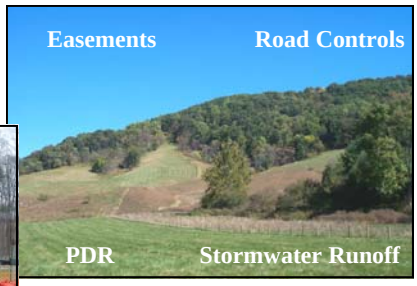
Blueprint for Regional Soil and Water Conservation

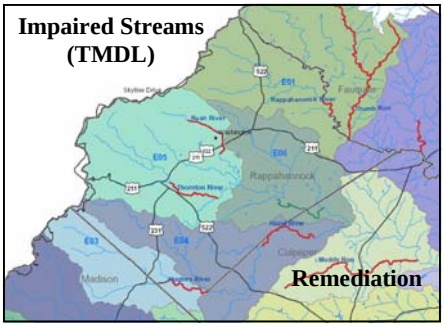
Government

Land Conservation



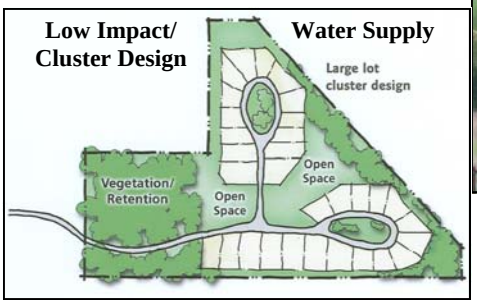
Land Disturbance

Watershed



Land Management

Development



Sewage treatment

Culpeper Soil and Water Conservation District

Culpeper · Greene · Madison · Orange · Rappahannock

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VOLUME I
Blueprint for Regional Soil and Water Conservation
For the Counties of Culpeper, Greene, Orange, Madison and Rappahannock
June 20, 2006
Prepared by the Culpeper Soil and Water Conservation District

INTRODUCTION

The mission of the Culpeper Soil and Water Conservation District is:

> To promote the stewardship of soil and water and the conservation of our natural resources by educating and providing technical assistance to manage, protect and enhance the land and water for the benefit and enjoyment of the citizens of Culpeper, Greene, Madison, Orange and Rappahannock Counties.

In carrying out this mission, the District undertook a 2004 strategic review of its programs and priorities. We held meetings with a wide range of professionals from our five service counties, including planners, conservationists, developers, business, government and non-government officials and interested public. One of the most widely voiced and persistent requests was for the District to advise the counties on what were the most important elements they should be considering and implementing to help conserve soil and water given the rapidly changing conditions occurring in many counties such as loss of farms and forest and rapid residential and business growth. Given the myriad of problems, programs, laws and regulations dealing with environmental and growth issues, many of which the participants had little direct knowledge of or control over, participants felt they did not know how to get their hands around the soil and water conservation issues or determine what would be the best way to proceed. In short, "Give us the big picture and give us some solutions" was the appeal.

In response to that request, the Culpeper Soil and Water District has prepared what we are calling the "Blueprint for Regional Soil and Water Conservation." This Blueprint addresses topics on the most pressing soil and water conservation concerns and provides the most effective means identified by the District to address those concerns. It is developed in the context that some of our service counties continue to see only minor change in land use patterns while others are seeing significant growth pressures that are dramatically changing how land is being used. We do not presuppose that economic growth is good or bad, just that it presents different and at times decidedly greater challenges in conserving our critical natural resources like soil and water. Clearly, in these rapidly changing jurisdictions, there is a need for balance between economic growth and conservation. Having the right tools to manage growth, and to do so in a way that protects our natural resources, is essential if we are to maintain healthy and prosperous communities. There is admittedly a culling of many topics and ideas that could be pursued on almost any topic. Some items could be listed under several categories but are only listed once for simplicity. Our attempt has been to winnow them down to what will result in the biggest return on the investment made. The Blueprint has three volumes. The first volume is an overview, an executive summary of concerns and solutions. The second volume has additional

background information on the issues and the solutions and provides resource and contact information. The third volume has, as appropriate, actual ordinances, policies, program documents, etc. showing how other jurisdictions have implemented the solutions being proposed or identify other resources that are available.

The District intends this Blueprint to address needs specific to our Virginia service area and continue to evolve as a living document. It is intended to be a master reference guide and vision document to help our counties focus their resources in the most productive way toward achieving a high degree of soil and water conservation. It is our expectation that with this Blueprint, the governments, non-government and non-profit groups, and citizens of the counties we service will have a more informed way to individually and collectively measure the adequacy of their conservation efforts and help move toward being exemplary stewards of our natural resources. We expect the Blueprint to be periodically updated and will welcome input from any users by sending it to the Culpeper Soil and Water Conservation District, 351 Lakeside Drive, Culpeper, VA 22701 or by e-mail to greg.wichelns@va.nacdnet.net. We also would hope that the Blueprint will help lead our counties to work together for their common interests and cooperate in pursuit of common goals. The District is committed to help facilitate this cooperation.

STATE OF SOIL AND WATER CONSERVATION IN THE FIVE COUNTY CULPEPER DISTRICT

People and their actions are recognized as the most significant source and cause of non point source pollution. Consequently, with population growth comes increases in pollution levels. The five counties in the District's service area have seen widely differing patterns of growth and change. Clearly there has been growing demand for homes and businesses due to the attractiveness and rural character of these counties and their proximity to the major population centers and the highly populated east coast. In the last 4 years alone the overall population of the five counties has grown from 85,226 to 106,805, a 25% increase. The increase by county is:

Culpeper	47%
Greene	27%
Madison	10%
Orange	15%
Rappahannock	7%

Location, economics, size of the county and impact of local land use ordinances probably play the major role in the differing county growth rates. Growth out to 2035 is projected to produce a population of 146,300, an additional increase of 37% from the current level with most people located in Culpeper, Greene and Orange Counties (Weldon Cooper Center).

This population rise mirrors itself in increasing numbers of homes and businesses, which along with roads, increases the total impervious surfaces. In the past 20 years, paved road growth in the District has increased by as much as 32% in Culpeper to a 5.6% increase in Rappahannock County (Virginia Department of Transportation).

The number of vehicles registered in District counties has increased by 51% in the past 5 years to a total of 123,185 vehicles (Virginia Department of Motor Vehicles).

Residential and business growth, coupled with declining farming and use of farmland for development, has caused the District counties to lose over 5,000 acres of farmland. In addition the size of farms is decreasing from a District average of 239 acres in 1987 to 182 acres in 2002 (Virginia Agricultural Statistics).

Similarly the District counties have lost over 5,000 acres of forest and residential growth has caused increasing fragmentation of the forest in the higher growth counties (Virginia Department of Forestry).

The prospects for future development, at least in the counties of Culpeper, Greene, and Orange are significant. In three recent developments in Culpeper alone there are 2,600 units with potential projects, either approved or seeking approval, totaling nearly 4700 acres and over 5,000 dwelling units. Greene has approved two developments of 520 and 400 units each. In Orange over 800 building permits were issued in 2005 with an expected 2,000 in 2006. This is an increase from 600 in 2004 and 450 in 2003 (personal communications with respective planning departments). In many areas of the District the small subdivisions and occasional individual lot development of the past are being augmented by larger subdivisions sponsored by major developers. The larger residential growth in these counties brings significant issues regarding adequacy of central sewage treatment and septic systems.

Within the context of ecological health, there are currently 27 identified stream impairments either wholly or partially within the District, as identified by Virginia Department of Environmental Quality's water quality monitoring programs (2004 305(b)/303(d) Water Quality Assessment Integrated Report). These total nearly 96 miles of stream impairment in the Rappahannock River Basin portion of the District (Culpeper, Rappahannock, Madison and Northern Orange County), and nearly 29 miles in the York River Basin portion (south eastern Orange County). In addition to this 3 lake impairments have been identified in Culpeper County. With new future water quality criteria expected, more identified impairments in future years are likely. Most impairments are fecal bacterial in nature although there are 2 due to low levels of dissolved oxygen, one due to low pH , and one to high temperature.

All impaired water bodies are required to have a Total Maximum Daily Load (TMDL) established for the identified pollutant that sets limits on how much pollutant may be allowed. Once the TMDL's are set, jurisdictions will need to develop plans that, when implemented, will maintain pollutant levels consistent with the Department of Environmental Quality's water quality standards. There are currently 8 TMDL's completed in the District although to date none have been implemented. District incentive programs are currently targeting outreach and cost-share efforts at these areas to begin to address any agricultural sources of the impairments. In future years more TMDL's will be established, more identified impairments should be expected as previously mentioned, and fully funded implementation plans will be necessary to remove streams from the impairment lists.

Tributary Strategy studies for Chesapeake Bay restoration efforts include local water bodies and have recently been completed with plans established for reductions in nitrogen, phosphorus and sediment loads from all areas and land uses in the District.
Target reductions are monumental and hope to be achieved through a suite of non point source best management practices (agricultural and suburban/residential), sewage treatment plant upgrades and other actions necessary to achieve reductions. It is estimated that 92 percent of agricultural lands will need to be treated to achieve the reductions necessary. Target reductions have been identified at the county level and future actions by local governing bodies to address county non point source "responsibilities" outside of the agricultural arena are expected. Current state sponsored grant programs are focused at supporting local government capacity building to enable a "ramping up" of local ordinances and necessary staff support to address the non point source aspects. Point source reductions are being addressed by implementation of "cap strategies" that set maximum allocations allowed for individual wastewater treatment plants. In theory, once these maximum discharges are reached, no further point source discharge is allowed. However, state legislation has been established requiring the development of a point source nutrient credit trading program and offsets market development. This is expected to allow both point source to point source trading and point source to non point source trading. At this early time in the process, it remains to be seen what barriers or opportunities may evolve in the area of trading for achieving the goals of the tributary strategy or what impacts of trading may arrive in the District. It appears that actions by local governing bodies and the conservation district along with its partner agencies will play an important role.

Stream bank conditions remain a concern within the District. Continued destabilization of many streams and rivers within the District both as a result of historical rain events of ten years ago and long term loss of forest land cover contribute to loss of land along stream corridors and resultant sediment loads downstream. Increases in impervious surfaces and compaction of suburban and residential area soils contribute to the loss of native hydrology with subsequent stream quality degradation and loss of groundwater recharge. Currently within the development community little emphasis is placed on preserving native soils and their ability to infiltrate and purify rain event runoff. Additionally, lack of storm water management programs and hydrological studies to identify stream capacities, leads to overloading of streams and subsequent degradation of stream bank and stream bed conditions.

MEASURES THAT WILL ADDRESS SOIL AND WATER CONSERVATION CONCERNS

Government Functions

Comprehensive Plan

Every county in the State is required to have a Comprehensive Plan as a tool for the citizens of the county to define their vision of the future of their county, to have a Land Use map that identifies where growth is to occur and to make recommendations as to changes needed to achieve the vision set forth in the Plan. The Comprehensive Plan is an important first step in defining what to do to achieve a proper balance in conservation and managing land use.

- Use the Comprehensive Plan as an educational tool and seek broad public input to help shape the vision of the county.
- Carefully construct the Future Land Use Map so that it clearly identifies where various types of growth are targeted to occur. The accompanying documentation should identify the potential impacts of the development on the watershed, both inside and outside where the development will occur, so that this information is available to decision makers to address any concerns for specific projects.
- Identify land use and ordinance issues that do not achieve the vision for the county so that these issues can be addressed by the county in implementing the Comprehensive Plan.
- Include detailed discussions of natural resources in the county so that these are visible in decision making:
    - Soils, surface and ground water quality and availability, air quality;
    - The land uses - agriculture production, forests, open space, development areas, streams and rivers, etc.
    - Watershed issues such as flooding, stream degradation, ground and surface water quality and quantity, public water supply and sewage disposal, septic system limitations, water monitoring results, etc., and
- Identify public and private measures needed to protect these resources in the future visualized for the county in the Comprehensive Plan and implement them.
- Conduct a review midway through the 5-year renewal period to assess accomplishments towards incorporation of elements of the comprehensive plan into county ordinances and to create a “To Do” list for action.

Partnerships

There are a number of organizations, both public non-profit and governmental, that offer conservation services and technical assistance to county staff, officials and private citizens. These can compliment state or local efforts to accomplish conservation elements that otherwise may not be achievable. Having full knowledge of these resources and partnering with these groups leverages these assets to benefit all.

- Maintain a list of, and actively interact with, other government and non-government organizations that can provide expertise and resources to address county conservation needs. For soil and water conservation in our 5 counties these include but are not limited to the Culpeper Soil and Water Conservation District, applicable Planning District Commissions, Virginia Department of Conservation and Recreation, Virginia Department of Environmental Quality, Virginia Department of Environmental Quality, Virginia Department of Game and Inland Fisheries, Virginia Department of Forestry, Virginia Outdoors Foundation, USDA Natural Resources Conservation Service, USDA Farm Service Agency, EPA, and local conservation groups.

Education

Absent sound education and wide dissemination of information, conservation goals, requirements and ordinances will not be fully enacted because of citizens not knowing what is possible or expected. In the field of conservation, education is at the core of effectiveness.

Local Government

- Provide information to citizens on land and landscape management strategies that promote water and soil conservation and comply with local ordinance requirements.
- Distribute soil and water conservation newsletters and educational brochures.
- Maintain and distribute a list of soil and water conservation resource guide that the general public can use to obtain information on land and landscape management.

Development Community

- Provide information on land and landscape management training and educational opportunities that promote soil and water conservation, conservation planning and low impact development. This should include the development community and those involved in the sale, appraisal and development of land.

Schools

- Create partnerships with agencies and organizations that provide financial and educational resources that promote environmental, natural resources and land conservation learning objectives as outlined in the SOL manual and support the state's "Meaningful Watershed Experience" goals.
- Maintain and distribute a list of soil and water conservation resources that teachers can use to develop lesson plans and field trips related to environmental, natural resource and watershed protection.
- Have a clear assignment of responsibility as of a school resource person who maintains contact and knowledge with conservation resources.
- Implement a school Integrated Pest Management (IPM) program for schools in accordance with federal and state laws/guidelines.
- Provide training to school personnel that have the responsibility of implementing a school IPM program.

Ordinances

As the primary means to accomplish the goals and recommendations of the county's Comprehensive Plan, ordinances need to be created, reviewed and brought into conformance with the vision set forth in the county's Comprehensive Plan and to insure growth occurs in the Future Growth Area. Adequate, qualified staff can be an often overlooked reason why existing regulations are only minimally enforced.

- Maintain a well trained staff of sufficient number to conduct a thorough and timely review of Erosion & Sediment Control Plans, storm water management and development plans and to monitor compliance with proffer and other requirements that may affect conservation objectives. Existing contractual agreements with Culpeper Soil and Water Conservation District provide these services in an effective manner.
- Perform an annual workload review and workforce review. A thresh-hold should be set. e.g. # employees to staff the base program and # employees per unit of workload beyond that.
- Provide detailed analysis of proposed development projects for use in decision making by the Board of Supervisors and the Planning Commission. Provide timely review of ordinances to identify conservation opportunities and areas that do not comply with the Comprehensive Plan.
- Require implementation of conservation buffers on roads, waterways and wetlands as a condition for rezoning actions that result in more intensive land use.
- Identify sensitive resource areas in the county and provide the use of overlay districts to insure added protection.
- Establish a clear assignment of ordinance enforcement responsibilities and provide effective legal support for enforcement actions.

Management of Land Disturbance

Erosion and Sediment (E&S) Control

Counties with mountainous territory and heavy development with extensive road building are particularly susceptible to erosion and sedimentation problems. Serious mudslides have occurred during heavy storms; one of the most serious water quality problems in our region is sedimentation. Sediment has been identified as one of the three prominent water pollutants in Virginia's Tributary Strategies, which have prescribed large reductions necessary to support Chesapeake Bay restoration efforts.

- Implement the State of Virginia Erosion and Sediment Control Regulations (E&S).
- Insure that the cost of monitoring and enforcing E&S for developments is borne by the development community.
- Conduct an annual workload analysis for erosion and sediment control programs and insure that staffing levels are adequate for the workload.
- Consider requiring a higher degree of erosion and sediment control in highly sensitive areas (drinking water supply, recreational areas, etc.).

- Consider requiring a higher degree of erosion and sediment control in highly sensitive areas (drinking water supply, recreational areas, etc.).
- Develop a reputation as being "tough on polluters" in regards to sediment water pollution.
- Just as is done for a building permit, require a copy of the Land Disturbing Permit to be posted at a site before land disturbance begins.

Steep Slopes

Steep slopes (a slope of greater than 25%) are of particular concern due to their susceptibility to erosion if disturbed or cleared and because they are often major areas where water infiltrates into the ground water and thus not only re-supplies ground water supplies, but is key to runoff flood control.

- Consider a steep slope ordinance that contains measures intended to control runoff, protect streams and stream banks with adequate buffers and limited loss of tree cover on steep slopes.
- Limit growth on steep slopes and restrain aggressive land disturbance.

Land Conservation

One of the most effective voluntary measures of helping to conserve soil and water and mitigate the effects of development is through conservation easements that eliminate further subdivision and protect key conservation elements on the land. Such properties not only keep the land rural and protected, but often insure the county service costs that occur when land is developed are avoided, thus lessening tax pressures. Such easements offer considerable tax benefit, which can help a farmer hold onto their land.

- Partner with land conservation organizations like the Virginia Outdoors Foundation (VOF) to promote voluntary land conservation with conservation easements in areas not designated for growth by the Comprehensive Plan. Co-holding easements is also a way to involve other groups like the Culpeper Soil and Water Conservation District in maintaining the land under easement in perpetuity and give landowner's access to funds to help offset easement costs through the Open Space Preservation Trust Fund administered by the VOF.
- Create a Purchase of Development Rights program to address conservation needs on farms that are in danger of conversion to more intensive use.

Road Building Controls

Improperly designed and installed roads for private use can create immediate and long term erosion problems. Having the bulldozer operator design a road without consideration for hydraulics and terrain can result in environmental damage and costly repairs.

- Require a grading and drainage site review for all roads servicing engineered structures requiring a building permit. Include this as a requirement for satisfying an Agreement in Lieu of a Plan for erosion and sediment control.

Storm Water Runoff

Storm water runoff has in the past either been ignored or been largely treated by piping runoff from development to a common pipe that dumps the sudden collected water surge into a holding pond and then a stream, degrading the fragile character of the stream for some miles. There are more environmentally suitable methods for implementing storm water management that keeps the water on the land, maintains existing hydrology and replenishes ground water.

- Develop a storm water management ordinance that, at a minimum, adopts the Virginia Storm Water Regulations and includes Low Impact Development (LID) options/requirements in it.
- Create other options for managing storm water (e.g. buffers, dispersed flows resulting from well planned grading operations, sensitive site design, harvesting and reuse of rainwater).
- Develop drainage-area-specific storm water thresholds and create the opportunities for project developers to work together.
- Consider creating opportunities for storm water management retrofit projects

Development

Maintaining Existing Hydrology

Maintaining the existing hydrology on the land can be a way to support land use changes without creating future water resource problems while protecting our streams, rivers, and ultimately, the Chesapeake Bay.

- Promote dispersed, underground storm water detention (rooftops/parking lot) that allows for infiltration and/or reuse for non-potable uses.
- Promote Low Impact Development site planning and the use of conservation buffers to infiltrate runoff created by development projects.
- Promote maintenance of pre-existing forest cover by development projects to the maximum extent possible.

Water Supply

District counties are highly dependant on ground water to supply a preponderance of homes. Ground water supply is impacted by excessive loss of storm water, which fails to re-hydrate ground water supplies, or drought. Excess storm water runoff causes erosion and can severely impact the stability of stream banks.

- Conduct a comprehensive water supply evaluation to assess the county's ability to provide for future growth from public water supplies.
- Encourage/incentivize the harvesting of rainwater for both industrial and commercial uses and to augment water needs at the private residence level.
- Require the closure of old, existing and unused well heads.
- Encourage maintaining land in forest cover in sensitive headwater areas.

Conservation/Cluster Development

Traditional residential development often ignores many valuable attributes on the land and results in developments with houses placed such that they eliminate farm uses, impact forested, historic and scenic areas, and fail to take advantage of conservation opportunities in the landscape. The impact of this approach on natural resources is high. There are alternative approaches to development that can also help protect water quality. Jurisdictions need to promote, if not require, conservation cluster development as a means to use existing development rights, but in a way that first evaluates and protects important conservation values and then places the homes so that these elements are protected. This will preserve natural resources and rural character, and afford the residents natural amenities that would otherwise be lost.

- Make conservation/cluster development a preferred option in rural residential zoning ordinances particularly for areas outside of designated growth areas.

Low Impact Development

Low Impact Development (LID) is a term used to describe a range of techniques that can be employed to retain existing hydrology on land that is being developed. These practices are being increasingly used to protect water quality and quantity and reduce storm water runoff damage or use of undesirable features such as retention ponds. Some jurisdictions have incorporated LID into their ordinances for managing storm water runoff.

- Educate county staff, developers and contractors landscape architects, earthmovers and plant nurseries in LID practices and the cost tradeoffs in using LID versus conventional storm water controls.
- Establish well-defined thresholds to be met to qualify as LID.
- Put LID measures into ordinances so that builders can use them without special effort required.

Fertilizer and Pesticide Use

With the increase in urban/suburban development, increases are usually seen in the use of pesticides and fertilizer to support gardens and lawns. These practices can significantly pollute streams, causing oxygen depletion and fish kill.

- Work with garden clubs, 4H, Extension Office and other partners to inform the public of the adverse impacts of over use of fertilizers and pesticides and promote proper disposal of such commodities.
- Require conservation plans (plans that describe the nutrient, soil and water practices best suited for the specific land) be developed and implemented on all publicly owned land in the county.
- Require, as part of the permitting process, conservation plans be developed and implemented for the "open spaces" component of developments.
- Require integrated pest management plans including use of biological controls for common or public lands.

Watershed

Riparian Buffers

Of the range of protective measures for a watershed and for water quality, vegetative riparian buffers are probably the single most effective conservation tool. Research has shown that one of the most effective measures to filter pollution from entering streams, to protect stream banks from erosion thereby reducing sedimentation in the streams and protect the aquatic life in the streams is to maintain a healthy vegetative buffer on the waterways. There are federal and state programs that offer cost share assistance to farmers to create such buffers, although these opportunities do not extend to non-agricultural lands. The requirement for implementation of minimum standards for stream buffering could offer major improvements for stream protection. This can include placing a conservation easement on the buffers to protect them in perpetuity.

- Require the establishment of a 35 to 50 foot buffer along all intermittent streams and 100 feet along all perennial streams traversing all new developments as part of their approval process. Fenced buffers would be required if livestock have access to the waterway.
- Provide incentives to protect existing riparian buffers.
- Provide incentives to reestablish buffers on non agricultural land where they have been removed.
- Establish buffers on public lands.

Forest Preservation

Forests provide the greatest protection of ground water and for steep slopes, provide for cooling stream waters to promote aquatic life and provide wildlife habitat. A major concern for District counties is loss and fragmentation of forests, particularly in mountainous areas. Farmland loss also often involves loss of forest cover as well.

- Establish a forest protection overlay district in the zoning ordinance and offer incentives to landowners to maintain forest land cover in sensitive areas.
- Promote the Virginia Forest Legacy forest preservation program.
- As discussed elsewhere, minimize land disturbance in forested areas.

Stream Monitoring

Stream monitoring provides scientifically based data to help assess the quality of natural waters and potential adverse impacts from operations or development on the land. The Virginia Save our Streams (SOS) Program offers training in volunteer macroinvertebrate stream monitoring that can be developed at little or no cost.

- Have a county staff person familiar with and available to work with volunteers to establish monitoring in their jurisdictions.
- Monitor the streams according to SOS protocols and establish baselines against which future changes can be compared.
- Explore grants and other funding opportunities to support monitoring.

Chesapeake Bay and TMDLs

Virginia has one of the nation's most important aquatic resources in the Chesapeake Bay. Despite extensive efforts for a number of years, the health of the Bay has not improved and additional measures are being taken to address this concern. While a stricter regulatory approach is likely by 2010, the state is currently trying to make improvements on streams that by monitoring have been determined to fail in meeting the Total Maximum Daily Load (TMDL) of certain pollutants. Local remediation plans are being developed with funding being provided to those jurisdictions that pursue implementing the plan.

- If a TMDL segment is identified in a county, work with Virginia Department of Environmental Quality and other partner organizations to establish a remedial program and seek financial assistance in its implementation.
- Educate citizens about the TMDL process and opportunities for citizen involvement with the remediation plan.
- Educate citizens about the connectivity of local watersheds with the Chesapeake Bay and take actions within local government processes to support Bay restoration. Grant money is often available to help with implementing mitigating measures.

Land Management

Farmland and Forestland

Every county in the District is experiencing a continuing loss of farmland and forests due to retiring farmers and loss of land to development. This loss not only will change the character of the counties, but loss of farmland and forest to development means more impervious surfaces, less watershed, less groundwater recharge and other potentially damaging consequences.

- Use land use valuation to reduce real estate taxes and help conserve farmland and forests.
- Use Agricultural/Forestal Districts to help maintain undivided farmland and forests.
- Encourage landowners to utilize available conservation incentive programs.

Residential Land

As residential lands increase, conservation concerns become more problematic given the lack of natural areas and tree cover, increased impervious surfaces and the trend for gardens and lawns replacing fields and forest.

- Encourage the implementation of nutrient and pesticide management planning on residential lands.
- Provide information on conserving water and planting vegetation that promotes water quality.

Sewage Treatment

Sewage treatment plants are one of the largest single point sources of potential pollution in a county. Monitoring and maintaining these plants at optimum performance is critical to good water quality. Septic fields are commonly used in the District's counties and they too can become a source of pollution if not properly installed or maintained.

- Develop a close working relationship with Virginia Department of Environmental Quality to assure that all regulations are effectively being implemented at the County level and establish a downstream monitoring program to assure the correct functioning of treatment plant operations.
- Recommend a prevention program for septic system maintenance.
- Require new homes to have a 100% septic field reserve.
- For alternative technology septic systems that do not use standard septic fields, provide owners with educational material and obtain a maintenance plan to keep these systems functioning properly.

Appendix A

Board of Directors

Culpeper County
Laura A. Campbell
John Boldridge, At-Large, Treasurer
Joseph Baltimore

Greene County
Robert Runkle, Vice-Chair
Don Thurnau
Robert Brame III, Associate Director
Carl Schmitt, Associate Director
Steve Morris, Associate Director

Madison County
James Byrne
Lynn Graves
L. Brad Jarvis, Ext. Agent, At-Large
Christa Lightburn, Associate Director

Orange County
Sam Neale
Robert Bradford
Warren Lee, Associate Director
Betty Shelton, Associate Director

Rappahannock County
Dr. Monira Rifaat, Chair
Clifford Miller III
Richard McNear, Associate Director
Jane Naramore, Associate Director

Staff
Greg Wichelns, District Manager
JoAnn Neal, Administrative Secretary
Richard Jacobs, Conservation Specialist
Peter Acker, Conservation Specialist
W. Spencer Yager, Conservation Specialist
Stephanie DeNicola, Communications Specialist
James Henshaw, District Representative

351 Lakeside Drive, Culpeper, VA 22701
Phone: 540-825-8591 Fax 540-825-8637
Orange office: 540-672-1638
On the web: www.culpeper.vaswcd.org

Appendix B

Thank You!

The people listed below participated in Strategic Planning sessions on topics such as urban growth, sprawl, open space preservation and streambank restoration.

Regional Businesses

Peter Rice, Plow & Hearth, Inc.
Loretta Cummings, Enviro Specialist
ManSour Azimipour, A & K Development

Citizens

Mary Heinricht (Culpeper)
John J. Davies III (Culpeper)
Walter Smith (Orange)
Jimmy Henshaw (Ruckersville)
Laura Campbell (Culpeper)
Sally Mello (Rixeyville)
Tim Neale (Orange)
Frank Jacobeen (Locust Grove)

State Government

Greg Cooley, Virginia Dept. of Transportation (VDOT) — Culpeper
WR Rudd, VDOT
James Call, VDOT
Martin Agee, Virginia Dept. of Forestry (VDOF)
Larry Dunn, VDOF
Ron Hughes, Virginia Dept. of Game & Inland Fisheries (VDGIF)
Louise Finger, VDGIF
Brian Wilson, VDGIF

Federal Government

Joe Thompson, Natural Resources Conservation Service (NRCS)
Jim Sawyer, NRCS

Local Government

Debbie Kendall, Orange County Planning
Mark Van de Water, Rappahannock-Rapidan Regional Commission (RRRC)
Sue D. Hansohn, Culpeper County Supervisor
Katy Classin, Greene County Planning Director
John McCarthy, Rappahannock County Administrator
Gary Lowe, Greene County Planning Commission
Bill Clements, Greene Cooperative Extension
Jake Haught, Orange Erosion & Sediment Control Inspector
Michael Collins, Orange Town Planner
Susan Riddle, Greene County Engineer
Harry Hughes, Town of Culpeper
Carl Stafford, Culpeper Cooperative Ext.
Dudley Pattie, Rapidan Service Authority
Dave Starner, Northern Piedmont Agricultural Research & Extension Center

Non-Governmental Organizations

John Moore, Piedmont Environmental Council
Carl Groth, Lake Anna Civic Association
Khalil Hassan, Task Force for Sustainable Development
Sherry Buttrick, Virginia Outdoors Foundation
Charles Schuyler, The Nature Conservancy
Mary Queitzsch, Grymes Memorial School
Bob Popewicz, Lake of the Woods
Beverly Hunter, RappFLOW
Kenneth Cook, Lake of the Woods
Janet Davis, RappFLOW

CULPEPER SOIL AND WATER CONSERVATION DISTRICT

CULPEPER COUNTY
LIBERTY OR DEATH
17 49
CULPEPER 1775 MINUTEMEN
VIRGINIA

COUNTY OF GREENE VIRGINIA
SPOTSWOOD
1716
GOLDEN HORSESHOE
1838

1792
Madison County

ORANGE COUNTY - VIRGINIA
1734

RAPPAHANNOCK COUNTY
1833
VIRGINIA