

NOTE TO THE READER:

This is an early “working Draft” of the first 4 chapters of the Comprehensive Plan revision for 2012. It is intended as a source of information and inspiration for comment and discussion and is not intended for adoption by the Planning Commission or Board of Supervisors

CHAPTER ONE

INTRODUCTION

The Challenge

The challenges that face every community are those of planning for the future and managing the process of change. While the physical manifestations of change vary from time to time and from place to place, perhaps the most dependable constant in life is that things will not remain as they are. Accordingly, the Code of Virginia mandates that jurisdictions prepare and regularly revise a Comprehensive Plan for the physical development of their communities.

As a rural jurisdiction on the ex-urban fringe of the Washington D.C. Metropolitan Area, Rappahannock County has been made acutely aware of the ever-changing dynamic of growth and development. The post-World War II era (particularly through the development of the Interstate and Primary Highway Systems) has seen enormous changes in the physical development of the Virginia countryside. From a primarily rural, agricultural economy, jurisdictions to our east have gradually and inexorably transformed themselves into bastions of middle-class flight from closer-in areas, evolved into bedroom communities, and culminated (for the moment) in low-density suburban enclaves integrating residential, commercial and light industrial components.

In the face of this trend that has been mirrored in many suburban areas all across our nation, Rappahannock County has not been idle. Elsewhere in this document is recounted Rappahannock County’s long tradition of progressive planning and land use policy. Even though these policies have quite properly evolved over time, the trend both in the citizenry of Rappahannock County and its elected and appointed representatives has been remarkably consistent.

While this community may have much to learn from our neighbors to the east, and while the economic forces which shaped them have and will continue to be brought to bear upon us, we nevertheless feel that Rappahannock is unique, and that there is a natural beauty and order that command our respect. This document presents the underpinnings of this belief, through analysis of the manifold demographic, economic, and environmental conditions that affect future growth and development.

This document is the blueprint for all land use policy in Rappahannock County, which is typically implemented through legislation adopted by the Governing Body,

which is the Board of Supervisors, but which may occasionally be set by policies implemented by the Rappahannock County Planning Commission, interpreted through the Board of Zoning Appeals, and enforced through the Board's agent, the Zoning Administrator. The process whereby such land use policy is crafted, adopted and implemented is known as planning.

The primary reason why a community should plan is to prepare for and to cope with change. As previously stated, change is inevitable and whether it is a positive or negative force in a community may depend upon the planning activities carried out in the community. By planning, a community attempts to deal with present realities and to provide for future needs, while still adhering to its goals and principles.

Essentially, planning involves:

- the collection and analysis of data,
- the development of goals and objectives,
- the formulation of planning and development policies,
- the consideration of alternative courses of action,
- the preparation of a plan, and
- the adoption of measures necessary to implement the plan.

Planning can be used to guide and coordinate the changes Rappahannock County is experiencing by providing for:

- the responsible use of land and natural resources,
- a satisfactory living environment for local residents,
- anticipated future public facility needs,
- acceptable development patterns, and
- a sound fiscal base.

The Comprehensive Plan

The Comprehensive Plan is a written document that sets forth the characteristics of Rappahannock County in general terms. The plan is Rappahannock County's statement of its aspirations and goals for future growth, or put another way, the plan is a tool by which County citizens in conjunction with the local governing body ask, "Where are we; where do we go from here; what do we become?"

In late 2002 and early 2003, the Rappahannock County Planning Commission sponsored a series of public forums throughout the County. These forums were instrumental in getting input from citizens on matters as diverse as housing, transportation, education, and local businesses including agriculture, open space, and a variety of other issues. The comments, opinions and concerns that were expressed at the forums made their way into the Goals, Objectives and Policies of Chapter 6, and indeed, are present throughout this document.

The content of the Rappahannock County Comprehensive Plan, and its technical preparation by the County Planning Commission, is guided by the Code of Virginia 1950 (as amended). The Code establishes the legislative purpose, the general context and scope, and the review and adoption procedures for a community to follow, and reads (in part) as follows:

Title 15.2-2223--Comprehensive Plan to be prepared and adopted; scope and purpose. The local planning commission shall

prepare and recommend a comprehensive plan for the physical development of the territory within its jurisdiction and every governing body shall adopt a comprehensive plan for the territory under its jurisdiction.

In the preparation of a comprehensive plan the commission shall make careful and comprehensive surveys and studies of the existing conditions and trends of growth, and of the probable future requirements of its territory and inhabitants. The comprehensive plan shall be made with the purpose of guiding and accomplishing a coordinated, adjusted and harmonious development of the territory which will, in accordance with present and probable future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and general welfare of the inhabitants.

The Rappahannock County Comprehensive Plan specifically includes background materials, policies, and recommendations about various communities and areas within the County. Detailed information about the only incorporated town in Rappahannock County, the Town of Washington, is presented in the Town of Washington Comprehensive Plan, dated September 8, 1999, but which is currently under revision.

The Rappahannock County Comprehensive Plan includes four major components. First, a series of background reports describe and analyze the County's natural features such as soils, topography, water, forests, and so on. Additional supporting materials include population and its growth, economic and employment characteristics, land use characteristics, transportation, housing and others. Secondly, based upon these background reports, the County's goals and objectives are established. This element describes the policies or principles for future County change. Thirdly, the background reports and goals and objectives are merged into a future land use plan, delineating in text and map form a visual idea of the future. Finally, a series of implementation measures are described indicating what the County's citizens and governing bodies have at their disposal in order to achieve the Plan's policies and objectives.

Previous Planning

Since it was created in 1962, the Rappahannock County Planning Commission has been active in planning. In 1962 the County's first Subdivision Ordinance was adopted, followed in 1966 by the adoption of the County's first Zoning Ordinance. Both documents were revised in 1973 with complete revisions to both the Zoning and Subdivision Ordinances in 1986 and 1987, respectively. In 1975, the County adopted an Erosion and Sediment Control Ordinance, which has been revised on several occasions since then, most recently in 2000.

In addition to these efforts, a General Commercial Area Plan, encompassing Zoning Ordinance and Comprehensive Plan amendments, was prepared and adopted in 1993.

The Comprehensive Plan itself was first adopted in 1973, and was revised in 1980, 1985, 1992, 1998 and 2004.

Various specific planning efforts have been undertaken in the areas of water quality, public facilities planning and others; they are discussed elsewhere in this document.

County Government

Rappahannock County has the traditional County Board of Supervisors form of government. The County has five voting districts that are decennially revised based upon population: Hampton, Jackson, Piedmont, Stonewall-Hawthorne, and Wakefield. One supervisor is elected from each district. The Board of Supervisors is elected to serve four-year terms and is basically responsible for the legislative, administrative, and financial aspects of County government. The Board holds regular meetings at 2:00 PM for General Business and 7:00 PM for Public Hearings once a month at the County Courthouse located in the Town of Washington, and such other meetings as the pace of business may dictate.

Rappahannock County has a County Administrator who acts as the Zoning and Subdivision Administrator. The Rappahannock County Planning Commission and Board of Zoning Appeals are administrative agents for the County and the Circuit Court, respectively. They direct the administration of the Zoning, Subdivision and Erosion and Sediment Control Ordinances. The County Planning Commission consists of seven members, one of whom is a member of the Board of Supervisors, another of whom is a representative from the Board of Zoning Appeals and the remaining five who are appointed to four-year terms of office by the Board of Supervisors by voting district. The Board of Zoning Appeals consists of five members all appointed at large by the Circuit Court for five-year terms of office.

Some of the local government organizations involved in local planning efforts include the Rappahannock County School Board, the Rappahannock County Water and Sewer Authority (RCWSA), and the Rappahannock County Recreational Facilities Authority (RCRFA). The Rappahannock County School Board, composed of five elected members representing the five magisterial districts of the County, are the stewards of the County's public educational facilities. As such, they administer programs that consume the majority of public spending in the County in their mission to provide the highest quality education available. The RCWSA was established in April 1968 pursuant to the Code of Virginia with the primary purpose of furnishing water and sewer facilities or both to residents and businesses in certain areas in Rappahannock County. It currently owns facilities providing sewer service to the village of Sperryville and manages those located at the County's two public schools, as well as water and sewer facilities in the Town of Washington. On November 2, 1978, the RCRFA was created. The establishment of this Authority enables the County to raise and solicit funds from various local, state, and federal agencies and to provide increased recreational opportunities for the residents of Rappahannock County. The RCRFA currently owns and operates the Rappahannock County Park located near the Town of Washington on U.S. Rt. 211, and sponsors the annual Fodderstack 10-K Race as well as occasional other events and programs.

Several agencies of the Commonwealth of Virginia provide services through local field offices, whose funding is provided, in part, by direct local appropriation. The relationship between these agencies, the Department of Health, the Department of Social Services, the Sheriff's Office, the Virginia Polytechnic Institute and State University (VPI&SU) Extension Office, and the local government is one of partnership with the Board of Supervisors and County staff providing funding and support, respectively.

CHAPTER TWO

THE ENVIRONMENT

Regional Setting

Rappahannock County is in the northern portion of the Commonwealth of Virginia. Washington, the County seat, is about 65 miles southwest of Washington, DC, and 120 miles northwest of Richmond, the State Capitol. The County extends north and south 24 miles and east and west about 21 miles. It has an area of approximately 267 square miles. The northwestern boundary is the peak of the Blue Ridge Mountains and separates the County from Page and Warren Counties. The Rappahannock River forms the northeastern boundary and separates the County from Fauquier County. The County is bounded on the southeast by Culpeper County and on the southwest by Madison County.

The County's residents have strong economic and social ties with jurisdictions on all sides, although the western boundary of the Blue Ridge historically has acted to lessen contacts with Page County as opposed to the more direct accessibility of Warrenton in Fauquier County, Culpeper in the County of the same name, and Front Royal in Warren County which, while over the Blue Ridge, is nevertheless served by a primary road providing relatively easy access. This in turn has led to a regionalization of many trading activities by County residents, people in the northern portion of the County (Flint Hill, Chester Gap) are more apt to shop, bank and attend events in Front Royal, while persons in the south and west (Sperryville, Woodville) often patronize Culpeper establishments, and persons in the east (Amissville, Washington) tend to favor Warrenton businesses. **(See Map No. 1: County Location)**

History

In 1607, when English colonists first arrived in Virginia, the area now occupied by Rappahannock was an uncleared primary growth wooded territory inhabited by Native Americans. At the foot of the Blue Ridge Mountains, the Manahoacs and Iroquois hunted and fished. As more and more settlers moved into Virginia their economic and, at times, martial competition pushed the native inhabitants west.

Official colonization was possible in 1722 and this opened up the Piedmont section of Virginia. The majority of the early settlers in Rappahannock were not foreign born, but had moved down from northern ports and other regions of Virginia. Rappahannock's new inhabitants were mainly of English descent from the Tidewater region. Other settlers included Scots-Irish from west of the Blue Ridge and Germans from the north and from the Germanna Ford area in modern Spotsylvania and Culpeper Counties. A few Welsh and French also moved into Rappahannock. The French settlers arrived from Manakin, a Huguenot Colony located on the James River.

Amissville, one of the villages in Rappahannock County, was named after the Amiss family from the Colony at Manakin.

People from Rappahannock were active participants in the Revolutionary War and the Civil War. Although during that conflict many small skirmishes were scattered throughout the County, the closest major battle occurred in Front Royal, north of Flint Hill. Cavalry raiding was a more typical Civil War-era Rappahannock activity.

Taking its name from the river that has its source in the small streams in the Blue Ridge Mountains, Rappahannock became separate from Culpeper County by an Act of the General Assembly in 1833. The five villages, Amissville, Chester Gap, Flint Hill, Sperryville, Woodville, and the Town of Washington have significant historical value. Washington is the County seat. Fondly called "the first Washington", and somewhat less politely referred to as "little Washington" to distinguish it from its larger cousin, it was surveyed and plotted by George Washington in 1749 and was established as a town in 1796. The villages of Rappahannock were frontier posts or crossroads. Today, these small residential clusters represent a focal point for County residents providing retail services, meeting places, post offices, and church activities. As it was in the 1700's, Rappahannock's economy is still agriculturally based with the surrounding villages providing basic services for the farms.

Geology

Rappahannock County is bisected by both the Piedmont and Blue Ridge physiographic provinces. The Piedmont province includes the eastern part of the County and is typified by gently sloping to moderately steep terrain. This province, especially in the Woodville area, is occasionally broken by long, low mountains or hills. The Piedmont province is primarily underlain with granitic rock, quartzite, phyllite, and arkosic sandstone.

The Blue Ridge physiographic province is located in the County's western section and includes the Blue Ridge Mountains and the neighboring foothills. This province is typified by steep and rugged terrain and is underlain with granitic rock, phyllite, greenstone and some sandstone. The County's basic geologic formations are shown on **Map No. 2: Geology**.

It is important to note that the geological conditions underpinning land have impact both on water resources that may lie within such structures and the relative suitability for development of soil types that blanket the formations.

Climate

Rappahannock County enjoys a temperate, comfortable climate with generally mild winters and warm summers. Basically, the County's climate is controlled by the Blue Ridge Mountain range to the west and the Atlantic Ocean and Chesapeake Bay to the east. Winters in the County are rigorous but not severe and summer temperatures are moderate.

Although detailed climatological data are not available for Rappahannock County, they are for Culpeper County and the results are generally applicable. While Rappahannock County's temperature is similar to that of Culpeper County,

temperatures are generally 2-3 degrees lower. During the 1951-2005 period, the mean temperature was 55 degrees, a very slight decline over the past decades. July was the warmest month with temperatures averaging 78 degrees. December was the coldest month with an average temperature of 37. The number of days with temperatures greater than 90 degrees has ranged from 16 in 1962 to 76 in 1943. The temperature falls below freezing 20-23 days a month during the winter months and reaches zero often enough to average one day per year.

Rainfall is well distributed throughout the year with the maximum in July and August and the minimum in February. Nearly 40 days each year have thunderstorm activity that is normal for the State. The average snowfall is 15 inches a year, but yearly amounts are extremely variable and range from zero to 45 inches.; overall, the winter snowfall amounts have been in decline as measured at Great Meadow in Shenandoah National Park from 1970-2010.

The typical growing season (from the last freeze in spring to the first freeze in autumn) is 181 days. Freezes usually do not occur between April 20 and October 18. However, freezing temperatures have occurred as late as May 17 and as early as September 25.

Topography

Rappahannock County occupies a topographic position ranging from 360 to 3,720 feet above mean sea level. The lowest point in the County is where the Rappahannock River crosses into Culpeper County. The highest point is the Pinnacle, which is located in the southwestern part of the County on the Page County boundary.

Altitudes in the Blue Ridge province primarily range from 1,000 to 3,500 feet. Most of the Blue Ridge province is well drained, but some small areas of colluvial material at the foot of the mountains are poorly drained. **Map No. 3: Topography** shows the elevations of the County.

Watershed

The Piedmont province is an old plain that is strongly dissected by many small streams that flow in narrow, winding valleys. Most of the mountains in the Piedmont province are moderately-steep to steep, ranging from 900 to 1,500 feet above sea level. The smoother part of the Piedmont is mostly sloping to gently sloping with some moderately steep areas. The altitudes range from 360 to 900 feet.

As shown in **Map No. 4: Rappahannock River Watershed**, all streams in the County eventually drain into the Rappahannock River. The Hazel, Rush, Covington, Thornton and Rappahannock Rivers have their source in springs in the Blue Ridge Mountains. Drainage in the County is well developed with numerous flood plains. Flood plain soils account for 7,518 acres of land or 4.4% of the County. Most of the small streams flow southeastward, perpendicular to the mountain ridges that divide the County into numerous watersheds (**see Map No. 5: Streams***). The Rappahannock and Jordan Rivers drain the northern part of the County; the Thornton, Rush, Covington, and Piney Rivers drain the central part; and the Hazel and Hughes Rivers drain the

southern part. **Map No. 6: Sub-Watersheds** shows the seven 1995 Virginia Hydrologic Units which form the sub-watersheds within the County.

*Note: Specific flood plain boundaries can be found on Flood Insurance Rate Maps through the National Flood Insurance Program, Department of Housing and Urban Development.

Slope

Slope refers to the ratio of rise to distance. The relative steepness of land makes various uses at times problematic, and thus is an important determinant of the land use, stability and physical development potential of property.

Slope is expressed as a percent, with higher percentages indicating steeper land. The following list provides a description of various slope categories:

0-2%	--	flat land
3-7%	--	rolling, moderately sloping land
8-14%	--	hillside
15-25%	--	steep hillside
Over 26%	--	extremely steep

From a generalized perspective, most of Rappahannock County can be classified as steep hillside (**see Map No. 7: Slopes**). However, there are three areas of the County that consist of moderately sloping land. These three areas, two of which contain most of the County's existing development, include an area in the northern portion of the County centered generally around Flint Hill and U. S. Route 522; in the center of the County between Sperryville and Washington; and in the eastern part of the County near the Madison County border along State Route 231. These areas are also highlighted as having prime soils for agricultural uses. Note: On-site evaluations should be used to determine physical characteristics of a particular parcel of land.

The classification of an area as steep hillside does not mean that building or agricultural limitations will always be great. In such an area there will always be small zones of relatively flat land that can be used.

However, this classification does mean that extensive use either for plow farming or development is typically not appropriate. Moderately sloping land can be expected to cause the same difficulties as steep areas, but to a more limited extent. Larger areas of flat land will be available for use.

Soils

Soil characteristics are a further determinant of the suitability of land for agriculture, forestry, and development. Different soils, depending upon their structure, fertility, and drainage are more suited for various land uses.

The use that generally causes the greatest stress and number of problems is development. Construction strips the soil of its vegetative cover and exposes it to the forces of erosion. The soil is often required to support pavement or building foundations without shifting appreciably. The soil, particularly in rural areas, is also frequently used for the disposal of liquid or solid waste. Thus where soils easily accept liquid waste, very few building limitations occur. Where soils do not accept such waste, development is limited unless central sewer facilities are available.

The Virginia Department of Conservation and Recreation and the Middle Peninsula Planning District provide data for the location of prime agricultural soils. **Map No. 8: Prime Agricultural Soils on Moderate Slopes** shows the prime agricultural soils for Rappahannock County that are on slopes of 15 percent or less.

As mapped and classified by the United States Department of Agriculture, Soil Conservation Service, there are thirteen soil associations in Rappahannock County. Five broad soil types comprise 75% of the land area of the County, and they are outlined below. These soil associations are landscapes that have distinctive proportional pattern of one or more major and minor soil types. These associations are briefly described below:

RAPPAHANNOCK COUNTY SOIL ASSOCIATIONS GENERAL DESCRIPTIONS

Louisburg-Albemarle-Culpeper Association:

Moderately deep and shallow, well drained and rapidly drained, sloping to steep soils on dissected Piedmont uplands. Comprises 13.9% of the County, or 23,752 acres. Most of it occurs in the eastern part of the County from the Hughes River to the Rappahannock River and some areas around Five Forks.

Brandywine-Eubanks-Lloyd-Chester Association:

Shallow and moderately deep, well-drained and somewhat rapidly drained, sloping and gently sloping soils on dissected Piedmont uplands. Comprises about 31.8% of the County or 54,340 acres. This area extends from the Hughes River on the Madison County line through the central part of the County to the Rappahannock River.

Brandywine-Rockland, Acidic, Association:

Shallow, rapidly drained, moderately steep and steep soils and rock land on low Piedmont mountains. Comprises about 11.2% of the County, or 19,139 acres. Mostly near Woodville but occur throughout the Piedmont Plateau.

Alluvial Land-Chewacla-Wehadkee Association:

Deep to moderately deep, moderately well drained to poorly drained, nearly level soils on flood bottoms. Comprises about 2.2% of the County, or 3,760 acres. Largest areas along the Hughes, Hazel, Thornton, Covington, and Jordan Rivers.

Rock Land, Acidic-Halewood-Very Rocky Land Association:

Well-drained and rapidly drained rocky soils on mountain foothills underlain mainly by granodiorite. Comprises about 5.4% of the County or 9,228 acres.

Very Rocky Land-Rockland, Acidic-Porters Association:

Rapidly drained, rocky and stony soils on mountains and underlain mainly by granodiorite. Comprises about 10.1% of the County, or 17,250 acres. Mostly in the Shenandoah National Park.

Very Rocky Land-Rockland, Basic-Myersville Association:

Rapidly drained rocky soils on mountains underlain mainly by greenstone. Comprises about 8.7% of the County, or 14,867 acres. Mostly in the Shenandoah National Park.

Water Resources

Rappahannock County lies entirely within the Rappahannock River Basin. Thus all streams in the County ultimately drain to this channel, which is a major source of drinking water supply to downstream jurisdictions including Spotsylvania and Stafford Counties and the City of Fredericksburg. Drainage in the County is well developed with most of the smaller streams draining southeasterly perpendicular to the mountains. Total river and stream surface area is estimated at 195 acres. (**See Map No. 5: Streams**)

Springs, wells, streams and ponds currently provide adequate water for the people and livestock in the County. Indeed, approximately 96% of the residences in the County depend upon private wells, springs or streams for their drinking water. Water quality in the County is generally good, although excessive hardness and acidic conditions are occasionally encountered.

A great deal of concern exists both to protect the quality of our water resources and to analyze in some detail the quantity of water available to support a growing population. To that end many efforts have been undertaken, including a well water testing program, a D.R.A.S.T.I.C. water pollution potential study and, an on-going study of groundwater resources in the Sperryville area, all of which are discussed elsewhere in this document.

The Board of Supervisors and Town Council of Washington recently adopted a Water Supply Plan for Rappahannock County and the Town of Washington, prepared by local resident and consulting engineer Timothy Bondelid, with the assistance of numerous volunteers and organizations. While the impetus for this effort was a requirement for such planning contained in the Code of Virginia, the county considers the effort a natural outgrowth of its water quality and quantity concerns. While the report is a survey level document, it demonstrates both the increasing frequency and severity of drought conditions, and notes, in its executive Summary;

Many of these drought events have been accompanied by periods of unusually hot weather which, in combination with what seems to be increasing thunderstorm events as opposed to gentler rains, have exacerbated their effect on the water supply and stream flow. The combination of all of these elements has led to serious concerns as to whether the water supply will in fact continue to meet the County's needs.

Forests

Rappahannock County contains considerable forestland, most of which is hardwood of an oak and hickory type. According to the Virginia Division of Forestry, in 1981 approximately 105,795 acres or 62% of the total County land area was forestland. The figures for 1992 showed a statistically insignificant decline to 105,446 acres. Approximately 70% or 73,707 acres of this forestland was classified as commercial forestland and 31,739 acres were considered "productive reserve" or forestland sufficiently productive to qualify as commercial forestland, but withdrawn from timber utilization through statute or administrative designation. These figures are also little changed from 1981.

Map No. 9: Land Cover shows the forested areas of the County, in addition to agricultural and low-density residential land uses. According to the National Land Cover Database, 68.0 percent of Rappahannock County land cover is deciduous (44.3%), mixed (21.2%), or evergreen (3.4%) forest. (Note: The National Land Cover Dataset was compiled from Landsat satellite TM imagery (circa 1992) with a spatial resolution of 30 meters and supplemented by various ancillary data (where available). The analysis and interpretation of the satellite imagery was conducted using very large, sometimes multi-state image mosaics (i.e. up to 18 Landsat scenes). Using a relatively small number of aerial photographs for 'ground truth', the thematic interpretations were necessarily conducted from a spatially-broad perspective.

The invasion of the Gypsy Moth caterpillar into Rappahannock commencing in 1987 has had a dramatic affect on timber resources. Rapidly established as the major cause of hardwood mortality, the pest has caused an estimated 13,000 acres of hardwood losses, primarily in white, red, chestnut, black and scarlet oak. The County elected to not pursue a cooperative cost-share spraying program to suppress the insects, but to instead support private spraying efforts. By virtue of the Shenandoah National Park's non-spray policy (except for public areas) the insect is impossible to eradicate from our area and will continue to cause hardwood losses until a new equilibrium is attained. A fire complex of over 25,000 acres in Rappahannock, Madison and Page Counties in September of 2000, while often spectacular, was contained largely within the Shenandoah National Park and has created no long-term forest management issues.

A closer look at the 73,707 acres in commercial forestland shows that 47,572 acres, or 62%, was held by farm operators while 27,184 acres or 36% was held by private landowners.

The ability of commercial forestlands in Rappahannock County to produce crops of industrial wood is limited. Based upon a classification system used by the Virginia Division of Forestry, called site class, or the capacity to grow crops of industrial wood based on fully stocked natural stands, commercial forestlands in the County are poor producers. Approximately 3,400 acres are site class three, 54,366 acres are class four and 16,990 acres are class five. Class three lands produce 85 to 120 cubic feet per acre annually, class four lands 50 to 85 feet, and class five lands below 50 feet. The County has no class one or two lands which can produce more than 165 and 120 cubic feet per acre annually.

The predominant forest types of the commercial acreage are: Loblolly-short leaf (3,398 acres), Oak-pine (3,398 acres), Oak-hickory (64,562 acres), and White Pine-Hemlock (3,398 acres). Tables 2.1 through 2.4 provide timberland data.

(NOTE-we are trying to access comparable data to update this section

Table 2.1

Area of Timberland By Stand-Size Class 1992

	All Stands	Sawtimber	Poletimber	Sapling-Seedling
Acres	71,760	54,560	17,050	150

Table 2.2

Area of Timberland By Forest-Type Group 1992

	All Stands	Loblolly-Shortleaf	Oak-Pine	Oak-Hickory
Acres	71,760	150	6,820	64,790

Table 2.3

Area of Timberland By Ownership Class 1992

	All Stands	Forest Ind.	Farmer	Corp.	Individ.
Acres	71,760	150	30,690	3,410	37,510

Table 2.4

Average Annual Removals, 1986-1991 (in thousands of cubic feet)

GROWING STOCK

All Species	Pine	Hard Hardwood
1,679	933	746

SAWTIMBER

All Species	Pine	Hard Hardwood
6,713	3,320	3,393

SOURCE: VA Division of Forestry

CHAPTER THREE

POPULATION CHARACTERISTICS

Historic Trend of Population

To better understand the people of Rappahannock County and their needs and requirements, an analysis of the population is necessary. Such an analysis lends insight into existing conditions and provides a basis for developing population projections.

Table 3.1 and Graph 3.1 show the dramatic changes in the population of Rappahannock County from 1950 to 2010. The population declined from 9,782 in 1850 to 5,168 in 1960 when it began to grow again. Between 1960 and 2000, the population of Rappahannock County grew by .35%, with the largest increase (17.2%) occurring in the 1970s.. The population increased 5.6% from 2000 to 2010 while the State's population increased 13% in the same period.

It is worth noting that the Town of Washington's population reached its peak in 1900, with 300 persons and that, with some modest variation, has been getting smaller ever since. The County itself, by contrast, was at its most populous in 1850, with 9,782 people and declining fairly constantly to its historic low in 1970 as noted above.

Table 3.1

Historical Population Growth 1950-2010

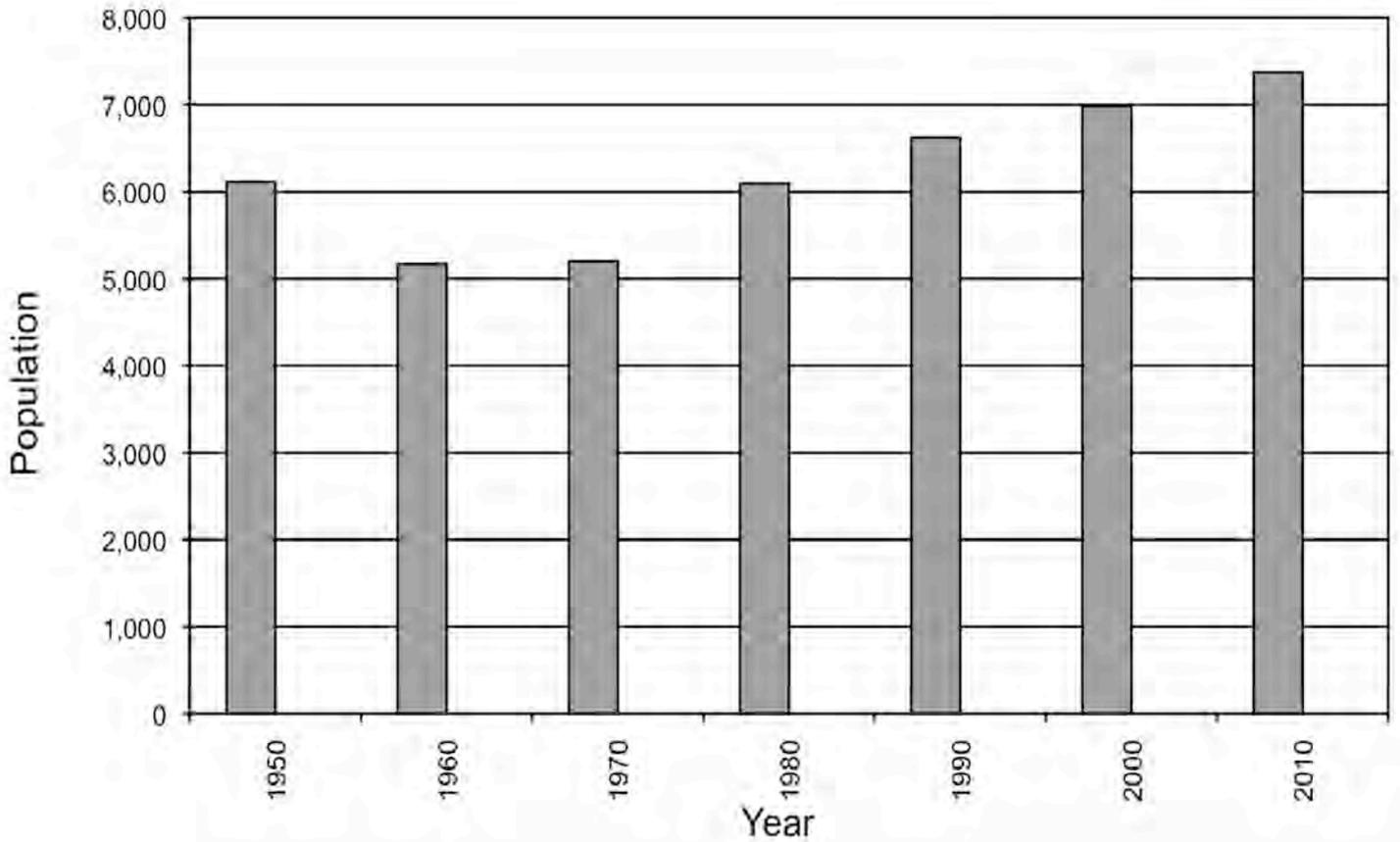
	1950	1960	1970	1980	1990	2000	2010
Rappahannock	6,112	5,168	5,199	6,093	6,622	6,983	7,373
Town of Wash.	249	255	189	247	196	183	135
Hampton Dist	1,489	1,130	1,231	1,181	1,129	1,403	1,287
Stonewall- Hawthorne Dist	1,166	1,058	908	1,133	1,306	1,386	1,603
Jackson Dist	1,118	1,028	1,043	1,404	1,485	1,443	1,597
Piedmont Dist	961	797	840	1,131	1,282	1,335	1,350
Wakefield Dist	1,378	1,155	1,177	1,244	1,420	1,416	1,536

SOURCE: U.S. Bureau of the Census

With a land area of 266.6 square miles, Rappahannock County's 2010 population density of just under 28 persons per square mile remains one of the lowest among Virginia's counties.

Graph 3.1

Historical Population Growth 1950-2010



The Weldon Cooper Center for Public Service of the University of Virginia has developed the following final estimates of population for Rappahannock County for 2020 and 2030:

Table 3.2

Estimates of Population Growth 2020-2030

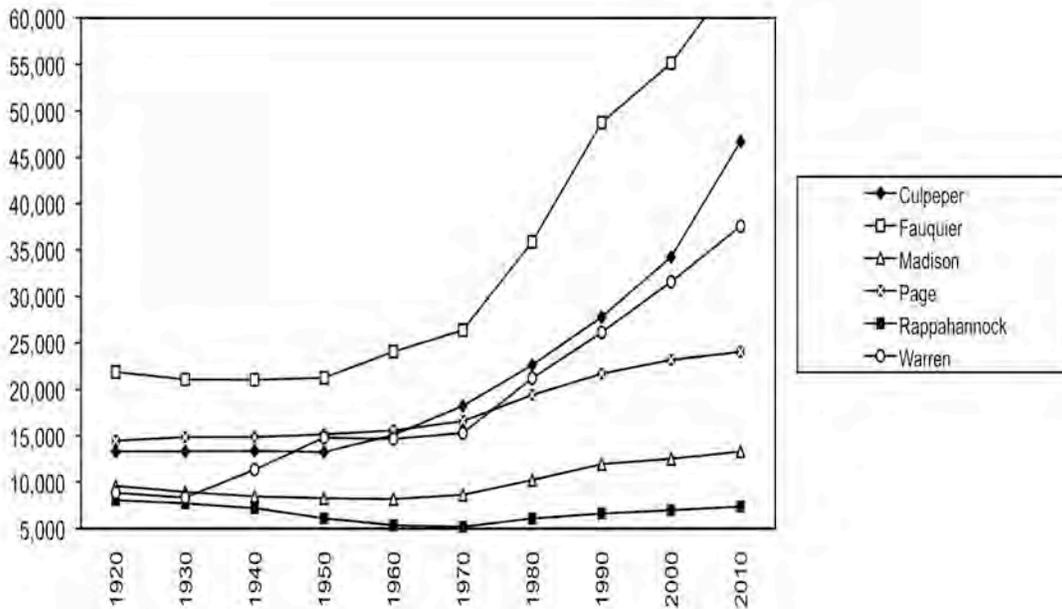
	2020	2030
Rappahannock	8,242	9,066

The Virginia Workforce Coalition projects between 2010 and 2030 the population of Rappahannock County will increase 1% percent per year.

In terms of total population, of the 95 counties in Virginia Rappahannock County ranked 90th in 1990, and 88th in 2000, and 89th in 2010. Graph 3.2 shows Rappahannock population growth compared to growth in surrounding counties.

Graph 3.2

Population By County 1920-2010



SOURCE: U.S. Dept. of Commerce, Bureau of the Census

Population Density

Population density provides a general indication of development in an area. These figures are thus valuable in monitoring the County's rate of growth and development. In terms of persons per square mile, the 1930 population of Rappahannock County was 28.9. By 1970 this number had decreased to 19.5. In 1980 the number of persons per square mile had risen back to 22.8, the 1990 figures identified a slight increase to 24.8, while in 2000 it totaled 26.2, culminating in 2010' slight increase to just under 28 (still below the 1930 high). Of the 135 counties and independent cities in the Commonwealth, Rappahannock ranks as the 8th lowest population density.

Age Distribution

The age and sex distributions of the population are important for several reasons. People under the age of 18 and over the age of 65 are generally more dependent than those of "prime" working ages. Therefore, a large percentage of an area's population in these age groups have definite economic and fiscal repercussions affecting per capita income, buying power and the costs of providing governmental services. Further, a comparatively young population with many females in the child bearing ages influences birth rates, school enrollments, public service demands, and future population totals.

Table 3.3 displays the age distribution for all age groups. With occasional variations the percentage of the population composed of individuals under 20 years decreased steadily from 1980 to 2010 while those persons 45 years and over increased dramatically. Persons 65 years and over represented similar proportions of the total population from 1980 to 1990 (from 12.2%-12.98%). In 2000, those persons 65 years and over totaled 963 or 13.8% of the population; in 2010 their numbers had risen to 1,408 or 19.1%. Persons in the 45-64 age brackets edged upwards from 16.4% of the population in 1980 to 19.34% in 1990 and then grew markedly to almost 32% in 2000 with only modest growth to 34.9% in 2010. The proportion of those persons 0-19 years decreased from 29.6% in 1980 to 25.3% in 1990; fell still further to 24.3% in 2000, and was 22% of the population by 2010. The 20-44 years age brackets share grew from 35.6% in 1980 to 37.6% in 1990, fell back to 30% in 2000 and plummeted to below 20% by 2010. Graphs 3.3, 3.4, and 3.5 show further breakdown of the data.

The 1990 Census results seemed to portend real future growth in population towards the lower end of the demographics. The surge in population in the prime child-rearing years was not repeated with the 2000 or 2010 Censuses, and indeed, the most dramatic trend since 1990 has been the growth in the oldest age groups. This trend, resumes and reinforces Rappahannock's post-World War II trend towards a "graying" of our population.

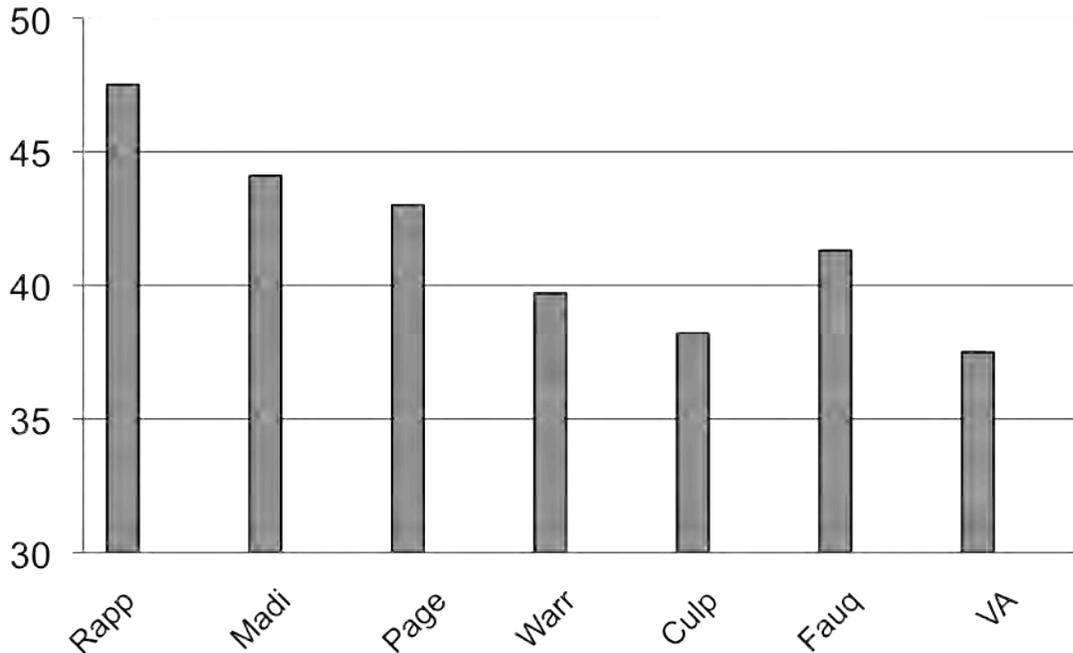
Table 3.3**Age Distribution 1980-2010**

	Total 1980	Total 1990	Total 2000	Total 2010	% of 2010 Total
TOTAL PERSONS	6,093	6,622	6,983	7,373	
Under 5 Years	361	453	356	329	4.5
5 - 9 Years	406	409	421	386	5.2
10-14 Years	499	415	518	470	6.4
15-19 Years	535	404	403	439	5.9
20-24 Years	418	360	252	310	4.2
25-29 Years	494	492	314	280	3.8
30-34 Years	478	503	385	330	4.5
35-39 Years	414	602	528	370	5.0
40-44 Years	367	534	620	480	6.5
45-49 Years	311	492	626	589	8.0
50-54 Years	338	424	660	678	9.2
55-59 Years	362	343	507	629	8.5
60-64 Years	303	331	430	675	9.2
65-69 Years	309	285	304	503	6.8
70-74 Years	205	242	263	366	4.9
75-79 Years	142	170	198	239	3.2
80-84 Years	92	107	111	170	2.3
85 Years & Over	59	56	87	130	1.7

SOURCE: U.S. Bureau of the Census

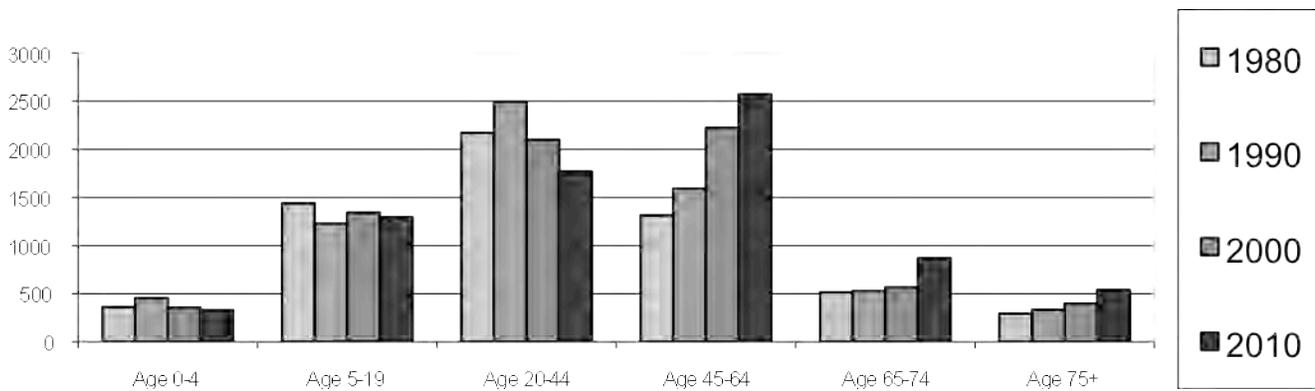
A further analysis of this data provides that the median age of Rappahannock County increased between 1980 and 2010 from 40 to 47.5 years. Comparatively, the 2010 median age for the State of Virginia had risen from 29.8 years to 37.5, while the national median age has risen from 30 to 36.8 years over the same period

Graph 3.3
Median Age of Residents in Rappahannock
& Surrounding Counties - 2010



SOURCE: U.S. Dept. of Commerce, Bureau of the Census

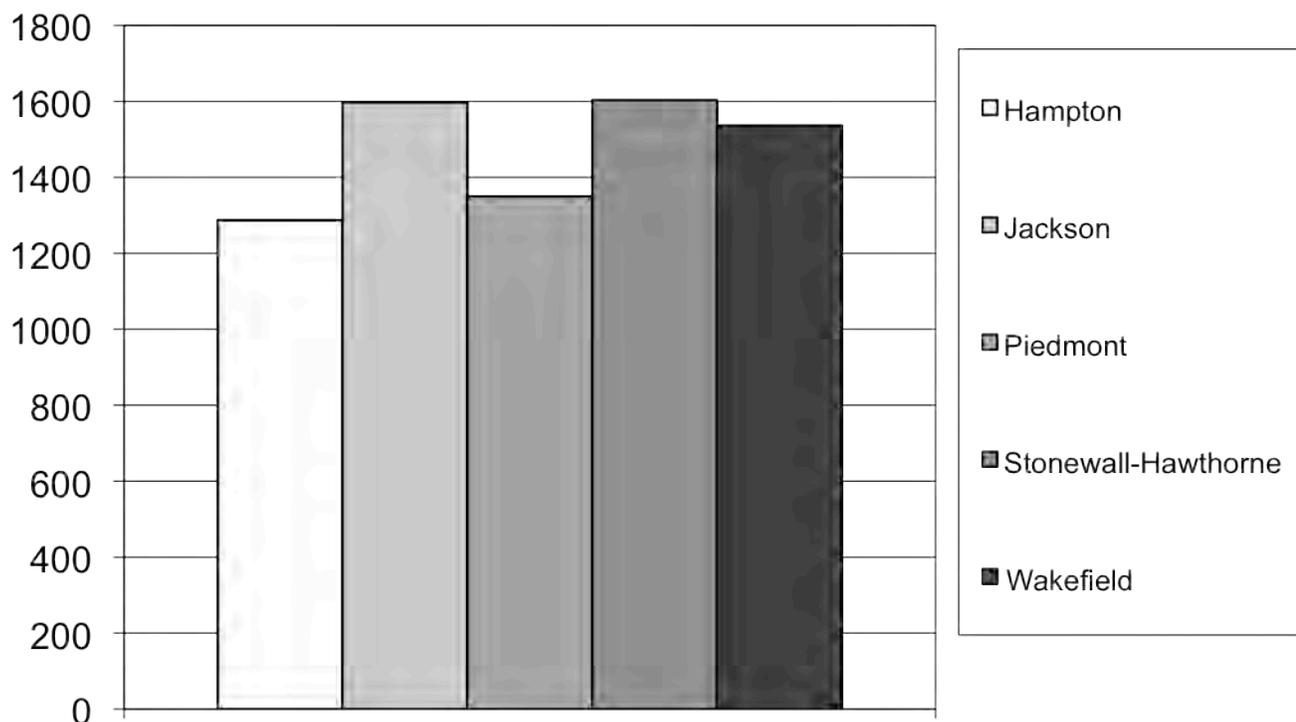
Graph 3.4
Number of Residents in each of Six Age Groups, 1980-2010



SOURCE: U.S. Census Bureau

Graph 3.5

Number of Residents in the Five Districts - 2010



SOURCE: U.S. Census Bureau

Minorities

Table 3.4 and Graph 3.6 show the race distribution in the population of Rappahannock County from 1950 to 2010. While there are a large number of various groups included in the non-white category, including African-Americans, persons of Hispanic descent, native Americans and others, African Americans are by far the dominant group with almost 90% of the category's total. The non-white population declined sharply to 11.6% in 1980, and slipped even further to 2000's 7.4%, which remained statistically the same in 2010.

It is plain that the non-white population in this county is declining in absolute terms, and that the percentage of that population that is composed of African-Americans is itself declining. Rappahannock County ranks 35th in highest percentage white population, and 96th in percentage black population, out of the 135 counties and independent cities of the Commonwealth.

Table 3.4

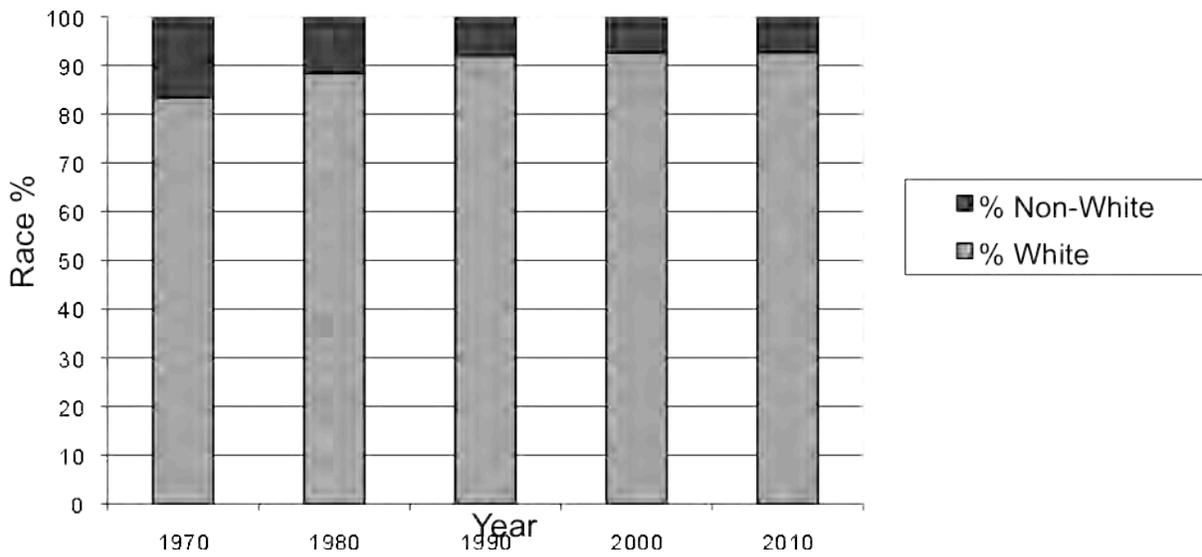
Race Distribution (%) 1970-2010

Year	White	Non-White
1970	83.5	16.5
1980	88.4	11.6
1990	92.0	8.0
2000	92.6	7.4
2010	92.7	7.3

SOURCE: U.S. Census Bureau

Graph 3.6

Race Distribution (%) 1970-2010



Educational Attainment

Educational attainment of Rappahannock County residents has increased dramatically over last few decades. The median number of school years completed rose from 7 years in 1960 to over 14 years in 2000 (see Table 3.5). The median number of school years completed for the State was 11.7 in 1970 and approximately 13 in 2000. Major improvements can be seen in educational attainment, both since 1960 and particularly over the past decade. In 1960, 33.2% had no school or 1-4 years, only 12.6% in 1980, and 4.1% in 1990. While aggregated with other age groups in the 2000 census, it appears as though that percentage has dwindled to statistical insignificance. Likewise, the number of persons who completed 4 years or more of college rose from 3.1% in 1960, 11.2% in 1980, 18.9% in 1990, and 27.6% in 2000. The percentage of high school graduates also increased from 19.6% in 1960, 46.7% in 1980, 62.6% in 1990, and 76.0% in 2000.

As of 2000, Rappahannock County ranked 26th in the percentage of adults with college degrees (27.6%) out of Virginia's 135 counties and independent cities. Similarly, Rappahannock ranked 25th in percentage of adults with advanced educational degrees (9% of the population).

NOTE: Still awaiting some of this data

Table 3.5

School Years Completed - Persons 25 years and Older (%) 1970-2010

	1980	1990	2000	2010	VA 2010	US 2010
No School	5.3	*	*	Less		
1 - 4 Years	18.0	12.7	4.1	Than		
5 - 7 Years	27.6	20.0	14.0	9th Gr.=		
8 Years	9.5	6.8	19.0	11.2		5.23
9 - 11 Years	14.9	13.8	13.8	12.7		7.63
High School	14.8	25.9	28.0	30.1		31.24
1 - 3 Yrs College	6.8	9.6	20.2	18.4		25.97
4+ Yrs College	3.1	11.2	18.9	27.6		29.93
	100%	100%	100%	100%		100%

SOURCE: U.S. Bureau of the Census

**Median School-Years Completed

8.0 10.8 12.4 14.0

High School Graduates (%)

24.7 46.7 62.6 76.0

*In 1980-2000 the No School category was included in the 1-4 Years category.

**Median is the point at which 50% of the cases are greater and 50% are less.

Educational Trends

Student enrollment in the Rappahannock Public School System (grades k-12) generally increased from 2000 through 2003. Since the high water mark of 1,046 students in the fall of 2002, average daily membership has declined steadily when measured at the start of the school year. Figures for subsequent years do not indicate that this is a marked trend (see Table 3.6 and Graph 3.7).

Table 3.6

Student Membership - September 30-End of Year Membership

Year Membership	Sept. 30 Membership	End-of-Year
2000-01	1,020	1,004
2001-02	1,041	1,037
2002-03	1,046	1,031
2003-04	1,033	1,025
2004-05	1,005	1,020
2005-06	992	1,108
2006-07	1,002	981
2007-08	941	949
2008-09	921	935
2009-10	930	929

SOURCE: Superintendent's Annual Report for Virginia, VA Dept. of Education

Graph 3.7

Student Membership - September 30-End of Year Membership

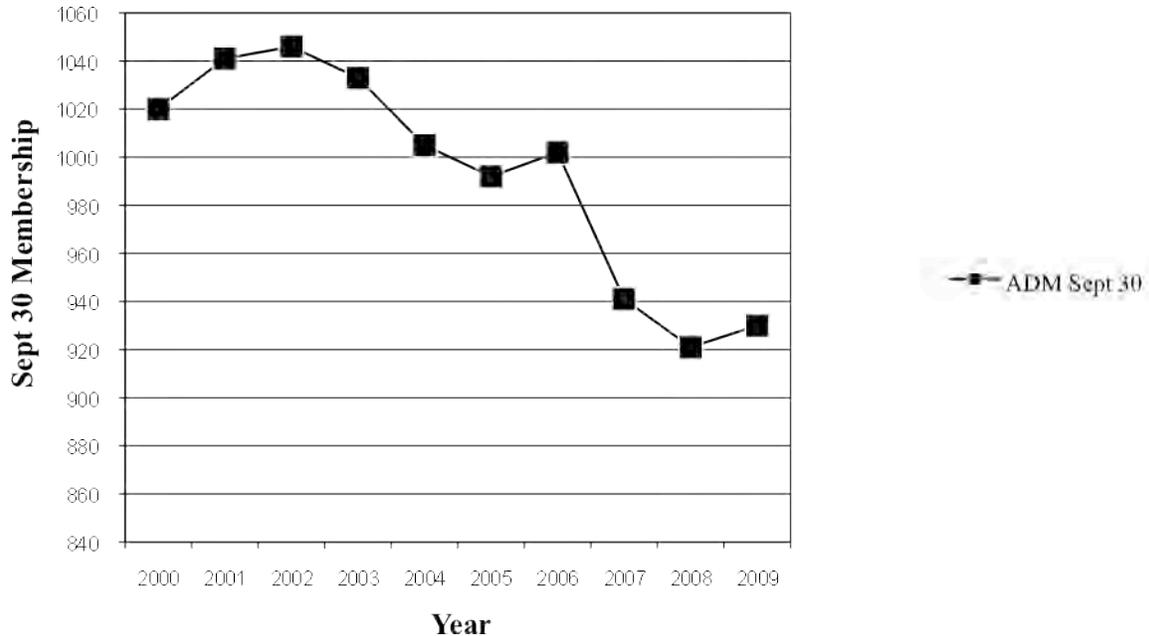


Table 3.7 shows that graduates as percent of ninth grade membership ranged from 75.9% in 2000-01 to 101.3% in 2007-08, with a high degree of annual variation due to the extremely small class sizes in the Rappahannock County School System.

Table 3.7

Graduates as Percent of Ninth Grade Membership

Year	Membership Ninth Grade	Total Graduates	Percent
2000-01	79	60	75.9
2001-02	80	65	81.3
2002-03	101	87	86.1
2003-04	97	78	80.4
2004-05	100	84	84.0
2005-06	110	96	87.3
2006-07	85	84	98.8
2007-08	77	78	101.3
2008-09	89	85	95.5
2009-10	85	77	90.6

SOURCE: Superintendent's Annual Report for Virginia, VA Dept. of Education

Historically, the percent of graduates continuing education attending 2 and 4-year colleges, etc., fluctuated from year to year through 1983. However, since 1984, there has been a fairly constant increase. Generally, more than 85% of the County High School graduates now continue their education always allowing for a certain variation in any given year due to the small class size (see Table 3.8).

Table 3.8
Graduates Continuing Education

Year	Number of Graduates	Attending Two-Year Colleges		Attending Four-Year Colleges		Other Continuing Education		Percent Continuing Education
		#	%	#	%	#	%	
2001-02	65	16	24.6	20	30.8	3	4.6	60.0
2002-03	87	28	32.2	22	25.3	4	4.6	62.1
2003-04	78	19	22.9	34	41.0	2	2.4	66.3
2004-05	84	33	38.8	24	28.2	4	4.7	71.7
2005-06	96	36	36.7	37	37.8	6	6.1	80.6
2006-07	84	36	41.4	36	41.4	5	5.7	88.5
2007-08	78	37	46.3	29	36.3	2	2.5	85.1
2008-09	85	36	33.3	58	53.7	3	2.8	89.8
2009-10	77	30	39.0	34	44.2	2	2.6	85.8

SOURCE: Superintendent's Annual Report for Virginia, VA Dept. of Education

Total expenditures for operations increased ____ percent from 1999-00 through 2009-10. Table 3.9 shows percentages of Local, State, and Federal financial support for expenditures. Local expenditures increased from \$4,163,265 to \$10,982,539 or ____ percent in this time period (not adjusted for inflation). The Federal share of spending has remained relatively constant while the state share has declined.

Table 3.9

Total Expenditures for Operations And Sources of Financial Support for Expenditures

Year	Total(\$)	Local(\$)	%	Retail(\$)	%	State(\$)	%	Fed.(\$)	%
1999-00	7,136,000	4,163,265	58.3	798,309	11.1	1,825,051	25.5	349,375	4.89
2000-01	7,829,112	6,266,269	80	836,676	10.7	493,365	6.3	232,801	2.9
2001-02	8,485,506	5,270,837	62.1	850,773	10	1,860,928	21.9	502,968	5.9
2002-03	8,532,623	5,528,275		824,180		1,693,729		486,439	
2003-04	9,158,676	6,037,968		882,369		1,793,639		444,700	
2004-05	9,767,325	6,244,035		1,034,214		1,980,701		508,375	
2005-06	10,529,518	6,808,286		1,084,546		2,008,711		627,975	
2006-07	12,079,040	8,502,746		1,091,649		1,971,126		513,519	
2007-08	11,537,858	8,132,031		1,103,052		1,818,424		484,350	
2008-09	11,203,696	8,192,116		1,037,760		1,518,103		455,717	
2009-10	10,982,539	8,200,884		892,578		1,270,944		618,134	

SOURCE: Superintendent's Annual Report for Virginia, VA Dept. of Education

Table 3.10 shows per pupil expenditures based on the average daily membership (ADM) for operations from local, State, and Federal funds. Both local and State funds for each pupil expenditure increased by more than 100 percent. On the other hand, expenditures from retail sales and use tax and federal funds per pupil increased only slightly. Altogether, per pupil expenditures increased from \$6,976 in 1990-00 to \$11,809 in 2009-10.

Table 3.10**Per Pupil Expenditure for Operations From Local, State, and Federal Funds**

Year	ADM Determining Cost Per Pupil(\$)	Per Pupil Expenditure From Local Funds (\$)	Per Pupil Expenditure From Retail Use Tax Funds(\$)	Per Pupil Expenditure From State Funds (\$)	Per Pupil Expenditure From Federal Funds (\$)	Total Per Pupil Expenditure (\$)
1999-00	1,023	4,070	780	1,784	342	6,976
2000-01	1,015	6,174	824	486	229	7,713
2001-02	1,042	5,058	816	1,786	483	8,143
2002-03	1,037	5,331	795	1,633	469	8,228
2003-04	1,027.02	5,879	859	1,746	433	8,918
2004-05	1,014.23	6,156	1,020	1,953	501	9,630
2005-06	1,008.83	6,749	1,075	1,991	622	10,437
2006-07	988.86	8,599	1,104	1,993	519	12,215
2007-08	944.38	8,611	1,168	1,926	513	12,217
2008-09	930.44	8,805	1,115	1,632	490	12,041
2009-10	930.03	8,818	960	1,367	665	11,809

SOURCE: Superintendent's Annual Report for Virginia, VA Dept. of Education

The local private non-profit public education support group, Headwaters, Inc., in collaboration with the Rappahannock County Public Schools and the Rappahannock County Board of Supervisors, commissioned a study concerning local-state financing of education in Rappahannock County from Public and Environmental Finance Associates, of Washington, D.C. The report is entitled "Analysis of the Impact of the Local Composite Index on Rappahannock County, Virginia", and was issued in September 2002.

The LCI (Local Composite Index) in the words of the report, "is used by the Commonwealth to allocate state aid to local school districts. It is applied by the Commonwealth as a measure of relative economic well-being among Virginia cities and counties." Three weighted components make up the LCI: property values (50%), Adjusted gross Income (40%) and sales tax receipts (10%). While sales tax receipts are very low, and the County is close to the state average for median income and median residential property values. The fact remains that the LCI for Rappahannock is the tenth highest in the state, resulting in extreme limitations on state aid, particularly for education.

The report's principle conclusion is that the success that the County has had in preserving open space has resulted, through the intricacies of the LCI formula, in a "penalty" in education funding. Succinctly, property taxed locally at its "use-value"

(value for productive agricultural enterprises versus fair market value - often a reduction of 75-85%) is nevertheless valued by the Commonwealth at its fair market value in the LCI's workings.

While only an indicator of local educational investment and effort, pupil-teacher ratios are one means of measuring a local educational system. ~~The Commonwealth as a whole had a Public School Pupil Teacher ratio of 13:1 and 11:1 for K-7 and 8-12 education, respectively.~~ Rappahannock's ratios for 2009-10 were 12.4 for K-7 and 10.0 for 8-12 education. These numbers are self-evidently better than the state averages, and represent the advantages (and challenges) of a smaller school system. In neighboring counties, the elementary and secondary ratios range from a high of 13:1 ratio in both K-7 and 8-12 in Warren County to a low for elementary of 12:1 in Culpeper and 9:1 for secondary in Fauquier County. Note: The table with this information is odd - CW

Teacher salaries are also an indicator of a localities' ability to attract and retain qualified instructional personnel (including principals, assistant principals and central administration). A comparison between Rappahannock and other counties in the Rappahannock-Rapidan Regional Commission is included in Table 3.11.

Table 3.11

Average Public Teacher Salary

	2006-07	2007-08	2008-09	2009-10
Rappahannock	43,490.25	45,311.91	46,656.20	\$47,454
Culpeper	44,565.27	48,347.69	48,187.99	\$48,122
Fauquier	53,042.82	55,178.65	56,674.07	\$57,068
Madison	42,577.22	44,252.96	44,538.30	\$43,269
Orange	43,132.98	41,799.84	42,628.23	\$43,186

SOURCE: Superintendent's Annual Report for Virginia, VA Dept. of Education

Income Characteristics

The income of Rappahannock residents has been on a steady rise since the 1970s with particularly notable increases in the past decade. Median family income in 2010 stood at \$56,250 to the state average of \$59,250. Anecdotal evidence of the Counties' general increase in wealth may also be showing the fact that 12.8% of the population reported incomes of \$100,000 or above, the twelfth highest percentage from among the 135 counties and independent cities. Similarly, with 5.2% of families reporting incomes below the poverty line, Rappahannock ranked 89th in the Commonwealth (this figure is less than one half what it was in 1990 and is 9.2 % of total population-compared to the Commonwealth's average of 10.6%).

The overall distribution of the County's adjusted family incomes from 1990 through 2010 is presented in the following Table (see Table 3.12).

Table 3.12
Adjusted Family Income

	%	1990	2000	2010
Total Families	100	1,951	2,024	
Less than \$2,500		*	*	
\$2,500 to \$4,999		3.8%	*	
\$5,000 to \$7,499		*	*	
\$7,500 to \$9,999		5.0	2.5	
\$10,000 to \$12,499		*	*	
\$12,500 to \$14,999		*	4.2	
\$15,000 to \$17,499		*	*	
\$17,500 to \$19,999		14.3	*	
\$20,000 to \$22,499		*	*	
\$22,500 to \$24,999		*	10.0	
\$25,000 to \$27,499		*	*	
\$27,500 to \$29,999		16.4	*	
\$30,000 to \$34,999		*	11.5	
\$35,000 to \$39,999		18.9	*	
\$40,000 to \$49,999		12.1	18.4	
\$50,000 to \$74,999		-	23.5	
\$75,000 or more		-	15.7	

SOURCE: U.S. Bureau of the Census

*Income levels combined with next reported figure below

Median Household Income	\$36,399	\$51,848	\$56,250
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A comparison of the adjusted per capita income for other jurisdictions in the Planning District is presented in Table 3.13. Rappahannock County citizens experienced the greatest percentage change in their per capita income, after having the second greatest between 1990 and 2000; in addition, the current figure is above the State average of \$31,606. The County per capita income figure grew substantially when compared to adjacent counties. Out of the three counties in the Rappahannock-Rapidan Regional Commission adjacent to Rappahannock County, Fauquier had the highest and Madison had the lowest per capita income in 2000, a trend that has remained constant since 1970.

Table 3.13
Virginia Adjusted Per Capita Gross Income Comparison

Locality	2000	2010	% Change
Rappahannock County	\$23,863	\$33,244	39
Fauquier County	\$28,757	\$38,317	33
Culpeper County	\$20,162	\$26,707	32
Madison County	\$18,636	\$25,489	36
Commonwealth of Virginia	\$23,975	\$31,606	32

SOURCE: Commonwealth of Virginia, VA. Department of Taxation, Virginia Department of Taxation Annual Report. Richmond, VA 1982-1991

Population Projections

Although difficult to develop because of the numerous complex variables that influence them, population projections are an important component of the comprehensive planning process. Based on past trends and predicted events, such projections assist in establishing a basic idea of the County's future population level and structure, the overall rate of growth and development, and the degree of change. Further, population projections are necessary to plan for future community programs and essential public services required by the general population.

The two primary population growth components are births vs. deaths and in-migration vs. out-migration. Many factors serve to affect these determinants in an area or locality. These factors include:

1. The general physical and natural environment and amenities of an area.
2. The health of the local population.
3. The age components of the local population.
4. The fertility rate of the locality's childbearing aged females.
5. The regional setting of the locality.
6. Employment opportunities and type of employment in the locality and its environs.
7. Income and wealth of the locality.
8. Public facilities and services available to the populous of the locality.
9. The cost and availability of housing in the locality.
10. The tax rate and tax structure of the locality.
11. Growth occurring in adjacent localities.

All of the above factors are important to projecting population for a place. Unfortunately, not all factors are easily projected, and the factors can change quickly over time. Under these constraints, a range of assumptions about what will influence a locality's population changes in the future should be determined and population projections based on the assumptions developed.

The population projections for Rappahannock County have been developed in a range from a lower to an upper limit. This range is based on assumptions of what could happen to the County's population and is intended to provide a projection of what would result under different growth scenarios. It is probable that the population growth will fall

somewhere within the range shown. At any one time during the projection period it is possible that unforeseen occurrences could quickly change the projections.

Lower Limit-Lowest anticipated growth rate:

This projection is seen as the lowest likely population growth scenario for Rappahannock County. Assumptions under this scenario include:

1. The continued attractiveness of Rappahannock County as a place to live by retirees and former residents of the County.
2. A fairly consistent fertility rate and death rate with that of the 1980 to 2000 period.
3. A slowing of in-migration by individuals who commute to jobs outside of the County.
4. A continued dominance of agriculture and tourism in Rappahannock County's economic base.
5. A small growth in non-agricultural employment opportunities in the County.
6. A smaller growth in areas adjacent to Rappahannock County.

The result of these assumptions is a population growth characteristic in the County similar to that which occurred from 2000 to 2010. Thus, a decennial population growth rate of 8.6% (the 1980-90 rate) has been adopted for the lower limit projection.

Median Projection-Moderate annual growth rate:

This projection is seen as close to the middle of the likely population growth range. Assumptions under this scenario include:

1. The continued attractiveness of Rappahannock County as a place to live by retirees and former residents of the County.
2. A fertility rate and death rate consistent with that of the 1980 to 2000 period.
3. A continued significant in-migration of individuals who commute to jobs outside the County.
4. A moderate growth in non-agricultural employment opportunities in the County.
5. A continued growth in areas adjacent to Rappahannock County.

The result of the assumptions is a population growth characteristic in the County similar to that which the Commonwealth has estimated to have occurred from 1990 to 1993. Thus, a decennial population growth rate of +15% has been adopted for the median projection.

Upper Limit-Highest anticipated annual growth rate:

This projection is seen as the highest likely growth scenario for Rappahannock County. Assumptions under this scenario include:

1. The continued attractiveness of Rappahannock County as a place to live by retirees, returning County natives, and commuters working outside the County. Thus, a continued heavy in-migration.
2. A continued large growth in areas adjacent to Rappahannock County.
3. A "spill-over" of growth into Rappahannock County from adjacent counties similar to the growth experienced in those counties from 1990 to 2000.

4. A large growth in non-agricultural employment opportunities in the County.
5. An increasing fertility rate and stable or slightly decreasing death rate.

The result of these assumptions is a larger population growth in Rappahannock County than occurred from 1980 to 1993. A 2% annual increase in population was adopted.

The translation of these assumptions into numbers through the year 2010 is found in Table 3.14. As shown, the application of growth rates yields a dramatic range between the upper and lower population growth limits.

Table 3.14

Population Projection Range, Rappahannock County

	2000	2005	2010	2015
Upper Limit-High Decennial Growth: 22%	6,983	7,709	8,512	
Median Limit-Moderate Decennial Growth: 15%	6,983	7,506	8,030	
Lower Limit-Low Decennial Growth: 8.6%	6,983	7,283	7,584	

CHAPTER FOUR

ECONOMY

Occupations

While the economy of Rappahannock County has historically been based upon agriculture, it no longer employs as high a percentage of the work force as once was the case. Indeed, the decade of 1990-2000 saw the most precipitous decline in Agricultural employment in our county's history. Although the percentage of persons employed in that sector of the economy increased slightly between 1980-1990, it is still far below the 1970 figure, which in turn was lower than figures for previous decades. There have been a number of major investments made in agriculture over the past four years, particularly in heretofore "niche" areas such as grapes and organic products that may reverse this trend. While agriculture is still the foundation of the County's economy, more residents depend on other sectors of the economy for their main employment needs (see Table 4.1).

More generally, between 1980 and 2000, the total number of employed persons increased from 2,517 in 1980 to 3,375 in 1990 and to 3,591 in 2000. Reflecting the rural character of the County, production, crafts, operations, farming and general labor of all kinds were represented in Rappahannock County at a rate greater than that for the State.

It is worth noting that the proportion of workers who are classified by the Bureau of the Census as self-employed remains substantially higher in Rappahannock than many other jurisdictions; 612 of total employment of 3,591. This translates to 17.1% of workers as opposed to lesser percentages, generally in single digits, in adjacent counties. Reflecting the increasing commuting trend towards the governmental employment centers to the north and east, adjacent counties had an average of 15% of their worker populations employed in Federal, State or Local governments. Rappahannock, in an increase of over 5% since 1990, had 17% of its workforce employed by a governmental entity.

The County unemployment rate has historically lagged behind that of adjacent jurisdictions, the Commonwealth as a whole, and of the nation. This is not inconsistent with the experience of other rural communities, whose citizens' access to employment opportunities are constrained by transportation limitations. Be that as it may, between 1990 and 2000 the County's unemployment rate has precipitately declined, to the point that it generally has the lowest rate in the Rappahannock-Rapidan Region (RRRC). In the year 2000, the unemployment rate was 1.5%, and it has not exceeded 3% through 2003 (see Table 4.2).

Table 4.1

Occupation of Employed Persons

	1990		2000		2010	
	#	%	#	%	#	%
Executive, Administrative & Managerial	313	9.3	1,287	35.8		
Professional-Specialty	360	10.6				
Technicians & Related Support	91	2.7				
Sales	305	9.0	727	20.2		
Administrative Support/Clerical	451	13.3				
Private Household	34	1				
Protective Service	49	1.4				
Service Occupations (except protective/household)	208	6.1	552	15.4		
Farming, Forestry, Fishing	394	11.6	74	2.1		
Precision Production, Craft, & Repair	651	19.3	607	16.9		
Machine Operators, Assemblers, & Inspectors	217	6.4				
Transportation-Material Moving Handlers, Equipment Cleaner	158	4.7	344	9.6		
Laborers	144	4.3				
TOTAL	3375		3,591			

SOURCE: U. S. Bureau of the Census

Table 4.2
Unemployment

Year	County %	RRRC %	VA %	U.S. %
2000	1.3	1.4	2.2	4.0
2001	1.6	2.0	3.5	4.7
2002	2.3	3.2	4.1	5.8
2003	3.0		4.1	6.0
2004	2.6		3.8	5.5
2005	2.6		3.6	5.1
2006	2.3		3.1	4.6
2007	2.5		2.9	4.6
2008	3.5		3.3	5.8
2009	7.8		5.7	9.3
2010	5.6		7.2	9.6

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics

The importance of women in the civilian labor force has grown dramatically in the decades since the World War II, with Rappahannock experiencing the same trend as the nation, albeit at a more modest pace. The 2000 Census revealed that approximately 1,188 women 16 years of age or older were not in the labor force, while approximately 1,641 were. Of this latter group, only 52, or approximately 3%, were unemployed.

This labor force participation rate (58.0%) is slightly higher than that of other rural areas of the United States. By comparison Fauquier, Culpeper, Madison, Warren and Page Counties had a female labor force participation rate of 62.0%, 58.2%, 57.6%, 59%, and 55%, respectively.

Employer Types

In contrast to the type of occupation a person holds, employer types describe the type of industry in which a person is employed. Historically, one of the most conspicuous aspects of this classification for Rappahannock County has been the continued decline of agricultural employment. As previously noted, this decline not only slowed over the previous decade, but in fact underwent a very modest resurgence.

In 1970, 20.3% of County residents were employed by the agricultural industry. This figure dropped to 11.8% in 1980 and increased slightly to 12.1% in 1990 before declining through 2000 as noted above. Management, professional, and related occupations have replaced construction as the most important industry sector in Rappahannock County with 35.8% of those employed registering this as their employer type in 2000. Perhaps functioning as a mirror of the sweeping changes in occupation in the country as a whole, the dominant occupation sector for each Census from 1970

through 2000 has been, respectively, Agriculture, Manufacturing, Construction and Management, Professional and Related.

Anecdotally, it is worth noting that Rappahannock County residents endure the third highest average travel time to work (34.7 minutes) of any jurisdiction in the Commonwealth.

Table 4.3 compares County employer types from 1980-2000.

Table 4.3
Civilian Industries By Which Employed 1990-2010

	1990		2000		2010	
	#	%	#	%	#	%
Agriculture, Forestry, Fisheries & Mining (& Hunting in 2000)	409	12.1	289	8.0		
Construction	649	19.2	555	15.5		
Manufacturing	416	12.3	185	5.2		
Transportation	144	4.3	*	*		
Communications & Other Public Utilities	105	3.1	282	7.8		
Wholesale Trade	102	3.0	51	1.4		
Retail Trade	385	11.4	281	7.8		
Finance, Insurance, Real Estate	122	3.6	145	4.0		
Business, Repair Service	155	4.6	--	--		
Personal, Entertainment, Recreation Services	193	5.7	310	8.6		
Health Services	154	4.5	*	*		
Educational Services	144	4.3	533	14.8		
Other Professional Services	179	5.3	428	11.9		
Public Administration	218	6.46	279	7.8		
Other	-	-	253	7.0		
TOTAL	3375		3591			

SOURCE: U.S. Census Bureau

*Combined with next reported figure

Major Employers

As reported by the Virginia Employment Commission, there were 220 establishments in Rappahannock County offering some form of employment in 2002. During the fourth quarter of 2002, these establishments employed 1,351 persons with average weekly wages per worker being \$574.

The largest employer in the County is the Rappahannock County School Board.

Wholesale-Retail Trade

The U.S. Bureau of the Census lists six merchant wholesalers in Rappahannock County in 1997. As of 1997, 33 retail establishments were located within the County with total sales of \$23,351,283. This represents an increase of 99% in retail sales since 1987.

Current retail sales data show the relative strength of each commodity or sector in Rappahannock County (see Table 4.4).

Table 4.4

Taxable Retail Sales and Use By Group 2001-2009

	2001	2003	2005	2007	2009
Apparel	-	-			
Automotive	1,647,507	2,015,554			
Food	16,161,359	16,230,434			
Furniture, Home Furnishings, & Equipment	1,585,999	1,831,355			
General Merchandise	745,643	328,453			
Lumber, Bldg. Materials and Supply	-	-			
Fuel	-	-			
Machinery, Eqmt. & Supp.	172,309	157,473			
Miscellaneous	4,800,463	6,362,945			
Hotels, Motels and Tourist Camps	1,097,209	1,089,392			
Other Misc.	1,159,194	1,158,911			
TOTAL	27,369,683	29,174,517		21,909,009	

SOURCE: Virginia Department of Taxation

Agriculture

Historically, Rappahannock County has been an agricultural community with most residents depending upon the production of agricultural products for their employment and income. Today, the rural nature of the County continues to reflect the importance of agriculture to County residents.

Of increasing importance are the production of grapes and the rise of organic farming. While dwarfed in economic terms by traditional agricultural and horticultural operations, both endeavors have been continuously reinforced by new investment over the past decade. This trend may reasonably be expected to continue in the coming five years.

Farms

Between 1949 and 1974, the total number of farms in Rappahannock County declined nearly 63% from 687 to 257. A slow reverse in that trend has followed with an increase to 443 farms as shown in the 2002 Census of Agriculture. The percentage of total County land area devoted to farm usage has fairly steadily decreased since 1974.

While the number of County farms has begun to very slightly increase, the average farm size has been decreasing. In 1974, the average size was 298 acres, in 1982 279 acres, in 1987 268 acres, in 1992 253 acres, in 1997 185 acres, and in 2002 an average of 177 acres.

In 1982, 49.2% of the County's farms had less than 100 acres, 39.0% had between 100 and 499 acres, while 11.8% had more than 500 acres. Comparatively, in 1974, 37.4% of the County's total farms had less than 100 acres and 14.8% had more than 500 acres. By 1992, 50% of the County's farms were less than 100 acres in size, 36% were between 100 and 499 acres in area, and farms of 500 acres or more represented only 14% of the total. In 1997, 59% of the County's farms were less than 100 acres in size, 32% were between 100 and 499 acres in area, and farms of 500 acres or more represented only 9% of the total. In 2002, 65% of the County's farms were less than 100 acres in size, 28.4% were between 100 and 499 acres in area, and farms of 500 acres or more represented only 6.7% of the total area. By 2007, the trend of there being fewer larger farms but an increasing number of the smallest farms, was reversed. Although ownership records seems to indicate that some of the increase in number of the largest farms was actually the division of extremely large farms (5,000 or more acres) into smaller units under the same ownership, there are nevertheless a substantially increased number of farming operations of over 100 acres in size. Table 4.5 presents the number of farms by acreage for the years 1987, 1992, 1997, 2002 and 2007.

Table 4.5
Farms by Acreage 1987-2007

Acres	1987	1992	1997	2002	2007
1 - 9	13	14	9	17	19
10 - 49	71	79	146	161	175
50 - 179	95	119	167	159	142
180 - 499	68	56	53	76	56
500 - 999	28	32	28	17	13
1000+	13	12	10	13	11
TOTAL	288	312	413	443	416

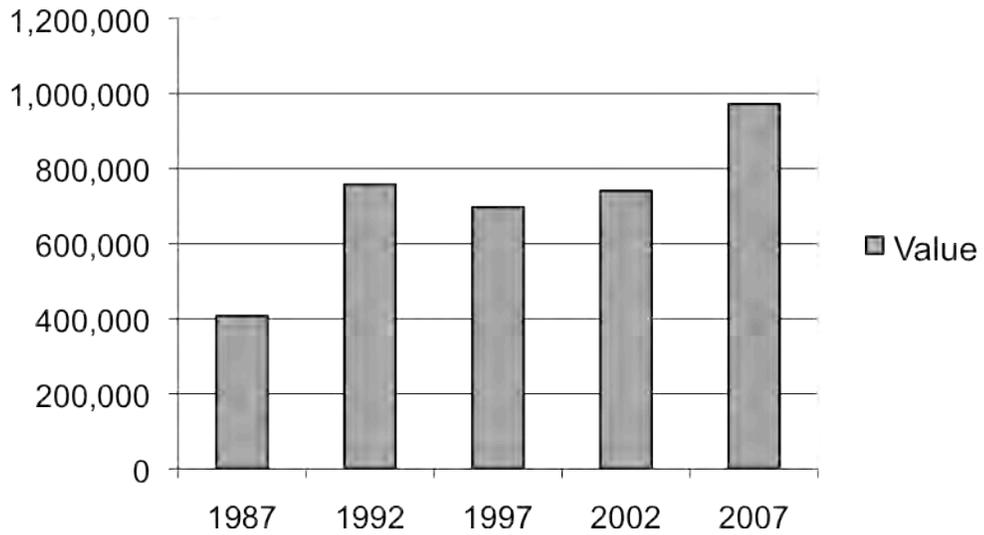
SOURCE: U.S. Census Of Agriculture

Value of Farmland

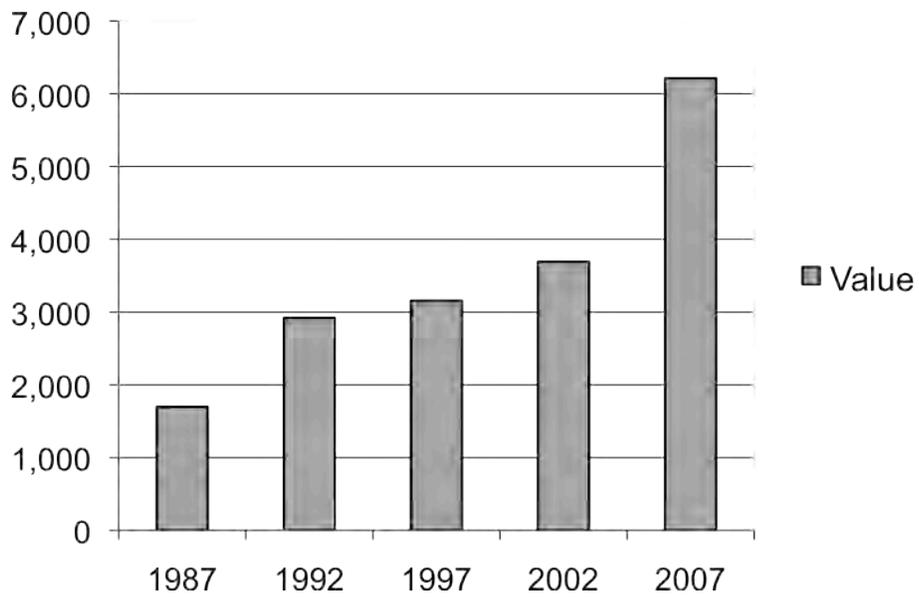
As with most land use categories, the total value of agricultural land has dramatically increased in recent years. Between 1974 and 1982 the average value per farm acre in Rappahannock County increased 79.6% from \$672 to \$1,207. During this same time, the average value per County farm increased 90% from \$191,349 to \$364,163. In 1987, the average value per farm acre had increased to \$1,696, rocketed up to \$2,921 in 1992, was \$3,154 in 1997, and \$3,690 in 2002. Similarly, in 1987, the average value per county farm stood at \$407,631 but had ballooned to \$757,386 by 1992, fell to \$697,214 in 1997, and was back up to \$740,667 in 2002 and had ballooned to almost \$980,000.00 in 1997.

The overall average value per farm and average value per farm acre between 1987 and 2007 is illustrated in Graphs 4.1 and 4.2.

Graph 4.1
Average Value Per Farm 1987-2007



Graph 4.2
Average Value Per Acre 1987-2007



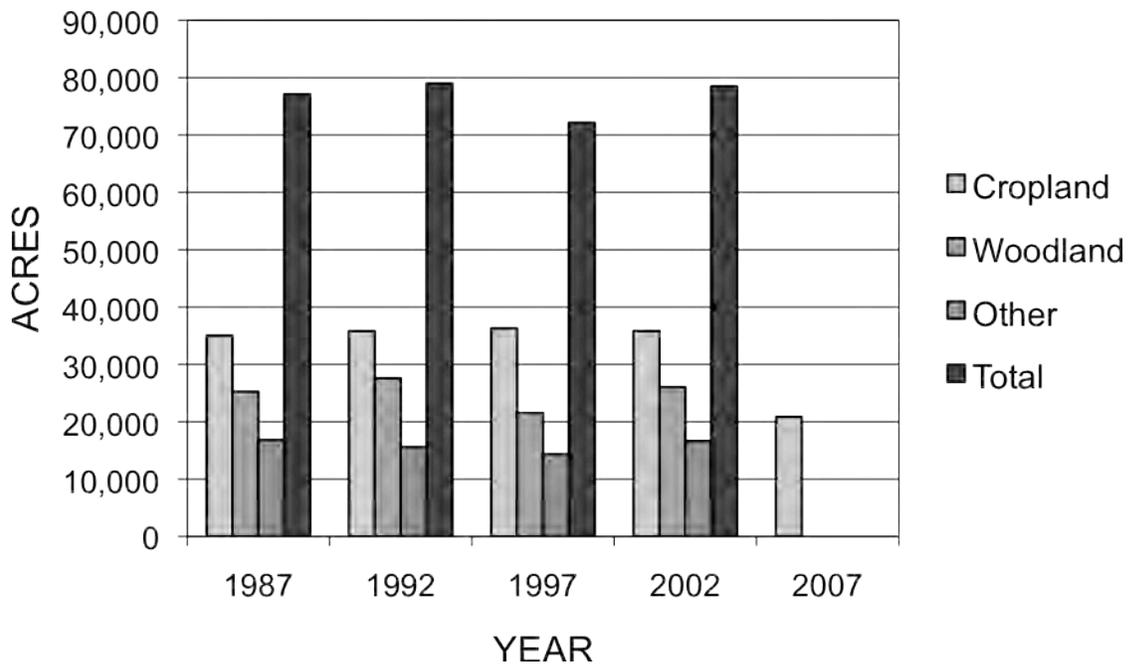
Types of Farmland

In 2002, 78,483 acres of County land were in farmland, down 10% from 87,434 acres in 1982. Of the total farmland in 2002, 35,817 acres or 45% was classified as "cropland", 26,022 acres or 33% was classified as "woodland", and 16,644 acres or 22% was classified as "other farm land". By 2007, these figures had fallen to 20,871 _____, _____, respectively, by 2007

This breakdown of farmland by "cropland", "woodland", and "other farm land" is delineated in Graph 4.3 for the period 1987-2007.

Graph 4.3

Land in Farms 1987-2007



Cattle

Beef cattle operations have grown in importance over the past several decades, both as a principal farming operation and as one aspect of an integrated farm management plan. From a land use perspective, these types of operation tend to utilize large amounts of land, and so disproportionately impact the landscape and indeed, the amounts of acreage that are calculated as engaged in farming operations. Since 1986, for example, the number of beef cattle and calves

increased from 11,900 to 15,500 in 1992, 16,041 in 1997, and 17,548 in 2002, but declined precipitously by 2007, to 11,869

Harvested Cropland

Of the total 416 County farms in 2007, 272 or 65% harvested some cropland. This compares with 79.7% in 1969 and 68% in 2002.

In 2002, 85% of the farms that harvested cropland harvested less than 100 acres of cropland while 13% harvested between 100 and 499 acres. Only 7 farms, or 2% of the total, harvested 500 acres or more but this last figure had grown dramatically in 2007 to 21 farms comprising almost 8% of the total

Table 4.6 lists the number of farms by cropland harvested for the period 1969-2007.

Table 4.6
Number of Farms by Cropland Harvested 1982-2007

Acres	1982	1987	1992	1997	2002	2007
1 - 9	33	30	38	52	45	2
10 - 49	114	92	100	130	166	102
50 - 99	37	45	43	53	46	77
100-499	46	45	46	45	39	68
500-999	2	5	4	3	6	11
1000+	2	0	0	1	1	10
Total Farms with Cropland Harvested	234	217	231	284	303	272
All Farms	313	288	312	413	443	416

SOURCE: U.S. Census Of Agriculture

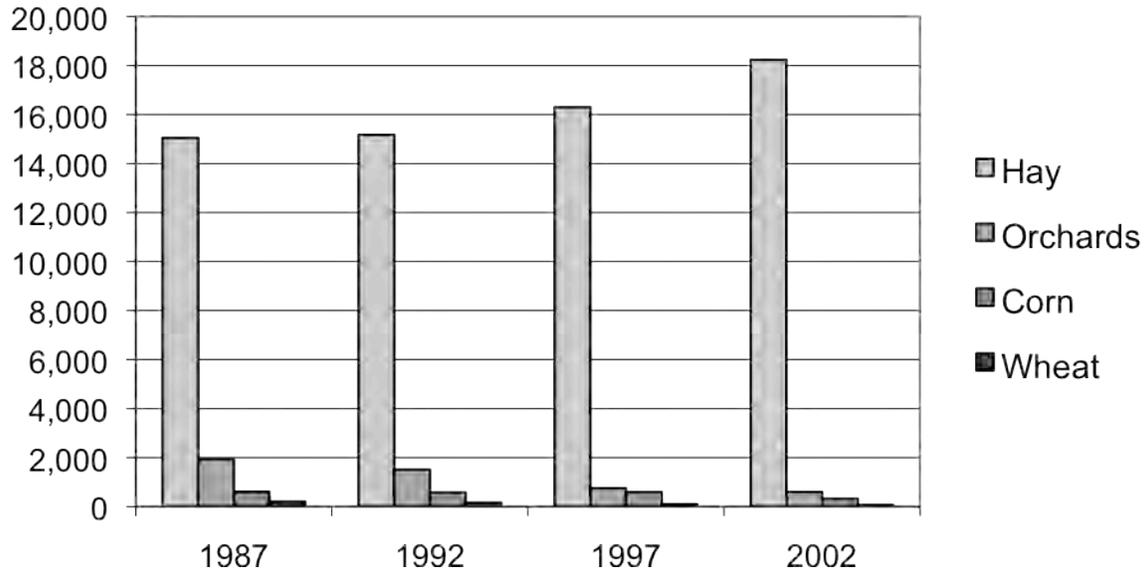
Crop Types

During the 4-year period, 1978-1982 the total amount of cropland harvested in Rappahannock County increased 21% from 15,568 acres to 18,958 acres. This figure had declined to 17,768 by 1987, 17,397 by 1992, jumped to 17,724 by 1997, to 19,208 in 2002, and contracted to just over 15,000 in 2007. In 2007, hay represented over 90% of the total cropland harvested while corn represented less than 3%. Orchards represented 3% .

Graph 4.4 portrays the breakdown of crops by total acres harvested for the 1987-2002 period. As evident from the graph, only hay production has grown over the period.

Graph 4.4

Harvested Acres By Crop Type 1987-2002



As a further measure of the overall importance of these crops, Table 4.7 presents the number of farms that were involved in their production between 1982 and 2002.

Table 4.7

Number of Farms Producing 1982-2002

Crop	1982	1987	1992	1997	2002
Corn	50	26	27	18	8
Wheat	11	12	9	4	3
Hay	202	195	199	220	253
Orchards	61	47	53	40	46

SOURCE: U.S. Census Of Agriculture

NOTE: Soybeans are an increasingly important crop for Rappahannock County farmers, however, reported harvested acreages have not yet exceeded 500.

The Orchard land in Rappahannock County consists primarily of apple production, although the County also harvests a considerable peach crop. In 1992, 43 County farms produced 14.31 million pounds of apples, while 21 farms produced 5.48 thousand pounds of peaches on 80 acres. The overall production of these orchard crops has sharply declined over the years to the point that only 30 farms still raise

apples while only 17 still raise peaches. Table 4.8 presents the total number of apple and peach producing farms in the County from 1992-2007.

Table 4.8
Orchard Crops 1992-2002

	1992	1997	2002	2007
APPLES:				
Total # of Farms	43	31	32	30
Total Acres	1,378	644	380	245
Farms-Non Bearing Age	22	22	15	-
Farms-Bearing Age	40	30	28	
Farms Harvested	35	23	NA	-
Pounds Harvested (millions)	14.31	9.005	NA	-
PEACHES:				
Total # of Farms	21	14	19	17
Total Acres	80	61	94	
Farms-Non Bearing Age	12	7	7	-
Farms-Bearing Age	18	12	13	
Farms Harvested	15	8	NA	-
Pounds Harvested (millions)	.548	.253	NA	-

SOURCE: U.S. Census Of Agriculture - NA (not available)

The historical importance of the Apple industry in Rappahannock orcharding justify a more detailed look at production figures (see Table 4.9).

Table 4.9

Apple Production (in thousands of bushels) 1991-2002

	1991	1994	1997	2002
Bushels	353	241	331	88

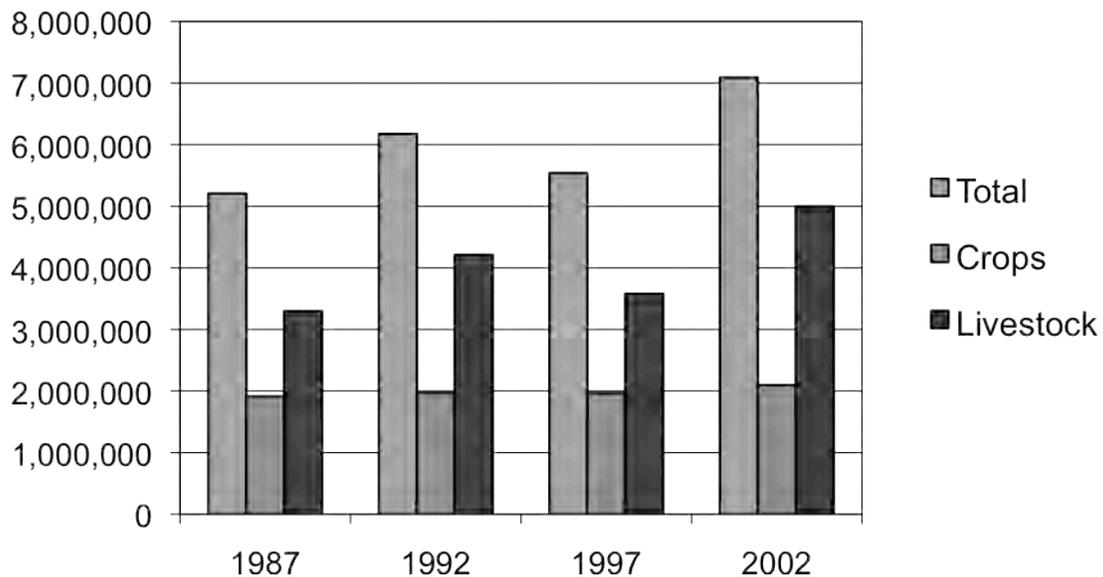
SOURCE: National Agricultural Statistics Service, USDA

Value of Products Sold

Graph 4.5 shows that between 1987 and 2002 the total value of County agricultural products sold increased 34.6% from \$5.2 million to \$7 million.

Graph 4.5

Value Of Products Sold 1987-2002



Prime Farmland

Because of importance of agriculture to Rappahannock County, an attempt has been made to identify and record the suitability of soils for farming activities. It is important to base any land use policies designed to preserve farmland on an accurate and complete inventory of the County's soil capabilities. Soil capabilities are used because soils are the greatest determinant of farmland productivity. **Map No. 8: Prime Agricultural Soils on Moderate Slopes** shows location of prime agricultural soils for Rappahannock County.

While areas of prime farmland exist throughout the County, major concentrations are found in F. T. Valley, the Rediviva area, north and southeast of Washington, the Amissville vicinity, Laurel Mills to Viewtown, east and north of Flint Hill and the Huntly area.