

CHAPTER FIVE

EXISTING LAND USE CHARACTERISTICS and REGULATORY MEASURES

Rappahannock County is a scenic, rural County dominated by forestal land uses, which occupied over 50% of the County's land area in 2007 according to the Census of Agriculture. This is due in part to the 31,700 acres of the Shenandoah National Park located in the County. However, it may also be attributed to the rugged character of the area that makes much of the land unsuitable for plowing. Agriculture and pasture is the second most dominant land use in the County with almost 34% of the land in this category. Vacant land, which consisted of unusable land due to location, slope, or soil conditions accounts for 7.6% of the County's land. The remaining 1.92% may be considered developed (see Table 5.1).

John McCarthy 9/11/13 10:29 AM

Deleted: 1997

Table 5.1
Existing Land Uses (Estimated)

	Acres	%
Residential	1,450	0.80
Commercial	75	0.04
Industrial	45	0.03
Public/Semi-Public	100	0.05
Highways, Roads, R-O-W	2,050	1.20
SUB-TOTAL (DEVELOPED)	3,720	2.00
Agriculture Crops & Pasture	57,337	33.55
Forests		
Farms	31,349	18.34
Commercial	36,774	21.52
Federal	31,700	18.55
Vacant	10,000	5.85
SUB-TOTAL (UNDEVELOPED)	167,160	98
GRAND TOTAL	170,880	100.00

*Note that as of 1994, there were approximately 20,600 acres in Agricultural and Forestal Districts and 3,500 acres in conservation easement in Rappahannock County.

Map No. 10: Agricultural/Forestal Districts shows the approximate location of the current Agricultural and Forestal Districts in the County. **Map No. 11: Conservation Easements** shows the approximate location of properties in conservation easement.

Development Patterns

Throughout the Piedmont and Blue Ridge physiographic regions, most development is scattered along a County's road system for the obvious reason of ready access. The roads of the County generally follow the ridgelines, except in low-lying areas where they tend to follow water bodies, particularly up into the many hollows of the mountains. In Rappahannock, true to form, development has been confined to those ridges and adjacent plateaus, providing generally well-drained soils, nearly level building sites, and superior views. Routes 522 and 211 have the most "ribbon" development along them. Antique stores, craft shops and fruit stands are also located along the major roadways to serve the many tourists who visit the area. The few industrial uses in the County have located close to the population centers.

The pattern of development in the Piedmont area is markedly different. Here the wooded mountain slopes have confined roads and development to the stream valleys and often the actual floodplains. Development and agriculture share the narrow stream valleys, while orchards often occupy the intermediate slopes at the foot of the mountains.

The County's villages developed along transportation corridors that probably originated as animal migratory tracks, evolved into paths used by the Country's native peoples, and were further developed by the European colonization. Villages or settlements typically grew up at significant crossroads, river crossings, or other important landmarks. The villages in the County provide focal points for scattered patterns of development. Villages are usually 3-5 miles apart along the County's main roads and slightly farther apart along the secondary roads. The villages serve local commercial and service functions and are generally characterized by:

- Rural post office and general store, often with older homes nearby.
- One or more houses of worship.
- Service stations and other small commercial/service establishments.

Other residential development has occurred throughout the County but this has been of a low-density type that is largely dictated by concentrated land ownership.

Village Areas

Rappahannock's village settlements are among the most significant considerations affecting the direction of the County's future. These villages are traditionally communities that provide valuable social functions for the surrounding countryside. At these locations, key facilities allow County residents to meet, socialize, vote, shop, receive medical treatment, send and receive mail, and so forth. When considering that Rappahannock is an agriculturally oriented County and its population is largely dispersed, the importance of the village functions becomes apparent.

The primary villages in Rappahannock County are Amissville, Chester Gap, Flint Hill, Sperryville and Woodville. These five villages have no defined legal boundaries--they are not incorporated, and therefore the definition of what area is "included" in the village of Amissville, for instance, is quite general.

The Town of Washington is a separate incorporated municipality, which is also a designated Village within the context of local planning efforts. The Town has a wealth of historical significance, and is in fact a designated historic district.

Amissville - with aerial photo & graphic inserts

The village of Amissville is located on Route 211 in the eastern part of Rappahannock County. Amissville is approximately eleven miles east of the Town of Washington and twelve miles west of Warrenton.

See insert for an aerial view of the Amissville area as of Spring 2002.

Access

Amissville is accessible by arterial Route 211 and by secondary Routes 611 and 642. The roads included in this area are classified by the Virginia Department of Transportation as follows:

<u>Route #</u>	<u>Surface Condition</u>	<u>Road Width</u>
211	Hard Surface	80 feet
611	Hard Surface	14-20 feet
642	Hard Surface	50 feet

Existing Land Uses

Public/Semi- Public:

The village of Amissville contains four churches, three cemeteries, a post office and a fire station. In addition, Stuart Field, a facility providing recreational opportunities, is located there.

Commercial and Industrial:

Located in Amissville is one general store, one convenience store, a multi-use structure housing a carpet shop (and other retail ventures), a restaurant, a service station, and several other uses.

Housing:

John W. McCarthy 9/13/13 8:31 AM

Deleted: The most recent additions have been a motorcycle shop and an automobile dealership

Housing in Amissville consists basically of single-family units located along Route 211. There is a trailer park off of Route 211 that accommodates eleven trailers. There is also one three-unit apartment house in the village.

Chester Gap - with aerial photo & graphic inserts

The village of Chester Gap is located in the extreme northern portion of Rappahannock County along Route 660. Chester Gap is approximately 7 miles north of Flint Hill west of Route 522.

See insert for an aerial view of the Chester Gap area as of Spring 2002.

Access

The village of Chester Gap is accessible by primary Route 522 and secondary Routes 660 and 610. The roads included in this area are classified by the Virginia Department of Transportation as follows:

<u>Route #</u>	<u>Surface Condition</u>	<u>Road Width</u>
522	Hard Surface	50 feet
610	All Weather	Under 14 feet
660	Hard Surface	14-20 feet

Existing Land Uses

Public/Semi-Public:

The village of Chester Gap contains one church, two cemeteries, and a fire station.

Commercial and Industrial:

One general store is located in Chester Gap.

Housing:

Chester Gap is composed primarily of single family housing units. The majority of these housing units are located along Route 610, 660 and Route 522. Moreover, there is a three-unit apartment building in Chester Gap at the northern tip of the village along Route 660.

Flint Hill - with aerial photo & graphic inserts

The historic village of Flint Hill is located on Route 522 in the northern part of Rappahannock County. Flint Hill is approximately five miles north of the Town of Washington.

See insert for an aerial view of the Flint Hill area as of Spring 2002.

Access

Flint Hill is accessible by primary Route 522 and secondary Routes 606, 647, and 729. The roads included in this area are classified by the Virginia Department of Transportation as follows:

Route #	Surface Condition	Road Width
522	Hard Surface	30+ feet
606	Hard Surface	14-20 feet
647	Hard Surface	30-50 feet
729	Hard Surface	20-50 feet

Existing Land Uses

Public/Semi-Public:

The village of Flint Hill contains three churches, two cemeteries, a post office and a fire station and volunteer rescue squad.

Commercial and Industrial:

Located in Flint Hill are a gas station, a bank, a general store and three restaurants. There is also a small business center that includes the post office, two apartments, and space for several retail businesses and a substantial amount of commercial office space. Other businesses located along Route 522 are low-impact enterprises and include artist studios, professional practices (writer, massage therapist, architect, ferrier), and retail sales in equine and pet supplies. An abandoned stone quarry is located just east of Flint Hill along Route 647. Currently, a light-industrial facility is located on Rt. 642 near the village [which houses a variety of businesses, including the Virginia Chutney Company](#). This facility is owned [locally](#) and is referred to by its [original](#) tenant, the Aileen Factory, which made children's and women's clothing.

Housing:

Flint Hill consists basically of single-family units. The greatest concentration on these homes is along Route 522 and Route 606. Furthermore, along 522 a number of these homes were built in the early nineteenth century and should be considered historically significant.

John W. McCarthy 9/13/13 8:28 AM

Deleted: (a computer technology firm occupies one space)

John W. McCarthy 9/13/13 8:29 AM

Deleted: , a used-book dealer

John W. McCarthy 9/13/13 8:29 AM

Deleted: vacant

John W. McCarthy 9/13/13 8:30 AM

Deleted: by the County

John W. McCarthy 9/13/13 8:29 AM

Deleted: most recent

Sperryville - with aerial photo & graphic inserts

The village of Sperryville is located in the south central portion of Rappahannock County at the intersection of Routes 211 and 522. Sperryville is approximately 6 miles southwest of the Town of Washington along Route 522/211 and 5 miles northwest of Woodville along Route 522.

See insert for an aerial view of the Sperryville area as of [2011](#).

Access

The village of Sperryville is accessible by primary Route 522, 211, 522/211, and 231; and secondary Route 600. The roads included in this area are classified by the Virginia Department of Transportation as follows:

<u>Route #</u>	<u>Surface Condition</u>	<u>Road Width</u>
522	Hard Surface	20+ feet
211	Hard Surface	30+ feet
522/211	Hard Surface	50+ feet
600	Light Surface	14-20 feet

Existing Land Uses

Public/Semi-Public:

The village of Sperryville contains four churches, two cemeteries, a post office, and a fire station and rescue squad. A sewer system has also been constructed in Sperryville.

Commercial and Industrial:

Located in Sperryville are [an](#) antique malls, [at least three](#) antique shops, [two](#) service stations, a general store, a storage company, five restaurants, the phone company office, and many tourist-oriented retail businesses. Along with the tourist-oriented businesses are bed and breakfast establishments [a distillery operation](#), art galleries, cabinetmakers, and many farmers and fruit markets. Most of these businesses are located around the area in which 522 and 211 join, [and in the Rover Arts District, along Water Street](#).

Housing:

Housing in Sperryville consists solely of single family units, the greatest concentration of which are along the 522/211 intersection.

John McCarthy 9/11/13 11:29 AM

Deleted: Spring 2002

John McCarthy 9/11/13 11:29 AM

Deleted: two

John McCarthy 9/11/13 11:29 AM

Deleted: two

John McCarthy 9/11/13 11:30 AM

Deleted: three

John McCarthy 9/11/13 11:30 AM

Deleted: , a bookstore

Washington - with aerial photo & graphic inserts

The Town of Washington, the County seat, is located on Business Route 522/211 in central Rappahannock County. Washington is approximately 17 miles west of Warrenton along Route 211, and 25 miles northwest of Culpeper along Route 522.

See insert for an aerial view of the Washington area as of Spring 2002.

Access

Washington is accessible by primary Route 522/211 which has both business and bypass routes. The roads included in this area are classified by the Virginia Department of Transportation as follows:

Route #	Surface Condition	Road Width
522/211	Hard Surface	100 feet
622	Hard Surface	14-20 feet
626	Hard Surface	14-20 feet
628	Hard Surface	14-20 feet

Existing Land Uses

Public/Semi-Public:

The Town of Washington contains three churches, one cemetery, a post office, a fire station (just outside Town limits), the County Jail and Sheriff's Office, Department of Social Services, County office buildings as well as the Courthouse, the Town Hall, and a medical clinic. The Commonwealth of Virginia maintains offices for the Cooperative Extension Service and the Health Department. The Virginia Department of Transportation maintains a maintenance headquarters located at Route 622 Rock Mills Road and Flatwood Road, near the County's Flatwood Refuse and Recycling Center.

Commercial and Industrial:

Located in the Town are three restaurants (including the five-star Inn at Little Washington), three bed and breakfast establishments, three art galleries, one apartment buildings, a diverse assortment of retail businesses, along with centralized services commercial office space, a phone company office, four attorney's offices, a number of real estate offices, a cabinetmaker, and a newspaper office. Washington functions, in many ways, as the arts center of the County. Several theatrical and musical groups make their home in the Town and regularly present plays, lectures, and musical offerings and are discussed in detail below in Cultural Resources.

Housing:

Housing in the Town of Washington is somewhat unique in that most single-family homes are located in Washington's historic district and are therefore considered significant. The housing type in Washington is predominantly single-family. There are two apartment buildings containing all together about eight rental units.

John McCarthy 9/11/13 11:31 AM

Deleted: and mental health

John McCarthy 9/11/13 11:33 AM

Deleted: an

John McCarthy 9/11/13 11:33 AM

Deleted: y

John McCarthy 9/11/13 11:32 AM

Deleted: two

John McCarthy 9/11/13 11:33 AM

Deleted: several

John McCarthy 9/11/13 11:32 AM

Deleted: associated with Sunnyside Farms including a gallery and retail ventures

John McCarthy 9/11/13 11:32 AM

Deleted: three

John McCarthy 9/11/13 11:34 AM

Deleted: a video rental establishment

John McCarthy 9/11/13 11:35 AM

Deleted: presentations

John W. McCarthy 9/13/13 7:59 AM

Deleted: in the Ki Rappahannock Association for Arts in the Community (RAAC) Community Theatre building. The largest year-round arts venue in the County, the Theatre at Washington, Virginia, presents a wide variety of professional dramatic and musical performances year round, including the Smithsonian chamber music series.

Woodville - with aerial photo & graphic inserts

The village of Woodville is located in the southern portion of Rapahannock County, in the Stonewall-Hawthorne District, on Route 522. Woodville is approximately 11 miles south of the Town of Washington and 14 miles north of Culpeper along Route 522 (formerly Cherry Street). The following, as compiled by Ned and Elisabeth Johnson, is noteworthy of Woodville: The town was possibly named in 1798 for John Woodville, rector of St. Mark's Parish (1794) or because all streets were given tree names. In 1835, the population was 200, and included 4 mercantile stores, 2 taverns, 1 school, 30 dwellings, 1 tanyard, 3 blacksmiths, 1 saddler, 1 boot and shoemaker, 1 cabinetmaker, 1 carpenter-house joiner, 1 tailor, 1 attorney, and 2 physicians. In 1880, there was 1 hotel, 4 merchants, 3 saw mills, 3 doctors, 1 lawyer, 1 Episcopal and 1 Methodist church, and 2 corn and flourmills. In 1929, a major tornado came through Woodville.

See insert for an aerial view of the Woodville area as of Spring 2002.

Access

The village of Woodville is accessible by primary Route 522 and secondary Routes 618 and 621. The roads included in this are classified by the Virginia Department of Transportation as follows:

<u>Route #</u>	<u>Surface Condition</u>	<u>Road Width</u>
522	Hard Surface	20+ feet
618 (West)	Hard Surface	14-20 feet
618 (East)	Hard Surface	14-20 feet
621	All Weather Surface	14-20 feet

Existing Land Uses

Public/Semi-Public:

The village of Woodville contains two churches and three cemeteries.

Commercial and Industrial:

One computer service shop and an antique/curio/garden and vegetable shop are the commercial land uses in the Woodville area.

Housing:

Woodville's housing stock is composed almost solely of single family and rental units. The majority of these homes are located along Route 522. Several structures have apartments.

John W. McCarthy 9/13/13 8:28 AM

Deleted: Woodville is noted for its yearly picnic on top of Red Oak Mountain; which is open to the public.

Housing

The housing stock of Rappahannock County is one of its most important features. Thus, a description of its characteristics lends considerable insight to the overall social and economic structure of the community and assists in identifying specific problems concerning the need for shelter and a safe living environment. Further, housing characteristics reflect the overall trend and rate of physical and economic growth and development.

Since 1960 the number of housing units in Rappahannock County has steadily increased. In 1960, 1,865 units were reported in the County. This number had increased to 3,303 in 2000.

The 1990 census reported a total of 2,964 units, or an increase of over 11% from the previous decade.

Of the 3,303 housing units within the County in 2000, 2,788 or 84.4% were occupied year round. Comparatively, 84% were occupied year round in 1990, 78% in 1980, 76.4% in 1970, and 76% in 1960.

Table 5.2 provides a breakdown of Rappahannock County's dwelling units between 1970 and 2000.

Table 5.2

Total Housing Units 1980-2010

	1980		1990		2000		2010	
	#	%	#	%	#	%	#	%
Total Housing Units	2,704	100.0	2,964	100.0	3,303	100.0	3,839	100.0
Occupied Year 'Round	2,145	79.3	2,496	84.0	2,788	84.4	3,072	80.0
Vacant	466	17.2	468	16.0	515	15.6	767	20.0
Vacant Year 'Round*	255	9.4	260	8.7	79	2.4**	-	-
Seasonal Unit For Migrant Worker	211	7.8	275	9.2	309***	9.4	413	10.8
Other	-	-	-	-	6	0.2	-	-
Other	-	-	-	-	121	3.7	-	-

SOURCE: U.S. Census of Housing

*Available for sale or rent, awaiting occupancy or being held for occasional use.

**Does not include occasional use

***Including occasional use

Candy Wroth 9/13/13 2:03 PM

Deleted: Total Housing Units 1970-2000 -

1970 -

1980 -

1990 -

2000 -

Total Housing -

2,023

... [1]

Since 1960, the percentage of owner occupied housing units in Rappahannock County has consistently increased. In 1960, 63.4% of the County's occupied units were owned and 36.6% were rented. In 1970, 68% were owned and 32% were rented. By 1980, 70% of Rappahannock County's occupied housing was owned. This was considerably greater than the 1980 overall State of Virginia rate for owner occupied housing of 65.6%. This trend was continued in 1990, when 72% of units were reported as owner-occupied, again higher than the state average of 66%. By 2000, 75% of units were owner-occupied.

In 2000, owner occupied units in Rappahannock County had more persons per unit (2.51) than did renter occupied units which had 2.47. This is similar to the overall State of Virginia relationship where owner housing, averaging 2.65 persons per unit was larger than renter housing with 2.3 persons per unit.

Displayed in Table 5.3 is the population per occupied unit for Rappahannock County between 1970 and 2000.

Table 5.3

Population Per Occupied Unit 1980-2010

	1980	1990	2000	2010
Persons per all units	2.5	2.65	2.5	
Persons per all owner units	2.6	2.75	2.51	
Persons per all rental units	2.2	2.3	2.47	

SOURCE: U.S. Census of Housing

The housing stock of Rappahannock County is relatively old with 41.0% of all units constructed in 1939 or earlier.

Substandard housing is of concern in all jurisdictions, both as a measure of social stability and perhaps even more importantly as an indicator of poverty. As is typical of most rural areas, almost all year housing units in Rappahannock County are in a one-unit (single family) structure. Two standards are typically used as determinants of substandard housing: those units lacking some or all plumbing facilities and those units that are overcrowded (more than 1.01 persons per room). While these characteristics do not describe the physical condition of housing structures, they are a nationally recognized social measure of an area's housing stock.

Between 1970 and 2000, the number of substandard housing units in Rappahannock County significantly declined, while the percentage of units that lacked all or partial plumbing facilities remained slightly ahead of the state

Candy Wroth 9/13/13 2:10 PM
 Deleted: Table 5.3 - 1970
 ... [2]

average. Table 5.4 portrays Rappahannock County's level of substandard housing for 1970 through 2000.

Table 5.4

Substandard Housing Characteristics 1970-2000

	1970		1980		1990		2000	
	#	%	#	%	#	%	#	%
Lacking some or all plumbing	780	40.1	527	20.2	243	8.2	148	5.3
Over-crowded	187	12.1	113	4.4	125	4.2	101	3.0

SOURCE: U.S. Census of Housing

Table 5.5

Households By Type - 2010

	#	%
Total households	3,072	100.0
Family households	2,111	68.7
With own children under 18 years	726	23.6
Husband-wife family	1,685	54.9
With own children under 18 years	521	17.0
Male householder, no wife present	162	5.3
With own children under 18 years	79	2.6
Female householder, no husband present	264	8.6
With own children under 18 years	126	4.1
Nonfamily households	961	31.3
Householder living alone	809	26.3
Male	391	12.7
65 years and over	141	4.6
Female	418	13.6
65 years and over	222	7.2
Households with individuals under 18 years	839	27.3
Households with individuals 65 years and over	1,039	33.8

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

Between January 1990 and 2002, 728 new residential building permits were authorized in Rappahannock County. This is substantially fewer permits than were issued in some neighboring counties. Over the same period of time, over 8,000 permits were issued in Fauquier County while over 3,000 permits were issued in Culpeper County. Table 5.6 illustrates the trend of residential building permits authorized for Rappahannock County by year from 1990-2002.

Candy Wroth 9/13/13 2:11 PM
Deleted: Table 5.5
... [3]

Table 5.6

Residential Building Permits in Rappahannock County 2000-2012

2000	70
2001	69
2002	62
2003	64
2004	67
2005	60
2006	67
2007	44
2008	34
2009	21
2010	21
2011	15
2012	23

Candy Wroth 9/13/13 2:17 PM

Deleted: Table 5.6 .

62

... [4]

Historic Sites

Rappahannock County has ten properties on the Virginia Landmarks Register and the National Register of Historic Places. They include: 1) Mount Salem Baptist Meeting House, 2) Ben Venue, 3) Montpelier, 4) Caledonia Farm, and 5) Flint Hill Baptist Church. Several other structures are in the process of being considered for inclusion. The County does have a number of other historically and architecturally significant structures that contribute to the historical character of the County.

In 2002, the County, in partnership with the Virginia Department of Historic Resources and assisted with significant funding from local donors, conducted an Historic Architectural Properties Survey. Prepared by E.H.T. Tracerics, Inc., of Washington, D.C., the report resulting from the survey, issued in May of 2003 documents 166 "reconnaissance-level" and 26 "intensive-level" surveys of historic properties.

The survey resulted in a finding that at least twenty other properties are potentially eligible for listing on these registers, and at least 26 additional properties should be surveyed at the intensive level. Also, it was recommended that 31 previously surveyed properties be resurveyed and assessed of eligibility.

Other recommendations include the creation of rural historic districts to include FT Valley Road, Fodderstack Road, Yancey Road and Wakefield. Tracerics suggested that the villages of Peola Mills and Slate Mills be comprehensively surveyed, researched and documented to determine their potential as historic districts. Preliminary Information Forms (PIFs) were

prepared by Traceries to determine the eligibility of Laurel Mills, Flint Hill and Woodville and these were reviewed by the Department of Historic resources, which determined that all three were eligible.

Finally, the report recommended placement of a highway marker at Millwood to document the life and career of local blues singer John Jackson.

Community Facilities

Community facilities consist of those services provided by the County government or other governmental agencies to enhance the public's quality of life and general welfare. Because the adequate provision and maintenance of such facilities is important to the continuance of a well-balanced, diverse, and healthy community, identifying their current availability and extent is necessary.

Community facilities can be viewed as including several distinct groups. Among these are educational services, libraries, recreation, protective services, medical services, and public utilities. A description of each follows.

Educational Facilities

Two public schools that are operated by the County serve the citizens of Rappahannock. The Rappahannock County Elementary School is located on a 26-acre site and serves grades kindergarten through seven. The Rappahannock County High School is located on a 19-acre site and serves grades eight through twelve. Both of these schools are located on U. S. Route 211 west of the Town of Washington. General data about these schools are provided in Table 5.7.

Table 5.7

Rappahannock County Public Schools (2011-2012)

<u>School/ Grades Served</u>	<u>Constructed & Renovated</u>	<u>End of Year Membership</u>	<u>Capacity</u>	<u>Pupil/Teacher Ratio</u>
Rappahannock Elementary/ K-7	1966 & 1995	560.02	700	13.22
Rappahannock High School/ 8-12	1959, 1988 & 2000	333.41	450	8.94

SOURCE: Virginia Dept. of Education Annual School Report

Currently, enrollment is below capacity in both of the County's public schools. Enrollment has declined sharply since 1970, with small upsurges occurring at unpredictable intervals thereafter. In addition to these public

Candy Wroth 9/13/13 2:18 PM
 Deleted: Table 5.7 .
 Constructed & Renovated ... [5]

schools, Rappahannock County is served by four private schools located in Rappahannock. The Wakefield Country Day School, located in Flint Hill, offers classes for pre-school through Grade 12. It presently services approximately 150 students. The Child Care and Learning Center, 1-1/2 miles west of Washington, offers pre-school and day-care classes. Approximately 65 children attend this facility. In addition, Massanova Christian Academy near Amissville serves several dozen children, while Hearthstone School in Sperryville serves 50 children.

In addition to local private schools, children from Rappahannock County attend private schools located in adjacent or nearby jurisdictions, such as Highland School in Warrenton, Wakefield School in The Plains, Notre Dame Academy in Middleburg, St. Luke's School in Culpeper, as well as others farther afield.

The Rappahannock County School Administration reports that there are twenty-two children currently tracked in home schooling arrangements as of 2003.

Further, several colleges and universities are located within commuting distance of the County. Lord Fairfax Community College in Middletown (Frederick County; with a branch campus in Warrenton) and Germanna Community College in Orange are two-year colleges offering full programs leading to associate degrees. Lord Fairfax also offers a four-year program in conjunction with Old Dominion University. James Madison University, Eastern Mennonite College and Bridgewater College are all four-year colleges located approximately one hour from Rappahannock County near Harrisonburg. Mary Washington College is a four-year liberal arts college approximately one-hour east in Fredericksburg while the University of Virginia, located approximately 45 miles south of the County in Charlottesville, offers a full range of undergraduate and graduate programs. Shenandoah University, located in Winchester an hour from Rappahannock County, offers programs at the baccalaureate, masters, and doctoral levels. It provides courses in general education, a highly regarded music conservatory and theater programs, and extensive offerings in the health professions.

Library

Rappahannock County maintains one public library at a modern 5,000 square foot facility located on U.S. Rt. 211/522 approximately 1/2 mile east of the Town of Washington. As Table 5.8 indicates, it has a total annual circulation of 35,867 volumes, or 5.42 per capita, and serves 4,519 registered borrowers. Of the total book volumes, 75.5% are adult and 24.3% are juvenile.

Table 5.8

Public Library Facilities-Miscellaneous Data

	1984-85	1992-93	1996-97	2010-11
Total Book Circulation	14,383	35,867	37,500	26,550
Book Circulation Per Capita	2.53	5.42	5.36	3.83
Total Book Volumes	13,379	18,278	24,750	unavailable
Book Volumes Per Capita	2.19	2.76	3.54	unavailable
# Certified Personnel	1	1	1	1
Full-time Personnel	0	0	0	3
Part-time Personnel	3	3	3	volunteers
Registered Borrowers	1,684	4,519	3,181	8,029

SOURCE: Statistics of Virginia Public Libraries and Institutional Libraries, Virginia State Library

Candy Wroth 9/13/13 2:19 PM
Deleted: Table 5.8 - 1984-85 ... [6]

In 1984-85, the Rappahannock County Library had the lowest operating revenue and expenditure in Planning District 9. Only Madison County had a lower percentage of local income, local per capita expenditure and total per capita expenditure for its public library.

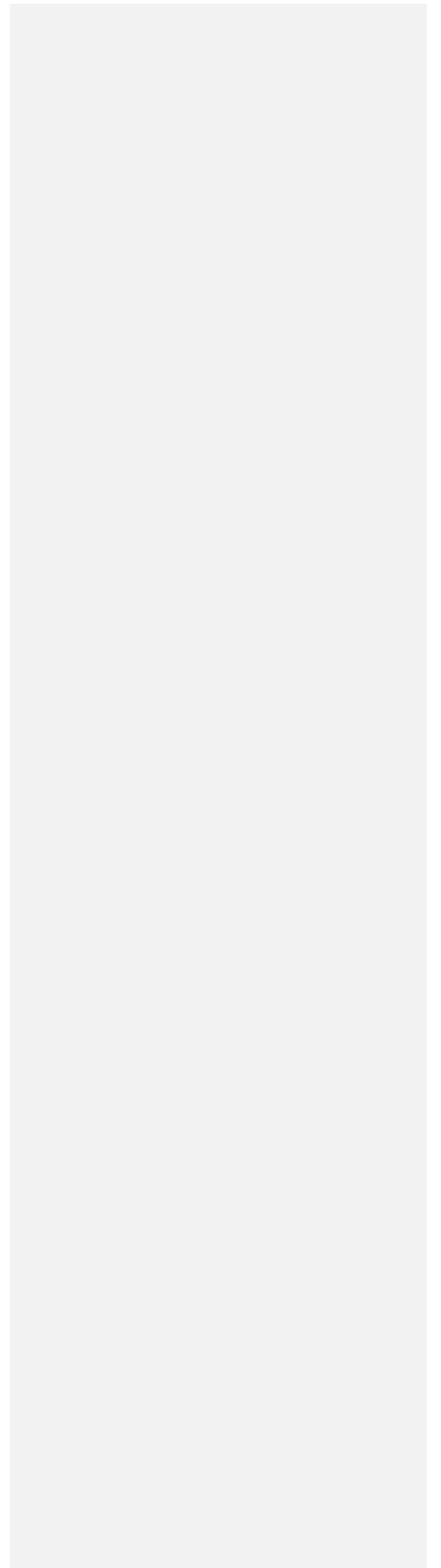
By 1990, significant improvements in the size and variety of the circulating collection, coupled with increases in operating funds from the County, dramatically increased circulation and together brought Rappahannock County's statistics into line with those of other jurisdictions in the Planning District (see Table 5.9).

Table 5.9 (cannot find this data)

Public Library Facilities 1992-93 Revenue and Expenditures

	Rappk. County	Culpeper County	Fauquier County	Madison County	Orange County
Income					
Total	\$36,834	\$106,804	\$298,686	\$33,225	\$98,391
Operating Expenditures					
Total	\$64,692	\$184,110	\$560,021	\$56,440	\$164,354
Local Per Capita	5.56	4.51	11.49	2.54	5.72
Total Per Capita	6.73	6.62	7.43	4.72	7.67
% Books	21.10	20.71	18.93	25.06	23.79
% Salaries	65.35	63.68	68.57	58.68	59.89

SOURCE: Statistics of Virginia Public Libraries and Institutional Libraries, Virginia State Library



Recreation

With its abundance of open spaces, streams, rivers and natural areas, Rappahannock County offers numerous recreational opportunities. Primary among these are fishing, hunting, horseback riding, camping, hiking, and canoeing.

Much of the recreation in the County centers on the Shenandoah National Park. The SNP provides recreational opportunities for residents and tourists. It has about 120 miles of trails within Rappahannock County for hiking. Many trailheads are accessible from secondary roads in Rappahannock County. The entrance to the SNP and Skyline Drive at Thornton Gap off route 211 provides the Rappahanock entrance to the park. Businesses in Rappahannock County benefit from the tourism opportunities of the SNP.

While the County does enjoy these large outdoor recreation areas, it has few community type park areas. The County's primary recreation area of this type is the Rappahannock County Park, administered by the Rappahannock Recreational Facilities Authority, located on Route 211 east of the Town of Washington. This facility includes 2 tennis courts, a full basketball court, volleyball and horseshoe areas, playground equipment, and a shelter with picnic tables, barbecue grills and restrooms.

The undeveloped, open nature of the landscape in the County offers endless opportunity for outdoor recreation, including riding, hiking, swimming and canoeing.

Other recreational facilities are available to County residents on a limited basis. These include several baseball and soccer fields (including Stuart Field in Amissville), a gymnasium with four basketball goals and "practice" running track at the Rappahannock High School; and two baseball fields, two outside basketball goals, and gymnasium with two basketball goals at the elementary school.

Additionally, the local Fire & Rescue Department's Halls often serve as the hubs of a variety of recreational, entertainment, and civic functions. Athletic events, carnivals, dances, craft shows, charity dinners or other events occur with great regularity at each of these facilities.

John McCarthy 9/11/13 10:22 AM

Moved (insertion) [1]

Natural and Water Resources

Wilderness areas of the SNP compromise 3,670 acres within Rappahannock County. The Wilderness Act, signed into law in 1964, created the National Wilderness Preservation System and recognized wilderness as "an area where the earth and its community of life are untrammled by man, where man himself is a visitor who does not remain." The Act further defined wilderness as "an area of undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions" Designated

John McCarthy 9/11/13 10:04 AM

Formatted: Justified

John McCarthy 9/11/13 10:19 AM

Formatted: Font:14 pt

John McCarthy 9/11/13 10:04 AM

Formatted: Justified

John McCarthy 9/11/13 10:28 AM

Formatted: Justified, Indent: First line: 0.5"

wilderness is the highest level of conservation protection for federal lands. Only Congress may designate wilderness or change the status of wilderness areas.

The Wilderness Act prohibits permanent roads and commercial enterprises, except commercial services that may provide for recreational or other purposes of the Wilderness Act. Wilderness areas generally do not allow motorized equipment, motor vehicles, mechanical transport, temporary roads, permanent structures or installations. Wilderness areas are to be primarily affected by the forces of nature, though the Wilderness Act does acknowledge the need to provide for human health and safety, protect private property, control insect infestations, and fight fires within the area. Wilderness areas are managed under the direction of the Wilderness Act and agency policy.

It is always useful in any assessment of natural resources to gauge the opinions of the owners and users of the resources, both to measure their awareness for and valuation of the assets. From homes on small lots in the villages, to 25 acre residential homesteads in agricultural zones, to commercial shops and service stations along the highways, to farms and forests on hundreds-of-acres parcels, each individual homeowner, landowner, and land user makes the daily decisions that affect landscaping, stormwater management, stream buffer vegetation, animal and crop management, road maintenance, and the myriad other practices that in combination determine the quality and health of their watershed. These practices derive from individual and family history, values, aesthetics, economics, background knowledge, and know-how.

In January 2006, RappFLOW, a nonprofit organization, mailed 998 surveys to all known addresses of residents and landowners in the subwatersheds of the Upper Thornton River Watershed.. (The survey instrument and report on the results is available at http://www.rappflow.org/PDF/highlights_upperthornton_survey_july2006.pdf)

Respondents were offered a free aerial photo of their property as an incentive to return the survey.¹ One hundred sixty-two persons responded to this survey. Respondents represent a good spectrum of size of landholding and years lived there. In 2008, the survey was repeated in the Hughes River subwatershed and 88 persons from Rappahannock, Culpeper, and Madison counties responded.

The survey offers 17 answers for what a person values the most in their watershed. Scenery (82), Privacy (77), and Quality of life (77) are the three answers most frequently chosen by respondents. Income from farm (7) or Income from forest (1) were chosen as highest priority values by very few respondents. The survey offers 12 water issues of possible concern. Out of these, quality and/or quantity of drinking water is the most important issue to the most people. The first 157 respondents answered this question in the following way:

Three water issues that concern me the most are the following:

John McCarthy 9/11/13 10:40 AM
Formatted: Normal, Justified, Right: 0", Space Before: 0 pt, No bullets or numbering, Widow/Orphan control, Hyphenate, Tabs:Not at 0.4"

John McCarthy 9/11/13 10:40 AM
Formatted: Font:(Default) Arial

John McCarthy 9/11/13 10:40 AM
Formatted: Justified

John McCarthy 9/11/13 10:40 AM
Formatted: Font:(Default) Arial

John McCarthy 9/11/13 10:40 AM
Formatted: Font:(Default) Arial, 12 pt

Answer choice	# out of 157 choosing
b. quality of well water	95
a. adequate supply of good drinking water	83
h. bacterial contamination of stream water	56
g. trash in the streams	40
l. need to help clean up the Chesapeake Bay	35
j. nutrients (nitrogen and phosphorus) in streams and ponds	31
f. stream bank erosion	30
k. loss of fish species in waterways	26
e. sediment in streams and ponds	19
d. floods	18
c. sufficient water for livestock	13
i. algae in ponds	7

Table 3: Water Issues of Most Concern

The survey offers 19 possible threats to the watershed, and asks respondents to choose the THREE that concern them the most. The three threats of most concern to the most people include: Population growth (32%); Subdivision of land parcels (32%); and Public sewage treatment plant discharge to streams (29%). More than a third of respondents said that “bacterial contamination of stream water” is a major issue, but fewer than 10% said that livestock in streams and ponds is a major concern to them, and lack of forested buffers along streams and ponds is a most important threat to only 17 respondents. The first 157 respondents answered question 8 as follows:

Three threats to my watershed that concern me the most are:

- Formatted ... [7]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [8]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [9]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [10]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [11]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [12]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [13]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [14]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [15]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [16]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [17]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [18]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [19]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [20]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [21]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [22]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [23]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [24]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [25]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [26]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [27]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [28]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [29]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [30]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [31]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [32]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [33]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [34]

Threat	# choosing (n = 157)
m. subdivision of land parcels	51
l. population growth	50
b. public sewage treatment plant discharge to stream	45
e. pesticides and herbicides	41
a. septic tanks & other private sewage disposal	31
k. commercial development	27
g. loss of farms	25
n. agricultural runoff (nutrients)	21
s. invasive species	20
c. erosion and sedimentation from driveways and private roads	20
j. conversion of forests to other land uses	19
p. lack of forested buffers along streams and ponds	17
f. livestock in streams and ponds	16
d. stormwater runoff	15
h. clear cutting of forests	15
i. traffic	11
g. stream bank erosion	11
o. residential runoff (nutrients)	6
r. wildlife in streams and ponds	3

Table 4: Threats to My Watershed that Concern Me the Most

The responses reveal an opportunity for education regarding relationships among forested riparian buffers and those issues that most concern people, such as clean and plentiful drinking water and bacterial contamination of stream water. The major concern about public sewage treatment plant effluent to stream, in contrast to low concern about lack of riparian buffers and livestock in streams,

- Formatted ... [35]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [36]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [37]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [38]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [39]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [40]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [41]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [42]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [43]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [44]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [45]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [46]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [47]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [48]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [49]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [50]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [51]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [52]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [53]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [54]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [55]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [56]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [57]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [58]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [59]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [60]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [61]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [62]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [63]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [64]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [65]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [66]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [67]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [68]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [69]
- John McCarthy 9/11/13 10:40 AM
- Formatted ... [70]

provides good opportunities for education regarding sewage treatment plant effluent versus impact of land use practices and other nonpoint source pollution issues.

The major concerns about population growth and land subdivision provide good opportunities for public education about conservation tools such as easements.

“I support expenditures of public money on watershed protection and restoration.” This statement was answered by 144 respondents. Of these, 92 percent in the Upper Thornton survey answered “yes.” In the Hughes subwatershed survey, only 4 out of 88 answered no to this question. The survey offers 18 possible individual and community efforts on watershed protection.

Respondents checked all items they encourage. Nearly all (153) respondents to the survey checked at least one of these items. The following chart shows the number of respondents who encourage certain efforts that are now or might be supported by our county government. Ordinances and zoning were chosen by even more respondents than were education items.

John McCarthy 9/11/13 10:41 AM

Formatted: Justified

John McCarthy 9/11/13 10:40 AM

Formatted: Font:(Default) Arial

John McCarthy 9/11/13 10:40 AM

Formatted: Font:(Default) Arial

Chart 1: County Efforts Encouraged by Landowners

The following chart shows the number of respondents who encourage efforts typically undertaken by landowners with assistance of governmental or volunteer organizations. Seventy-five percent (115) of respondents encourage conservation easements, which is consistent with the concerns about population growth and subdivision of land parcels in question 8.

Chart 2: Landowner and Volunteer Efforts Encouraged by Respondents

Subwatershed Landowner Groups

Several groups of landowners within a particular subwatershed, or whose property is adjacent to a particular major stream, have worked together on issues of importance to them. Four such groups in recent years have included the Friends of the Rush, Hazel River Task Force, Friends of the Hughes, and the Jordan River Landowners supporting Scenic River designation for the Jordan River. Nonprofit organizations provided scientific and technical assistance to these groups, in the form of maps of their watersheds, aerial photos, research on relevant regulations, water quality sampling, and coordination with relevant state agency programs.

The water resources that flow down from Shenandoah National Park are of the highest quality nature can provide. Streams are habitat for many species. The streams are some of the few remaining habitats for native brook trout on the east coast of the U.S. The watershed has been left to recover for almost 80 years and will continue in its full natural state in perpetuity. The streams enter private lands at the national park boundary as the Hughes, Thornton, Piney, Rush. Presently much of the first few miles of private lands has also been left as natural woodland and continues to protect the watershed.

John McCarthy 9/11/13 10:04 AM
Formatted: Justified

Indicators of water quality and quantity

To assess the quality and quantity of surface water in the 755 miles of streams and 540 acres of ponds in the County, there are a few sources of data, and these provide information regarding water quality in a sample of locations. The sources include the following:

- The Jordan River and the Rappahannock River have been designated “Scenic Rivers” by the Virginia Department of Conservation and Recreation. Seven rivers have been recommended for evaluation. The and x others have been evaluated as qualifying for this designation. See map xx: Impaired Streams and Scenic Rivers.
- There are x stream segments that have been designated 303d “Impaired” for excess bacteria by the DEQ. See Map xx: Impaired Streams and Scenic Rivers.

John McCarthy 9/11/13 10:27 AM
Formatted: Justified

- Countywide, there are about 12 DEQ ambient monitoring stations, although not all are currently active. See [Map xx: Impaired Streams and Scenic Rivers](#).
- There are several locations where citizens monitor the macroinvertebrates.
- There are some streams classified by the Virginia Department of Game and Inland Fisheries as coldwater or trout streams, and these are within subwatersheds designated by Trout Unlimited as Brook Trout Protection Area. See [Map xx: Trout unlimited Protection Area and Cold Water Trout Streams](#)
- Citizen volunteers have sampled chemical and biological water quality in selected locations as part of special studies at requests of landowners.
- To measure quantity of surface water, there is one USGS streamflow gage, located in Laurel Mills.
- There are no USGS groundwater monitoring stations in the county. The nearest one is in Orange County, near Gordonsville.

John McCarthy 9/11/13 10:27 AM
Formatted: Justified

John McCarthy 9/11/13 10:27 AM
Formatted: Justified

John McCarthy 9/11/13 10:27 AM
Formatted: Justified

Scenic Rivers - Legislatively designated components

Rappahannock from headwaters near Chester Gap to Ferry Farm/Mayfield Bridge (1985)

Jordan from Rte. 522 near Flint Hill to confluence with the Rappahannock River (2010)

Hughes from the Shenandoah National Park line to confluence with the Hazel River (2010)

Potential Components - Identified as being worthy of further study

Piney

Covington

Rush

Hazel

Desirable Components - Evaluated and found worthy of designation

Thornton River

Notes:

The potential and desirable rivers came from the DCR "2007 Virginia Outdoors Plan," which has not been updated.

The list of official scenic rivers above came from http://www.dcr.virginia.gov/recreational_planning/documents/srlist.pdf, which is more current. I have attached the reports for the Jordan and Hughes.

Impaired stream segments: what they mean and do not mean.

Segments of the Rush, Big Branch, Battle Run, Thornton, Hughes, Blackwater Creek, and Hazel and Rivers in Rappahannock County were designated “303d Impaired” for fecal coliform or ecoli bacteria by the Virginia Department of Environmental Quality for the year 2010. ⁱⁱ (See map x: Impaired Streams and Scenic Rivers). The goal of the Clean Water Act is that all streams should be suitable for recreational uses, including swimming and fishing. Fecal coliform and *E. coli* bacteria are used to indicate the presence of pathogens in streams supporting the recreational use goal. Bacteria in certain segments of the impaired streams exceed the fecal coliform criterion. ⁱⁱⁱ

Pollution from both point and nonpoint sources can lead to fecal coliform bacteria contamination of water bodies. Fecal coliform bacteria are found in the intestinal tract of warm-blooded animals; consequently, fecal waste of warm-blooded animals contains fecal coliform. Even though most fecal coliform are not pathogenic, some forms can be harmful to human health and their presence in water indicates recent contamination by fecal material. Because fecal material may contain pathogenic organisms, water bodies with fecal coliform counts may also contain pathogenic organisms. For recreational activities involving contact with water, such as boating and swimming, health risks increase with increasing fecal coliform counts. If the fecal coliform concentration in a water body exceeds state water quality standards, the water body is listed for an exceedance of the state fecal coliform standard for contact recreational uses. Virginia has adopted an *Escherichia coli* (*E. coli*) standard for water quality. The concentration of *E. coli* (a subset of the fecal coliform group) in water is considered to be a better indicator of pathogenic exposure than the concentration of the entire fecal coliform group in the water body.

It is important to understand what these “impaired” designations tell us, and what they do not tell us, about water quality in Rappahannock County’s streams. First, one might infer that streams other than the designated “impaired” streams are NOT impaired, but that is not correct. Volunteers sampled stream waters within the subwatersheds of two “impaired” stream segments and in subwatersheds that are upstream of the impaired stream subwatersheds. They found very high levels of fecal coliform or ecoli bacteria in some of the streams.^{iv} Those streams were NOT designated as “impaired” by the state. Therefore the citizen should not infer that because their stream has not been designated as “impaired” that it is therefore safe to swim or wade or go tubing in the stream. Secondly, one might infer that since the impaired designation is based only on bacteria levels, that there are not other excessive pollutants in those impaired streams, such as excessive nutrients or suspended solids from erosion and sedimentation. This is also incorrect. There do not exist state standards by which to evaluate nutrients or turbidity in the streams, so therefore we do not have “impaired” designations for those. Similarly, a stream might lack the level of dissolved oxygen needed to support certain fish species, but not be designated as “impaired” under this system.

DEQ Ambient Monitoring Stations Data^v

DEQ staff in each of the regional offices collects water samples on a routine schedule at more than 1,000 locations across the Commonwealth. These water samples are shipped to a state laboratory for chemical and bacterial tests. The samples are tested for levels of

John McCarthy 9/11/13 10:27 AM

Formatted: Justified

John McCarthy 9/11/13 10:27 AM

Formatted: Justified

John McCarthy 9/11/13 10:26 AM

Formatted: Justified

nutrients, solids, bacteria associated with human and animal wastes, toxic metals, some pesticides and harmful organic compounds.

DEQ's scientists also perform on-the-spot field tests for dissolved oxygen, pH, temperature, salinity, and additional indications of water quality. Samples from the mud at the bottom of lakes and rivers also are tested for the presence of pesticides and other harmful compounds.

The DEQ ambient monitoring stations in the County are shown on Map xx: Impaired Streams and Scenic Rivers.

Citizen Macroinvertebrate Monitoring Stations^{vi}

Volunteers trained and certified in the Virginia Save Our Streams (VA SOS) method, monitor macroinvertebrates (tiny critters) in streams. Volunteers in Rappahannock County participate in the Upper Rappahannock Watershed Stream Monitoring Program, led by the Culpeper Soil and Water Conservation District and the John Marshall SWCD (Fauquier County). The result is summarized by an index, in which a score of 0 – 6 is considered “unacceptable” and a score of 7 – 12 is “acceptable” water condition. The higher the score, the healthier the stream.

The locations monitored by citizen monitoring are shown on Map xx: Impaired Streams and Scenic Rivers.

Stream-bottom macroinvertebrates differ in their sensitivity to water pollution. Some stream-bottom macroinvertebrates cannot survive in polluted water. Others can survive or even thrive in polluted water. In a healthy stream, the stream-bottom community will include a variety of pollution-sensitive macroinvertebrates. In an unhealthy stream, there may be only a few types of nonsensitive macroinvertebrates present.

Stream-bottom macroinvertebrates provide information about the quality of a stream over long periods of time. It may be difficult to identify stream pollution with water analysis, which can only provide information for the time of sampling. Even the presence of fish may not provide information about a pollution problem because fish can move away to avoid polluted water and then return when conditions improve. However, most stream-bottom macroinvertebrates cannot move to avoid pollution. A macroinvertebrate sample may thus provide information about pollution that is not present at the time of sample collection.

Coldwater Streams and Brook Trout Protection Area

Certain subwatersheds in Rappahannock County are included in the Trout Unlimited Brook Trout Protection area. See Map xxx. Brook trout require high water quality in cold water streams surrounded by forest land cover, and to survive a population requires high ability to travel from one small stream to another, unimpeded by obstacles such as culverts. According to Trout Unlimited,

A recent assessment by the Eastern Brook Trout Joint Venture examined conditions from Ohio to Maine to Georgia and determined that brook trout populations in streams and rivers remain undisturbed in less than 5% of their historic subwatersheds. Brook trout are extirpated from 21% of

John McCarthy 9/11/13 10:26 AM

Formatted: Justified

John McCarthy 9/11/13 10:26 AM

Formatted: Justified

John McCarthy 9/11/13 10:26 AM

Formatted: Justified

subwatersheds. ...Like other salmonids in the char genus, brook trout are intolerant of water pollution and non-native fish, and are classic indicators of water quality and ecosystem integrity....Virginia contains a concentration of protection priorities at existing population strongholds, particularly in portions of the headwaters of the Potomac, Rappahannock and James Rivers.^{vii}

Special water quality studies

Volunteers have been trained to conduct water quality samples using state-approved procedures and equipment, and RappFLOW has received small grants from state and private agencies for equipment to test chemical and biological indicators of water quality. Special studies were undertaken in the spring of 2005 in the Beaverdam Creek subwatershed and in the summer of 2006 in the Rush River subwatersheds.

Precipitation and Surface Water Flow Measurements

There is one USGS stream flow gage in the County, on Battle Run near Laurel Mills.^{viii}
One can obtain historical data for this site for analysis of trends over time at the link: http://va.water.usgs.gov/duration_plots/daily/dp01662800.htm

Youth and Elderly

Historically, activities for youth and the elderly have been provided through the County's extensive network of schools, churches, local volunteer Fire Halls and other venues. In addition, the County supports the Rappahannock Athletic Association and Rappahannock Soccer League that provide organized baseball and soccer league play for youngsters.

The Rappahannock-Rapidan Community Services Board provides services to the County's elderly population through meals-on-wheels and an on-site meal program currently offered at the recently-restored Scrabble School, located in the southeastern portion of the County. The Scrabble School was a historically African-American "Rosenwald" School, constructed through the financial support of Julius Rosenwald, whose resources as one of the founders of Sears, Roebuck were used to finance the construction of such schools throughout the segregated southern states in the early 20th century. Long closed, the Scrabble school was restored through generous private and public contributions in 2005-2007, and serves both as an African American Heritage Center, documenting the experience of segregation in Rappahannock, and as

John McCarthy 9/11/13 10:26 AM

Formatted: Justified

John McCarthy 9/11/13 10:26 AM

Formatted: Justified

John McCarthy 9/11/13 10:04 AM

Deleted: that occupies approximately 31,761 acres within the County. Other popular areas are in the Rappahannock River Valley and the Thornton River between Woodville and Sperryville.

John McCarthy 9/11/13 10:22 AM

Moved up [1]: While the County does enjoy these large outdoor recreation areas, it has few community type park areas. The County's primary recreation area of this type is the Rappahannock County Park, administered by the Rappahannock Recreational Facilities Authority, located on Route 211 east of the Town of Washington. This facility includes 2 tennis courts, a full basketball court, volleyball and horseshoe areas, playground equipment, and a shelter with picnic tables, barbecue grills and restrooms.

The undeveloped, open nature of the landscape in the County offers endless opportunity for outdoor recreation, including riding, hiking, swimming and canoeing.

Other recreational facilities are available to County residents on a limited basis. These include several baseball and soccer fields (including Stuart Field in Amisville), a gymnasium with four basketball goals and "practice" running track at the Rappahannock High School; and two baseball fields, two outside basketball goals, and gymnasium with two basketball goals at the elementary school.

Additionally, the local Fire & Rescue Department's Halls often serve as the hubs of a variety of recreational, entertainment, and civic functions. Athletic events, carnivals, dances, craft shows, charity dinners or other events occur with great regularity at each of these facilities.

John McCarthy 9/12/13 9:09 AM

Deleted: Trinity Episcopal Church in Washington.

John McCarthy 9/12/13 9:12 AM

Formatted: Superscript

the Senior Center for Rappahannock County. In addition, the facility serves as event and meeting space.

Fire and Rescue

There are presently seven volunteer fire and rescue squads, Chester Gap, Flint Hill, Amisville, Washington and Castleton; Sperryville has separate fire and rescue squads. These groups utilize more than 130 volunteers and provide the County with coverage for emergency rescue and fire service. The increasing demands on volunteers and a steadily rising call volume will likely combine to push the system to be supplemented with paid Emergency Medical providers (EMT) in the coming decade.

Police Protection

The County's police protection is furnished by the Rappahannock County Sheriff's Department. As Table 5.10 indicates, Rappahannock County's crime rate was substantially lower than that for the State from 1987-1996. The crime rate per 100,000 has been decreasing, possibly as a result of an increase in police staffing. Since 1980, the County's Sheriff Department has increased from five full-time officers to its current staff of one Sheriff, six full-time Deputies, two part-time Deputies, five full-time Correctional Officers and five full-time dispatchers.

Table 5.10
Crime Statistics 2002-2012

	2002	2012
Motor Vehicle Theft	0	4
Larceny	28	50
Burglary	9	11
Aggravated Assault	1	3
Robbery	1	
Forcible Rape	1	3
Murder & Non-Negligent Manslaughter	0	0
Adult Arrests	-	136
Juvenile Arrests	-	20

SOURCE: Rappahannock County Sheriff's Office
- Data Unavailable

The County has purchased access to one juvenile detention bed in a regional detention facility in Loudoun County near Leesburg. This will provide increasingly needed space to house juvenile offenders from Rappahannock, who

Candy Wroth 9/13/13 2:20 PM

Deleted: Table 5.10 - 1990

... [75]

John McCarthy 9/11/13 11:24 AM

Deleted: currently under construction

currently are transported by Rappahannock County Sheriff's Office personnel to a variety of facilities throughout the State as space may be available.

The Rappahannock County Jail currently houses both male and female detainees and has a rated capacity of seven, with an average census of 16 to 18 prisoners. The "rated capacity" recognizes individual cells while Rappahannock, like most facilities, double or triple-bunk cells depending upon their size. The Sheriff's Office had office space added to the jail facility in 2012 and this is expected to meet their needs for the foreseeable future. The Rappahannock County Jail will be closing on or about July 2014, as the County is participating in the Rappahannock Shenandoah Warren Regional Jail Authority (RSWRJA), which has a 375 bed facility under construction on U. S. Rt. 522 in Warren County.

John McCarthy 9/11/13 11:24 AM

Deleted: Both the Jail and Sheriff's Office spaces will need support space in the coming years. .

Courts & Criminal Justice

The County is part of the 20th Circuit & Judicial Districts of Virginia, partnered with Loudoun and Fauquier Counties in the provision of criminal justice services.

The General District, the Juvenile & Domestic Relations, and Circuit Courts currently utilize the same courtroom, located in the upstairs of the Rappahannock County Courthouse. The General District Court Clerk maintains offices on the first floor of the Courthouse, along with Court Services personnel for the Juvenile & Domestic Relations Court.

The Clerk of the Rappahannock Circuit Court and other Circuit Court personnel are housed in a separate building located immediately adjacent to the Courthouse, which also serves as the repository for Circuit Court records and all other court records, instruments, etc. Physical improvements to the Circuit Court Clerk's Office relating to waterproofing and preventing mold damage were completed in 2012

Medical Services

Rappahannock is a part of the Rappahannock-Rapidan Health District that serves Fauquier, Culpeper, Madison, and Orange Counties as well as Rappahannock. The District provides preventative health and diagnostic services, immunization, communicable disease control and environmental health services including issuance of well and septic system permits.

The Health District is also a partner in providing space and support for the Rappahannock Free Clinic and Healthy Families, both programs to improve health services in the community.

While no hospitals are located within Rappahannock County, three are nearby and serve the citizens of the County. In Front Royal, Warren Memorial Hospital, a part of the Valley Health System of Winchester, has 111 licensed general short-term and 120 long-term beds. The Fauquier Health System in Warrenton has 86 beds while Culpeper Regional Hospital contains 96 beds. Although none of these community hospitals operates at or near full capacity, each has upgraded the physical facility and added consumer-oriented services

John McCarthy 9/11/13 9:51 AM

Deleted: Hospital

such as women's health care units and ambulatory care services. In hospitals throughout the Commonwealth, there is centralization of services and practices; this trend has resulted in recent affiliations of community hospitals with larger regional medical centers; this has occurred with Warren Memorial Hospital. Similarly, Culpeper Hospital is now involved in a joint venture with the University of Virginia Health System, based in Charlottesville, while Fauquier Health System is now a part of a joint venture with LifePoint, HCA, a national for-profit Hospital system

Located in the Town of Washington is the Rappahannock County Health Department. The services of the health department include treatment and advice on communicable diseases and family planning. In 2002, a satellite clinic of the Fauquier Free Clinic opened for eligible citizens of Rappahannock. The services are offered on the first, third, and fifth Wednesday evenings and include limited acute care and long-term management of chronic disorders.

The County is served by two private physician practices. The Rappahannock Medical Center is located in Washington; the physician and staff provide general medical services and counseling. This medical center provides pharmacy services for the county. On Route 211 between Washington and Sperryville, Mountainside Medicine provides similar services as the medical center in Washington. Citizens also seek medical care from physicians who have privileges with the hospitals noted above. The Fauquier Health System acquired property in the County's General Commercial Overlay District but has not developed facilities heretofore.

The County has several certified therapists who provide healing arts therapies that are complementary to or alternatives to traditional medicine.

Public Utilities

Public utilities are generally provided by local governments or a public or private corporation under a type of franchise. Such utilities are regulated by government and provide basic essential services or products to the general public.

These utilities are greatly responsible for the present developed form of the County and the form that it might assume in the future. To a large degree, the availability of these services will dictate the extent to which Rappahannock can develop and in which directions growth can occur.

A description of the County's public utilities is presented below in the following areas: public water, public wastewater, electric and gas, and solid waste disposal. **Map No. 12: Public Facilities** shows the approximate locations of these utilities.

Currently, there are no public water systems in Rappahannock County, excepting that which serves the Town of Washington. Water in the villages of Sperryville, Amisville, Flint Hill, Woodville and Chester Gap is supplied by individual wells. Rappahannock Lakes Subdivision, Wakefield Country Day School, and the Rappahannock Elementary and High Schools have "public" water systems that supply the individual sites. These water systems are

generally wells that, due to the institutional nature of the users, are classified as public within Health Department regulations.

The village of Sperryville and the Town of Washington have the County's only public wastewater treatment facilities. The Sperryville system includes 136 on-lot septic tanks with effluent wet well pumps and approximately 28,200 linear feet of low-pressure sewer pipeline. The wastewater treatment plant, which is located on and discharges to the Thornton River, includes two packaged plant treatment units with a 55,000-gallon/day capacity. The Town of Washington's system, currently only serving properties in the Town, consists of both a force main and gravity fed system, has a capacity of 75,000 gallons per day, and serves 92 customers.

The Rappahannock Electric Cooperative and Allegheny Power furnish electric power to Rappahannock. Transmission lines in the County are 34.5 KV's that feed various substations. Power is transformed to 1.5 KV's for home usage.

Telephone service is provided by both the Verizon of Virginia through the Culpeper office and by Sprint from their Charlottesville offices.

Piped natural gas is not available in the County. However, gas is available and primarily supplied by the Bottled Gas Corporation of Virginia, Quarles Petroleum, Amerigas, and the Pyrofax Corporation.

Solid Waste Disposal

Rappahannock County purchased an approximately one hundred (100) acre property in 1987 to serve its long-term trash disposal needs. It subsequently constructed and commenced operating a new landfill facility on this site northeast of the village of Amissville on State Rt. 639 in October of 1988, with an initial disposal cell of two and one-half acres. Since that time, an additional cell of one acre was built (1991-92) and a third cell of just over four acres was completed in 1995. A public convenience site for the disposal of household trash is currently located on Rt. 622, Rock Mills Rd., called the Flatwoods Refuse and Recycling Center. At this facility, as well as at the landfill facility itself, residents may take their household trash and recyclables for disposal. The landfill closed for operations in 2010, and all waste is direct hauled from the convenience site and the former landfill facility to the Culpeper Transfer Station, from which it is trans-shipped for permanent disposal in a private landfill facility near Richmond.

Planned Public Capital Improvements

Having acquired, over the past decade, both unimproved property adjacent to the courthouse grounds, and the office space occupied by the County and Commonwealth's Attorneys, no major capital improvements are contemplated by the County. With the closure of the Rappahannock County Jail on or about July 2014 (due to the opening of the Rappahannock-Shenandoah-Warren Regional Jail at that time) planning will begin for the repurposing of the

John McCarthy 9/11/13 9:53 AM

Deleted: has

John McCarthy 9/11/13 9:53 AM

Deleted: facility

John McCarthy 9/11/13 9:53 AM

Deleted: 1

John McCarthy 9/11/13 9:53 AM

Deleted: 27,090

John McCarthy 9/11/13 9:53 AM

Deleted: In addition to this public system, a small treatment plant is located at Aileen, Inc. in Flint Hill. This facility, when in operation, has an average daily flow of 1,500 gallons per day.

John McCarthy 9/11/13 11:17 AM

Deleted: Planning is currently underway for the post-2007 period when the current cell will be completed. Options under study include construction of a new disposal cell and the trucking of waste to adjacent jurisdictions for final disposal in private municipal solid waste landfill facilities

John McCarthy 9/11/13 11:19 AM

Deleted: In the coming five years, Rappahannock County will face several challenges with regard to capital improvements. -

... [76]

jail facility itself. It is not expected that major capital expenditures will be required.

Cultural Resources

It is difficult to overstate the importance of the fine and performing arts in the community. As some of the descriptions of the Villages heretofore recorded will attest, the County has numerous galleries, performance spaces, theatres and related venues. The Rappahannock Association for Arts in the Community (RAAC) and the Theatre at Little Washington anchor the performing arts community in the County seat of Washington, maintaining a year-round performance schedule in spaces they maintain.

"The Theatre at Washington, Virginia presents a wide variety of professional concerts and theatrical performances on numerous weekends throughout the year. The Smithsonian at Little Washington classical concert series at the Theatre has included three or four chamber music concerts annually for more than twenty years. The Theatre's range of musical offerings also includes jazz, piano and guitar recitals, country, folk and Gilbert and Sullivan. For the last several years, the Cambridge American Stage Tour, a touring group of students from Cambridge University in England, has performed one of Shakespeare's plays at the Theatre. The Theatre's current schedule is shown on its web site www.TheatreWashingtonVA.com

In addition to its local Rappahannock following, the Theatre attracts to the County many patrons from the surrounding counties, the metropolitan Washington DC area, and beyond. The Theatre also serves as a venue for local civic meetings and events such as the annual Martin Luther King Jr. observance, a Lions Club music contest for school children, and for local candidate debates.

The Castleton Festival is a private, nonprofit organization based in Castleton, and founded through the patronage of Maestro Lorin Maazel, whose family calls the community home. Begun in rehearsal space in what is now called the Theatre House on property he purchased and renovated to use in preparation for his duties as the then-Director/Conductor of the New York Philharmonic Orchestra (as well as guest artist duties with companies all over the world), the Castleton festival Foundation now includes a 600 seat Festival House on the property, as well. For approximately two months over the summer of each year, the Castleton Festival brings in promising musicians, vocalists, actors, dancers and theater production students and put on productions open to the public. The Festival provides these students with opportunities to hone their craft and artistry, and both partners them with established performers who participate in productions, and provides them with a performance space and audiences that people of their age seldom are accorded.

From Broadway show tunes to grand opera, the Castleton festival offers a schedule in the Festival House that brings great performance to this small county, while also bringing huge numbers of tourists from out of the community.

John McCarthy 9/12/13 9:33 AM

Formatted: Font:Not Bold

John McCarthy 9/12/13 9:16 AM

Formatted: Justified

John W. McCarthy 9/13/13 7:57 AM

Formatted: Font:12 pt

John W. McCarthy 9/13/13 7:57 AM

Formatted: Justified

John W. McCarthy 9/13/13 7:57 AM

Formatted: Font:12 pt

John W. McCarthy 9/13/13 7:57 AM

Formatted: Font:12 pt

John W. McCarthy 9/13/13 7:58 AM

Formatted: Normal, No widow/orphan control, Don't adjust space between Latin and Asian text, Don't adjust space between Asian text and numbers

John McCarthy 9/12/13 9:33 AM

Formatted: Font:Not Bold

John W. McCarthy 9/13/13 7:57 AM

Formatted: Justified, Indent: First line: 0.5"

John McCarthy 9/12/13 9:36 AM

Formatted: Font:Not Bold

John McCarthy 9/12/13 9:34 AM

Formatted: Normal, Justified

In addition, the Theatre House offers performances on a scheduled basis throughout the year, featuring both established and new performers.

Fine arts have homes in the many galleries, workshops, and retail spaces that exist through out the community. Certain one of the focuses for such activity is the River District, in Sperryville, where the arts community has multiple venues existing in concert with retail and even a craft distillery operation.

Transportation

The transportation network of an area has a very definite influence on the physical environment, the arrangement and relationship of land uses, and the value of property. Therefore, as growth decisions are made, it is important that the transportation network be carefully considered.

Primary Highways

Three primary highways that provide good access to major points traverse Rappahannock County. East-west U. S. Route 211 or Lee Highway is a four-lane facility to the Village of Sperryville and connects with Interstate 81 at New Market twenty-four miles to the west and to Washington, DC, sixty-five miles to the northeast. This highway also provides direct access to U. S. Route 29 at Warrenton and Interstate 66 at Gainesville (via Rt. 29).

U. S. Route 522, the Zachary Taylor Highway, crosses the County in a north-south direction. Seven miles to the north it connects with Interstate 66 at Front Royal, and nineteen miles from the County line it connects with Interstate 81 at Middletown, near Winchester. Ten miles to the southeast at Culpeper, this highway connects with both U. S. Routes 15 and 29.

State primary Route 231, the F.T.Valley Road runs from U. S. 522 near Sperryville south to U. S. Route 29 at Madison, Virginia, and then continues onward to Interstate 64 near Charlottesville.

Overall, there is a total of 57 miles of primary roadway within Rappahannock County. This accounts for approximately 21% of the total public road mileage in the County.

While not strictly a transportation issue, the Virginia Department of Transportation is currently relocating its main headquarters/shop facility from the Town of Washington to a site adjacent to the Flatwoods Refuse and Recycling Center just off Rt. 622 Rock Mills Rd. The impact of the facility on the area, while not perhaps great, must nevertheless be kept in mind when making road improvement or alteration decisions.

Secondary Roadways

The majority of the roadways in Rappahannock County are secondary and provide a link between the County's major roadway network and the rural

John McCarthy 9/12/13 9:28 AM

Formatted: Normal

John McCarthy 9/12/13 9:28 AM

Formatted: Font:New York

John McCarthy 9/12/13 9:23 AM

Formatted: Font:New York

residential and farm areas. The responsibility for maintaining and servicing these roads falls to the Virginia Department of Transportation.

As of January 1990, there were 218 miles of secondary roads in Rappahannock County. Of this total mileage, 174 miles or 80% had a hard or all-weather surface. Approximately 34 miles or 16% of the total mileage had a light surface while 9 miles or 4% were unsurfaced (see Table 5.12). As based on the following criteria:

Hard Surface - generally graded, drained and paved or treated;

All Weather - generally untreated surfaced, but of sufficient stability to ensure all-weather performance;

Light Surface - generally an untreated surface that is of insufficient quality to ensure all-weather performance;

Unsurfaced - generally an unimproved roadway that has not been graded, drained, or surfaced.

The secondary roadway traffic volumes in Rappahannock County can be described as light with over 50% of the secondary road mileage carrying less than 76 vehicles per day.

Traffic Volumes

In 2002 the highest volume of vehicular traffic in the County was on U.S. Route 211 from Business Route 211 east of Washington to Route 522 Massie's Corner with an annual average daily traffic of 6,100 vehicles per day. Overall, Route 211 is the heaviest traveled road in the County and has experienced a considerable increase in traffic since 1981.

Table 5.11 provides a breakdown of the traffic volumes on the County's primary highways between 1996 and 2002.

Table 5.11

Primary Roadway Traffic Volumes 1996-2002

Route	From	To	Vehicles Per Day		% Change
			1996	2002	
211	Culpeper County line	Rt. 522 (Massie's Corner)	5,100	5,200	1.9
	Rt. 522 (Massie's Corner)	Rt. 211 Business (East of Washington)	5,600	6,100	8.9
	Rt. 211 Business (East of Washington)	Rt. 211 Business (South of Washington)	5,100	5,200	1.9
	Rt. 211 Business (South of Washington)	Rt. 522 Sperryville	5,100	5,300	3.9
231	Rt. 670 near Criglersville *Madison County line	Rt. 522 (South of Sperryville)	1,700	1,500*	-11.7
522	Rt. 641 Flint Hill	Rt. 211 (Massie's Corner)	2,900	3,100	6.9

Route	From	To	Vehicles Per Day		% Change
			1996	2002	
	Rt. 211 Sperryville	Rt. 231 (South of Sperryville)	3,500	3,700	5.7
	Rt. 231 at Sperryville	Rt. 618 at Woodville	2,100	2,100	-
	Rt. 618 at Woodville	Rt. 707 at Boston **Culpeper County line (2002)	3,700	2,200**	-40

SOURCE: Virginia Department of Transportation

Table 5.12

Secondary Roadway Surface Conditions 1996

	Hard Surface Miles	All Weather Surface Miles	Light Surface Miles	Unsurfaced Miles	Total Miles
Total Miles	111.60	67.76	36.24	2.75	218.35

SOURCE: Virginia Department of Transportation

Commuting Patterns

An insight of the degree to which the residents of a particular place are dependent on other areas for their employment can be developed from commuting statistics. Generally, increasing out-commuting from an area suggests a lack or imbalance of local employment opportunities.

Between 1970 and 1980, out-commuting from Rappahannock County increased 86.3% from 746 to 1,390 persons, while in-commuting increased 108% from 205 to 427. This results in a total out-commuting increase of 78% from 541 in 1970 to 963 in 1980.

Although there are no public airports in Rappahannock County, several are located nearby. Major airline service is available at both Dulles International Airport, located approximately 70 miles from the County and Reagan National Airport in Arlington. Several other small airports are located nearby. These include the Winchester Airport, Front Royal-Warren Airport, Luray Caverns Airport, Manassas Airport, and Culpeper Municipal Airport. A few private landing strips exist in the County providing local citizens with opportunities to use air transportation.

There are no railroad lines that serve Rappahannock County. Freight rail service is provided to Front Royal by the Southern Railroad and the Norfolk Southern Railroad Companies. Norfolk Southern also serves Luray. A main line of the Southern Railroad traverses Culpeper County. Freight service, as well as limited Amtrak Passenger service, is available in Washington, D.C. and Culpeper. Rappahannock County citizens can access regional commuter train service through the Virginia Railway Express (VRE). The train platform is located at Broad Run (near Manassas); there is a large commuter car lot available also.

While no long-distance bus lines serve Rappahannock County, the Trailways Bus Line does offer frequent service to and from Culpeper and Warrenton.

Rappahannock-Rapidan Regional Labor Force Study

The Rappahannock-Rapidan Regional Commission (RRRC) and the Rappahannock-Rapidan Regional Partnership contracted with the Center for

Survey Research (CSR) of the University of Virginia to conduct a labor force study of the five county region including Rappahannock (other counties were Fauquier, Madison, Culpeper and Orange). The survey's purpose is to supplement information available from Census 2000 and other official sources with more detailed and current information regarding the region's labor force, with special emphasis on the characteristics of those residents who commute long distances to work outside the region.

The survey was conducted by telephone in late March and early April of 2003. CSR completed 1,408 interviews with residents of the five Virginia counties that make up the region: Culpeper, Fauquier, Madison, Orange, and Rappahannock. Sufficient interviews were completed in each county to allow for valid comparisons between them.

Each respondent was asked a series of questions about the general characteristics of the household, as well as questions about their employment status, work and training experience and commuting behavior. A unique feature of the questionnaire is its use of respondents as "informants", meaning the primary respondent was further asked many of the same questions about other household members who were of working age. This strategy allowed us to capture data on a total of 2,691 persons aged 16 and up, of whom 1,703 were full or part-time workers. This not only increased our sample size in a cost-effective manner, it avoided some sources of potential sampling bias by obtaining information on persons unlikely to answer the phone or unlikely to cooperate by completing the survey.

This sample size is more than adequate to provide a broad overview of the Rappahannock-Rapidan region, as well as real differences between the areas that comprise it.

Of the region's population aged 16 or older, 72.9% are in the labor force, and 62% of the labor force are employed by private-sector companies. One in five workers (20%) report an affiliation with construction or manufacturing. But the service industries, including retail, education, healthcare or social assistance, and hospitality or other services account for the largest portion of the workforce (40.2%). The average worker works 43.5 hours per week and the median for earnings from a worker's primary job is \$37,800.

Across the region, 13.6% of employed workers were actively seeking another job at the time of the interview. These job seekers are more likely to be younger, with a moderate level of education. They are most likely working part-time now and are most often male.

About 20% of the region's residents have moved to the region within the last 5 years. Most of the recent movers to the region came either from states other than Virginia, Maryland, or DC (31.4%), or from the Northern Virginia area (22.9%).

Workers from the different areas that make up the Rappahannock-Rapidan region report noteworthy differences in their characteristics. Fauquier County workers report the highest job incomes, with a median of \$43,200 from their primary job, while Madison County workers have the lowest median earnings at \$31,500. Madison County workers are also more likely to be paid an

hourly wage. This may be a reflection of educational attainment. Nearly 20% of Madison workers do not have a high school diploma, while over 40% of Fauquier workers have a bachelor's degree or higher.

Workers in Fauquier County are more likely to have a job requiring a specific degree or certification and to have gotten more training while on the job. Interest in future training is expressed by 45.6% of the workers regionally and is especially strong in Rappahannock (57.1%). Though less prevalent, it is still strong in Orange where 39.1% of workers say they would like to get more training because they want to change career or occupation.

In a region where only 3.2% of workers are affiliated with agriculture, forestry, hunting or fishing industries, Madison stands out with over 10%. Orange and Madison lead the region in the percent employed in manufacturing industries, while Fauquier has over 40% of the region's professional, scientific and technical industry workers.

As in most parts of the United States, the vast majority of workers in the region (85.6%) drive themselves (alone) directly to work each day. And they spend significant time in the car. The average commute time is 35.5 minutes, with half of commuters spending more than 30 minutes traveling one way. More than 22% of workers in Rappahannock have a one-way trip of more than an hour.

The Census definition of *commuter* is a person who works in a county other than the one in which he or she resides. This study adds that the worker journeys 30 minutes or more (one way) to work.

Commuters are drawn from all age groups, but are more likely to be male, full-time workers. They are more likely to have a specific degree or certification, have a significantly higher income and are more likely to have received company-provided training. Over 1/3 of commuters are commuting to Northern Virginia locations. Only 13.5% of them are staying within the region. Commuters were split in their feelings between disliking their commute and finding some benefits to it. Many cited liking their jobs and the opportunity for better pay and benefits as positives. Time was almost universally mentioned as a negative, leading 28.7% of respondents to be willing to take a job closer to home even if it meant taking a pay cut. More than half of Fauquier and Madison commuters would at least consider it.

Dislike of commuting is very much a function of the worker's commuting destination. Forty percent of those who dislike their commute are going to Fairfax County, Fairfax City or the Falls Church area. Commuters to the Prince William and Manassas area make up another 22.9% of those who say they dislike commuting. Dislike of commuting is clearly not a product of distance alone, but of congestion in the journey to work as well.

Significant numbers of commuters have at least heard of or would consider using such innovations as the Trans Dominion Express line and the proposed Virginia Railway Express station in Bealeton.

The results of this labor force survey are rich and far more detailed than can be summarized here. These results are offered in the hope that they will serve the varied planning needs of economic development organizations,

transportation planners, public officials and private industry throughout the Rappahannock-Rapidan region, now and in the future.

A complete copy of the survey is available from the RRRRC in Culpeper.

Existing Regulatory Framework

Zoning and subdivision ordinances

Together, the zoning and subdivision ordinances (set forth as chapters within the Rappahannock County Code) guide the patterns of future development of the watersheds, in terms of where development takes place, the types and densities of uses that will be made of the land, and protections for the watershed including both soil and water. By zoning land so that commercial and residential areas are focused around existing villages, and specifying the detailed types of uses of the land that can take place in those areas, these ordinances provide stronger protections for the watersheds of Rappahannock County than one might see in ordinances in many other Virginia counties. The Board of Supervisors adopted a down-zoning of approximately 90 percent of the County's land area in 1986 (down-zoning resulted in substantially less density allowed than had theretofore been the case), thereafter allowing a maximum development density of one dwelling unit per 25 acres in Agricultural zones, and even less dense development in Conservation zones which are characterized by steep slopes. The Comprehensive Planning justification for these changes was based on natural resource conservation imperatives.

Chapter 170: Zoning establishes two types of resource preservation zoning districts — conservation districts and agricultural districts. “The Conservation District contains those mountains which are environmentally sensitive, have physical limitations and contain much of the County's timber resources. The regulations are designed with emphasis on the conservation of those areas to minimize the potential adverse environmental impact while providing for compatible very low-density residential uses.

“The Agriculture District generally contains those areas where agriculture and forestry are the predominant uses or where significant agricultural lands or larger lot farmette-type residential developments exist. The regulations are designed to assist in the protection and preservation of the agricultural and forestry uses and to mitigate land use conflicts between agricultural uses and appropriately limited residential development.”

Chapter 170 establishes the uses and the maximum densities (dwelling units/acres) that are permitted in Conservation and Agricultural districts. In general, a new dwelling in either district requires 25 acres (§170-37 and §147-37).

From the watershed perspective, one disadvantage of the provision for 25-acre parcel size subdivision provision is the extended network of private roads that results when many individual landowners construct new private roads, especially on sloping land. Potentially offsetting this pattern is the exception allowed for Clustering. “Lot size requirements may be conditionally reduced by the Zoning Administrator in cases where subdivision clustering is required to meet open space requirements and/or can be proven to significantly reduce overall imperviousness of the subdivision by reducing street, private road and/or driveway lengths.”^{ix}

John McCarthy 9/11/13 10:13 AM

Formatted: Justified

Article V: Overlay District Regulations provides for Floodplain Districts at §170-45 and Stream Protection Overlay districts at §170-45.2.

Chapter 147: Subdivision of Land establishes subdivision standards and procedures that support the intent of Chapter 170: Zoning. For example, §147-17 prohibits residential occupancy in new subdivision developments in floodplains. Chapter 147 also establishes requirements for public and private water and sewer.

Stream Buffer Protection Overlay (SPO) District of the Zoning Ordinance

Chapter 170-45.2 of the Zoning Ordinance describes the Stream Protection Overlay District. The purpose of the Stream Protection Overlay District is to apply special regulations to the riparian buffer area no less than 100 feet wide on each side of perennial streams and wetlands adjacent to those streams. The purpose of the buffer is to retard runoff, prevent erosion, filter nonpoint source pollution from runoff, moderate stream temperature, and provide for the ecological integrity of stream corridors and networks. The SPO provides protection for streams in future development in areas zoned residential or commercial.

John McCarthy 9/11/13 10:14 AM

Formatted: Justified

Erosion & Sediment Control Ordinance

The Erosion & Sediment Control Ordinance requires a land-disturbing permit and associated plans and practices for the clearing, filling, excavating, grading, transporting of land or for any combination thereof for land disturbance over 10,000 square feet. The purpose of this ordinance is to prevent degradation of properties, stream channels, waters and other natural resources of Rappahannock County by establishing requirements for the control of soil erosion, sediment deposition and nonagricultural runoff and by establishing procedures whereby these requirements shall be administered and enforced. This article is authorized by the Code of Virginia, Title 10.1, Chapter 5, Article 4 (§ 10.1-560 et seq.), known as the "Virginia Erosion and Sediment Control Law."

John McCarthy 9/11/13 10:14 AM

Formatted: Justified

Biosolids Ordinance

The Biosolids Ordinance was adopted by the Board of Supervisors on July 2, 2007. Biosolids ("sludge") are the solids that are extracted from wastewater treatment systems, such as municipal wastewater treatment plants. Depending upon the source of the biosolids and the level of pre-treatment of them, they can contain varying levels of undesirable materials, such as heavy metals. Because these biosolids contain high levels of nutrients such as nitrogen and phosphorous, they are used as fertilizer.

The Commonwealth does not allow localities to ban the application of biosolids. The Ordinance recognizes the importance of our waters being part of the Chesapeake Bay watershed, and uses the State authority provided in the Chesapeake Bay Act and the Virginia Water Quality Improvement Act as partial legal justification for protective measures. Some of the major protective measures incorporated into the Ordinance include:

- A 100 foot vegetative buffer must be established and maintained along any stream on land where biosolids are applied. A Nutrient Management Plan (NMP) must be developed to ensure that the biosolids application does not exceed the ability of the land and crops to properly utilize the nutrients from the biosolids. No biosolids can be applied on land that drains to a DEQ 303(d) designated impaired

John McCarthy 9/11/13 10:14 AM

Formatted: Justified

water. No land application can be applied upstream of a Fish Consumption Advisory that is in the County or in a County that is immediately downstream.

- No application can occur immediately before or during extreme weather events such as storms, snowfalls, or high winds, nor can they be applied on saturated or snow covered ground. No application is allowed within 400 yards of a water supply source, such as a potable water supply well.
- All biosolids applications must be registered with the County Administrator, where they will become part of the permanent record in the County Land Records. This can protect future purchasers of the land.
- There are provisions for testing the content of the biosolids before application by a qualified Sludge Monitor to ensure that the content does not include excessive amounts of bacteria and that all stipulations of the Ordinance are being met.

Enforcement of the Ordinance requires the services of a qualified Sludge Monitor; this position has not as yet been filled, nor has there as yet been an application to land-apply sludge.

Stormwater Management Ordinance

The Stormwater Management Ordinance (SWM) was adopted by the Board of Supervisors on January 7, 2008. This chapter is adopted pursuant to the authority conferred by the Virginia Erosion and Sediment Control Law (Virginia Code, 10.1-560 et seq.) and the Virginia Stormwater Management Act (Virginia Code, 10.1-603.3 et seq.)

The purpose of the SWM Ordinance is to protect local streams, rivers, groundwater and properties from increases in the volume and rate of stormwater runoff and increases in pollutants when land is converted to more intensive uses such as commercial or residential subdivisions. This protects the safety and welfare of citizens, property owners, and businesses by minimizing negative impacts of increased stormwater discharges from new land development. By minimizing runoff, groundwater supplies are also protected. The ordinance also integrates stormwater management with other County ordinances, programs, policies, and comprehensive plan.

The SWM Ordinance applies to all land development projects that disturb over 2,500 square feet of land, except agricultural, horticultural, or forest crop activities. Where the land development activity results from construction or alteration of a single-family residence, an “agreement in lieu of a plan” may be substituted for a formal stormwater management concept and design plan. The ordinance applies at the time requests are made for driveway entrance permits, land disturbance permits, preliminary plans of subdivision, and major site development plans, and extends through construction and maintenance of stormwater management practices and facilities.

The Ordinance specifies standards for protection of both quality and quantity of water, in terms of the outcomes to be achieved. Basically, the development must be designed and constructed in such a manner that the amount of stormwater runoff after the development is completed will be the same or less than it was before the development took place.

The SWM Ordinance encourages the use of Low Impact Development (LID) approach. LID is modeled after nature: manage rainfall at the source, using decentralized small-scale controls.

Private roads and driveways are one of the County’s greatest sources of stormwater runoff, erosion, sedimentation, and pollution. If a private road or driveway will be more

John McCarthy 9/11/13 10:15 AM

Formatted: Justified

John McCarthy 9/11/13 10:15 AM

Formatted: Justified

John McCarthy 9/11/13 10:15 AM

Formatted: Justified

than 1,000 feet in length and have 10% grade at any point, then an engineer’s plan proving adequate erosion and stabilization measures is required. Protection of the stream buffer area is addressed in the Zoning Ordinance in a Riparian Buffer Overlay District. The Culpeper Soil and Water Conservation District staff and County staff review and approve stormwater management plans.

Land use taxation

Virginia Code (Title 58.1: Taxation; Article 4: Special Assessment for Land Preservation) establishes four special classifications of real estate — agricultural use, horticultural use, forest use, and open-space use — and authorizes local governments to adopt ordinances that provide for use value assessment and taxation in accordance with Title 58.1.

“Use value taxation” means the land is taxed based on the way it is used, not on its market value. For example, land that is farmed is typically taxed at about one third of its fair market value. Landowners must demonstrate that they meet the requirements of land use taxation each year. About 80 percent of privately held land in Rappahannock County is in land use taxation, although the County utilizes only the first three classifications of land discussed above in its program. The benefit to watersheds is to protect the land and water from subdivision of farmland and the resulting development, population increase, forest fragmentation, added roads and other impervious surfaces, and other potential threats. Landowners who opt out of land use taxation pay five years in “roll-back” taxes — the difference between land use value and market value for the previous five years. Roll-back taxes are applied to the Farmland Preservation Program, discussed at 6.8 below.

Agricultural and Forestal Districts

Over 21,310 acres of land in the County are in Agricultural/Forestal Districts. An Agricultural and Forestal District is a State-approved method by which Rappahannock landowners can set aside land for ten-year periods in return for tax benefits and protections against government interventions. The county currently includes ten Districts, which protect about 21,000 acres. The program was initiated in 1980 and has remained relatively stable in acres protected since 1990.

Land owners who participate in the program cite as its strongest features 1) greatly reduced local tax rates, 2) a guarantee against changes in the land-use taxation program, and 3) the opportunity to contribute to the scenic and rural character of the county. The weakest feature from the landowner standpoint is the requirement to tie up land for ten-year periods (i.e. no construction, subdivision, sale of the property).

The public purposes of an Agricultural and Forestal District are to:

- “conserve and protect, and to encourage the development of, the Commonwealth’s agricultural and forestal lands for the production of food and other agricultural and forestal products...” and
- “to conserve and protect agricultural and forestal lands as valued natural and ecological resources which provide essential open space for clean air sheds, watershed protection, wildlife habitat, as well as for aesthetic purposes” (Section 15.2-4301 Code of Virginia)

John McCarthy 9/11/13 10:15 AM

Formatted: Justified

Farmland Preservation Program

The Farmland Preservation Program is a County purchase-of-development-rights (PDR) program that pays working farmers not to develop or subdivide their land. The County places the development rights under a conservation easement. The farmer retains all other rights, including the right to continue farming and sell the land, but not to develop the land through subdivision.

The program provides the same protections for watersheds as conservation easements, but provides added incentives to the farm landowner to put the land in easement. Funding for the program is provided by “rollback” taxes and private contributions, almost entirely from the Rappahannock County Conservation Alliance, which holds an annual fundraiser for that purpose. County funds are matched by the state to a maximum that varies from year to year. A proposal in 2005 to add two pennies per hundred dollars in real estate taxes to enable a predictable income stream for the Farmland Preservation Program was defeated. To date, two farmers have participated in the program.

Septic System Cost Sharing Program

Through a grant from the VA Water Quality Improvement Fund, the County and the CSWCD provide cost sharing for septic system improvements within 300 feet of any stream in the county. This includes inspection, cleanout, repair, replacement of and component of the system.

John McCarthy 9/11/13 10:15 AM

Formatted: Justified

John McCarthy 9/11/13 10:15 AM

Formatted: Justified

ⁱ The survey instrument and report on the results is available on the RappFLOW web site http://www.rappflow.org/PDF/highlights_upperthornton_survey_july2006.pdf

ⁱⁱ See

<http://www.rregion.org/pdf/publications/environment/tmdl/development/TMDL%20Development%20-%20Rappahannock%20River%20Basin%202008.pdf>

ⁱⁱⁱ For a non-shellfish water body to be in compliance with Virginia’s revised bacteria standards (as published in the Virginia Register Volume 18, Issue 20) the following criteria shall apply to protect primary contact recreational uses (VADEQ, 2000): • **Interim Fecal Coliform Standard:** Fecal coliform bacteria shall not exceed a geometric mean of 200 fecal coliform bacteria per 100 mL of water for two or more samples over a calendar month nor shall more than 10% of the total samples taken during any calendar month exceed 400 fecal coliform bacteria per 100 mL of water. • **Escherichia coli Standard:** *E. coli* bacteria concentrations for freshwater shall not exceed a geometric mean of 126 counts per 100 mL for two or more samples taken during any calendar month and shall not exceed an instantaneous single sample maximum of 235 cfu/100mL. During an assessment period, conventional parameters such as bacteria require at least two exceedences of the standard, and an exceedance of greater than 10.5% of the total samples before a water is listed as impaired (VADEQ Assessment Guidance, 2006). If these conditions are met, the stream segment associated with that station is classified as impaired and a TMDL must be developed and implemented to bring the segment into compliance with the water quality standard. The original impairment designation to Hughes River (VAN-E03R-01), Hazel River (VAN-E04R-01), Rush River (VAN-E05R-01), Hazel River (60076), Rappahannock River (VAN-E01R-03), Rappahannock River (VAN-E08R-04), Rappahannock River (60081), Craig Run (VAN-E08R-03), Browns Run (VAN-E08R-03), and Marsh Run (VAN-E08R-01) was based on exceedences of an earlier fecal coliform standard that included a numeric single sample maximum.

^{iv} See <http://www.rappflow.org/upper-thornton-watershed/index.html> for the Pilot Study of Beaverdam Creek subwatershed. See http://www.rappflow.org/PDF/LowerRush_subwatershed_analysis_sept06.pdf for the Lower Rush study.

-
- ^v Historical data from these stations can be accessed at <http://www.deq.virginia.gov/watermonitoring/>
- ^{vi} See <http://rapppmonitor.va.nacdnet.org/>
- ^{vii} See http://www.tu.org/site/c.kkLRJ7MSKtH/b.4348001/k.A11B/Brook_Trout.htm for discussion of the study, evaluation criteria for assessing brook trout habitat, and other scientific studies of trout.
- ^{viii} Data available at <http://waterdata.usgs.gov/nwis/uv?01662800>

John McCarthy 9/11/13 10:16 AM
Formatted: Indent: Left: 0", First line: 0"