffer
    - Streambank is between a 15 and 25 percent slope: 45 foot buffer
    - Streambank is at least a 25 percent slope: 55 foot buffer
5. Intermittent streams falling outside of the Stream Protection Overlay District must have a 50 foot streamside buffer.

The Stream Protection Overlay District comprises major perennial streams and non-tidal wetlands throughout Clarke County and was designed to preserve ecological integrity of the stream corridors and reduce erosion, runoff, and non-point source pollution.

Our results suggest that all of the stream buffers combined directly affect 3,004 acres of forestland. An additional 4,217 acres of forestland are impacted by these stream buffers through forest fragmentation. The local ordinance with the single biggest impact on the forests of Clarke County is the twenty-five foot parcel buffer (Figure 13). The amount of forestland included in these buffers is 4,608 acres, with an additional 2,827 acres affected by fragmentation. Finally, the twenty-five-foot road buffer contains 2,404 acres of forest, and an additional 2,827 acres are affected by fragmentation. After all of the ordinances examined are combined, a total of 8,584 acres of forest are contained in the buffers, and 4,879 acres of forest have been split into inoperable forest patches. In other words, a total of 13,463 acres of forest in Clarke County are affected by the implementation of these ordinances. This number represents twenty-five percent of the total forest area in the county.

Figure 13. The total area affected by each Clarke County ordinance is reported as a function of forest area contained within buffers (gray) and area becoming commercially inoperable (hatched).

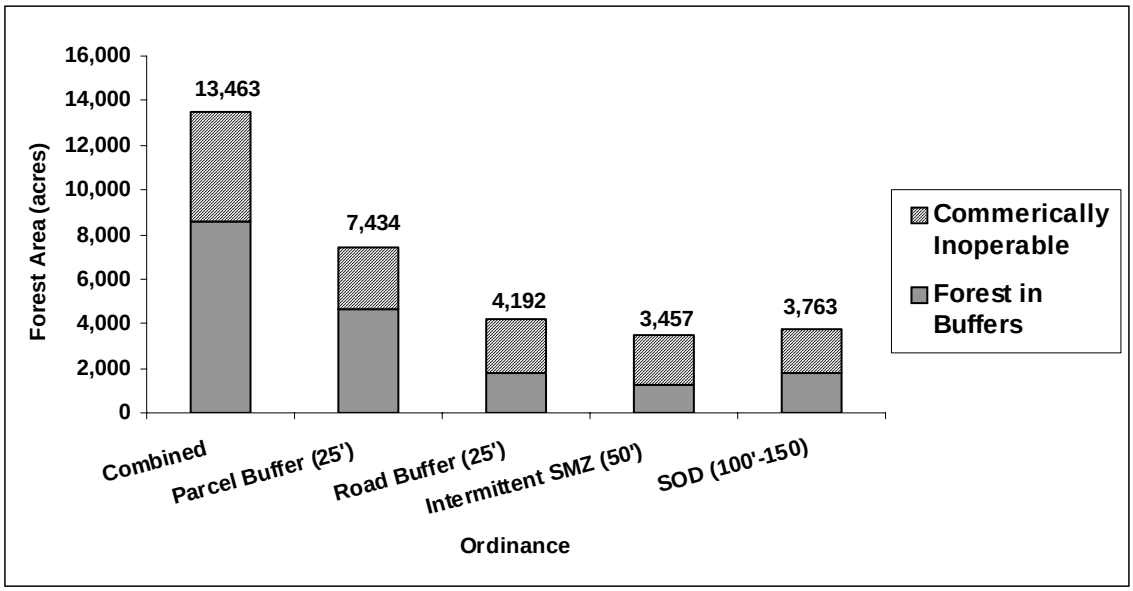
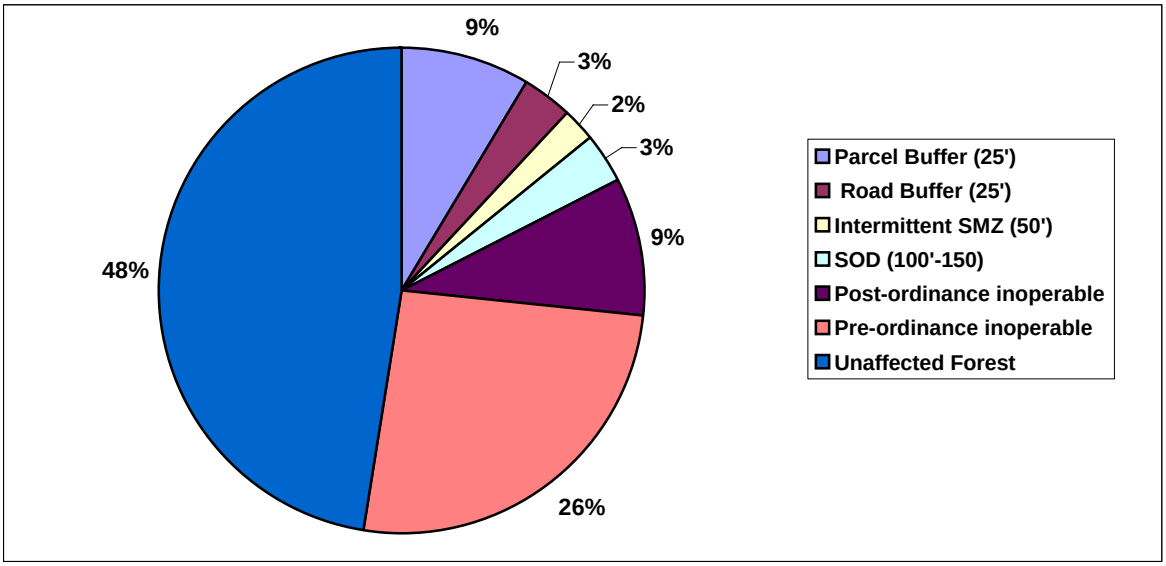


Figure 14. The impacts of the local ordinances in Clarke County reported as a percentage of total forest area.



Results: James City County

In accordance with Article II of their zoning regulations, James City County has the following ordinances that are designed to regulate timbering activities:

1. In General Agricultural Zones (A-1): Timbering shall be located 50 feet from any public right-of-way.
2. In all other Zones: Timbering shall not occur within 75 feet of public roads.
3. In residentially zoned areas, no timbering shall occur within 150 feet of community character corridors.

In James City County, three local ordinances have been passed in order to preserve the aesthetics of public roadways. By creating buffers along public right-of-ways, the county hopes that visitors and residents will better enjoy their experience in the county. The most valued roads have been designated by the county as Community Character Corridors (CCC). These special roads within James City County are described in detail in the county's 2003 Comprehensive Plan. According to the plan, the preservation of aesthetics along these roads will have a significant influence on visitors' perceptions of the county's character. Where these corridors run through residentially zoned areas, the county requires that a 150-foot buffer be established on either side of the road. Roads not designated as CCC still require buffers, although they are smaller (numbers 1 and 2 above). Figure 15 reports the amount of total forestland in James City County that is impacted by each ordinance. This value is a combined estimate of both forest area lying within the buffer boundaries and the amount of forestland that has become inoperable due to the fragmenting effect that buffers create.

Our study shows that the combined effect of the three zoning ordinances comprises 4,567 acres of forest in the county. 3,819 acres are areas of forest that lie within the buffer boundaries and are thus designated as protected areas. The remaining 748 acres of forest has been fragmented in that tracts once considered operable (at least 20 acres in size) are now split into inoperable forest tracts. Our study suggests that the single ordinance in James City County having the largest impact on forestland is that which calls for a seventy-five foot buffer along all public right-of-ways in areas not zoned as A-1 agriculture. An estimated 2,700 acres of forest within the county are contained within these designated buffers, and a further 484 acres have been fragmented into inoperable tracts as a result of this ordinance. These two values add up to 3,184 acres, or 4 percent of the total forest in the county affected by this single ordinance (Figure 15, Figure 16).

Figure 15. The total area impacted by each James City County ordinance is reported as a function of forest area contained within buffers (gray) and area becoming commercially inoperable (hatched).

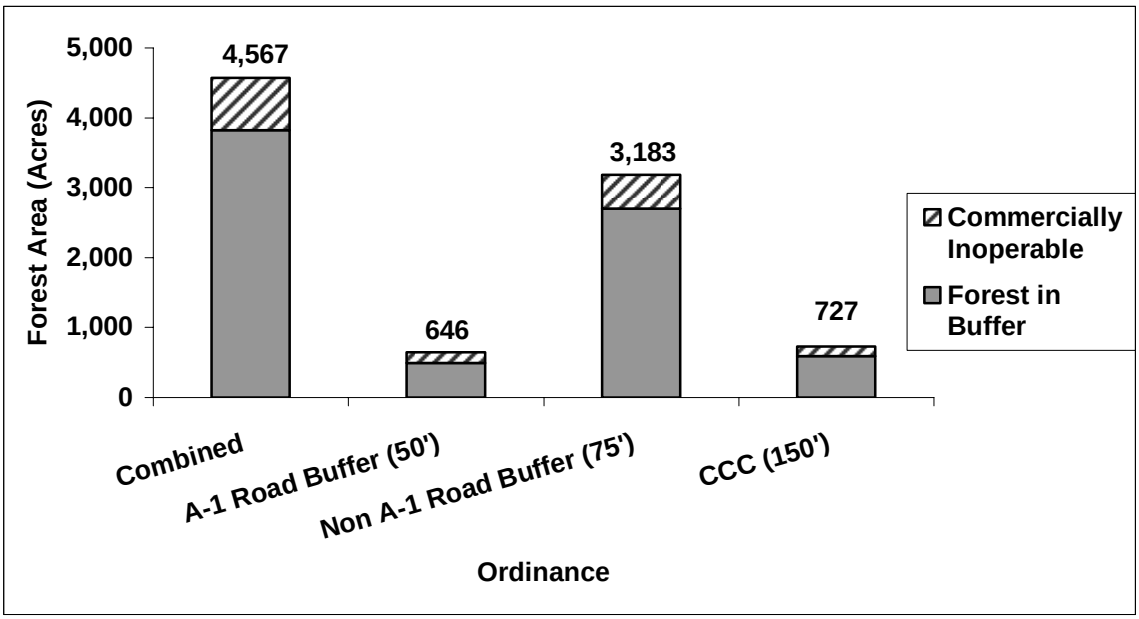
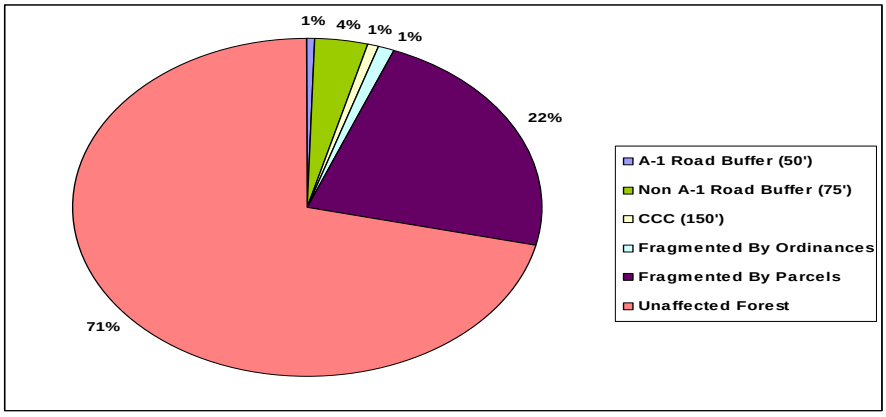


Figure 16. The impacts of the local ordinances in James City County reported as a percentage of total forest area.



Results: Prince William County

The Prince William County government has passed the following ordinances:

1. In Areas zoned as A-1 agricultural, no timbering within 50 feet of any property line adjoining areas zoned other than A-1 or whose primary use is residential.

2. Wooded slopes of 25 percent and greater that abut perennial streams and have contiguous area of 10,000 square feet or greater must be placed in a conservation area, and shall not be disturbed.

According to the Prince William County Comprehensive Plan, the county seeks to develop conservation areas close to streams with the goal to protect and manage the County's soils and natural vegetation. This ordinance is one action strategy developed by the county government as part of its environmental plan.

Our analysis reported a total of 124,558 acres of forest within Prince William County, of which 73,081 acres were considered operable prior to the implementation of ordinances. 17,840 acres of forest have been impacted by the local ordinances. This acreage represents 14 percent of the total forest cover in the county and 24 percent of the total operable forest in the county. 16,542 of those acres are forest falling within ordinance boundaries, while the other 1,252 acres have been fragmented into inoperable forest. The 50 foot parcel buffer has by far the largest single impact over forests in Prince William County. In fact, 88 percent of the total impacted forest area is contained within the parcel buffer. This is most likely a result of the large amount of subdivisions that exist in non-agriculturally zoned areas of Prince William County. We can see from Figure 17 however, that only 1,298 acres are fragmented into inoperable forest as a result of the implementation of this ordinance. This suggests that most of the forest that lies within the boundaries of the parcel buffers are already considered inoperable.

Figure 17. The total area impacted by each Prince William County ordinance is reported as a function of forest area contained within buffers (gray) and area becoming commercially inoperable (hatched).

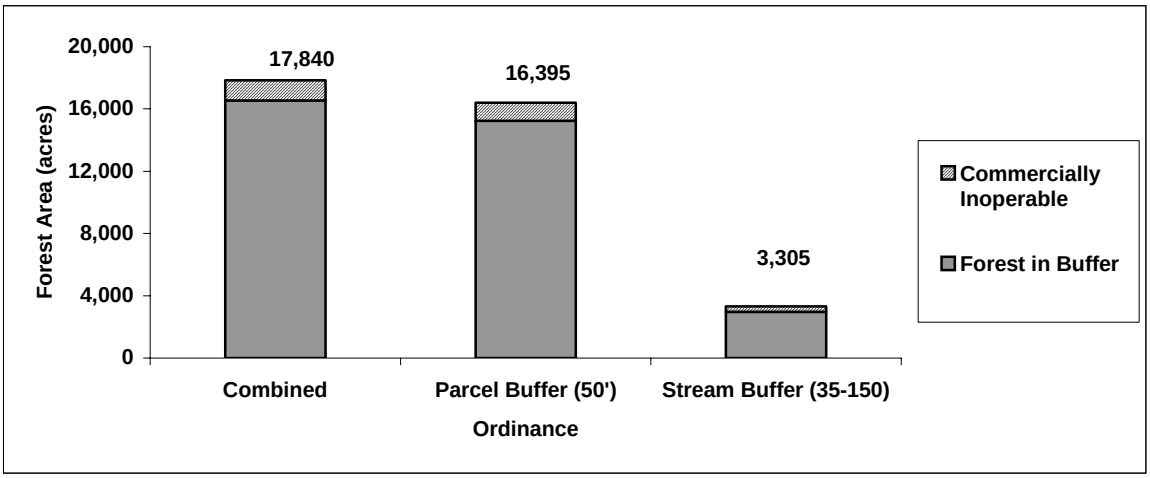
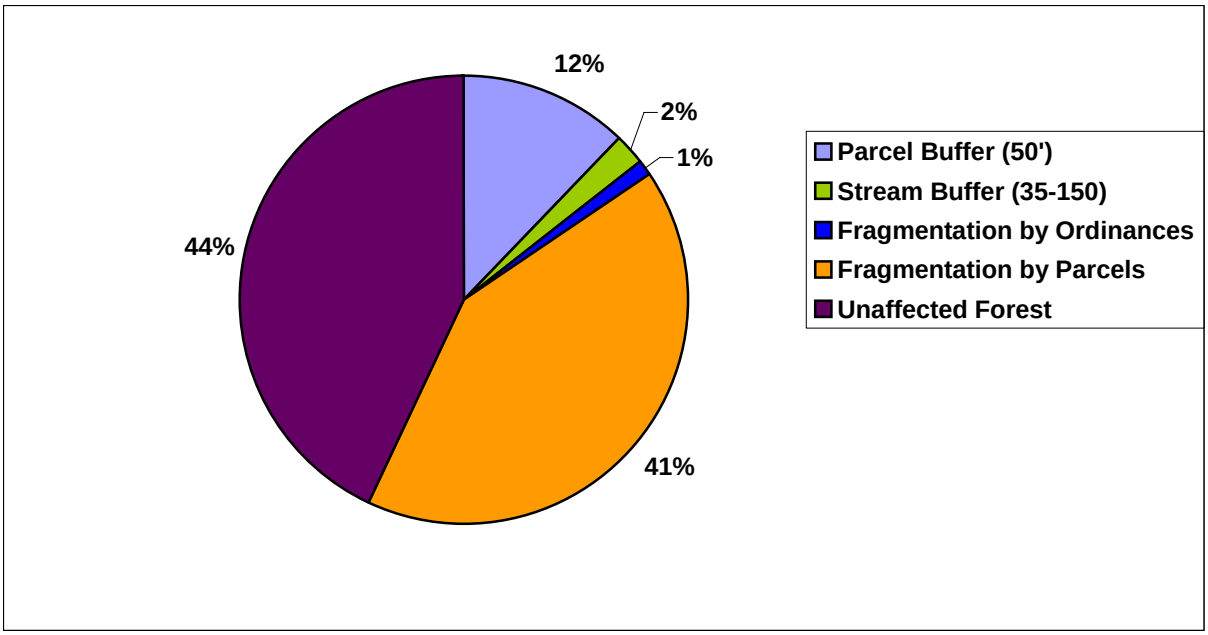


Figure 18. The impacts of the local ordinances in Prince William County are reported as a percentage of total forest area. Of the total forestland in the county, 31 percent has been previously fragmented into inoperable forest units by property boundaries. Of the remaining 59 percent of forest, a combined impact of 15 percent of the total forest area in Prince William County is reported.



Results: York County

The county-level ordinances for York County examined in this study include:

1. A 200 foot buffer along all reservoirs and tributary streams flowing into reservoirs;
2. 50 foot buffers along all public roads;
3. 25 foot buffer along all property lines;
4. 50 foot Streamside Management Zone (SMZ) along all perennial or intermittent streams where harvesting is prohibited or 100 foot SMZ along all perennial or intermittent streams where harvesting can only take 50 percent of the cover.

The first ordinance, which requires a 200 foot buffer along reservoirs and the accompanying tributary streams, was developed by the county with the intent to protect bodies of water that have the potential to be used as a water supply for the county's residents. These buffers are referred to as the Watershed Management and Protection Area Overlay.

Our study of York County suggests that the combined local zoning ordinances impact a total of 12,270 acres of forest, of which 7,201 acres are contained within the buffers and 5,069 acres are fragmented into inoperable forest tracts (Figure 19). This total impact represents 37 percent of the 45,858 total acres of forest in York County. The 100 foot SMZ requirement along all perennial and intermittent streams is shown to take the most acreage of forest out of operation.

Of the 5,555 acres of forest impacted by this single ordinance, 3,083 acres are contained within the buffers and 2,472 acres are fragmented into inoperable forest tracts. It should be pointed out however, that because 50 percent of the crown cover in these forests may be harvested, in reality the impact of this ordinance on forestry operations will be less than this analysis suggests. After parcelization of the forest and the impacts of these local zoning ordinances are factored in, a total of 42 percent of total forest in York County can be considered potential operable forest (Figure 20).

Figure 19. The total area impacted by each York County ordinance is reported as a function of forest area contained within buffers (gray) and area becoming commercially inoperable (hatched).

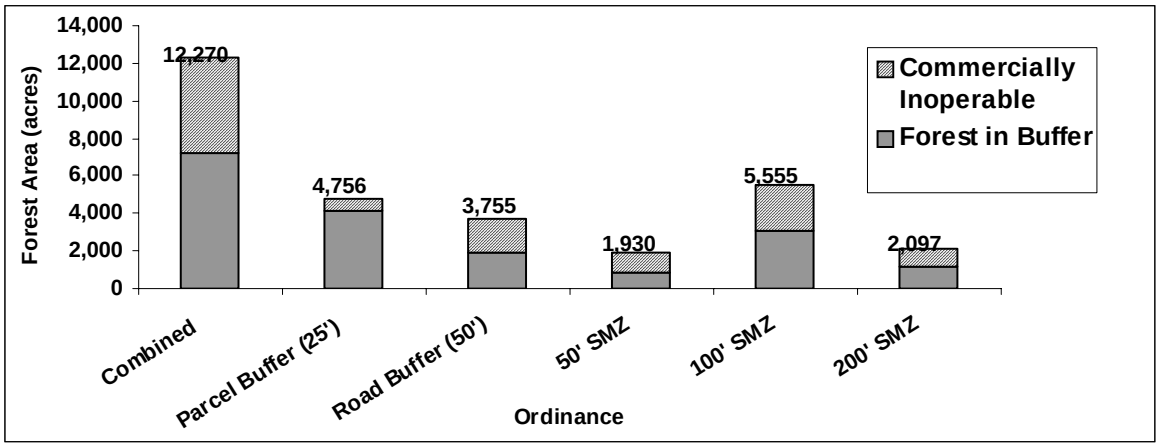
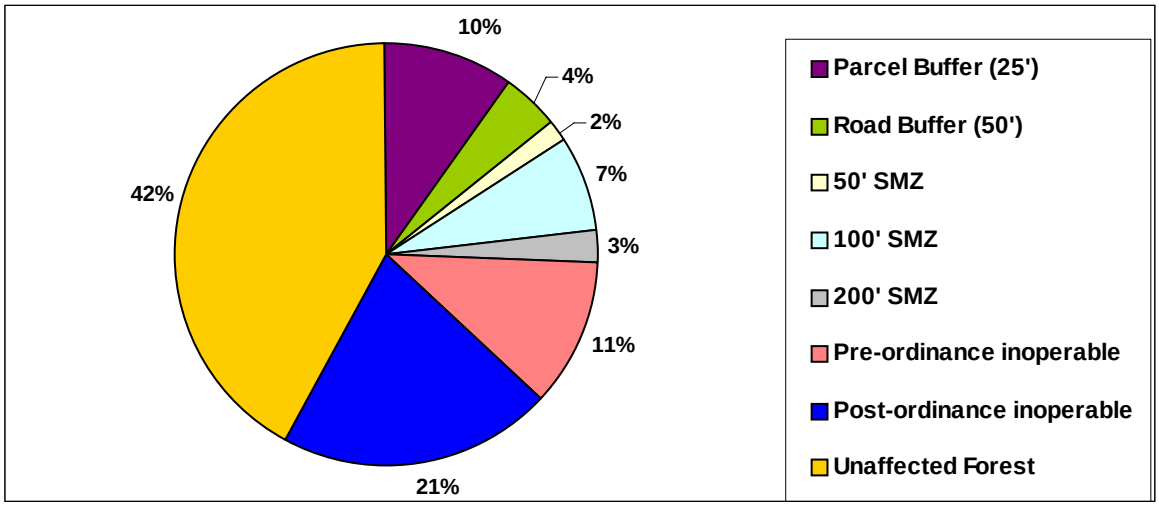


Figure 20. The impacts of the local ordinances in York County reported as a percentage of total forest area.



IV. Conclusions

While we would not describe the forest-related local ordinance situation in Virginia as epidemic, there certainly is an extensive number of ordinances. We also may be observing an increase in both the number of local ordinances and the number of local governments involved. While the Southern Forest Resource Assessment reported 44 local forest-related ordinances in 1992 and 77

in 2000, this report detected 379 in 2005. Additionally, all but four (4) local governments were engaged in some form of forest-related regulation. More importantly, we observe a fragmented, inconsistent, and confusing local regulatory landscape across the Commonwealth. Variations in how localities are treating the same issue, potential conflicts with state directives, duplicative regulations that add costs but may not contribute solutions, and the adoption of prescriptive standards fuel a situation wherein private forest landowners must face spatial limitations on the use of their properties, and the associated economic costs (Figure 21).

Figure 21. Property boundaries have been overlain on this digital aerial photo to illustrate the fragmentation and parcelization of a forest tract in the town of Seaford, York County, Virginia.

Consider that the average parcel size for a non-industrial forest landowner in Virginia was 22.7 acres in 1994. This is perilously close to the threshold for commercial inoperability (<20 acres). If roadside or property buffers are commonly enacted, a greater number of private forest landowners will face the spectre of not being able to continue economically managing their lands for timber purposes. Already, 75 percent of Virginia's forest landowners own parcels less than 20 acres. It is not in the best interest of sustaining Virginia's private forests to encourage ever greater parcelization, operational challenges, and economic obstacles.

If it is indeed important and desirable to maintain Virginia's working private forests, as the General Assembly appears to have decided (See SJR 75 and 367), we must also acknowledge that the developing pattern of local forest-related ordinances is not contributing to that goal. Should the type of ordinances analyzed in Section III become increasingly common, there is little doubt that Virginia's forest landowners and forest industry will be adversely affected. For these reasons, we would encourage the detailed consideration of North Carolina's approach to this policy issue (Appendix C).

V. Future Research Needs

Time and data availability considerations prevented both a more detailed economic analysis of the affects of existing ordinances, and the projection of regional ordinance effects. If desirable, we would suggest follow-on work designed to translate the effects we have identified into precise timber volumes and dollar amounts, both in terms of costs to individual landowners, and to the larger Virginia economy

VI. References

Birch, T.W. 1996. Private forest-land owners of the United States, 1994. Resour. Bull. NE-134. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Forest Experiment Station. 183 p.

Birch, T.W., S.S. Hodge, and M.T. Thompson. 1998. Characterizing Virginia's private forest owners and their forest lands. Res. Pap. NE-707. Radnor, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station. 10 p.

Boesch, D.F. and Greer, J. (eds.). 2003. Chesapeake futures: Choices for the 21st Century. Chesapeake Bay Scientific and Technical Advisory Committee. STAC Pub No. 03-001. Edgewater, MD.

Butler, B.J. and E.C. Leatherberry. 2004. America's family forest owners. *Journal of Forestry*. 102(7):4-9.

Ellefson, P.V., M.A. Kilgore, C.M. Hibbard, and J.E. Granskog. 2004. Regulation of forestry practices on private land in the United States: Assessment of state agency responsibilities and program effectiveness. Staff paper Series Number 176. University of Minnesota, College of natural Resources and Agricultural Experiment Station, Department of Forest Resources: St. Paul, MN 191 p.

Macie, E.A. and L.A. Hermansen (eds.). 2002. human influences in the forest ecosystems: The southern wildland-urban interface assessment. Gen. Tech. Rep. SRS-55. Ashville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 159 p.

Mortimer, M.J. H.L. Haney, Jr. and J.J. Spink. 2003. When worlds collide: Science and policy at odds in the regulation of Virginia's private forests. *Journal of Natural Resources & Environmental Law*. 17(1): 1-26.

Mortimer, M.J. and D. H. Jenkins. 2003. Forests at the fringe: Sustaining private forests by avoiding perverse incentives. *Journal of Multistate Taxation and Incentives* 12(10):28-37.

Thompson, M.T. and T. G. Johnson. 1996. A forested tract-size profile of Virginia's NIPF landowners. Res. Pap. SRS-1. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 8 p.

Sampson, N and L. DeCoster. 2000. Forest fragmentation: Implications for sustainable private forests. *Journal of Forestry* 98(3):4-8.

Wear, D.N. and J.G. Greis (eds.). 2002. Southern forest resource assessment. Gen Tech. Rep. SRS-53. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern research Station. 635 p.

Wear, D.N. , R. Liu,, J.M. Foreman, and R.M. Sheffield. 1999. The effects of population growth on timber management and inventories in Virginia. *Forest Ecology and Management*. 118: 107-115.

VII. Appendices:

A. Sustainable Forestry Initiative (http://www.aboutsfi.org/core.asp)

SFI Principle 8, Objective 11

"Commitment to comply with applicable federal, provincial, state, or local laws and regulations."

"Performance Measure 11.1. P*rogram Participants* shall take appropriate steps to comply with applicable federal, provincial, state, and local forestry and related environmental laws and regulations."

B. Senate Joint Resolutions 75 and 367

2004 SESSION

ENROLLED

SENATE JOINT RESOLUTION NO. 75

Requesting the Virginia Board of Forestry to study the provision of incentives to private landowners to
hold and preserve their forestland. Report.

Agreed to by the Senate, February 17, 2004
Agreed to by the House of Delegates, March 9, 2004

WHEREAS, Virginia's forestland covers two-thirds of the Commonwealth's land cover and is one of our most valuable natural resources; and

WHEREAS, the 15 million acres of forestland protect our watersheds, provide food and cover for
wildlife, help purify air, provide products for Virginians' daily needs, and afford recreational opportunities for its citizens; and

WHEREAS, almost 80 percent of Virginia's forestland is owned by private individuals and small corporations that invest their resources in providing stewardship of these lands; and

WHEREAS, Virginia's population continues to increase, with development extending further into
rural areas, resulting in the loss of forestland as it is converted to other uses; and

WHEREAS, restrictive regulations, escalating real estate taxes, increasing zoning and local ordinances act as disincentives for retaining forestland and open space; and

WHEREAS, Virginia's continued loss of forestland will have an undesirable effect on our environment and economic well-being; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Virginia Board of Forestry be requested to study the provision of incentives to private landowners to hold and preserve their forestland.

In conducting its study, the Virginia Board of Forestry shall (i) review laws and programs of other states, localities, and agencies and (ii) seek comments and recommendations from citizens, conservation groups, farm and forest landowner association representatives and forest industry association representatives for the purpose of recommending mechanisms that will provide

incentives to private landowners to maintain and preserve their forestland for the environmental and economic benefit of the Commonwealth.

Technical assistance shall be provided to the Virginia Board of Forestry by the staff of the Virginia Department of Forestry. All agencies of the Commonwealth shall provide assistance to the Virginia Board of Forestry for this study, upon request.

The Virginia Board of Forestry shall complete its meetings by November 30, 2004, and shall submit to the Governor and the General Assembly an executive summary and a report of its findings and recommendations for publication as a document. The executive summary and report shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports no later than the first day of the 2005 Regular Session of the General Assembly and shall be posted on the General Assembly's website.

ENROLLED SJ75ER

2005 SESSION

ENROLLED

SENATE JOINT RESOLUTION NO. 367

Requesting the Board of Forestry to continue its study of providing incentives to private landowners tohold and preserve their forestland. Report.

Agreed to by the Senate, February 2, 2005

Agreed to by the House of Delegates, February 24, 2005

WHEREAS, Senate Joint Resolution No. 75 (2004) requested the Board of Forestry to study the provision of incentives to private landowners to hold and preserve their forestland; and

WHEREAS, the Board held eight public meetings in 2004 to seek comments and recommendations from citizens, conservation groups, farm and forest landowners, association representatives, and forest industry association representatives concerning the various mechanisms that would provide incentives to private landowners to maintain and preserve their forestland; and

WHEREAS, the Board reviewed the laws and programs of other states, localities, and agencies that provide such incentives; and

WHEREAS, the Board conducted a focus group composed of representatives of localities, conservation groups, associations, and the forest industry to review draft recommendations; and

WHEREAS, the Board submitted an executive summary and report of its findings and recommendations to the Governor and General Assembly on December 29, 2004; and

WHEREAS, the Board's report recommends that the study be continued to consider developing a voluntary, statewide forest protection program and to examine the impact, financial or otherwise, of local ordinances on the ability of nonindustrial, private landowners to manage their forestlands; now, therefore, be it

RESOLVED by the Senate, the House of Delegates concurring, That the Board of Forestry be requested to continue its study of providing incentives to private landowners to hold and preserve their forestland.

In conducting its study, the Board shall examine (i) the relative merits of developing a voluntary,

statewide forest protection program and (ii) the impact, financial or otherwise, of local ordinances on the ability of nonindustrial, private landowners to manage their forestlands. Technical assistance shall be provided to the Board by the Department of Forestry. All agencies of the Commonwealth shall provide assistance to the Board for this study, upon request.
The Board shall complete its meetings by November 30, 2005, and shall submit to the Governor and General Assembly an executive summary and a report of its findings and recommendations for publication as a House or Senate document. The executive summary and report shall be submitted as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports no later than the first day of the 2006 Regular Session of the General Assembly and shall be posted on the General Assembly's website.

ENROLLED SJ367ER

C. North Carolina Session Law 2005-447 <u>An act to clarify the role of counties and cities in regulating certain forestry activities</u>

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2005
SESSION LAW 2005-447
SENATE BILL 681
AN ACT TO CLARIFY THE ROLE OF COUNTIES AND CITIES IN REGULATING CERTAIN FORESTRY ACTIVITIES.
The General Assembly of North Carolina enacts:

SECTION 1. Article 23 of Chapter 153A of the General Statutes is amended by adding a new section to read:
"**§ 153A-451. Restriction of certain forestry activities prohibited.**
(a) The following definitions apply to this section:
(1) Development. – Any activity, including timber harvesting, that is associated with the conversion of forestland to nonforest use.
(2) Forestland. – Land that is devoted to growing trees for the production of timber, wood, and other forest products.
(3) Forestry. – The professional practice embracing the science, business, and art of creating, conserving, and managing forests and forestland for the sustained use and enjoyment of their resources, materials, or other forest products.
(4) Forest management plan. – A document that defines a landowner's forest management objectives and describes specific measures to be taken to achieve those objectives. A forest management plan shall include silvicultural practices that both ensure optimal forest productivity and environmental protection of land by either commercially growing timber through the establishment of forest stands or by ensuring the proper regeneration of forest stands to commercial levels of production after the harvest of timber.
(5) Forestry activity. – Any activity associated with the growing, managing, harvesting, and related transportation, reforestation, or protection of trees and timber, provided that such activities comply with existing State rules and regulations pertaining to forestry.

(b) A county shall not adopt or enforce any ordinance, rule, regulation, or resolution that regulates either:
(1) Forestry activity on forestland that is taxed on the basis of its present-use value as forestland under Article 12 of Chapter 105 of the General Statutes.
(2) Forestry activity that is conducted in accordance with a forest management plan.
(c) This section shall not be construed to limit, expand, or otherwise alter the authority of a county to:
(1) Regulate activity associated with development. A county may deny a building permit or refuse to approve a site or subdivision plan for either a period of up to:
a. Three years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under county regulations governing development from the tract of land for which the permit or approval is sought.

b. Five years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under county regulations governing development from the tract of land for which the permit or approval is sought and the harvest was a willful violation of the county regulations.
(2) Regulate trees pursuant to any local act of the General Assembly.
(3) Adopt ordinances that are necessary to comply with any federal or State law, regulation, or rule.
(4) Exercise its planning or zoning authority under Article 18 of this Chapter."
SECTION 2. Article 19 of Chapter 160A of the General Statutes is amended by adding a new section to read:
"**§ 160A-458.5. Restriction of certain forestry activities prohibited.**
(a) The following definitions apply to this section:
(1) Development. – Any activity, including timber harvesting, that is associated with the conversion of forestland to nonforest use.
(2) Forestland. – Land that is devoted to growing trees for the production of timber, wood, and other forest products.
(3) Forestry. – The professional practice embracing the science, business, and art of creating, conserving, and managing forests and forestland for the sustained use and enjoyment of their resources, materials, or other forest products.
(4) Forest management plan. – A document that defines a landowner's forest management objectives and describes specific measures to be taken to achieve those objectives. A forest management plan shall include silvicultural practices that both ensure optimal forest productivity and environmental protection of land by either commercially growing timber through the establishment of forest stands or by ensuring the proper regeneration of forest stands to commercial levels of production after the harvest of timber.
(5) Forestry activity. – Any activity associated with the growing, managing, harvesting, and related transportation, reforestation, or protection of trees and timber, provided that such activities comply with existing State rules and regulations pertaining to forestry.
(b) A city shall not adopt or enforce any ordinance, rule, regulation, or resolution that regulates either:
(1) Forestry activity on forestland that is taxed on the basis of its present-use value as forestland under Article 12 of Chapter 105 of the General Statutes.

(2) Forestry activity that is conducted in accordance with a forest management plan that is prepared or approved by a forester registered in accordance with Chapter 89B of the General Statutes.
(c) This section shall not be construed to limit, expand, or otherwise alter the authority of a city to:
(1) Regulate activity associated with development. A city may deny a building permit or refuse to approve a site or subdivision plan for either a period of up to:
a. Three years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under city regulations governing development from the tract of land for which the permit or approval is sought.
b. Five years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that SL2005-0447 Session Law 2005-447 Page 3 were protected under city regulations governing development from the tract of land for which the permit or approval is sought and the harvest was a willful violation of the city regulations.
(2) Regulate trees pursuant to any local act of the General Assembly.
(3) Adopt ordinances that are necessary to comply with any federal or State law, regulation, or rule.
(4) Exercise its planning or zoning authority under this Article.
(5) Regulate and protect streets under Article 15 of this Chapter."
SECTION 3. This act is effective when it becomes law.
In the General Assembly read three times and ratified this the 23rd day of August, 2005.
s/ Beverly E. Perdue
President of the Senate
s/ James B. Black
Speaker of the House of Representatives
s/ Michael F. Easley
Governor
Approved 12:45 p.m. this 29th day of September, 2005

D. Virginia Society of American Foresters Position Statement

Society of American Foresters
Growing better all the time

Professional Forest Management in Virginia

A Position of the Virginia Division Society of American Foresters

Final Draft 4/2/04

Position

The Virginia Division Society of American Foresters advocates the development of forest management plans prior to commercially harvesting timber. These forest management plans should be developed or endorsed by an SAF Certified Forester® or other equivalently certified/licensed forester. These management plans must, at a minimum address landowner objectives, forest regeneration, the maintenance of water quality, and the sustainability of forest resources.

Issue

The role that different forest practices, professional foresters, and legislation should play in the management of Virginia's private forests has been a recurring policy debate. The benefits of professional forester involvement in private forest land management are numerous. Professional foresters are educated and trained to deal with rare or endangered species, identify and protect unique habitats, and to evaluate site conditions and make recommendations on how and when harvesting should occur so that the desired regeneration is likely to become established while meeting stated goals. Consultation with professional foresters can enhance the economic return to landowners from forest management (Munn and Rucker 1994). Professional foresters properly deal with access, and insure that roads are placed and built to enhance the value of property and meet or exceed water quality standards. Professional foresters can acknowledge and plan for sustained visual quality if appropriate. Forests will be actively or passively managed by organizations, individuals, governments, or businesses, and professional foresters are the only ones specifically educated, trained, and certified to do so. Private landowners have the right to determine the objectives for their forests, but professional foresters are best qualified to help them achieve those goals.

Involvement of professional foresters can obviate the need for prescriptive forest practices regulation at the federal, state, and local level. Examples of prescriptive forest practices regulation include prohibiting clearcutting, restricting harvest unit size to 40 acres, or excluding timber harvesting within an arbitrary established distance from a water body.

Background

Forests cover 61 percent, or 15 million acres of the Commonwealth's land base, and over three-quarters of Virginia's forests are controlled by more than 400,000 private forest landowners not directly connected with government or the forest industry. However, only about 17% of Virginia's forest landowners have written management plans (Birch and others 1998).

Ranging in individual parcels from 1 to over 10,000 acres, these private forests collectively form an enormous social asset providing wood and non-timber forest products, filtering air pollution, protecting soil and water resources, supplying fish and wildlife habitat, and creating outdoor recreation and ecotourism opportunities. Often unrecognized by the public and politicians for the role forests play in mitigating air and water pollution, the historic Chesapeake Bay Agreement explicitly recognized the essential contribution of riparian forests toward meeting reduced nutrient and sediment loads into the Chesapeake Bay (Commonwealth of Virginia 1999). While the forest's ability to contribute both predictable water quantity and quality is well established, and while some municipal water supplies are protected by publicly owned watersheds, many are not; instead relying upon a landscape mosaic of privately held forestland. Additionally, industries relying on Virginia's private and public forests employ nearly 250,000 individuals throughout all regions of the Commonwealth and contribute over 30 billion dollars annually to Virginia's economy (Virginia Department of Forestry 2002).

Though Virginia's forests contribute substantial benefit to the Commonwealth, including forest products, recreation, water quality, and wildlife habitat, uncertainty remains between society's respect for forest landowners' property rights, and the landowners' stewardship responsibility to society (SAF 2002).

A number of state and local governments regulate private forest practices in an effort to ensure public health, welfare, and safety by protecting private forest resources. Some states and localities have adopted forest practice regulations to sustain forest productivity and timber supplies. Others, responding to federal water quality legislation, have adopted regulations to control the levels of sediment from timber harvest activities (SAF 2002). Still others have introduced legislation to restrict forest management activities for reasons that are based on emotion or aesthetics rather than science (Mortimer and Jenkins 2003).

Advocates of a forest practices act argue that Virginia's existing statutes are somehow ineffective, that voluntary compliance with best management practices (BMP's) does not guarantee best management, and perhaps most compelling, that if proactive steps are not taken to ensure sustainable forest practices such legislation will ultimately be enacted by those interested in seeing an end to modern commercial forestry (Mortimer 2003).

The opponents of a forest practices act argue to the contrary: that Virginia's current set of laws is adequate, that voluntary best management practices are both efficient and effective, and more ominously, that enacting any sort of forest practices act will provide the impetus for ever more onerous restriction of forest management witnessed in the West Coast state's regulations (Mortimer 2003).

Often lost in the argument between opposing sides is one simple fact: forest management is best practiced by professional foresters.

Excessive or inappropriate regulation is often cited as a disincentive to maintaining forest land, and for infringing upon private property rights (Mortimer and others 2003). However, it is unlikely that sustainable forest practices will become the norm without greater involvement by professional foresters. Additionally, the risks posed by forest fragmentation and local regulations can be mitigated by the participation of professional foresters in the planning and implementation of commercial timber harvesting operations such as clearcutting. Unscientific practices such as selective cutting—often called high grading—necessitate the consultation of professional foresters prior to implementation.

All SAF foresters have an ethical responsibility to manage land sustainably, and to practice and advocate management that will maintain the long-term capacity of the land to provide the material, uses, and values desired by both landowners and society (SAF 2000).

In response to threats to the southern forest resource, real and perceived, some groups now advocate that comprehensive forest practices acts be adopted at the state level to regulate activity on private lands (Jenkins 2002). Although Virginia currently has an assemblage of laws governing the use of the Commonwealth's private forests, this body of regulation is not called or thought of as a "forest practices act" *per se*. These regulations include the following (Mortimer and Garner 2003):

Protecting Virginia's Forests from Wildfire:
- Cost Recovery for Fire Protection: Va. Code Annotated, §10.1-1141
- Burning Law: Va. Code Ann. §10.1-1142
- Appointment and Duties of Forest Wardens: Va. Code Ann. §10.1-1135, 1136
- Serious Fire Hazards: Va. Code Ann. §10.1-1158

Protecting Virginia's Waters:
- Silvicultural Activities Affecting Water Quality: Va. Code Ann. §10.1-1181.1 to 1181.7
- Chesapeake Bay Preservation Act: Va. Code Ann. §4.2.10 and 4.3B
- Protection of State Waters: Va. Code Ann. §10.1-1105 (including development of BMPs)
- Prevention of Debris in Streams: Va. Code Ann. §62.1-194.2

Conservation of Virginia's Forests:
- Seed Tree Law: Va. Code Ann. §10.1-1162 to 1169
- Pesticide Regulation: Va. Code Ann. §3.1-249.30
- Forest Insects and Disease: Va. Code Ann. §10.1-1177 to 1181

Regulated Incentive Program for Forest Landowners:
- Timber Growth: Va. Code Ann. §10.1-1106
- Reforestation Cost Share: Va. Code Ann. §10.1-1170 to 1176
- Land Use Taxation: Va. Code Ann. §58-1-3230 to 3244
- Riparian Buffer Tax Credit: Va. Code Ann. §58.1-339.10

While not collected in a single, comprehensive document, crucial forestry concerns such as tree regeneration, wildfire, and watershed degradation are all included within the Department of Forestry's legal mandates. Other state laws provide for many of the same public benefits that might otherwise require costly regulations (Mortimer and Garner 2003). For example:

• Va. Code Ann. 10.1-1107 which provides authority for the DOF to acquire and accept land for the establishment or expansion of state forests;

• Va. Code Ann. 10.1-121 to 1123 which required the DOF to design and execute management plans for forestland owned by other state agencies.

• Va. Code Ann. 10.1-1105.1 to 1150.6 which establishes a certified burn manager program ensuring that when prescribed fire is used as a forest management tool, individuals are properly trained and professionally certified;

• Directive No. 94 establishing the DOF as the lead state agency in establishing 610 miles of riparian buffers.

Common to these laws is a commitment to conserving Virginia's forests, consideration of environmental concerns, stewardship of private forest resources, and protection of the rights of private forest landowners. However, there is a glaring absence of a requirement that professional foresters be involved in commercial timber harvesting. That absence can undermine the goals set out in Virginia law, and can aggravate the existing risks to Virginia's forests. The fact that nearly 83% of Virginia's private forestland owners do not have written management plans and that forests can be, and frequently are, harvested in Virginia without any involvement of professional foresters means that the interests of Virginians in sustaining healthy and productive forests cannot be assured. Commercial timber harvesting is often the single most objectionable forest practice in the public's view, and professionals educated and trained in the protection of forest values should be involved in the application of that forest practice.

Professional involvement in forest management plans, and the development of those plans, can be accomplished or encouraged in the following ways: 1) strictly voluntary, 2) voluntary with an educational component, 3) providing incentives such as tax preferences or cost-sharing, and 4) regulation. Common to all of these alternatives should be the objective to protect private property rights by making landowner objectives the first element of the management plan and by excluding restrictive local regulations. Any alternative should also protect landowners from challenges by adjacent landowners, local municipalities, and other groups objecting to the management plan and the ensuing harvesting. Third parties, be they private or public, should have no standing to question or challenge an approved management plan. Compliance with management plans should additionally preempt any and all local forest-related ordinance(s).

Landowners who are capable and so inclined should be able to develop their own management plans, as long as they conform, through endorsement by a certified forester, to accepted professional standards. This enables landowners to avoid most of the costs associated with the development of management plans. Just as important is that no additional burden should be

imposed on large industrial landowners and public agencies, as they already have professional foresters on staff and offer professionally prepared management plans.

Certified professional foresters, with their experience, education and training, are best able to manage the highly valuable and extremely complex forest resources of Virginia.

References

Birch, T.W., S.S. Hodge, and M.T. Thompson. 1998. *Characterizing Virginia's private forest owners and their forest lands*. Res. Pap. NE-707. Radnor , PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station. 10 p.

Commonwealth of Virginia. 1999. *Preserving water quality in the Chesapeake through establishment of riparian buffers along streams throughout the Commonwealth.* Executive Order 48 (Office of Governor Gilmore, 6/28/99).

Jenkins, D. 2002. Does your state have a forest practices act? *The Trail Blazer*. Winter 2002-2003:8.

Mortimer, M.J. 2003. The fear of forest practices acts: bogeymen or bona fide? *Forest Landowner* 62(6):5-7.

Mortimer, M .J. and J.W. Garner. 2003. Yes Virginia, there is a "Forest Practices Act." *Virginia Forest Landowner Update* 17(1):1.

Mortimer, M.J., H.L.. Haney, Jr., and J.J. Spink. 2003. When worlds collide: Science and policy at odds in the regulation of Virginia's private forests, *Journal of Natural Resources and Environmental Law.* 17(1):1-26.

Mortimer, M.J. and D.H. Jenkins. 2003. Perverse policy incentives: Challenges for local governments and Virginia's forests. *Virginia Issues and Answers* 10(1):26-31.

Munn, I.A. and R.R. Rucker. 1994. The value of information services in a market for factors of production with multiple attributes: The role of the consultants in private timber sales. *Forest Science* 40(3): 474-496.

Society of American Foresters. 2000. Code of Ethics. Bethesda, MD.

Society of American Foresters 2002. *Public Regulation of Private Forest Practices: A Position of the Society of American Foresters*. Bethesda, MD.

Virginia Department of Forestry. 2002. *Virginia's forests: Our common wealth*. Charlottesville, VA.

ABOUT THE SOCIETY

The Society of American Foresters, with about 17,000 members, is the national organization that represents all segments of the forestry profession in the United States. It includes public and private practitioners, researchers, administrators, educators, and forestry students. The Society was established in 1900 by Gifford Pinchot and six other pioneer foresters.

The mission of the Society of American Foresters is to advance the science, education, technology, and practice of forestry; to enhance the competency of its members; to establish professional excellence; and to use the knowledge, skills, and conservation ethic of the profession to ensure the continued health and use of forest ecosystems and the present and future availability of forest resources to benefit society.

The Society is the accreditation authority for professional forestry education in the United States. The Society publishes the *Journal of Forestry*; the quarterlies, *Forest Science*, *Southern Journal of Applied Forestry*, *Northern Journal of Applied Forestry*, and *Western Journal of Applied Forestry*; *The Forestry Source*, and the annual Proceedings of the Society of American Foresters national convention.

E. Methods, sources and characteristics of spatial datasets used in ordinance impact study.

Before the analysis of local zoning ordinances was carried out, a preliminary analysis of the existing forest conditions was needed. The purpose of this preliminary analysis was to determine how much of the forest in a county would be considered commercially inoperable, defined herein as a contiguous forest patch (within an ownership parcel) that consists of less than 20 acres. Overlaying the parcel boundaries for a county with the forest land layer enabled us to determine the amount of commercially inoperable forest prior to consideration of ordinances.

Next, the impact of local ordinances on the total forest area was estimated. To obtain this estimate, GIS layers simulating each local ordinance were developed. Then, these ordinance layers were overlayed onto the forest land layer. Those sections of the forest layer which were overlapped by a particular local ordinance buffer were identified. Then, the total remaining area of forest was calculated.

Finally, the fragmentation of operable forest patches into inoperable forest patches as a result of local ordinances was quantified. All forest patches that were deemed operable prior to simulation of ordinances but were split into smaller inoperable patches by ordinance buffers were identified.

Location	Layer	Source
Clarke County	Parcel Boundaries	Clarke County Government
	Hydrography	USGS National Hydrography Dataset
	Road Centerlines	Clarke County Government
James City County	Zoning	James City County Government, Real Estate Assessment Division
	Parcel Boundaries	James City County Government, Real Estate Assessment Division
	Road Centerlines	James City County Government, Real Estate Assessment Division
Prince William County	Zoning	Prince William County Government
	Parcel Boundaries	Prince William County Government
	Hydrography	Prince William County Government
	Digital Elevation Model	USGS
York County	Hydrography	York County Government, GIS Department
	Road Centerlines	York County Government, GIS Department
	Parcel Boundaries	York County Government, GIS Department
	200 foot stream buffer	York County Government, GIS Department
Virginia (Statewide)	National Forests	United States Forest Service
	National Parks	National Park Service
	National Wildlife Refuges	United States Fish and Wildlife Service
	State Wildlife Management Areas	VA Dept. of Game and Inland Fisheries
	Natural Area Preserves	VA Dept. of Conservation and Recreation
	State Forests	VA Dept. of Forestry
	Conservation Easements	VA Dept. of Conservation and Recreation
	Locally owned Conservation lands	VA Dept. of Conservation and Recreation
	Privately owned conservation lands	VA Dept. of Conservation and Recreation
	Forest Land Use	VA Dept. of Forestry