2017 Revision

Westmoreland County's 2030 Vision

Comprehensive Plan

- *Land Use*
- *Natural Resources Protection*
- *Transportation*

Adoption History

1) Presented to the members of the Westmoreland County Planning Commission on 16 September 2010.

2) Approved by the Westmoreland County Planning Commission on 4 October 2010, following a public hearing.

3) Presented to the members of the Westmoreland County Board of Supervisors on 8 November 2010.

4) Adopted by the Westmoreland County Board of Supervisors on 13 December 2010, following a public hearing.

5) Last revision adopted by the Westmoreland County Board of Supervisors 11 December 2017.

Purpose and Background Information

Westmoreland County is required by the Code of Virginia, §15.2-2223 *et seq*., 1950, as amended, to prepare a comprehensive plan for the physical development of the territory within its jurisdiction. The plan, the Code of Virginia states, "shall be general in nature, in that it shall designate the general or approximate location, character, and extent of each feature shown on the plan and shall indicate where existing lands or facilities are proposed to be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed in use as the case may be." In simplified terms, a comprehensive plan is two things: 1) A general inventory and analysis of existing conditions and growth trends; and 2) A guide for achieving a coordinated, orderly growth and development of the locality.

Westmoreland County's Comprehensive Plan History

The original plan was adopted by the County Board of Supervisors on December 11, 1974
A revision was adopted in January of 1981
A revision was adopted in 1999, further reviewed and confirmed on June 4, 2007
A fully revised edition was adopted on December 13, 2010
This revision was adopted December 11, 2017.
Current Plan was reviewed and accepted by Planning Commission November 7, 2022.

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National Oceanic and Atmospheric Administration
Under the Coastal Zone Management Act of 1972, as amended. The views expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Department of Commerce, NOAA, or any of its subagencies.

Technical assistance to the 2010 adoption of this plan was provided by the Northern Neck Planning District Commission:

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1st Draft completed and printed on December 7, 2009

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CONTENTS

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Westmoreland County's

Comprehensive Plan

Vision2030

"This is what we want Westmoreland County to be like in the year 2030—and what we plan to do to make it happen."

Executive Summary

The statement above is what best describes the purpose of Westmoreland County's Comprehensive Plan. Through its goals and actions, the plan gives expression to the community's wishes, acting as a guide. Its recommended actions are not absolute. Some of them will be implemented, while others, with time, may change according to new needs and conditions. This is one reason why the Code of Virginia requires that this document be reviewed every five years.

The plan also functions as a general inventory for areas such as education, employment and economic development, housing and healthcare, historic resources, recreation, utilities, and capital improvements. Most of these are not addressed in depth, however, except when they directly affect land use, water-quality protection, and transportation—the three development categories that require the most informed decisions. This plan aims to be a helpful analysis of these three categories, and it represents the county's recognition of how they play a major role in the protection of state waters and the Chesapeake Bay and its tributaries.

To help the Westmoreland County Planning Commission implement the goals of this comprehensive plan, each of the four major sections of the plan has a companion **Vision2030 Chart**, which can be described as a "To-Do List for the Next 20 Years," with recommended actions to achieve each agreed-upon goal:

Vision2030 Chart	Areas Addressed
County & Economy	Commerce, Governance, Revitalization, Recreation, Federal & State Relations, Services, Housing, Education, Economic and Residential Development, Tourism & Quality of Life
Land Use	Coastal Management; Conservation; Commercial, Residential, and General Development; Governance; Planning; Tourism & Quality of Life
Natural Resources Protection	Energy Efficiency, Water Quality, Coastal Management, Conservation, Stormwater & Erosion Control, Tourism & Quality of Life
Transportation	Tourism & Quality of Life, Economic Development, Working with VDOT, Governance, Zoning & Ordinances, Marine Transportation, Public Transit, Infrastructure, Planning

These four **Vision2030** charts can be found at the end of Section 6 (**Implementation & Evaluation**).

Decisions adopted by the Westmoreland County Board of Supervisors today will be extremely important for the future of the county, especially as development pressures increase under a growing influx of retirees concerned about public services, land use, environmental stewardship, taxes, and other issues. Through public participation in the creation of this plan, county citizens and members of the county's Planning Commission point the way forward.

How This Plan Was Put Together

In April 2008, the Westmoreland County Administrator asked the Northern Neck Planning District Commission to assist the county in the revision of its 1999 Comprehensive Plan. The following is a general description of the process (for additional details, visit www.Westmoreland2030.org):

June 2008 – Public meeting at Westmoreland County Courthouse. The Executive Director of the Northern Neck Planning District Commission (NNPDC) presented to the public and members of the Westmoreland County Planning Commission (WCPC) an overview of the NNPDC's approach to developing a comprehensive plan.

July 2008 – Public meeting at Westmoreland County Courthouse. Draft copy of the proposed Citizen's Survey presented. Changes to the survey were considered.

August 2008 – Public meeting at Westmoreland County Courthouse. Discussed the shorter version of the survey (four pages long) requested by the Westmoreland County Planning Commission (WCPC), which approved the survey with one minor change.

September 2008 – Three public meetings this month, in Montross, Hague, and Oak Grove.

February 2009 – Meeting of the Westmoreland County Planning Commission to present the results of the survey to the public.

April 2009 – Public meeting of the Westmoreland County Planning Commission to present *Working Document #1*, a compilation of suggested comprehensive-plan goals and actions.

April 2009 – Public meeting of the Westmoreland County Planning Commission at the Bank of Lancaster's meeting room, in Montross, to go over the first section, titled "County & Economy," of Working Document #1.

May 2009 – Two public meetings of the Westmoreland County Planning Commission at the Bank of Lancaster's meeting room, in Montross, to go over the first section, titled "County & Economy."

June 2009 – Three Public meetings of the Westmoreland County Planning Commission at the Bank of Lancaster's meeting room, in Montross, to go over the second section of *Working Document #1*, titled "Land Use."

July 2009 – Two public meetings of the Westmoreland County Planning Commission at the Bank of Lancaster's meeting room, in Montross, to go over the third section of *Working Document #1*, titled "Natural Resources."

August 2009 - Public meeting of the Westmoreland County Planning Commission at the Bank of Lancaster's meeting room, in Montross, to go over the fourth section of *Working Document #1*, titled "Transportation."

September to December 2009 – The Northern Neck Planning District Commission produced *Working Document #2*, a full draft of the county's Vision2030 Comprehensive Plan, submitted to the Westmoreland County Planning Commission on 12/7/2009.

January to April 2010 – The Northern Neck Planning District Commission produced *Working Document #3*, a draft of the county's Vision2030 Comprehensive Plan that incorporates all comments and requests for changes to *Working Document #2* (submitted to the Westmoreland County Planning Commission on 12/7/2009). A copy of *Working Document #3* was submitted to the Westmoreland County Planning Commission on 5/3/2010.

July 2010 – The Northern Neck Planning District Commission produced *Working Document #4*, a draft of the county's Vision2030 Comprehensive Plan that incorporates all comments and requests for changes to *Working Document #3* (submitted by the Chesapeake Bay Local Assistance Department (CBLAD).

August 2010 – A copy of *Working Document #4* was submitted to the Virginia Department of Transportation (VDOT) for review.

September 2010 – The Northern Neck Planning District Commission produced *Final Draft* document of the county's Vision2030 Comprehensive Plan, and submitted it to the Westmoreland County Planning Commission on 9/16/2010.

October 4, 2010 – The Westmoreland County Planning Commission approved the final draft of the county's Vision2030 Comprehensive Plan.

November 8, 2010 – The plan was submitted to the Westmoreland County Board of Supervisors.

December 13, 2010 – The plan was adopted by the Westmoreland County Board of Supervisors.

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Westmoreland County's

Comprehensive Plan

Vision2030

2. COUNTY & ECONOMY

2.1 Overview

2.1.1 Location and Size

Located on the Northern Neck Peninsula in eastern Virginia, Westmoreland County covers an area of 236 square miles bounded on the north by the Potomac River, on the west by King George County, on the east by Northumberland County, and on the south by Richmond County and the Rappahannock River.

Montross, the county seat, is 65 miles northeast of Richmond, the state capital, and 78 miles southeast of Washington, D.C. The Port of Virginia, in Norfolk, is 113 miles south. State Route 3 connects Westmoreland County to Interstate 95 and to Interstate 64 via US Route 360 (Map 8.28, Section 8).

The county has a narrow, elongated shape. Lying in the eastern section of Virginia's Coastal Plain, between the Potomac River and the Piedmont Plateau, its greatest width is about twelve miles, and its greatest length is approximately thirty-two miles (measured in a straight line).

2.1.2 Topography

Westmoreland County is entirely within the northern *Coastal Plain*, a physiographic province of Virginia. The county has three general types of topography (Map 8.07, Section 8).

- *Lowland* is nearly level and ranges from less than 10 feet in elevation to 50 feet above sea level. It borders most of the waterways and extends into the lower portions of the upland region. It transitions into the uplands with a distinct slope or scarp that starts at 50 feet above sea level and extends to about 100 feet above sea level. Examples include Sandy Point, Coles Point, Machodoc Neck, and Leedstown.
- *Upland* consists of fairly level plateau, dissected by numerous small gullies (and a few large ones). Examples include Baynesville and Montross.
- *Cliffs*, which are steep where the upland meets the Potomac River, near Westmoreland State Park. Some of the highest elevations in the county—about 193 feet—are found in this area. There are also impressive cliffs on the Rappahannock River side of the county, though these are not as steep or as high as the cliffs on the Potomac River.

Most of the county (96%) has slopes of less than 8%. But there are areas of locally steep slopes, especially in the Nomini Creek watershed.

WESTMORELAND TERRAIN OVERVIEW

- Land area: 236 square miles
- Elevation: 0-193 feet above sea level
- Shoreline: 250 miles
- Nature Preserves: 5,450 acres
- Wetlands: 8,452 acres

A comprehensive, interactive shoreline map of Westmoreland County, produced by the Virginia Institute of Marine Science (VIMS), is available online (See Sources, Section 7.3).

2.1.3 Climate

Westmoreland enjoys a temperate, semi-marine climate and a long growing season. Large areas of water temper both summer heat and winter cold. Breezes near shore mitigate the high humidity. Average temperatures range from 37ºF (January) to 77ºF (July), and average annual precipitation is 43.01 inches of rainfall and 17.30 of snowfall.

2.1.4 History

By the time English colonists arrived in the 1600's, the native Algonquians had a well-defined lifestyle, with established villages along the coves and streams of the Potomac and Rappahannock Rivers.

At the beginning of the colonial era, Westmoreland was part of Northumberland County. In 1653, when Northumberland was divided, Westmoreland County was established by the Colonial Government in Jamestown. At the time, the county stretched westward beyond the present District of Columbia, but territorial changes in 1664 and in 1778 brought about today's boundaries.

The first county court in Westmoreland met at the plantation of Colonel Walter Brodhurst, on Currioman Bay. By 1675, the court had its first building on the site of the present courthouse, in Montross. The original courthouse has been enlarged and remodeled at least five different times. The George D. English, Sr., Memorial Building, near the courthouse, was completed in 1976.

2.1.5 Population & Demographics

The county's population has increased gradually and at about half the rate of the State of Virginia as a whole. Projections for 2020 and 2030 hold the same pattern.

Population Growth

Year	West. Co.	Change	VA	Change
2030	19,261	5.04%	9,825,019	10.18%
2020	18,336	4.18%	8,917,396	12.98%
2010	17,600	5.28%	7,892,900	11.50%
2000	16,718	8.00%	7,079,025	14.41%
1990	15,480	10.25%	6,187,358	15.72%
1980	14,041	15.64%	5,346,797	15.02%
1970	12,142	70.51%	4,648,494	17.18%
1960	7,121		3,966,949	

Source: U.S. Census Bureau, Virginia Employment Commission

Westmoreland County has attracted new residents from other counties around the Washington, D.C., metropolitan area. The counties that contributed the most new residents to Westmoreland, between 1999 and 2007, were Fairfax, Charles (Maryland), Stafford, Prince William, and Prince George (Maryland).

The increase in population over the next 20 years is expected to favor individuals above retirement age. There will be a marked decrease in numbers—as a percentage of the total population—for younger adults, particularly those aged 20 to 29, and those between the ages of 45 and 64.

Population Trend by Age

Age Group	% of Total 2010	% of Total 2020	% of Total 2030
20 to 29	13.3%	11.2%	11.4%
45 to 64	28.8%	25.2%	22.6%
70 +	13.4%	14.1%	15.6%

Details: Section 7.4

2.2 Government

The County is composed of three magisterial districts (Washington, Montross, Cople) and five electoral districts, from which the five-member Board of Supervisors is constituted (Maps 8.05 and 8.06, Section 8). There are two towns in the County, Montross and Colonial Beach. Montross is the County Seat.

2.2.1 Boards & Commissions

Planning Commission - A five-member advisory board appointed by the Board of Supervisors. It is responsible for recommendations to the Board of Supervisors regarding amendments to the county's comprehensive plan, land use regulations, applications for rezoning, preliminary plats, and special exceptions. It also reviews applications for exceptions to the county's Chesapeake Bay Preservation Overlay District regulations.

Board of Zoning Appeals - A five-member board appointed by the Circuit Court. The Board of Zoning Appeals considers applications for variances to the county zoning ordinance. It also considers appeals of administrative decisions by the zoning administrator or the planning commission in the application of the zoning ordinance.

Board of Building Appeals - It considers appeals to decisions of the building official in the administration of the building code.

Wetlands Board - A five-member board appointed by the board of supervisors. It considers the locality portion of joint applications to the Virginia Marine Resources Commission and the Army Corps of Engineers for projects affecting tidal wetlands. Regulated projects include community piers and marinas, also shoreline-stabilization measures such as grading, rip-rap, and bulkheads.

Westmoreland County Industrial Development Authority (IDA) - A seven-member board appointed by the board of supervisors. It assists the county with the creation and implementation of economic development efforts. It issues bonds, oversees business recruitment, and develops public industrial parks and shell buildings. The IDA can also help provide access to long-term, fixed-asset financing to creditworthy businesses.

Authorities such as the IDA may "acquire, own, lease, and dispose of properties and make loans to the end that such authorities may be able to promote industry and develop trade by inducing manufacturing, industrial, governmental, nonprofit and commercial enterprises and institutions of higher education to locate in or remain in the Commonwealth and further the use of its agricultural products and natural resources, and to vest such authorities with all powers that may be necessary to enable them to accomplish such purposes, which powers shall be exercised for the benefit of the inhabitants of the Commonwealth, either through the increase of their commerce, or through the promotion of their safety, health, welfare, convenience or prosperity. Such authority shall not itself be authorized to operate any such manufacturing, industrial, nonprofit or commercial enterprise or any facility of an institution of higher education." (Virginia Code § 15.2-4901)

Department of Social Services Board - A five-member board appointed by the board of supervisors. Responsibilities include the placement of children and adults in foster homes or other facilities, employment of legal counsel, review of performances, submission of budgets and reports to state and local government, and the provision of child welfare services and adult protective services.

School Board - A five-member board that handles matters of school personnel, student concerns, acquisition of property, or issues that might involve litigation. The board appoints the superintendent of schools to observe day-to-day operation of the school division.

GOVERNANCE GOALS

- A county government that does a better job communicating with its citizens: a better website and public-information system offering more transparency
- Constant readiness to implement improvements and find appropriate funding for them

2.2.2 Constitutional Officers

Clerk of the Circuit Court (eight-year term) - *The Clerk of the Circuit Court* - The official court administrator, responsible for recording deeds, issuing and recording marriage licenses, serving as probate judge, maintaining court files, preparing jury lists, and issuing summons. The Clerk of the court is an elective office with an 8-year term.

Commissioner of the Revenue (four-year term) - The county's chief tax-assessing officer, responsible for assessing real estate and property taxes. Duties also include receiving and auditing state income taxes, maintaining up-to-date land records, and coordinating Board of Equalization hearings.

Commonwealth's Attorney (four-year term) - Represents the people of Virginia in prosecuting criminal cases. The position is similar to that of a district attorney in many other states. Responsible for enforcement of state and some federal laws, primarily criminal law, and may handle civil duties and prosecute violations of County ordinances.

Sheriff (four-year term) - Chief law-enforcement agency and dispatch center for all general administration and emergency calls. The sheriff's department includes deputies, criminal investigators, and dispatchers.

Treasurer (four-year term) - Responsible for all activity related to the receipt, deposit, investment, reconciliation, and disbursements of county funds. Local real estate taxes, personal property taxes, state income tax, and estimated income tax payments are collected by the treasurer's office, which also sells dog tags.

2.2.3 Administrative Personnel & Departments

County Administrator - Acts for and serves at the pleasure of the Board of Supervisors. Duties include budget preparation, record keeping, coordination of policy issues, recommending policy priorities, and managing various fiscal, legal, and personnel issues of the county. The position is also active in economic development by helping local businesses expand, as well as providing compelling reasons for businesses to relocate to Westmoreland County. The administrator's office includes an Assistant County Administrator.

County Attorney - Provides services advising the Board of Supervisors in routine legal matters involving general county government. The county attorney may also be called on to advise the Planning Commission, the Board of Zoning Appeals, the Wetlands Board, and other professional staff.

Registrar - Maintains voter registration and election records and works with the Electoral Board to certify election results.

Animal Control Department - Responsible for license and rabies-inoculation enforcement. It also

responds to animal-nuisance calls and livestock- and fowl-kill claims.

Buildings and Grounds Department - Responsible for conducting, coordinating, and assisting with various repair and maintenance activities for the majority of the facilities owned and operated by the county (excluding school-system properties).

Finance Department - In charge of financial record-keeping, personnel insurance administration, accounts payable and receivable, and payroll accounting.

Land Use Administration - Responsible for the administration of building codes and zoning, subdivision, wetlands and erosion-control ordinances. Other duties include long-range land-use planning and coordination of various land-use records. The department also serves as the administrative office for the Planning Commission, the Board of Building Appeals, the Board of Zoning Appeals, and the Wetlands Board.

Department of Social Services - Provides assistance to county residents with the goal of shaping strong futures for themselves, their families, and their communities.

2.2.4 Courts

Westmoreland County courts are part of the Commonwealth of Virginia Court System. Their purpose is to provide an independent, accessible, responsive forum for the just resolution of disputes in order to preserve the rule of law and to protect all rights and liberties guaranteed by the United States and Virginia Constitutions.

Circuit Court - Virginia's General Assembly elects circuit court judges for eight-year terms.

General District Court - Virginia's General Assembly elects general district court judges for six-year terms.

Juvenile & Domestic Relations Court - Virginia's General Assembly elects juvenile and domestic relations district court judges for six-year terms.

The Juvenile Probation / Intake Services - Hears all matters involving juveniles, such as criminal or traffic matters. In Virginia, a juvenile is any person under 18 years of age.

2.2.5 Law Enforcement

County residents and visitors are provided general law enforcement through the County Sheriff's Department. Colonial Beach has a separate police department that manages a separate E-911 system for the town.

Sheriff's Office - Enforces the laws of the Commonwealth of Virginia and the ordinances of Westmoreland County. The office also conducts criminal investigations, provides court security, serves summons, assists the State Police in traffic situations, and has K-9 capabilities.

Virginia State Police - Cooperates and assists the county's two law-enforcement agencies when the need arises.

Virginia Marine Patrol - Part of the Virginia Marine Resources Commission, it enforces boating, fishery, and habitat-management laws in tidal waters. It also provides search-and-rescue services and public-health services related to seafood.

The Northern Neck Regional Jail - Opened in June of 1995, it detains minimum, medium, maximum, and high-maximum offenders. It is a multi-jurisdictional facility meeting federal, state, and local needs. A large percentage of inmates are from Richmond, Westmoreland, and Northumberland Counties, and the Town of Warsaw. The facility has an operational capacity of 496 inmates and an average population of 443. The jail employs approximately 104 persons, with the majority of the employees living in the Northern Neck.

GOAL

- Better emergency-response police services
- Support training opportunities for emergency personnel on a regional basis

2.2.6 Revenue

Most of Westmoreland County's revenue comes from real estate and personal-property taxes. While local retail sales and other uses have increased in the last decade, the county's share of sales taxes is not significant:

Westmoreland County Revenue FY 2008		
	Amount	**% of Total**
Real Property Tax	$8,625,611	41%
Charges for Services	$4,505,193	21%
General Personal Property Tax	$2,941,832	14%
Local Sales and Use Taxes	$753,064	4%
Comm. Sales & Use Taxes	$730,286	3%
Investment of Funds	$635,470	3%
Miscellaneous Non-Tax Sources	$609,576	3%
Consumers' Utility Taxes	$371,124	2%
Motor Vehicle License Taxes	$477,754	2%
Public Service Corp. Prop. Taxes	$145,924	1%
Machinery and Tools Tax	$170,356	1%
Property Tax Penalties	$173,528	1%
Property Tax Interest	$112,712	1%
Taxes on Recordation and Wills	$310,911	1%
Permits, Fees, and Licenses	$209,337	1%
Mobile Homes Property Tax	$22,763	<1%
Merchants' Capital Tax	$52,711	<1%
Bank Stock Tax	$6,246	<1%
Fines and Forfeitures	$75,541	<1%
Rental of Property	$79,042	<1%
TOTAL	$21,008,981	**100%**

Source: Virginia Department of Housing & Community Development
http://www.dhcd.virginia.gov/CommissiononLocalGovernment/PDFs/locrev08.pdf

GOALS

- Mitigate negative impact of unfunded mandates on county budgetary and staff resources
- Regional cooperation with other counties of the Northern Neck to share expenses where possible

2.2.7 Towns

There are two incorporated towns in Westmoreland County—Montross and Colonial Beach. Town governments are independent of the county government.

2.3 Housing

In the last decade, Westmoreland County has dramatically increased its number of seasonal, recreational, and occasional-use housing units.

	2000	**2007/09**
Total Housing Units	9,286	10,509
Seasonal / Recreational Use	1,676	*4,723

Source: U.S. Census and *2009 Regional Workforce Housing Study

This increase is the dominant feature of the county's housing market, and part of the reason two

concurrent housing studies took place in 2008–2009: One was the *Regional Workforce Housing Study*, which included Westmoreland County. The other was the *Westmoreland Substandard Housing Survey*. Results from both are incorporated below.

2.3.1 Home Affordability

The regional study shows that, in the last decade, the arrival of large numbers of retirees has driven property prices up in the Westmoreland real-estate market. As a result, for many local residents, housing costs have risen faster than local wages, making it difficult for them to afford local homes.

A manager at a Dollar General store, the regional study says, "will earn $10.66/hr working in Montross and be able to afford 8.7% of the housing in Westmoreland County (about 577 of the 5,786 occupied housing units in the county)."

County's Household Income / Housing Price Ratio

Median House-hold Income (2008)	Average Sale Price (2005-2008)	Ratio	Maximum Affordable	Gap
$44,591	$280,292	6.29	$124,855	$155,437

Source: Multiple Listing Service and ESRI

Ratios above 3.86 generally indicate that residents in the region cannot afford to buy a local home if their income is around the region's median income. In the Northern Neck, as well as Westmoreland County, this results in the existence of two housing markets, "one that local residents utilizing local wages can compete for, and the one that retirees, seasonal buyers, and commuters using non-local wages compete for."

These markets, the regional study adds, "largely (but not exclusively) split out as waterfront property and non-waterfront property, where sales values diverge significantly." Only 15% of the region's units sold in 2008 cost less than $100,000. And when it comes to rental property, fair-market rents for a three-bedroom property stood at around $900 per month.

The regional housing study shows that some 600 workforce housing units are currently needed for households with incomes between 80% and 120% of the median, with the largest concentration (240 units) needed in Westmoreland County. The projected demand between 2010 and 2020 will be of 418 workforce units, 77% of them for owners and 23% for renters.

Region & State Comparison of Median Household Income, 2000–2008

	2000	2008	% Change
Region	$35,629	$44,332	24.4%
State	$46,729	$61,817	32.3%

Source: ESRI Business Analyst

Household income in the region is normally calculated using United States Department of Housing and Urban Development standards, which consider the average number of individuals in a household to be four. In this manner, the HUD Median Family Income (MFI) level for Westmoreland County is $53,300.

This approach does not match Census data for the county, which show that the typical family size consists of three or fewer individuals. But it is HUD income levels that are used to calculate eligibility

for housing and other public assistance. These levels are adjusted by the number of members in the household.

Westmoreland HUD Median Family Income (MFI) Levels by Number of Members in Family

% of MFI	1	2	3
<30%	$11,200	$12,800	$14,400
50%	$18,650	$21,300	$24,000
80%	$29,850	$34,100	$38,400

Source: U.S. Department of Housing and Urban Development

GOALS

- Better housing choices (variety, affordability, densities, and locations)
- Adequate, convenient pedestrian circulation and access ways to homes

2.3.2 Housing Supply

Growth in the number of housing units in the County through the last two decades has been above 10% per decade.

Westmoreland Housing Supply

1990	2000	2007
8,378	9,286	10,509

Source: U.S. Census Bureau

Residential Housing Permits Issued

2001	137
2002	126
2003	121
2004	169
2005	313
2006	322
2007	281
2008	135
2009	83
Total	1,687

Source: Westmoreland County, 2001-2009
Not all permits issued resulted in built homes

The majority of Westmoreland's housing stock consists of single-family homes.

Units in Structure

Single-family	2-4 units	5+ units	Mobile Home	Other
85.7%	2.1%	1.4%	10.7%	0.2%

Source: U.S. Census Bureau, 2000

Housing Age and Condition

Year Built	% of Total
1999 to March 2000	1.0%
1995 – 1998	6.2%
1990 – 1994	9.4%
1980 – 1989	15.5%
1970 – 1979	21.8%
1960 – 1969	12.6%
1940 – 1959	20.3%
< 1939	13.2%

Source: U.S. Census Bureau, 2000

Average Household & Family Size

Household Size	2.43
Family Size	2.91

Source: U.S. Census Bureau, 2000, via 2009 Regional Housing Study

Occupied Units

	Owner Occupied	Renter Occupied
Total Units	5,425	1,421

Source: http://factfinder.census.gov – 2000, Form SF3

Households with Children

Total With Children	2,041
Married Couples With Children	1,247
Single Parent With Children	794

Source: U.S. Census Bureau, 2000

Lacking Plumbing, Kitchen, Phone

Lacking Plumbing	2.9%
Lacking Kitchen	2.0%
No Telephone	3.1%

Source: U.S. Census Bureau, 2000

Low-Income Housing Availability

Colonial Beach Apartments	**Location**: Colonial Beach **Units**: 32 (2 currently at Market Rate) **Rents**: 1 Bdr $570, 2 Bdr $708 ($774 Market)
Montross Apartments	**Location**: Montross
River Woods Public Housing	**Location**: Colonial Beach **Unites**: 83 (1 to 3 Bedroom) **Units Occupied**: 100%, 10 on waiting list **Rents**: 30% of income

Source: Regional Workforce Housing Study, 2008-2009

Substandard Housing

The county performed a survey on substandard housing in 2009 with the assistance of a Management Team of volunteers and the Northern Neck Planning District Commission. The survey determined that at least 149 homes should be studied further, in an effort to identify the highest concentration of substandard homes in the county and explore funding sources for a housing-assistance project.

Housing for the Elderly

Bay Aging manages three complexes in the County:

The Meadows	**Town**: Colonial Beach **Units**: 33 **Occupancy**: 100% **1 Person HUD Limit**: $29,850 **2 Person HUD Limit**: $34,100
Mill Pond Village	**Town**: Montross **Units**: 24 **Occupancy**: 100% **1 Person HUD Limit**: $18,650 **2 Person HUD Limit** $21,300
Parker Run	**Town**: Montross **Units**: 24 **Occupancy**: 100% **1 Person HUD Limit**: $18,650 **2 Person HUD Limit** $21,300

Source: Bay Aging, 2009

The apartments are popular and most of them have long waiting lists. Qualified residents must be 62 years of age or older to move in.

2.3.3 FEMA Community Rating

The Community Rating System (CRS) rewards communities that go beyond the requirements set by the National Flood Insurance Program (NFIP) for managing local floodplains. Flood-insurance premiums are discounted for participating communities in increments of 5% based on the rating achieved (e.g. a Class 1 community receives a 45% premium discount, while a Class 9 community receives a 5% discount).

The three goals of the CRS are: 1) Reduce flood losses; 2) Facilitate accurate insurance ratings; and 3) Promote awareness of flood insurance.

GOAL

- Investigate FEMA's community-rating system, and find out where the county stands and whether insurance premiums can be lowered for Westmoreland residents

2.4 Employment and Economic Development

Westmoreland County does not have enough jobs to employ its entire workforce, and it has a relatively high unemployment rate. Most private-sector employers are small, with less than 20 employees. Low median-household income, combined with a low labor-participation rate, suggests a potential for second-income earners.

Civilian Labor Force (2007)	8,408
Labor Force Participation (2000 Census)	56.2%
Per Capita Personal Income (2006)	$29,673
Median Family Income (FY 2007)	$52,500
Unemployment Rate (July 2008)	5.38%
Underemployed (2nd Quarter 2008)	759

Source: U.S. Census Bureau, 2000 and Virginia Employment Commission

2.4.1 Available Jobs & Income

The median household income in the county is significantly affected by the location of employment. Over half (52%) of the county's labor force commutes outside the county to places like Fredericksburg and Northern Virginia.

Commuting Patterns (2000 Census)

Live and work in Westmoreland County	2,876	36.0%
Total In-Commuters	956	12.0%
Total Out-Commuters	4,158	52.0%
Net Out-Commuters	3,202	

Source: U.S. Census Bureau, 2000

Additionally, Westmoreland County's unemployment rate consistently exceeds state and national averages, although that has changed during the current recession.

Unemployment Rates

	West. Co.	Virginia	U.S.
June 2009	7.5%	7.3%	9.7%
January 2009	8.9%	6.4%	8.5%
January 2008	5.5%	3.8%	5.4%

Source: Virginia Employment Commission

Historically, occupations related to the extraction of natural resources dominated the county's economy. That is no longer the case, though some of the county's largest employers are involved in those industries.

Employment by Occupation (3rd Qtr. 2009)

Construction, Extraction & Maintenance	253	7.30%
Farming, Fishing & Forestry	240	7.00%
Managerial, Professional & Related	823	23.90%
Production, Transportation & Material Moving	619	18.00%
Sales & Office	790	22.90%
Service	718	20.90%
Total	3,443	100%

Source: Virginia Employment Commission

Largest Employers: Non-manufacturing

Company	Product/Service	Est. Employment
Ingleside Plantation Inc.	Nursery/winery	100 – 299
Westmoreland School District	Education	279
Colonial Beach School District	Education	123

Source: Virginia Employment Commission, West. School District

Largest Employers: Manufacturing

Company	Product/Service	Est. Employment
Bevans Oyster Company, Inc.	Seafood	100 – 299
Carry On Trailer	Manufacture Utility Trailers & enclosed trailers	100 – 299
Potomac Supply Corporation	Treated lumber	100 – 299

Source: Virginia Employment Commission

Estimated Earnings (May 2008) - Mean Salary

Laborers and freight, stock, and material movers, hand	$22,331.40
Truck drivers, heavy and tractor-trailer	$31,621.59
Maintenance and repair workers, general	$31,647.84
Construction laborers	$24,138.69
Carpenters	$37,472.29
Office clerks, general	$24,970.12
Stock clerks and order fillers	$21,695.95
Receptionists and information clerks	$23,309.59
Customer service representatives	$31,059.74
Bookkeeping, accounting, and auditing clerks	$29,426.74
First-line supervisors/managers of office & admin support workers	$41,209.46
Sales reps, wholesale & manufacturing, ex technical & scientific products	$49,643.28
Nursing aides, orderlies, and attendants	$18,265.01
Home health aides	$20,769.65
Licensed practical and licensed vocational nurses	$39,242.43
Registered nurses	$55,700.12
Teacher assistants	$18,902.70
Secondary school teachers, except special and vocational education	$46,407.25
Elementary school teachers, except special education	$43,553.56
Accountants and auditors	$55,916.03
Per Capita Personal Income (2007)	$30,681.00
Median Family Income (FY 2009)	$56,287.00

Source: Virginia Employment Commission

2.4.2 Workforce Development Resources

Employers in Westmoreland County have access to several workforce-development resources, including customized training programs, employee

recruitment and assessment services, and employer tax credits.

Bay Consortium - Regional workforce-development agency; provides employment training and placement services to individuals facing serious barriers to employment.

Center for Business and Workforce Development at Rappahannock Community College - Provides flexibly scheduled, customized, on- or off-site training for local businesses, with or without college credit or continuing education units.

Chesapeake Bay Agency on Aging - Federally funded program that provides job training and placement to eligible clients. It offers CNA classes, truck-driving classes, computer/clerical classes, and GED preparation.

Northern Neck Technical Center - Provides vocational training services to students in all four counties of the Northern Neck. Programs include automotive technology and repairs, carpentry, cosmetology, computer-aided drafting, food service, masonry, nursing assistant, residential wiring, and welding.

Virginia Employment Commission - Offers incentives through the federal Work Opportunities Tax Credit (WOTC) program to employers hiring individuals from groups who have consistently had difficulty in securing employment.

Virginia Department of Rehabilitative Services - State agency that rehabilitates physically and mentally handicapped individuals and assists them with returning to the work place.

2.4.3 Business Incentives

Northern Neck Enterprise Zone – Provides job-creation grants (based on permanent, full-time jobs created) and real-property investment grants (based on qualified real property investments). These grants are available to businesses located on parcels designated Enterprise Zone parcels (Map 8.26).

HubZone Program - A location-based, federal-contracting program for small businesses. Because of Westmoreland's proximity to several federal government agencies, businesses already in the county, as well as businesses relocating in Westmoreland, can substantially improve their bidding success and contract profitability by taking advantage of the HubZone Program.

2.4.4 Industrial Development Authority (IDA)

Established in 1970, the IDA assists the county with the creation and implementation of economic development efforts. It issues bonds, oversees business recruitment, and develops public industrial parks and shell buildings. The IDA can also help provide access to long-term, fixed-asset financing to creditworthy businesses.

Authorities such as the IDA may "acquire, own, lease, and dispose of properties and make loans to the end that such authorities may be able to promote industry and develop trade by inducing manufacturing, industrial, governmental, nonprofit and commercial enterprises and institutions of higher education to locate in or remain in the Commonwealth and further the use of its agricultural products and natural resources, and to vest such authorities with all powers that may be necessary to enable them to accomplish such purposes, which powers shall be exercised for the benefit of the inhabitants of the Commonwealth, either through the increase of their commerce, or through the promotion of their safety, health, welfare, convenience or prosperity. Such authority

shall not itself be authorized to operate any such manufacturing, industrial, nonprofit or commercial enterprise or any facility of an institution of higher education." (Virginia Code § 15.2-4901)

GOALS

- More retail stores
- More employers, more jobs for young people, and higher-paying jobs: Encourage technology training programs within the existing educational facilities, promote the resources of the Northern Neck Technical Center, Rappahannock Community College, and state universities to local companies seeking technical and research assistance, and support the Northern Neck Tourism Commission to develop a more robust tourism industry in the region, the county, and the towns
- A better organized and expanded tourism industry that can provide jobs and income for the county and its workforce
- Expansion or addition of existing or new industries only when the county determines that the economic and fiscal impact on the county is likely to be positive in the long term, and that the new or expanded industries will not unduly harm critical resources such as groundwater supplies, surface water quality, agricultural and forest land, and the county's rural character
- Steady growth of employment and industry, so that the county can maintain a reasonable and affordable level of public services and facilities, without an undue burden on the average taxpayer
- Carefully plan to avoid or minimize the "boom and bust" economic cycle that is often typical of resource extraction

2.4.5 The Northern Neck Tourism Commission

Westmoreland County is active in regional tourism efforts through the NNTC, whose mission is to facilitate and promote tourism by capitalizing on the natural, historical, cultural, and recreational resources of the region.

2.5 Utilities

2.5.1 Electric Power

Dominion Virginia Power - Serves most locations adjacent to main highways such as Route 3, Route 202, Route 205, and the Town of Colonial Beach.

Northern Neck Electric Cooperative - Serves less populated areas of the county not served by Dominion Virginia Power.

2.5.2 Water and Sewer

The majority of housing units in the county rely on drilled or dug wells for their water supply. Two existing public waterworks supply potable water to residents and businesses located in or around the Towns of Montross and Colonial Beach, and in the larger subdivisions.

Town of Colonial Beach
Water source: 3 wells
Capacity: 1.5 million gallons/day
Average Usage: 600,000 gallons/day

Town of Montross
Water source: 2 wells
Capacity: 216,000 gallons/day
Average Usage: 68,000 gallons/day

County – Route 3 Water System
Water source: 2 wells
Capacity: 230,000 gallons/day
Average Usage: 13,000 gallons/day

Monroe Hall Water System
Water source: 1 well
Capacity: 20,000 gallons/day
Average Usage: 3,000 gallons/day

Sixteen communities in the County have access to potable water through privately operated companies such as Alpha Water Corporation, Sydnor Hydrodynamics, and United Water of Virginia.

Individually owned wells, however, provide water to the majority of the population.

Sewage Treatment Plants

The town of Colonial Beach owns and operates a sewage-treatment facility with a service of 600,000 to 800,000 gallons per day (gpd), and an available capacity of 4 million gpd.

Westmoreland County serves the Town of Montross and the corridor south of the town along Route 3, to Templemans Crossroads. Usage reaches 50,000 gpd, with an available capacity of 130,000 gpd.

The county also owns and operates a wastewater-treatment facility and collection system servicing the Coles Point area. Its capacity is 200,000 gpd, and the average usage around 20,000 gpd.

The Washington District Wastewater Collection System, Phase I, is connected to the Town of Colonial Beach sewage-treatment facility. It serves Westmoreland Shores, Potomac Shores, Monroe Hall, Monroe Bay Estates, and Shellfield Shores. Average usage is 47,000 gpd.

The Washington District Wastewater Collection System, Phase II, is under construction and will be connected to the Town of Colonial Beach sewage treatment facility. It is projected to be operational in 2011. It will serve Placid Bay Estates, Ebb Tide Beach, Berkley Beach, and Oak Grove at the intersection of State Routes 3 and 205. Preliminary estimate of usage is 70,000 gpd.

GOALS

- Protect the existing public waterworks that supply potable water to residents and businesses located in or around the Towns of Montross and Colonial Beach
- Protect the water quality of individually owned wells, which provide water to the majority of the population

2.5.3 Gas and Propane

Natural gas lines are not currently available within the county. A variety of natural gas and propane dealers service customers with tanks (Amerigas Propane, Noblett Oil & Propane Co., Inc., Revere Gas & Appliance, and Suburban Propane).

2.5.4 Communications

Newspapers - *Westmoreland News*, *Northern Neck News*, *The Journal* (published in King George County), *The Free Lance Star* (Fredericksburg), *The Richmond Times-Dispatch* (Richmond), and *The Washington Post* (Washington, D.C.)

Radio and Television - None in the county. Various stations broadcast in the region, including WNNT in Warsaw and WRAR in Tappahannock.

Telephone Service - AT&T, Comtel, Verizon, and MCI Telecommunications

Internet Service - 3N Internet Services, Virginia Broadband, Rivernet, World Skyline Internet Services, and Verizon are among the providers. Broadband services are available on a limited basis. Approximately 59 percent of businesses and 51 percent of residences are within areas with access to DSL service (Verizon). Cable television is available in much of the county, but with no cable-modem service offered at the moment. The county will continue to work with existing providers to expand broadband services in the area.

GOALS

- Better telecommunications options through increased providers competition
- Participation in the Northern Neck Broadband Authority, emphasizing an open-access, regional fiber-optic network

2.6 Services

2.6.1 Refuse (Solid Waste) Collection

The Town of Montross provides curbside trash pickup for its residents once a week. Colonial Beach picks up residents' trash at the curb once a week. There are also a number of private trash collection services that operate in Westmoreland County.
Public Waste Collection Sites - There are three such sites: Transfer Station Collection Center (Panorama Road, Route 622); Carmel Church Collection Center (Off Route 202); and Monroe Hall Collection Center (Route 205). See Map 8.01, Section 8.

Recycling - All three of the public waste-collection sites also accept the following materials: newspaper, glass (clear, green, and brown), aluminum, plastic (#1, #2), tin, bi-metal products, used motor oil, and construction debris. For recycling that does not require sorting, the county is adding a compactor. And a program to recycle electronic equipment began in late 2009.

GOALS

- Better waste-disposal facilities via improved access and more recycling options
- Improving the collection of environmentally hazardous materials

2.6.2 Library Services

Colonial Beach - Offers a variety of programs for adults and children, including summer school classes and story hour.

Montross Branch - Offers a variety of programs for adults and children, including story hour and book-discussion group.

Blake T. Newton Memorial Branch (Hague) - Offers special programs for adults and children throughout the year, including preschool story hour on Saturday mornings.

2.6.3 Health Services

The county's public-health department is part of the Three Rivers Health District of the Virginia Department of Health. Its mission is to assist individuals, families, and communities to achieve optimal health by emphasizing the promotion of good health, prevention of disease, and protection from environmental hazards.

Among the department's duties are communicable-disease control, immunizations, tuberculosis (TB) screening, HIV testing, Sexually Transmitted

Disease (STD) testing and treatment, well- and septic-tank permits and appeals, on-site sewage-disposal permits, restaurant/food-service permits and inspections, food-service sanitation training (in cooperation with the Westmoreland County Cooperative Extension Service), campground inspections, lodging-facility inspections, marina inspections, public swimming pool and tourist establishment inspections, complaint investigation, rabies investigation, sewage handling and disposal regulation enforcement (protection of shellfish waters), family planning, birth control and preventive health maintenance counseling, pregnancy testing, counseling, education and food supplementation for pregnant or breastfeeding women, nursing home pre-admission screenings, school-based preventive health programs, birth and death certificates, and school physicals.

County residents have access to the non-profit Westmoreland Medical Center in Montross. It offers comprehensive and affordable primary healthcare services on an income-based scale.

There are no hospitals in Westmoreland County. The Northern Neck region is served by the Riverside Tappahannock Hospital in Essex County (approximately 25 miles from Montross), the Rappahannock General Hospital in Kilmarnock (Lancaster County, approximately 42 miles from Montross), and facilities in the City of Fredericksburg and the City of Richmond.

GOAL

- More local medical services—exploring the possibility of a community clinic and birthing center

2.6.4 Social Services

The Westmoreland County Department of Social Services offers the following assistance to eligible residents:

- *Adult services*: preventive, protective and support services to impaired adults and the elderly
- *Child services*: childcare and health insurance for children whose parents or guardians can't afford it; protection of children from abuse and neglect
- *Employment services*: job placement, training, and assistance with transportation and childcare expenses
- *Family services*: help for victims of domestic abuse and sexual assault; support services to prevent family breakdowns
- *Financial assistance*: to pay for essentials like food and fuel

2.6.5 Fire and Rescue Services

There are over 140 volunteer firefighters and emergency medical-services personnel in the county, all trained to protect property and life by using the latest equipment and techniques.

- *Volunteer Fire Department Locations*: Colonial Beach, Cople, Oak Grove, Montross (Map 8.01, Section 8)
- *Volunteer Rescue Squad Locations*: Colonial Beach, Montross, Mount Holly (Map 8.01, Section 8)

The County pays for rescue and advanced life-support (ALS) services between 6:00 a.m. and 6 p.m., Mondays through Fridays.

Fire-insurance ratings throughout the county can be improved through the selective acquisition or

upgrade of equipment such as tanker trucks, and through the installation or upgrade of waterlines and fire hydrants.

GOALS

- Better emergency services via additional paid fire and rescue personnel, while still enhancing volunteer services
- Support training opportunities for personnel on a regional basis
- Maintain a level of emergency service capability that is sufficient to safely and reliably handle any expected or potential kind of residential, commercial, or industrial facility emergency event, including fire, explosion, hazardous material release, etc.

2.7 Education

The Westmoreland County Public Schools operate as an independent school division and serves Westmoreland County and the Town of Montross. The Division operates four schools that serve over 1,700 students (Map 8.02, Section 8). All of the county's schools are accredited by the Commonwealth of Virginia and the Southern Association of Colleges and Schools:

- Cople Elementary School (K to 5th), built in 1978
- Washington District Elementary (K to 5th), built in the 1980s
- Montross Middle School (6th to 8th), built in the 1950s
- Washington & Lee High School (9th to 12th), built in 1931, with additions in the 1990s

The School District and Westmoreland County are planning on constructing a replacement high school in the Montross Area. The County has a 103 acre site which will be shared between a proposed new high school for the Westmoreland County School District and a recreational park for the general public. Planning for the facilities is expected to continue into 2017.

Some students may also qualify for admission to these programs:

- *Chesapeake Bay Governor's School*: a regional program for high-ability 11th- and 12th-grade students, with an emphasis on marine and environmental sciences
- *Northern Neck Technical Center*: a regional school that prepares high-school students to enter the workforce in fields that include healthcare, skilled trades, culinary arts, and computer systems
- *Dual Enrollment at Rappahannock Community College*: an opportunity to earn both high-school and transferable college credits for coursework taken through RCC
- *Virtual Virginia:* online advanced-placement, world-language, core-academic, and elective courses available to students across the state
- Foreign language program: French and Spanish offered to middle- and high-school students

The Town of Colonial Beach operates an independent school division.

GOALS

- Better schools and teachers by maintaining competitive teacher salaries
- Improved facilities for the community, teachers, and students
- Better communication between the Board of Supervisors and the School District

2.8 Parks & Recreation

Westmoreland County offers abundant, year-round outdoor recreation opportunities like fishing, boating, hunting, birding, and cycling—all just minutes from any residential or commercial area (Map 8.03, Section 8).

According to the 2007 Virginia Outdoors Plan (VOP), per-capita spending on parks and recreation for Westmoreland County (year ended June 30, 2005) was $10.33 (residents and visitors). The VOP recommends developing a canoe and kayak camping area within Westmoreland State Park, plus a water trail incorporating James Monroe's Birthplace. It also suggests evaluating Routes 205 and 3 to see if each might qualify as a Virginia Byway.

2.8.1 Facilities

Westmoreland County Family YMCA, at 18849 Kings Highway, in Montross, has classrooms, a gymnasium, soccer and baseball fields, and a small auditorium with a kitchen and meeting room (available for rental).

2.8.2 Parks

Westmoreland State Park (1,299 acres, established in 1936) is a full-service facility that includes camping, swimming (pool and beach), fishing, picnicking, and trails. Admittance fees apply. *Stratford Hall Plantation* offers walking trails. Visitors must pay a fee to enter the grounds. The plantation covers approximately 1,700 acres.

George Washington Birthplace National Monument has a walking trail and picnic area. There is only a charge to walk on the historic grounds.

TO CONSIDER

Standards for Providing Community Parks

State standards advise that localities should distribute park acreage into a system of neighborhood parks, community parks, and district parks. These parks, developed to complement existing private and public facilities, make for an effective system of meeting local recreation demand.

Neighborhood parks should be provided at a ratio of three acres of parkland per thousand citizens, and not more than 15 minutes or one to two miles walking distance of those it is intended to serve. These parks may include playground equipment, game courts and play fields. Smaller parks may also best meet the needs of a specific population.

Community parks are designed to serve two or more neighborhoods and generally provide facilities requiring more space than can be accommodated in a neighborhood park. Facilities may include lighted game fields and court complexes, a swimming pool, a picnic area, and walking and jogging trails. Community parks should be within a 15-minute drive of the client population.

District parks are larger parks designed with a ratio of four acres per thousand citizens or a minimum of 50 acres. These should be a 15- to 20-minute drive from the target population. These parks should also be accessible to public transportation, pedestrians, and bicyclists.

Regional parks are generally managed by several localities and have a recommended service radius of 25 miles and a minimum size of 100 acres.

Source: 2007 Virginia Outdoors Plan, National Recreation and Parks Association

Voorhees Nature Preserve is open to the public on weekends from May to December, and by appointment. Size: approximately 730 acres.

Hurt Field at Legion Park is a four-acre public park adjacent to Chandlers Mill Pond. It offers both active and passive recreational opportunities for county residents. Its facilities include a lighted

baseball field with bleachers and bullpens, a small playground and picnic area, three sets of horseshoe pits, a public boat landing, and a concession building.

Oak Grove Park is an eight-acre public park featuring a sports field with bleachers, a playground, and picnic area.

Cople Elementary School, Montross Middle School, Washington District Elementary School, Colonial Beach Elementary School, Washington and Lee High School, and the Montross American Legion Building (across from Hurt Field) can also be utilized for recreational activities.

The Town of Colonial Beach offers *Castlewood Park*, *Robin Grove Park*, *Monroe Park*, and the *Water Tower Ball Field*.

2.8.3 Boat Landings - Public

1) Community Pier in Colonial Beach, 2) Branson Cove, 3) Bonums Landing, 4) Currioman Landing, 5) Chandlers Millpond, and 6) Gardy's Millpond (Map 8.03, Section 8). For a list of marinas in the county, see Section 7.6.

2.8.4 Public Access Authority

Westmoreland County is a member of the Northern Neck–Chesapeake Bay Public Access Authority, established to 1) Inventory existing public-access sites, 2) Increase the usefulness of existing sites, 3) Seek local input on potential new sites,
4) Determine ownership of proposed sites, 5) Buy and sell land to fulfill the Authority's mission, 6) Develop new public-access sites, 7) Increase public access for all residents, and 8) Preserve the natural beauty of the Northern Neck.

GOALS

- Continue to actively participate in the Northern Neck–Chesapeake Bay Public Access Authority and consider locations for additional public recreational facilities

2.8.5 Historic Attractions & Tourism

The County has a strong base of assets on which to build a sound tourism industry.

- George Washington's Birthplace
- James Monroe's Birthplace
- Ingleside Vineyards & Winery
- Kinsale Museum
- Northern Neck Bottling Company
- Stratford Hall Plantation
- Westmoreland Berry Farm
- Westmoreland State Park
- Voorhees Nature Preserve
- Yeocomico Church

The recently organized Northern Neck Tourism Commission (NNTC)—whose board members represent local chambers of commerce, retailers, wineries, parks, historic sites, and others who depend on tourism for their livelihood—focuses on passive and active forms of recreation, special events, and local history.

NNTC board members will also be involved in the National Heritage Area feasibility study, assisting the Park Service with whatever it needs to complete the document in 2009-2010. Completion of the study is the next step toward potential designation of the Northern Neck as a National Heritage Area.

The study considers natural, historical, and cultural resources. Once National Heritage Area designation is achieved, a region has three to five years to develop and implement a management plan. Funding begins during this period, and increases annually, as the management plan is fully implemented, reaching a maximum of $10 million over a period of ten years.

GOALS

- Get rid of trash and abandoned buildings: Enforce zoning and ordinance laws and don't allow businesses to be run where not permitted
- A litter-free county through participation in programs such as Assign-a-Highway and cooperation with the Virginia Department of Transportation
- A better organized tourism industry that can provide jobs and income for the county: Participation in the Northern Neck Tourism Commission
- Protect the natural and cultural resources that provide the basis for the local tourism industry.

2.8.6 Planned Recreational and Park Projects

The County plans to add additional public recreational and out-door open space in the Montross area. The County has a 103 acre site which will be shared between a proposed new high school for the Westmoreland County School District and a recreational park for the general public. Planning for the facilities is expected to continue into 2017. Facilities may include picnic areas, ball fields, multi-purpose fields, a tot lot, restrooms and parking.

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3. LAND USE

How land is used and developed has a significant impact on the community. The purpose of this section of the plan is to:

1) Describe the existing conditions in the county and the current patterns of development, and

2) Define the community vision for the general location and character of future development—balancing the diverse goals of the plan. That vision can be implemented using the county zoning code, capital improvement plan, and other tools as discussed in Section 6 and elsewhere in the plan.

3.1 Existing Land Use

Westmoreland County remains a rural locality with numerous waterfront communities. The majority of the land is currently used for forestry or agriculture. Residences and businesses can be found throughout the county, but they are often clustered near the two towns or in one of numerous small communities.

The Development Patterns (Map 8.24, Section 8) shows the location of structures with 911 addresses, and thus provides a good overview of existing development in the county.

3.1.1 Residential Use

Residential land use in the county varies from a very low density, such as a house on a multi-acre tract, to moderately high density, such as apartments and townhouses. As discussed in Section 2.3 Housing, 96.4% of the homes in Westmoreland County are detached residences. This is much higher than the statewide percentage of 62.3% for single family houses.

Another characteristic in the county is that an unusually high percentage of the homes, an estimated 27%, are used only seasonally or recreationally. Not only is this a high percentage compared with the 2000 rate for the State of Virginia (1.9%), but it is also a jump in the county from the 18% recorded in the 2000 U.S. Census.

Recent construction of residential dwellings in the county has typically followed two paths:

1) Independent, isolated homes, usually on waterfront lots and with little or no access to community facilities; and

2) Residential subdivisions or town neighborhoods with some public facilities and services like sewer and water, plus community recreational facilities such as boat ramps, public beaches, or community centers.

There are a number of relatively large subdivisions. Those with 300 or more lots include Cabin Point (674 lots), Colonial Forest (347 lots), Drum Bay Estates (416 lots), Ebb Tide Beach (367 lots), Glebe Harbor (799 lots), Placid Bay Estates (1,466 lots), Potomac Shores (344 lots), Ragged Point Beach (900 lots), Shady Harbor Shores (304 lots), Stratford Harbor (1,713 lots), and Traveler's Rest (319 lots).

These residential subdivisions are mostly located

along the county's creeks, bays, or rivers.

Between the larger subdivisions, farmland and forestland still extends to the water in many places, but much of this waterfront has already been divided into residential-sized lots for family members or as part of smaller land divisions.

Often, a house uses two or more lots for its development. Sometimes this occurs because the lots are not individually capable of supporting conventional onsite sewage-disposal systems and are not served by public sewer.

Many of the undeveloped lots in these subdivisions and elsewhere in the county have onsite septic-system constraints. Maps 8.11 (Septic Limitations) and 8.10 (High Water Table Soils) show general areas that are constrained in this way.

Alternative onsite septic systems and community sewer systems are two ways that this limitation may be removed. As discussed in Section 2.5 (Utilities), some areas near Colonial Beach, Montross, and Coles Point have or will soon have public sewer.

The expansion in the supply of housing has exceeded the demand based on population growth since 2000 because of the growth in seasonal and recreational dwellings. The estimate for population growth from 2000 to 2007 is 582 people, or 3.5%. The estimated growth in the housing supply during that same time is 1,223 dwellings, or 13.2%. The new dwellings could accommodate a population increase of almost 3,000 people.

3.1.2 Commercial Use

Within Westmoreland County, there is a range of commercial land uses and establishments. The categories of businesses with at least 15 establishments or 100 total employees in the county include:

- Construction (chiefly residential construction)
- Retail Trade (chiefly food stores)
- Accommodations and Food Services (chiefly food services)
- Professional Services (chiefly architecture and engineering)
- Real Estate (chiefly "activities related to real estate" such as property managers and appraisers)
- Health Care and Social Assistance (chiefly offices of physicians)
- Administrative and Support Services (chiefly providers of business services such as management, clerical, or cleaning services)
- Art, Entertainment and Recreation (chiefly "other" providers operating marinas, public pools, fitness centers, and similar recreational facilities)
- Other Services (chiefly automotive repair and religious and civic services)

The information is from the U.S. Census, 2007 County Business Patterns. These categories were developed for economic statistical purposes and not for land use planning.

For land use purposes, construction offices are often considered similar to other offices, but construction storage yards are often considered similar in impact to industrial uses and may be regulated in that way.

As another example, some activities that fall in the categories of religious and civic services, such as places of worship, are often considered as institutional land uses rather than commercial land uses. Despite these distinctions, this information gives a general understanding of the scope of commercial uses.

The businesses that are located outside of Colonial Beach or Montross are typically located near the town boundaries or in one of the small commercial areas distributed around the county. These include Coles Point, Hague, Kinsale, Monroe Hall, Carmel Church, and Oak Grove. The most noticeable of these enterprises are the convenience-type stores and services such as grocery stores, gas stations, automotive sales, automotive repair shops, and restaurants.

3.1.3 Industrial Use

Within Westmoreland County, there is a range of industrial land uses and establishments. The categories of businesses with at least 15 establishments or 100 total employees in the county include:

- Wholesale Trade
- Transportation and Warehousing
- Manufacturing

The information is from the U.S. Census, 2007 County Business Patterns. While Agricultural employment and businesses are not included in that report, the above categories do include businesses that process or ship agricultural, fish, shellfish, and forestry products.

An Enterprise Zone has been designated in the county where special incentives are available for businesses starting up or expanding. These are discussed in Section 2.4.3 (Business Incentives), and shown on Map 8.26 (Enterprise Zone). Within the Enterprise Zone are the county's Industrial Park, located south-east of Montross, on Route 3; and the area surrounding Potomac Supply Corporation, off Route 604.

The Colonial Beach Commerce Park is located west of the Town of Colonial Beach, off Route 205, and it is not located within an Enterprise Zone. Similarly, there are other areas in the county with one or more industrial uses that are located away from what would usually be considered growth nodes. Examples of these include sites near Leedstown and Maple Grove.

3.1.4 Agricultural Use

Agricultural land use is the second most common land use, at about 42% of the county. Approximately 46% of the county contains prime agricultural soils, which are distributed throughout the county as shown on Map 8.13 (Prime Agricultural Soils).

Number of Farms in Westmoreland County

1982	1987	1992	1997	2002	2007
224	181	159	181	165	171

Source: United States Statistical Survey, 2007 Census of Agriculture

The number of farms in the county, the total acreage in the farms, and the average farm size have fluctuated during the 25 years from 1982 to 2007.

Farm Acres in Westmoreland County

1982	1987	1992	1997	2002	2007
68,424	70,165	56,289	65,361	67,656	63,979

Source: United States Statistical Survey, 2007 Census of Agriculture

These fluctuations make it difficult to draw firm conclusions about trends in agricultural use. For instance, from 1987 to 1992, the reported acreage in farms declined almost 14,000 acres (some 20%), only to rebound over 10,000 acres (some 18%) by 1997.

For comparison, the difference in farm acreage between 1982 and 2007 is less than 4,500 acres, or a 6% decline over the 25 years.

Average Size of Farm in Westmoreland County

1982	1987	1992	1997	2002	2007
305	388	354	361	410	374

Source: United States Statistical Survey, 2007 Census of Agriculture

The difficulty in showing an overall trend is most likely due to the fact that these statistics do not distinguish between parcels that have been taken out of farming and parcels that have been converted to another use that would prevent a return to farming.

However, while an overall downward trend is not clearly established, future development in the county can pose a threat to agricultural use by displacing it or by conflicting with it.

Farmland is over 40% of the county, and it is often suitable for conversion to other uses. Dust, smells, and nighttime operations are some of the complaints that nearby residences can make about farms. These complaints can discourage the farmer or cause an adjustment to farm practices.

A gradual decline in farming can also mean the loss of support services for the farms or distribution channels for the farm products, making farming more difficult. However, farmers can also adapt to the growth of the county and the region through locally-grown programs, produce stands, wineries, berry and other pick-your-own farms, and in other ways that tap into expanding tourism or a growing local market.

Crops grown in the county are mainly corn and soybeans. They account for an estimated two thirds of the county's total agricultural income each year.

3.1.5 Forestland Use

Forestland use or timberland is the most common land use in the county. Virginia Department of Forestry figures (2004) show that Westmoreland County has approximately 88,732 acres of timberland, which is approximately 59% of the area of the county. Land in timberland and land in farms overlap. In the county, almost 16,000 of the acres reported as farmland is woodland.

Both the harvesting of timber and the manufacture of wood products are important sectors of the local economy. The average annual harvest value between 1986 and 2001 was $5,203,966, with a significant decrease in 2007.

Annual Total Timber Harvest Value	
2007	$708,957
2001	$1,209,204
1999	$14,366,943
1989	$3,056,636

Source: Virginia Department of Forestry

However, since crop cycles for fiber typically run 20 to 50 years, there is considerable flexibility with regard to the timing of the harvest. Local harvest values are greatly affected by both the demand for and the price of wood products. These variables are usually not determined locally.

Today, there are very few mature, diverse hardwood forests remaining in Westmoreland County. Older, natural stands of pine are quickly disappearing as well. Intensive harvesting is occurring across the region, and no state statute or local ordinance promotes the retention of some measure of these trees. The existence of such forests, as part of the land base, is extremely important to the future of the community for numerous reasons, including, but not limited to, the following:

- improved air quality
- surface and ground water protection
- uptake of nutrients and fertilizer
- percolation of toxins
- sediment capture
- temperature moderation
- carbon sequestration
- wildlife habitat provision
- vast recreational and spiritual uses (hunting, fishing, hiking, camping, and viewing nature)
- tourism maintenance and enhancement
- rich contribution to topsoil creation
- minimized soil erosion

Once trees are cut-down, loblolly pines are routinely replanted, but hardwoods are not. Also, no one can suppose that "well-managed," new hardwoods would be left alone for 150-200 years to regenerate the very large, mature trees that are being lost. Conservation easements generally do not protect existing trees. If a clear-cutting occurs, yet there is no change of use, then the easement is not violated.

Likewise, land use values, as presently assigned by the Commission of Revenue, are static for forestry whether or not the trees are felled. From a public standpoint, stands of larger, existing trees provide great value to the community at large (and nearly all living things). The county should explore policies and encourage practices that foster real conservation (preservation) of some of these forests.

Such initiatives might include better property tax discounts, utilization of grants, green-space economic incentives, and even compensation commensurate with true conservation values. The county should assemble data, address options, and propose solutions now, since little time remains and even less forest inventory of the kind described exists.

Westmoreland residents can respect their natural-resource heritage and effect what they wish their community to look like, and be like, in the future. It is important to demonstrate a commitment to environmental stewardship and seek to set aside some older growth forests. Any related efforts will surely provide certain achievement of some of the goals and objectives set forth in this plan. See Sections 3.2.1 (Rural Lands), 3.2.3.1 (paragraph 7, Residential Land Demand Projections), 3.2.4.4 (Critical Environmental Areas), 4.1.3 (Chesapeake Bay), 4.1.6 (Green Infrastructure), 4.3.2 (Chesapeake Bay Preservation Act), 4.3.4 (Resource

Protection Areas), and 4.3.5 (Resource Management Areas).

Finally, more proactive forest protection will help conserve indigenous species of trees that are no longer common, or are now scarce: water oak, overcup oak, blackjack oak, swamp chestnut oak, rosemary (shortleaf) pine, bald cypress, green ash, and others.

The county's 1999 Comprehensive Plan notes that in the late 1980's there were some 75,000 acres of forestland—less than what was estimated to exist in 2004. While this might be due to changes in how such land is measured, one can also note that the amount of farmland shows a peak in the late 1980's. So some of this difference could certainly be due to the relatively easy transition from farm to forest and back.

3.1.6 Institutional Uses

Institutional uses are those which are non-profit, public, or quasi-public in character. Westmoreland County has a variety of these uses. They include schools, libraries, fire- and emergency-services stations, parks, religious institutions, medical centers, government offices, Virginia Department of Transportation facilities, sewage treatment plants, the A.T. Johnson Human Services Building, and other government-owned facilities or land used for public purposes. Section 2 (County and Economy) discusses many of these facilities, but among those institutional uses not discussed there are the many places of worship in the county and Hull Springs Farm, an educational and research facility.

Institutional uses can be found throughout the county. Many of the facilities are located in or near the towns of Montross or Colonial Beach. Some of these facilities are dispersed because that's the nature of their role (fire stations and utilities). Others are dispersed to better serve the public (libraries and parks).

3.1.7 Towns

The Towns of Colonial Beach and Montross maintain separate planning and zoning authority from the county. The development patterns within the towns are relatively compact, in comparison to the rural area, and contain a variety of uses: commercial, industrial, institutional, and residential. There is considerable undeveloped land within the towns.

The *Town of Colonial Beach* was incorporated on February 25, 1892. Development has occurred along the edges of the town and on lands annexed by it in 1994. The construction of single-family dwellings has occurred on adjacent county lands. Water and sewer services are available to town residents and extend outside of the town limits.

The *Town of Montross* was incorporated on April 7, 1950. Montross has a variety of businesses serving its residents and those of the surrounding area. The town is now going through a downtown revitalization process with the assistance of the Northern Neck PDC and the Virginia Department of Housing and Community Development.

Part of the revitalization effort includes the addition of several parcels within the town (249 acres in all) to the county's Enterprise Zone.

Development on the west side of the town's boundary consists primarily of scattered single-family dwellings. On the east side, it includes a variety of businesses, residences, and industries. Water and sewer services are available in the town and extend along the State Route 3 corridor to the south-east, as far as the Montross Middle School. The county's Industrial Park and the A.T.

Johnson Human Services Building are located along this corridor, outside of the town boundary.

3.2 Future Land Use

3.2.1 The County's Vision for Future Land Use

If Westmoreland County is to "keep the farms as farms and the towns as towns," as public input has indicated, difficult decisions will be required to manage development. The goal is to grow, but to keep the existing character of the county and balance the other goals of the plan.

The approach taken by the county to achieve this goal is to identify areas with existing development where additional growth would be appropriate, and to designate them for such growth. The balance of the county is designated as rural, with the intent that the limited development in that area will not change its character.

The "towns" are growth areas. Most new development and redevelopment should occur in the growth areas—even more intensively than is currently the case—but still keeping a town-like approach.

The "farms" are rural areas. The limited new development and redevelopment in these should be inherently rural or designed so that it does not change the character of the immediate area or impact the viability of the rural economy.

Between the rural area and the growth areas are transitional residential areas that smooth the abrupt edge between town and farm and provide additional variety and choice to residents. Map 8.27 (Future Land Use) shows the general location of the Primary Growth Areas, Secondary Growth Areas, Rural Areas and Residential Transition Areas. These future land use areas are discussed in more detail below.

Given this approach and the relatively slow rate of growth in the county, implementation may include a long transitional period—keeping in place the zoning districts that shaped the existing development, until a major change is proposed for a parcel or area.

When a subdivision is proposed or a project is proposed that is not allowed on the site as currently zoned, then the site will need to be rezoned to an updated zoning district that has been designed to implement this plan. Also, property owners or the county may rezone land to an updated zoning district based on an anticipation of a future need.

3.2.1.1 Rural Lands

Rural lands are intended to retain their existing character as much as possible. That is, they will remain primarily for agricultural or forestland use, but also with some areas of residential, commercial, institutional, and industrial uses.

Public utilities such as water and sewer would not be planned for these areas, except to address the health and environmental concerns related to existing development and areas already committed

to more intensive development.

There are several residential subdivisions of considerable size located in the rural lands. It is expected that these will gradually finish developing according to the platted patterns to which they are already committed.

Scattered and isolated commercial uses are expected within the rural lands. Most businesses will be related to the natural resources of the area, or are small secondary businesses to help support the farmers and other rural residents.

The rural lands will also have scattered industrial uses. While most of these uses will be isolated (i.e. not near other such businesses), there are areas designated as Enterprise Zones—as discussed in Section 2.4.3 (Business Incentives), and shown on Map 8.26 (Enterprise Zones)—which can be expected to have several industrial businesses clustered together. Future industrial uses in the rural lands may also include those which are not resource related, but may be difficult to site in the towns or the other designated growth areas.

The presence of the shale geologic formation known as the Taylorsville Basin beneath the aquifer in the western part of the County, may create a desire to drill for oil and gas resources in that area (see Map 8.30). Such activities offer potential economic benefits, but also present potential risks to the public. These land uses are addressed in Section 3.2.4.2 on commercial and industrial land uses.

Residential land uses in the rural area should take a number of forms. On one end of the spectrum are farmhouses and isolated houses or small clusters of houses (needed by the rural labor force and by those who want to live in an area with rural character). In order to maintain the viability of farms and the character of the rural area, overall residential density should be kept low—one house per ten acres or less—and lots should provide some variability in size.

At the other end of the spectrum are new clusters of residential lots with significantly smaller lots and higher overall densities. These should be designed using specific guidelines that preserve rural character, preserve farm viability, minimize the length of roads and utilities, and promote other goals of the plan.

The subdivision of rural land would require that it be rezoned under the updated rural zoning districts. Areas where agricultural uses are important can be rezoned to a district that emphasizes that use. Areas where agriculture is not as important—perhaps because parcels there do not contain significant prime agricultural soils, or have not been farmland in the past, or are not adjacent to farmland—may be rezoned into a district that emphasizes rural character, rather than agricultural viability.

Rural residential uses should generally be restricted to sites where soils are suitable for individual, onsite septic systems. As discussed earlier, public water and public sewer will not generally be provided to rural residences.

GOAL

- Limit the non-agricultural uses of agricultural land in order to preserve the rural nature of the county

3.2.1.2 Primary Growth Areas

Located in or immediately adjacent to the Towns of Colonial Beach and Montross, these areas are the main locations for new housing developments, commerce, and industry (Map 8.27, Future Land

Use).

A Primary Growth Area (PGA) receives the highest priority for the provision of public infrastructure and new or expanded community facilities and services.

The timing and intensity of development in these areas are conditioned on sufficient buffering and screening of adjacent low-density residential development and rural lands.

Examples of appropriate development in Primary Growth Areas include: moderate-density, single-family and multi-family housing; small- to large-scale retail sales and services; offices and office parks; and light manufacturing, warehousing and distribution uses. Moderate density housing might include from 4 to 12 dwelling units per acre.

Public and community facilities such as government offices, schools, commuter lots, parks, and recreational facilities should also be located in PGAs. Redevelopment of existing residential and commercial development is especially encouraged in all PGAs.

GOAL

- Maintain a community-living atmosphere

Traditional land use regulations have typically separated residential, commercial, and industrial uses, and may further separate different densities of residential use and intensities of commercial and industrial uses.

Within the primary growth areas, the separation of land uses will be appropriate in many cases, but some mixed-use development is also desirable, particularly in situations where small-scale commercial uses can be compatible with residential uses, providing several benefits to the community. Institutional uses are also allowed as appropriate or necessary within residential, commercial, or industrial zones.

New development in a PGA would normally be expected to connect with public water and sewer.

3.2.1.3 Secondary Growth Areas

The Secondary Growth Areas (SGAs) are mostly small commercial or mixed-use areas located at intersections of primary highways or heavily traveled secondary roads. While some of the SGAs are small and have limited space in which to provide basic retail goods and services to the local area, others are significantly larger.

These larger SGAs have space to accommodate other appropriate development, including: low- to moderate-density, single-family housing; low-density, multi-family housing; small-scale retail sales and services; offices and small office parks; light manufacturing; and warehousing and distribution uses. Public and community facilities such as satellite government offices, commuter lots, schools, parks, and recreational facilities may also be located in the secondary growth areas.

While a variety of uses are envisioned for the growth areas, the intensity of development in them will generally be limited because most are not expected to have pubic sewer in the near future, and their soils have moderate to severe limitations for onsite septic systems. The chief exception to this is the Coles Point growth area, which is already serviced by public sewer.

In the secondary growth areas, the county should not encourage significant growth before sewer is available. The county should also require connections to the sewer system when it becomes

available, if such projects are approved.

The smaller growth areas include Hague, Carmel Church, Nomini Grove, and Monroe Hall. The Kinsale growth area is somewhat larger. Oak Grove is also large, but Coles Point is by far the largest of the secondary growth areas.

The general location and size of these growth areas are shown on Map 8.27 (Future Land Use).

The secondary growth areas should have a high priority for the provision of public infrastructure and new or expanded community facilities and services, second only to the primary growth areas. However, it is not expected that public sewers will be provided to any of these secondary growth areas, excepting Coles Point, until sometime after 2030.

The following specific policies and recommendations are associated with the Secondary Growth Areas:

Monroe Hall: Any development in this area should reinforce community identity and a visual separation between the Colonial Beach PGA and Oak Grove SGA. This can be accomplished through design techniques such as lower densities at the edges of the Monroe Hall SGA, plus increased buffers or landscaping within the Monroe Hall SGA, and attention to the size of structures located next to or in the vicinity of roadways leading to and from the Monroe Hall SGA.

Oak Grove: Located at the intersection of Routes 3and 205, extending eastward to the Route 3 and Route 664 intersection, Oak Grove supports a variety of retail and service establishments. The soils in this area typically have severe limitations for septic-system use. Commercial and office development should be limited to those businesses necessary to serve residents of the surrounding area. Any development in this area should reinforce community identity and a visual separation between the Colonial Beach PGA and the Oak Grove SGA.

Hague: Commercial and office development should be limited to those businesses necessary to serve residents of the surrounding area.

Nomini Grove: Located at the intersection of Routes 3 and Nomini Grove Road, this SGA has parcels that were added to the county's Enterprise Zone in 2002.

Coles Point: Emphasis should be placed on preserving tree cover, protecting environmental quality, and maintaining or creating public-access points to the Potomac River. Suggested uses include recreational and water-related establishments. Tourist-related uses may be appropriate when their scale, intensity, and other impacts can be appropriately accommodated. Uses that require a waterfront location or orientation are encouraged.

Carmel Church: Parcels in this SGA were added to the county's Enterprise Zone in 2002. Located at the intersection of Routes 202 and 604, Carmel Church is home to several businesses. Commercial and office development should be limited to those businesses necessary to serve area residents.

Kinsale: The more commercial section of Kinsale is at the intersection of Routes 202 and 203, where there is currently industrial development. Parcels in this area were also added to the county's Enterprise Zone in 2002. Commercial and office development here should be limited to those businesses necessary to serve residents of the surrounding area. For the more residential part of Kinsale, emphasis should be placed on preserving the existing town characteristics of a grid-street pattern. Establishing or preserving tree cover, protecting environmental quality, and providing public-access points to the

Yeocomico River are also important. Suggested uses for this section of Kinsale include low- and moderate-density residential development, office and low-intensity commercial development, recreational uses and water-related establishments such as marinas. Uses that require a waterfront location or orientation are encouraged.

Finally, redevelopment of existing residential and commercial development is especially encouraged in all the SGAs.

3.2.1.4 Transitional Residential

Adjacent to each of the growth areas should be residential areas that provide a transition from the rural areas to the growth areas. This designation is intended to reinforce the visual separation between Growth Areas and surrounding Rural Lands. It includes moderate-density residential developments of around four dwelling units per acre.

Focusing residential growth in and beside these growth points will result in vibrant community areas that provide positive economic returns to businesses and residents. Non-residential uses are not recommended under this designation, and the residential uses that do occur should be served by sanitary sewer.

3.2.2 Population Projections

The 2010 population for Westmoreland County is estimated at about 17,600, and the official State of Virginia estimate of the 2030 county population is 19,261. This means a 20-year population increase of 1,661 people, or 9.4% for the county as a whole.

The state does not provide estimates for towns, but if the Towns of Montross and Colonial Beach maintain their share of the county population, then population growth for the un-incorporated county would be 1,308 people. These estimates are shown in the table below.

Population Estimates	2000	2010	2030
Un-incorporated County	13,175	13,871	15,179
Town of Montross	315	331	363
Town of Colonial Beach	3,228	3,398	3,719
Total County	16,718	17,600	19,261

Source: 2000 US Census; State Data Center Population Estimate

3.2.3 Land Demand Projections

Land demand will differ based on residential, commercial, and industrial needs.

3.2.3.1 Residential Land Demand Projections

Given a population increase of 1,661 people—and assuming that the persons per household remained at 2.43—the demand for housing for these individuals would be 684 units. For the un-incorporated county, the housing need would be about 538 units.

There is also a demand for land for residential purposes based on the demand for seasonal and recreational residences. If the ratio between second homes and occupied houses in these new dwellings remains at the 2007 level of 27%, then an additional 253 houses might be built, for a total of 936.

On the other hand, if the countywide ratio of seasonal and recreational homes were to drift back to the 2000 level of 18%, then it would be possible

for the existing housing stock to absorb the entire projected population increase.

It seems reasonable to assume that the relatively rapid growth in the housing supply—and particularly in the supply of homes used seasonally and recreationally—was due in part to the national housing price bubble. Particularly in the 2004 to 2007 period, when new housing construction in the unincorporated county averaged 270 units per year, which was more than twice the 130 per year average for the 19 years from 1990 to 2008.
It is more difficult to predict if this increase in seasonal housing will be sustained or if the county will move back toward the 18% seasonal and recreational housing rate observed in 2000. While the housing price bubble is unlikely to re-occur in the near future, current ownership patterns and national trends such as the retirement of the baby boom generation may sustain higher levels of seasonal and recreational housing.

The implication for this is that accommodating the increase in population expected in the county will require somewhere between 0 and 936 new dwellings, depending primarily on the demand for seasonal and recreational homes. It seems reasonable to expect that the number will be somewhere in the middle. This is because it seems that some people will choose to build here regardless of trends, and also that people will tend to hold onto their second home, now that they have it, even if price appreciation is not soon expected.

Estimating the demand for land that will be used to provide for the new housing can be done in a number of ways. As one purpose of this plan is to shape future development, a few different estimates will be done to explore the relative effect of different scenarios for implementation of the plan.

For comparison purposes, an estimate of the local land demand can be done using general information about land demand in the region. A study of patterns of land use in the Chesapeake Bay Basin by the State of Maryland established an average relationship between population growth and development or conversion of land at 0.65 acres per person. This ratio includes not just residential land use, but also commercial, industrial, transportation, utilities and other related land demand.

For the projected 1,308 new persons in the un-incorporated county by 2030, this would mean a demand for 850 acres. Given the size of the un-incorporated county of approximately 146,000 acres, this would mean the development of about 0.6% of the land over the 20 year period.

An estimate of the possible land demand for the next twenty years can be made by using the projected number of houses and examining how much land would be needed to accommodate them. As discussed earlier, there is a fair amount of uncertainty about how many additional dwellings will be needed. For estimating land demand for residential use, this uncertainty is compounded by variability in the density of the housing from 10 acres per dwelling to 10 dwellings per acre. The following discussion will look at different ways in which land may be regulated, and then estimate what the effect would be. At the end of the discussion there will be a scenario that is a possible mix of the different types of development, and the estimate of land demand that would be implied by that mix.

One approach for land development can be based on a minimum lot size of 10 acres that might be intended to preserve agricultural land, forestland and rural character. While it is certainly possible for farms as small as 10 acres to be viable when intensively using the land for certain high-value-per-acre products, the average farm size in

Westmoreland County has remained at over 300 acres.

On a ten-acre lot, forestry or agriculture can be done, but it would generally only amount to supplemental income for a household that would have to be primarily supported by other means. Also speaking generally, the larger the tract, the more likely that it can be the site for an economically viable enterprise, and the more likely that it support such operations without impact to or restrictions resulting from nearby properties.

The minimum lot size for agricultural land that can effectively preserve agriculture is much debated around the nation and may vary by region. The question for the county is whether 10-acre lots support the type of farming and forestry industry it is trying to preserve. If not, then there are alternatives to a large minimum-lot size that can be used to protect the resources and character of the area, while still providing for some development.

If it is assumed that, in general, 10-acre lots will not preserve farm or forest land, and if 650 houses are developed on 10-acre lots, then 6,500 acres (plus acreage for non-residential purposes) of farm or forest land will be converted to residential use.

Sometimes the primary issue is one of preserving rural character, rather than working farms and forests. This might be true in areas which do not have significant prime farmland soils or that are not in an area of farms. In this case, a large-lot zoning of 5 acres per dwelling is often proposed as a level of development that is still rural.

This density is also one that is often considered to be the maximum density at which impacts to stormwater runoff, streams, and groundwater quality are not usually significant. Thus for the 650 dwellings that might be build, if they were all developed at 5 acres each, the total land converted would be 3,250 acres (plus acreage for non-residential purposes).

An alternative to requiring large lots to preserve farm or forest land, and rural character, is to allow for a very limited number of small lots to be created from large-acreage tracts (say, four one-acre lots from a 100-acre tract), or to allow a larger number of small lots to be created from acreage in clusters that have to be designed to meet the purposes of preserving the farms, forests, or rural character.

For example, if small clustered lots of about half an acre each were used at an overall density of 1 dwelling per 5 acres, with the balance of the land preserved, then 390 acres would be converted for 650 dwellings, but 2,860 acres of farm and forestland would be preserved.

For 650 DU (Dwelling Units), at	Acres of farm or forest converted	Acres of farm or forest preserved
10 Acres/DU	6,500	0
5 Acres/DU	3,250	0
0.6 Acre lot in a Cluster at 5 Acres/DU	390	2,860
4 DU/Acre in a Growth Area	163	0
12 DU/Acre in Growth Area	54	0

Outside of the rural areas, residential development in the growth areas and transitional residential areas envisioned by the plan are denser and require less land per dwelling. These higher densities do not necessarily preserve farm and forest land in the long term, but they avoid converting as much land, which in the near term has much the same effect. Examples of these higher densities are also shown in the above table.

What the above table presents is that development would convert farm or forest land. However, this would not always be the case. There are also already platted lands that can be developed, converting neither farm nor forest, and there is partially developed land that can be developed more intensely, or changed from another use to residential. Although not impacting farm and forest land through conversion, this type of development approach would still have other impacts, such as those to stormwater runoff, pollution, and traffic.

It should also be noted that farm and forest land can be lost to anticipated residential demand and not just to the construction of dwellings. Most of the existing plats developed twenty or more years ago still have many vacant lots available for construction. So just as some of the current construction will be done on these existing lots, new subdivisions may be requested with capacity to provide for future development beyond what is needed in the next twenty years. Land may thus be converted long before it is built upon. For this and other reasons, this plan and the regulations implementing it will help shape the community's development long past the twenty-year planning horizon.

Most likely the construction in the next twenty years will not be all of one type of dwelling. If the plan is successful in encouraging growth in the growth areas and transitional residential areas, then the example of 650 dwelling units above might be distributed as 10% multi-family (at a density of 12 units per acre), 60% growth area single-family (at a density of 4 units per acre), 20% rural-cluster (at a density of 5 acres per dwelling), and 10% development on existing rural lots, as illustrated here:

	Percent	Dwelling Units	Acres Used
Multi-family dwellings	10%	65	5
SF at 4 DU/AC	60%	390	98
SF on clustered at 0.6 AC/DU	20%	130	78
SF on existing lots at 0.8 AC/DU	10%	65	39
Total	**100%**	**650**	**220**

In the table, Acres Used does not mean farm or forest land converted, and there is an assumption made that the average size of the existing lots would be a little under an acre.

Compare this to a different scenario (below), where most of the residential development continues to be in the rural area and on existing lots, but where some cluster lots are used and some of the growth area is developed.

	Percent	Dwelling Units	Acres Used
Multifamily dwellings	0%	0	0
SF at 4 DU/AC	10%	65	16
SF on clustered at 0.6 AC/DU	20%	130	78
SF on existing lots at 0.8 AC/DU	70%	455	364
Total	**100%**	**650**	**458**

These two scenarios are very different, and yet in neither case is much of the area of the county changed. If one assumes that most of the land in the existing lots had already been converted from farm or forest land, then the consumption of farm and forest land in either scenario would be generally similar.

What is different is that the number of existing

vacant lots in the rural area is much reduced in the second case. This in turn might create demand for more rural lots, with attendant requests for new subdivisions outside the growth areas and transitional residential areas.

3.2.3.2 Commercial Land Demand Projections

While there are no good statistics on land being used for commercial purposes in the county, there are areas designated and primarily used for such purposes. Those areas—most of which were so zoned because of the existence of commercial entities on them—add up to 4,641 acres, or 3.2% of the unincorporated county.

The most direct way to estimate future land demand is to assume that it will be proportional to the population growth. For the period from 2010 to 2030, the population is estimated to grow by 9.4%. The demand for new commercial land can thus be estimated to be less than 450 acres.

Commercial land uses are expected to locate in the rural areas or growth areas depending on their nature and scale.

3.2.3.1 Industrial Land Demand Projections

While statistics on the industrial uses of county land are not reliable, there are areas designated and primarily used for industrial purposes. Those areas add up to 499 acres, or 0.3% of the county. The demand for new industrial land can be estimated to be less than 50 acres. Clearly, a single major or moderately sized enterprise could exceed this projection.

Industrial land uses are expected to locate in the rural areas or growth areas depending on their nature and scale.

GOALS

- For waterfront properties: No boathouses in creeks or waterways where their height and bulk may have adverse visual effects
- Community-living atmosphere
- Consideration of the overall impact of every new development
- Neighborhoods that foster a sense of place and community and avoid the image of continuous suburban sprawl
- Balanced growth between residential and non-residential areas
- Beautification of existing developments by the installation of buffering
- Effective and productive regulations concerning signs and advertisements
- Better communication with citizens regarding land-use issues

3.2.4 Additional Guidance for Land Uses

The rural areas and the growth areas allow a variety of land uses. In consideration of proposals for the various land uses, the following points offer specific guidance as part of the county's vision for the future.

3.2.4.1 Additional Guidance for Residential Land Uses

For residential land uses, the timing and density of the development of particular sites within a residential area will depend upon their land-use relationship to adjacent properties, and upon the capacity of public utilities and roads in the area. Development may also be conditioned on the utilization of cluster residential patterns (to conserve open space) and the inclusion of some lower-cost

units (to promote the affordable housing goals of this plan).

3.2.4.2 Additional Guidance for Commercial and Industrial Land Uses

For commercial and industrial land uses, some uses under these categories may be objectionable to surrounding property owners. They include warehousing, service industries, light manufacturing plants, office uses, and public facilities.

Industrial uses generally require access to arterial roads, public water and sewer, and nearby police and fire services. Secondary uses in industrial areas may include office uses and a limited amount of commercial development, generally intended to support the needs of employees and other persons associated with an industrial development.

Heavier industrial uses such as steel mills and automobile assembly plants are not envisioned or desirable for Westmoreland County. Redevelopment of existing commercial and industrial uses is especially encouraged.

Like other heavy industries that have potential general economic benefit, some natural resource extraction activities may not be desirable for the County, due to the potential risk to groundwater supplies, and potential impacts on neighboring agricultural and residential land uses. Further, if resource extraction activities were to reach a significant size, the influx of truck traffic and workers could cause major impacts on County services and infrastructure far beyond what is now planned or expected. Any proposal for natural resource extraction needs to include rigorous protections for ground and surface water, public health and safety, fiscal impact, adjacent land uses, public services and facilities, and provisions for land, road, and groundwater reclamation.

GOALS

- To keep commercial and industrial uses away from residential or sensitive areas, except in the case of commercial services to the residential community (i.e. mixed use)
- Consideration of the overall impact of every new development
- Balanced growth between residential and non-residential areas
- Beautification of existing developments by the installation of buffering
- Effective and productive regulations concerning signs and advertisements
- Protect the rural character, agricultural and rural residential land uses, and critical environmental resources such as groundwater supplies, from the potentially adverse impacts of natural resource extraction activities

3.2.4.3 Historic Sites - Additional Guidance for All Land Uses

These areas should be given specific consideration during the development of parcels adjacent to them. Qualifying sites include those with historical or archaeological significance, or those listed on the

National Register of Historic Places, the Virginia Landmarks Register, or other recognized sources of archeological or historical sites (Map 8.04, Historic Resources; plus Section 7.5, Historical & Archaeological Sites in Westmoreland County). Suggested activities for historic sites are preservation, renovation for original uses, adaptive re-use, or other uses which maintain the integrity of the site and surrounding area.

GOALS

- Protection of archeological and historical properties in the county
- Effective and productive regulations concerning signs and advertisements

3.2.4.4 Critical Environmental Areas - Additional Guidance for All Land Uses

Any of the future land use areas discussed above may have critical environmental characteristics within them. Critical environmental areas include a variety of lands that have valuable functions in the environment. They may be sensitive to development, and/or pose special concern for their safety or usability with some types of development.

For example, resource protection areas (RPAs) and their buffers—defined under the Chesapeake Bay Preservation Act—are important to the water quality of the Chesapeake Bay. Critical plant and wildlife habitats can be replaced or disrupted by development. Changes within a floodplain can cause flooding problems elsewhere. Steep slopes pose design issues for development that must be addressed to avoid soil erosion or landslides.

Generally, development in these areas should be avoided or considered only for low-impact uses such as hunting and fishing clubs, fish and game preserves, parks, passive recreational facilities, and other open-space uses that complement the natural environment. If more intensive development is proposed, careful consideration of possible impacts should be considered. There is further discussion of these areas in Section 4 (Natural Resources), and Section 6 (Tools and Implementation).

GOALS

- Maintaining the natural, wooded character of the county
- Consideration of the overall impact of every new development
- Limits to the non-agricultural uses of agricultural land, in order to preserve the rural nature of the county

3.2.4.5 Conserved Areas - Additional Guidance for All Land Uses

There are several land areas in the county that have been conserved for environmental or historical purposes. Some of these properties are publicly owned, some are owned by a non-profit organization dedicated to the preservation of the sites, and some are protected through conservation easements. The larger conservation areas in the county are listed in the table below.

Name	Size in Acres
Westmoreland State Park	1,388
Stratford Hall	1,461
George Washington Birthplace N.P.	1,013
Gardys Millpond Lake	0
Chandlers Millpond Lake	0
Voorhees Preserve	729
Virginia Outdoors Foundation	412

Source: 2009 Regional Water Supply Plan, 2007 Virginia Outdoors Plan

When considering rezoning or other proposals on properties near or adjoining conservation areas, impacts to these areas should be evaluated carefully,

and negative impacts avoided where possible.

When projects include design features such as preserved open space, agricultural or forest land, or similar features, these can often be design to protect or enhance the function and value of the conservation land. For instance, when there is an open-space area to be preserved by a project for rural character, environmental, aesthetic, or recreational purposes, that open-space area could be placed adjacent to a conservation area. Such a design choice can often enhance the value of each area.

3.2.4.6 Water-Access Points - Additional Guidance for All Land Uses

Land use where land meets water has its greatest impact through the type of infrastructure built to access the water. Marinas, docks, and piers—whether public or private—should be sited following established boat-mooring standards, such as those of the Virginia Marine Resources Commission (See Section 7.7).

GOALS

- An estuarine ecosystem whose sensitive areas are protected
- Facilities that encourage the public to protect the waterways

Waterfront access facilities can be grouped into four categories:

- **Marinas** provide boat slips and, in most cases, sell fuel, food, and other products used by boaters. In addition, most marinas also have boat launching ramps and, usually, associated user fees.
- **Boat Launching Ramps** include both state as well as private ramps. Some of them include a small fishing bank and/or pier.
- **Public Beaches** include three in Colonial Beach, which are free, and one in Westmoreland State Park. In Colonial Beach alone, there is approximately two miles of sandy beach available, which makes up about ten percent of the total public beach area in the state. There is a fee to enter Westmoreland State park, but once there, the beach, fishing pier, and bank for fishing are included in the fee.
- **Fishing Piers** include those built not as an extension of a boat ramp.

For additional details on existing waterfront access facilities in Westmoreland County, see Section 7.6 and Map 8.01a.

3.2.4.7 Military Compatibility - Additional Guidance for All Land Uses [NEW Section]

Near Westmoreland County are two military bases, Naval Air Station Patuxent River and Naval Support Facility Dahlgren. In 2015, joint land use studies (JLUS) were completed in a cooperative planning effort by the bases and the surrounding jurisdictions, including Westmoreland County. The purpose of these studies was to identify issues where there were existing or potential conflicts between the operations of the bases and the development in the communities and to develop strategies to address those issues.

The issues related to land use that were identified include the following:

- Energy Development of both solar and wind based systems that impact military operations
- Interagency Coordination to effectively prevent or address conflicts
- Light and Glare that impacts aircraft

training areas
- Noise from aircraft and munitions testing which can impact the community
- Vertical Obstructions in aircraft training areas
- Housing Availability for naval personnel

One strategy to address these issues is the establishment of a military compatibility zoning district overlay that would have standards to address a number of issues.

Another strategy is to formalize the coordination between the bases and the communities thru ongoing cooperation, memorandums of understanding, establishing notice procedures for some types of proposed land development, or other changes affect the compatibility of the bases and communities.

For additional discussion on implementation of these goals, see Section 6.2.10.

GOALS

- To incorporate strategies to address military compatibility issues throughout the comprehensive plan
- To review and modify as needed the county land use regulations to implement compatibility strategies as identified in the comprehensive plan

3.2.4.8 Dam Break Inundation Zones - Additional Guidance for All Land Uses [NEW Section]

There are a number of dams in Westmoreland County. Dams are regulated under Commonwealth of Virginia law. Proposed or altered dams need a permit from to the Department of Conservation and Recreation (DCR) and the owners are also required to provide notice of the proposal to the public and any property owners and jurisdictions within the proposed inundation area of the proposal. When complete, dam break inundation maps are to be transmitted to the county as well as to DCR. Current law provides for the information to be used by the county as follows:

- a comprehensive plan may include a map of dam break inundation zones;
- the county's subdivision ordinance must include procedures to address this risk; and
- maps may be used during rezones, conditional use permits, and special exceptions to require modification of an application.

At this time, there is only one dam break inundation zone in the county. That zone is for the Lake Independence dam. This map, and others as they are developed should be kept on file in the Land Use Office.

The Subdivision and Zoning Ordinances should have appropriate provisions for the use of this information to protect the public and property from the risks associated with dam break inundation zones.

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Westmoreland County's

Comprehensive Plan

Vision2030

4. NATURAL RESOURCES PROTECTION

4.1 Resources

4.1.1 Soils

Westmoreland County's soil data were compiled in 1980 by the U.S. Department of Agriculture's Soil Conservation Survey (SCS). The data indicate that 46% of the county meets the requirement for prime agricultural soils. Prime agricultural soils are scattered throughout, but are mainly in the southern and southeastern parts, and at higher elevations (50 feet or higher) above sea level (Map 8.13, Section 8).

It should be emphasized that the map delineates general boundaries only. Site-specific soil analyses should be performed to ensure the appropriateness of certain land uses.

Hydric Soils are regularly saturated soils that show a characteristic discoloration due to leaching of certain minerals by water. Because of periodic saturation, these soils are classified as hydric—and are currently accepted as reliable indicators of wetlands. Hydric soils support plants adapted to saturated soils and to occasional inundation (Map 8.08, Section 8).

Shrink-Swell Soils are those that can greatly change in volume when their moisture levels fluctuate throughout the year. The shrink-swell potential of the soil is a measurement of how much volume change can be expected in a soil with an increase or decrease in moisture levels (Map 8.09, Section 8).

Highly Permeable Soils are those suitable for septic drainage fields. But if a soil is too permeable, septic effluent percolates through it too quickly for natural biological processes to break down harmful bacteria, potentially contaminating the water table and threatening public health. This is often the case with sandy and large-grained soils (Map 8.12, Section 8).

Approximately 39% of the county has soils that have slight or moderate limitations for septic systems, and about 61% have severe limitations for septic systems. These limitations include flooding, wetness, pond formation, slow percolation, poor slope, and poor filtering capabilities. The larger areas of severe limitations are in the northwest (north of Mattox Creek) and northeast (east of Nomini Creek, along the Potomac River).

GOAL

- Consider the overall impact of every new development

4.1.2 Hydrology

The hydrologic cycle refers to the movement of water though different stages—such as precipitation, infiltration, evaporation, and transpiration (Diagram, Section 7.9).

The Northern Neck peninsula is framed by the Potomac River to the north and the Rappahannock River to the south. Around the peninsula, these rivers are classified as estuarine environments, having high salinity and being subject to tidal flushing. Such waters are not currently used to

supply the population with potable water because of the cost of making them potable.

Water resources fall into two categories:

- Surface water
- Groundwater

Surface Water

Watershed: A watershed is the land area on which water flows before it enters a stream, river, or ocean. Westmoreland County has six watersheds, four of which cross boundaries into King George, Richmond, and Northumberland Counties (Maps 8.14 and 8.15, Section 8).

The Potomac and Rappahannock Rivers are fed by distinct watersheds. The Chesapeake Bay has a watershed of approximately 64,000 square miles, and includes lands in New York, Delaware, Pennsylvania, Maryland, West Virginia, and Virginia—where the watershed stretches through the Shenandoah Valley to the West Virginia State line. The Bay is fed by its many tributaries, such as the Potomac and Rappahannock Rivers. Each of these rivers is fed by its own watershed.

The majority of the county (74%) is drained by the Potomac River, with the balance (26%) drained by the Rappahannock River.

Ponds, streams, and floodplains: The largest water resource of the region is Chandlers Mill Pond, an impoundment just to the west of the Town of Montross. Smaller impoundments include Flemmer Pond, Weavers Millpond, Travis Pond, Potomac Mills Pond, Latanes Pond, Horners Pond, and others of smaller size. Numerous, unnamed freshwater streams can be found in the slopes of the plateau, collecting groundwater and stormwater runoff. There is also a substantial wetlands area on Cat Point Creek.

Floodplains are those areas of land predictably subject to overflows from nearby water bodies, including bays and oceans. Tidewater Virginia was analyzed by the Federal Emergency Management Agency (FEMA) to delineate flood hazard areas in its Flood Insurance Study of 1987, which has been updated.

The 100-year and 500-year floodplains are areas where floods are expected, at least once, during those spans of time (Map 8.19, Section 8).

The county first adopted a Flood Plain Management Ordinance in 1987. This ordinance, as amended and as combined with other appropriate measures, is critical for public safety, for the protection of property, and for the county's flood-insurance eligibility and rates. (See Sections 6.2.6 and 6.2.32 for more information on this program.)

Wetlands: Wetlands are transitional areas between land and water. They include marshes, swamps, bogs, pocosins (swamps in an upland, coastal region), and wet meadows (Map 8.17, Section 8). There are approximately 8,452 acres of wetlands in Westmoreland County (National Wetlands Inventory).

In the past, wetlands were thought of as breeding grounds for disease-bearing insects. As a consequence, more than half of the total wetlands in the United States were filled in before the end of the 1970s.

In recent decades, scientists have recognized that wetlands play vital roles in filtering and cleaning runoff, acting as sponges to slow and retain stormwater.

Wetlands also provide highly fertile habitat for land, avian, and aquatic life. The nutrient-rich, near-shore environment of wetlands also functions as a cradle for fin and shellfish.
Wetlands are classified into two broad categories:

- *Tidal wetlands*, found along the Chesapeake Bay and Atlantic coasts
- *Non-tidal wetlands*, associated with perennial and intermittent streams, water impoundments, and frequently saturated areas

Because wetlands are dynamic, living ecosystems, they are highly sensitive to pollution and other stresses. And because of the vital role wetlands play in maintaining water quality, it is imperative that they be protected.

Currently, there are no surface water-supply facilities in the Northern Neck. All of the localities on the peninsula rely on groundwater as the main potable-water source. For this reason, management and protection of groundwater resources is a critical issue to Northern Neck communities.

Groundwater

Water Table: Water-table depth varies greatly throughout Westmoreland County. In some areas, the seasonal high-water level is less than 36 inches from the ground surface (Map 8.10, Section 8). With seasonal fluctuations, the saturation level of the soil may increase significantly. These areas may also be prone to flooding.

Additionally, a high water table can cause problems with roads, foundations and basements, underground storage tanks, and buried utilities. Where the soils are highly permeable and the water table is seasonably high, contamination from man-made pollutants can occur.

The future growth and economic vitality of a community must be based on procuring and protecting long-term water resources.

NORTHERN NECK AQUIFERS

Yorktown-Eastover

(Unconfined and Water Table)

The Yorktown-Eastover Aquifer is unconfined in its western limits, but becomes confined as the aquifer slopes eastward (Pg. F7, USGS Professional Paper 1404-F). The unconfined, water-table recharge areas of the Yorktown-Eastover are important because these areas are where contaminants can quickly reach the aquifer through the ground surface. This is of further concern because the Yorktown-Eastover Aquifer is a primary source of drinking water for the Eastern Shore of Virginia.

Chickahominy-Piney Point Aquifer

(Confined)

This confined aquifer is located approximately 325 – 400 feet below the ground surface in Irvington and averages 50 to 100 feet in thickness throughout its reach, with a maximum thickness of 140 feet in Lancaster County (Pg. C46, USGS Professional Paper 1404-C). The Chickahominy-Piney Point starts at outcrop areas near the major stream valleys in Stafford and King George Counties, on down through Caroline, Hanover, and Henrico Counties, just east of the fall line (Pg. C46, USGS Professional Paper 1404-C). The major recharge area for this aquifer is also found at the outcrop location. Water

entering from the recharge area flows down and eastward to reach Irvington. Lesser recharge of the aquifer also occurs in smaller amounts from vertical seepage between the confining beds of the other aquifers and along existing well conduits. This aquifer is not as prone to contamination as the water table aquifer due to its limited recharge potential in Westmoreland County. Furthermore, supply in this aquifer is not as susceptible to decreases due to local drought conditions.

Brightseat-Upper Potomac Aquifer

(Confined)

This aquifer is located approximately 575 – 650 feet below the ground surface in Montross. The aquifer is actually two aquifers located very close together, and separated by a thin confining bed. The Brightseat is the smaller aquifer and is located above the Upper Potomac Aquifer. The Upper Potomac Aquifer is located further below the surface at depths of 750 feet to 820 feet. These aquifers start from "subsurface pinchouts" east of the fall line and build to almost 400 feet in thickness to the east (Pg. C42, USGS Professional Paper 1404-C). Recharge areas for these aquifers are located at the start of the "pinchouts" east of the fall line. Recharge also occurs in much smaller amounts from vertical seepage between aquifers and along existing well conduits. These aquifers are not as prone to contamination as the water-table aquifer due to its limited recharge potential. Furthermore, supply of these aquifers is not susceptible to decreases due to local drought conditions.

Most deep wells in Westmoreland County tap the Brightseat Aquifer, not the Upper-Potomac. Water in the Brightseat Aquifer is of the sodium-bicarbonate type in the central part of the aquifer, and becomes of the sodium-chloride type when moving east. Additionally, groundwater in this aquifer becomes more mineralized the further one moves east.

Refer to the Virginia Coastal Plane diagram, in Section 8.4, for a visual rendering of the region's groundwater

Westmoreland County's groundwater resources come from an underground system of aquifers that reflect the geology of the Coastal Plain Region of Virginia.

To understand how and where this groundwater is stored, it is helpful to remember that the Tidewater Region consists of layers of sand and sediments laid down by rises and falls in ocean level throughout history.

Some layers, such as those comprised of clays, are impervious, so they act as barriers to the migration of liquids.

Other layers are comprised of sands or porous soils that are receptive to absorbing, transporting, accumulating, and storing groundwater.
In the hydrologic cycle, groundwater percolates through permeable soils until it reaches impermeable areas. Layers in which water tends to accumulate are termed "aquifers."

Aquifers can be "confined" or "unconfined."

A confined, or artesian, aquifer is often a deep aquifer filled with water that is confined by rock or soil on all sides. Of the two confined aquifers lying below the county, the top of the upper one lies approximately 225 feet beneath the surface, and it is about 60 feet thick.

U.S. Geological Survey data from 2005 shows that Westmoreland County's groundwater withdrawals total 1.37 million gallons a day. The 2009 Regional Water Supply Plan lists three non-agricultural entities in the county that, together, consume an average of 680,000 gallons per day. The Towns of Montross and Colonial Beach, and other residential water systems, make up most of the difference.

A dip in the water table due to excessive groundwater withdrawal can cause a cone of depression, disrupting normal groundwater flow and drawing down water from higher confined layers.

This process may result in pollutants reaching the water supply.

Additionally, depletion of fresh water from the aquifers often causes salt water to be drawn from tidal areas into the aquifers, resulting in contamination that is difficult to reverse.

Confined aquifers are refilled by precipitation and surface-water runoff. Areas where these external waters enter their path to the artesian aquifers are called "groundwater-recharge areas." These areas are primarily located farther inland (the water travels slowly eastward, following the west-to-east tilt of the deep Coastal Plain sedimentary layers).

However, some local groundwater recharge may occur where streams have cut through a confining clay layer, or where high soil permeability allows water to migrate to deeper aquifers without much filtering.

In 1979, the State Water Control Board (SWCB) prepared a study titled *Groundwater of the Northern Neck Peninsula*. The document did not identify local recharge areas, but Westmoreland County should monitor whether such groundwater-recharge areas are identified in the future.

An **unconfined aquifer** (a.k.a. upper, or water-table aquifer) is located near the surface. This is the aquifer most often tapped by smaller industries and some residential and agricultural users.

As the water table rises and falls with seasonal fluctuations, the unconfined aquifer is recharged by precipitation.

In 2011, the county approved a Regional Water Supply Plan prepared for the Northern Neck Planning District. Groundwater is the principal source of water used in the county. The study identified potential issues with the long-term supply of groundwater and short-term issues with shallow water sources during drought periods.

The Virginia Department of Environmental Quality (VDEQ) performed a multi-year groundwater study on the Northern Neck. The study began in 2009 with the construction of two monitoring wells on Surprise Hill, in Northumberland County. Monitoring of groundwater by VDEQ can be expected to continue. Additional research wells—measuring water level, water quality, fluctuations over time, etc.—will be constructed as funding becomes available.

An outcome of the VDEQ study was the establishment of a Groundwater Management Area for most of tidewater Virginia, including the Northern Neck. This action puts in place a permitting system operated by the VDEQ. Current and future users of larger amount of groundwater will be required to obtain permits, starting in 2014.

An outcome of the Regional Water Supply Plan was the adoption by the county of regulations to deal with short-term water supply issues during periods of drought.

GOAL

- The future growth and economic vitality of the County depends on procuring and protecting long-term water resources; thus, long-term planning of water resources and short-term action on all land use issues should seek to protect those potable resources as much as possible
- Carefully limit potentially adverse land uses such as mineral extraction to ensure a proper balance between costs and benefits to the public

Westmoreland County should:

- Support the development and updating of the regional water supply plan
- Support regional efforts to construct groundwater monitoring wells
- Minimize impervious cover and use design techniques such as swales
- Continue to enforce rules that protect water quality and avoid runoff
- Continue to monitor existing and potential sources of surface and groundwater pollution and take action to prevent or control the effect of these sources
- Allow for potential water quality improvements through the reduction of pollution sources and through redevelopment efforts
- Limit any land use that poses an undue risk to the quality and quantity of groundwater supply

4.1.3 Chesapeake Bay

What happens on land very much affects the surrounding waters, fisheries, and aquatic resources. As the county seeks to preserve this characteristic for many of its residents, conserving and improving water quality becomes vital. Development decisions need to take into consideration the impact any project might have on seafood production and the health of the Bay.

In a sense, the region's most valuable natural resources are within the Chesapeake Bay and along its shorelines. The viability of those resources is fundamentally dependent upon the water quality of the Bay and its tributaries. Map 8.21c (Section 8) represents the character and location of commercial and recreational fisheries and other aquatic resources that may affect Bay waters.

GOAL

- Continued efforts to protect the Chesapeake Bay, including ways to mitigate the impact of land uses and its pollution on water quality

4.1.4 Fauna and Flora

Land-development activities and the use of surrounding waters by commercial and recreational boats have affected important marine assets of Westmoreland County, manifested in the large number of condemned shellfish beds by the Virginia Department of Health. See *Condemned Shellfish Beds* (Section 7.3) and Map 8.21a (Section 8).

Because oysters are not able to move on their own throughout their adult life, they must contend with contaminated waters. They consume bacteria, viruses, heavy metals, pesticides, and any other pollutants found in their habitat. The Chesapeake's eastern oyster population is at around 1% of historic levels.

Chesapeake Bay crab populations have also decreased. The 2008 harvest was 39 million pounds, equal to 60% of the 1983 harvest. In the summer of 2008, 17% of the Bay's water had lower oxygen levels than normal. Despite sustained cleanup efforts, indicators predict no reduction in pollution levels by the 2010 deadline set by the U.S. Environmental Protection Agency.

The VDH Division of Shellfish Sanitation monitors the waters around the county and provides notice of shellfish condemnation areas (Section 7.3).

In addition to marine fauna, the county is home to a variety of species that are gradually affected by the increase in residential and commercial development.

These include white-tailed deer, wild turkeys, bobwhite quail, mourning doves, red and gray foxes, gray squirrels, rabbits, raccoons, snakes, opossums, pheasants, muskrats, beavers, mink, otter, Canadian geese, whistling swans, canvasbacks, scamp, red heads, mallards, black duck, buffleheads, wood ducks, killdeers, snipe rails, bitterns, herons, sandpipers, egrets, eagles, ospreys, and many others.

The county's flora is so vast, it cannot be comprehensively covered here. See Section 7.8 for appropriate sources.

GOALS

- An estuarine ecosystem whose sensitive areas are protected
- Agricultural, fishing, and forestry practices consistent with environmental standards

4.1.5 Air Quality

Westmoreland is a rural county with no significant industries and no concentrated sources of air pollution. Due to this fact, there are no EPA air-pollution monitoring facilities located in the county.

GOAL

- Active county participation in energy conservation
- Limit or require appropriate mitigation for any land use that poses a risk of negative impacts to localized air quality or which might degrade air quality

4.1.6 Green Infrastructure

Natural resources are much better at cleaning water and air than humans—and they do it at no cost. For this last reason alone, it makes economic sense to protect these resources and keep them in their natural state, denominating them *Green Infrastructure*.

Examples of Westmoreland County's Green Infrastructure include forests, waterways (the Nomini), soils (for sustainable agriculture), wildlife areas, wetlands (Cat Point Creek), dunes, beaches, cliffs (Horsehead Cliffs), historic landscapes (Stratford Hall, George Washington's Birthplace, Monroe's Birthplace), and Parks (Westmoreland State Park).

Green Infrastructure Planning Consists of:

1) Mapping Westmoreland County's high-value natural areas:

   - **Conserved Lands** (Map 8.22a, Section 8)

are those lands that are protected from development, either by a conservation easement on private land (Voorhees Nature Preserve), owned by the state government (Westmoreland State Park), or by the federal government (Rappahannock River Valley National Wildlife Refuge). These lands are considered as already protected from development.

- **Known Conservation Sites** (Map 8.22b, Section 8) are sites that have endangered, threatened or special status animal species nesting areas, or habitats confirmed by observations of biologists in the field. These sites are ground-truthed, hence the term "known." Large buffered circles are created to depict the site so that the individual site is not easily identified, in order to discourage poachers. These areas are those you would want to consider for inclusion into protected natural green infrastructure areas.

- **Natural Area Cores** (Map 8.22c, Section 8) are natural areas of 100 contiguous acres or more, and are ranked using the Ecological Model developed by the Virginia Department of Conservation and Recreation (DCR). The Ecological Model used the Virginia Natural Landscape Assessment, the Virginia Department of Game and Inland Fisheries Wildlife Action Plan, and biodiversity assessment from DCR's Natural Heritage Program. The cores are ranked according to ecological value and go from low value natural cores (green) to high value natural cores (red).

- **Natural Area Corridors** (Map 8.22d, Section 8) are strips of natural areas that link higher value natural area cores together. These corridors allow for movement of wildlife, seed and pollen transfer between cores.

- **Cultural Model** (Map 8.22e, Section 8) shows the cultural value of lands. Staff from DCR's Natural Heritage Program worked closely with the Department of Historic Resources to identify and prioritize important cultural aspects, which include archaeological and architectural sites, along with American Indian Areas.

2) A rating system to go with these maps—one that can be used by the county's Planning Commission to score development applications and decide their approval based on the resulting "Green Infrastructure Score." Westmoreland County has not yet adopted such a rating system.

GOALS

- Steer development away from high-value natural areas
- Discourage development on lands currently designated as agricultural or forestal
- Protect archeological and historical sites along with their natural areas

4.2 Threats to Resources

4.2.1 Erosion

Development on steep slopes may present special problems. While a modest slope aids drainage, steeper slopes may be easily eroded. This is not only because of the topography, but because the soils found there (exposed beds of unconsolidated soils) are characteristically more easily eroded.

Steep slope areas are best left undisturbed for water-quality protection. Minimizing land disturbance and maintaining existing vegetation on slopes reduces the potential for erosion.

Slopes ranging from 15 to 25 percent begin to restrict development potential, and slopes greater than 25 percent pose significant development constraints, incurring additional grading, construction, and infrastructure costs.

Erosion resulting from development on steep slopes causes significant water-quality problems in the long term, requiring the use of expensive retaining walls that must be periodically repaired or replaced. If such sites are approved for development, land disturbance should be restricted to include the minimum needed for construction of the building footprint.

The areas with the highest erosion index are in the middle of the county (between Popes Creek and the Yeocomico), where numerous gullies have formed drainage ways with steep slopes on either side.

Land disturbance, especially that occurring on steeper slope areas, should be carefully regulated and monitored to minimize erosion. The topographical map of the county (Map 8.07, Section 8) gives an idea of where the steeper slopes can be found, with the more pronounced drops in altitude concentrating on the western part of the county.

Streambank Erosion

The goal of the 100-foot vegetative buffer next to state waters—as required by the Chesapeake Bay Preservation Act—is to reduce the velocity of the stormwater, thus trapping most of the sediment before it reaches the watercourses.

Since erosion is a natural interaction between geologic and hydrologic forces, the goal should not be to try to control all of it artificially but to avoid development in areas in which erosion is occurring.

Improper development (i.e. building too close to the shore or inadequate stormwater-runoff control) can compound the problems of an already eroding shoreline. The county examines erosion as a part of the overall approval process for subdivisions, and examines subdivision requests closely to determine their relation to erosion rates along a shoreline.

Erosion along the Potomac River is caused primarily by wave action (Map 8.16, Section 8).

GOALS

- Consider the overall impact of every new development
- Maintenance of the existing shoreline profile as much as possible

4.2.2 Flooding

Westmoreland County has borders along two rivers, the Rappahannock and Potomac. There are 252 miles of shoreline in the county. Along the Rappahannock River, the majority of the shores are low, and several sections flood during periods of high water (Maps 8.15 and 8.20, Section 8).

However, the population density in this area is low. One of the main reasons for the low density is that there is poor road access to the shore. Although some construction will take place, there is currently no strong pressure to develop.

Along the Potomac River, approximately 77% of the shoreline is considered low shore, and several sections are susceptible to flooding. Of approximately 3,300 parcels along the shoreline, 66.9% are residential, 3.6% are farms with a house, and 2.9% are commercial.

The majority of the residential development along the waterfront consists of strips of houses along the shore, with many being vacation or second homes.

GOAL

- Good design practices, such as community retention ponds and other measures that improve flood-insurance ratings for the county

4.2.3 Storage Tanks

Underground Tanks

Leaking underground storage tanks are an important potential threat to water quality due to the fact that the water-table aquifer is relatively close to the surface in some areas of the county (Map 8.10, Section 8).
Underground petroleum or chemical storage tanks (USTs) constitute potential threats to groundwater due to leaks or accidental spills. Leaks are often not detected until substantial contamination of the surrounding soils has already occurred. In addition, tanks that were abandoned before more stringent regulations were put in place may pose an unwanted and potentially expensive liability on the property owner or the county.

The definition of USTs also includes piping that has at least ten percent of its volume underground, and that contains a regulated substance.

The State Water Control Board (SWCB) is charged with administering the Virginia Underground Storage Tank Program. It requires registration of tanks over 5,000 gallons, and provides for periodic inspection of tanks. It also requires the phased upgrade of old tanks, strict controls on new tanks, and provides funding for the cleanup of leaking tanks.

Corrosion is a factor to be considered. Although newer tanks and pipes are corrosion-resistant, older tanks may be subject to accelerated corrosion and failure. Mandatory replacement of older tanks by non-corrosive tanks with “spill preventers” and other safety features is required.

The SWCB investigates UST leaks on a statewide basis—when reported or suspected—through the Spill Response and Remediation Pollution Program.

The county’s role with respect to this program should be one of cooperation in monitoring events associated with the underground storage of products that, if leaked or spilled, would pollute groundwater.

Aboveground Tanks

These tanks are prevalent in many areas not served by natural gas, and where heating is generated by propane or fuel oil. Most propane and oil users rely on aboveground storage tanks, ranging in size from 200 gallons to commercial and industrial storage facilities.

While leaks from individual tanks may pose relatively minor threats to groundwater, long-term leaking, or a concentration of such tanks as might be found in an older residential area, may pose significant water-quality threats.

The Clean Water Act of 1972 regulates individual aboveground storage tanks. Owners of single tanks containing more than 660 gallons—or multiple tanks with a combined capacity of 1,320 gallons—must register with the State and have a "Spill Prevention and Control and Countermeasure Plan" in place.

The Virginia Department of Environmental Quality regulates aboveground storage tanks for the Commonwealth. It requires that tank owners develop an "Oil Discharge Contingency Plan," or ODCP, prior to registering a tank.

This is an emergency-response plan in the event of a release from the tank. The plan must also identify the anticipated environmental impacts for such an accidental discharge, and identify mitigation measures to be implemented following a spill.

Aboveground storage tanks with a capacity of less than 600 gallons—or multiple tanks with a combined capacity of less than 1,320 gallons—are not regulated by State and federal agencies. Therefore, it is the tank owner's responsibility to ensure that leaks do not occur from such tanks.

4.2.4 Old or Abandoned Wells

Proper abandonment of wells is extremely important to protecting the aquifer from contamination—whatever the depth of the aquifer.

4.2.5 Sewage

In a mostly rural county such as Westmoreland, on-site waste water disposal systems (septic systems) are the most common and practical method to treat residential sewage.

Some older septic systems have been placed in soils that can heighten their negative impact. For example, in soils with seasonally high water tables, the water table can rise into the septic systems' drain fields and intermix with the relatively untreated effluent.

Furthermore, high water tables can cause pooling of septic effluent on the ground surface. During a rainstorm, pooled effluent can quickly drain into nearby surface water bodies.

Highly permeable soils can also act to increase negative impacts of septic systems. These soils allow septic effluent to percolate too quickly through soils underneath a drain field, not allowing for proper filtration. If the effluent percolates before it is properly treated, then it can become a threat to groundwater.

GOAL

- Consider the overall impact of every new development

4.2.6 Pesticide and Fertilizer Use

Agricultural operations can introduce pollutants such as fertilizers and pesticides.

Residential stormwater runoff may carry lawn fertilizers and pesticides, plus households chemicals that have been carelessly disposed of.

These types of pollutants generally affect water quality through two different methods:

Runoff refers to water that is not absorbed by the soil, but is instead carried off by natural or man-made drainage courses to a surface water body.

Leaching refers to water absorbed by the soil into the soil layers underneath. The effect of this type of pollution is usually felt on the groundwater supply.

4.2.7 Industrial Activities

Industrial pollution in the county is minor and dispersed. Potential pollution points on the edge of Nomini Creek, Machodoc Creek, and the Yeocomico River are seafood processors or boat-repair facilities. Potomac Supply (forest products) is located along Route 202, near Kinsale. Cary-On Trailer (manufacturing) is located on the county's industrial park, right outside the Town of Montross.

Superfund Site

About one-half mile east of the Town of Montross, on Route 3, is the former Arrowhead Industries manufacturing plant. The plant produced cosmetic packaging, some of which was metal-plated. Its waste lagoon contained various heavy metals—cadmium, arsenic, lead—plus various hazardous chemicals. The plant closed in the mid-1980s. Because of the hazardous materials left in the waste-storage lagoon, the property was designated a "Superfund" site by the Environmental Protection Agency—meaning that the Agency ordered a comprehensive cleanup, under EPA supervision, that included extensive soil removal and extensive testing of the lagoon's water integrity.

Fortunately, the soils in this region are predominantly clay, and the lagoon bottom was compacted according to EPA standards when constructed. Eventually, the lagoon was completely removed, and a filtration ring constructed around the site.

The Arrowhead Industries plant also had a well reaching into the principal aquifer. That well has been capped and replaced with the well from the County's Route 3 water system. This site illustrates the need to carefully review resource development and other development applications to provide for secondary containment and/or other safeguards for wastes produced onsite.

Resource Extraction

Limited sand and gravel extraction activities have occurred in the county for some time. In recent years, techniques for extracting oil and gas from underground rock formations has produced a surge in the supply of natural gas, nationwide, and these techniques have emerged as a potential activity in Westmoreland County, due to the shale formation

underlying a portion of the county. Although the national boom in gas drilling has subsided lately due to falling oil prices, there is potential for a resurgence of drilling activities if prices rise to past levels or other circumstances change.

The western portion of Westmoreland County lies above a shale formation called the Taylorsville Basin, which has the potential of containing significant amounts of petroleum resources. Thus, there has been some interest in the potential for conducting drilling and extraction activities, including hydraulic fracturing. Approximately 14,000 acres of land in this area of the County have or have had leases for oil and gas drilling activity (see Map 8.32). This offers a long-term potential of some economic benefit to landowners and various businesses if significant amounts of drilling activity occur.

However, experiences in other states and communities have raised concerns about potential environmental and other impacts with hydraulic fracturing activities. Possible impacts to groundwater quality in particular are concern as all residents and businesses in Westmoreland County rely on groundwater for their drinking water supplies. The groundwater comes from the aquifers within the underlying geology of the County and the region. Drilling and fracturing activities can create direct impact on groundwater supplies, particularly if there are any errors in the design, construction or operation of the drilling and fracturing procedures.

Further, a variety of indirect impacts could affect the County if significant levels of drilling and extraction activity are reached, including impacts on local housing supply, public facilities and infrastructure, levels of service and service delivery including emergency services, attendant fiscal impacts, etc.

Such concerns have led some states and localities to enact new regulatory mechanisms to better protect the public health and safety, as well as the local environment and economy. Maryland, which shares the Taylorsville Basin with Virginia, adopted a moratorium on such activity after studying the issue for several years because of the scientific uncertainty and serious risks involved. New York prohibited hydraulic fracturing after concluding that there was no feasible or prudent way to adequately avoid or minimize adverse environmental impacts and address the scientific uncertainties and risks to public health from hydraulic fracturing.

The Virginia Department of Mines, Minerals, and Energy (DMME) and the Department of Environmental Quality (DEQ) have made a significant effort to better understand these risks and revise regulations accordingly. Westmoreland County should seek to properly balance the risks and benefits of oil and gas extraction, including hydraulic fracturing or other technologies (methodologies), for the overall benefit to the County as a whole. This means, at a minimum, establishing zoning standards and limitations that protect critical resources commensurate with the importance and risk presented to them.

Potential impacts of hydraulic fracturing activities include, but are not limited to the following:

- Potential positive impacts – these include economic benefit to the owners of leased land, and to local businesses that may sell goods and services to the new work force
- Groundwater quality and quantity – impact of water withdrawals, chemical injection, and the migration of methane or other contaminants affecting drinking water and agricultural water use
- Surface water quality and quantity – impact of loss and fragmentation of natural vegetation,

chemical and process water spills or leakages affecting stream habitat and flow and the Chesapeake Bay's wetland hydrology and habitat; fish and other aquatic organisms; economic productivity thru aquiculture, tourism, and fisheries; and endangered threatened or rare species

- Truck traffic – issue of road surface damage, access onto main roadways, volumes of truck and other traffic, community health and safety impacts
- Noise, vibration
- Lighting, glare
- Dust, odor, air emissions from combustion equipment, well pads, pipelines, and trucks
- Visual appearance from public right-of-way and adjacent properties
- Gas flaring / fires – fumes, gases, explosion and fire risks
- Direct land use impacts – land consumption, land clearing and land fragmentation can disrupt agricultural and forestry activities
- Indirect land use impacts – related industrial, commercial, and residential spin-off development impacts on public facilities and services
- Housing and service impacts - additional workers can increase the need for housing, services, and public facilities, including hospitals, emergency services, law enforcement, and schools
- Horizontal drilling – potential impact on adjacent property
- Potential pipeline construction to serve the region
- Natural habitat impacts and fragmentation of habitats
- Possible increase in earthquake activity.
- Public health and safety risks from many of the possible impacts identified above

Potential measures to mitigate the above impacts include, but are not limited to, the following:

- Limits to size and location of drilling activities
- Setbacks/buffers of drilling activities from:
    - Groundwater wells (public and private)
    - Chesapeake Bay Resource Protection and Resource Management Areas (RPA/RMA)
    - Residential structures
    - Population centers/major subdivisions
    - Commercial and industrial structures
    - Public road rights-of-way
- Groundwater assessment and monitoring
- Spacing of well-pads
- Limits on footprint of land disturbance from well-pads and paving/grading
- Pitless or closed-loop drilling
- Use of secondary waste containment systems
- Well-casing standards (DMME)
- Fencing of well facilities
- Reclamation of sites
- Replacement of damaged groundwater supplies
- Limits on related activities – material processing, storage, etc.
- Limits on horizontal drilling
- Limits on chemicals and other foreign materials injected into the ground
- Limits on noise levels, vibration, lighting, etc.
- Testing requirements prior to commencing of drilling activity

GOALS

- Protect the county's ground and surface water resources, public facilities and infrastructure, fiscal well-being, tourism and agricultural industries, and the overall rural quality of life, from any potential impacts of resource extraction activities, including oil and gas extraction, and to provide for the restoration of the land for future usability

TYPES OF POLLUTANTS

Point-source pollutants are those that can be traced to a single source (industrial and manufacturing uses, leaking underground storage tanks, landfills, and waste-disposal sites). Currently, the State of Virginia oversees the federal requirements of the National Pollution Discharge Elimination System (NPDES) by administering the Virginia Pollution Discharge Elimination System (VPDES). Under this program, the State Water Control Board (SWCB) issues discharge permits, sets effluent standards, and regulates the amount of point-source effluent allowed to enter Virginia waters.

Nonpoint-source pollutants include but are not limited to pollutants carried in stormwater runoff from impervious surfaces (phosphorus, metals, toxins, particulate matter); leachate from inadequately sited, designed, or maintained septic fields; erosion and sedimentation from construction sites; agricultural runoff (sediment and nutrients); and boat and marina pollution.

4.2.8 Illegal Dumping

Construction materials, household chemicals, automotive products, and many other types of pollutants may be carried in runoff into streams—killing buffer vegetation and possibly entering the water-table aquifer, where pollution damage can spread very rapidly.

Although it is generally thought of as occurring on underutilized and vacant public or private property, illegal dumping includes the dumping of hazardous materials into a water-treatment system (e.g. pouring chemicals down a sink or toilet).
Not only does illegal dumping preclude the opportunity for quick, relatively inexpensive clean-up, but with extensive contamination, remediation may be either very costly or fiscally impossible.

Illegal dumping is an attempt to transfer waste-disposal costs to someone else. If the perpetrator is not identified, then the expense is incurred by a government agency. The county should investigate illegal dumping sites and actively prosecute the polluters, publicizing the fact that illegal dumping will not be tolerated.

4.2.9 Boats

Boating pollution is to be expected with the high concentration of boat owners in the county. The Virginia Department of Health (VDH) defines boat pollution as any congregation of more than four boats moored together, as in Monroe Bay (next to Colonial Beach) and Mattox Creek—areas with a high number of marinas. Other areas with significant boat pollution include Nomini Creek, Machodoc Creek, and the Yeocomico River. (See Section 7.6 for a list of marinas.)

All of the tidal creeks are proposed to be included in the No Discharge Zone designation. With this designation, no boat would discharge any waste into these waterbodies. (See Section 6.2.28 for additional information.)

4.2.10 Animal Waste

Animal waste has the potential for contaminating productive shellfish beds. There are a few dairy and beef operations in the northeastern portions of the county, near Colonial Beach and Oak Grove, but they are small compared to the state average.

The majority of animal-pollution points are most likely from pets and, to a lesser degree, animals displaced due to development and the associated reduction in natural predators. Hunt clubs and properties with large kennels or similar animal enclosures are examples of an animal-waste source that should be properly managed.

4.2.11 Stormwater Runoff

The main nonpoint source is likely to be pollutants in stormwater runoff from roads and highways, plus runoff from impervious surfaces associated with the parking areas of commercial buildings. Erosion and sedimentation from inadequately controlled construction sites contribute as well.

Other potential nonpoint-source pollution includes excessive pesticide and nutrient use, failed septic systems, and abandoned wells.

Water quality can be protected by employing Best Management Practices (BMPs) to reduce pollutant loads in stormwater runoff. Preserving existing vegetation and minimizing impervious surfaces are among the most effective practices.

Inadequate management of stormwater runoff results in flooding and erosion, with sediments and pollutants entering streams and rivers. If allowed to continue over time, such conditions can seriously impact water quality.

Long-term erosion and sedimentation lead to eutrophication—the gradual filling of a water body with sediment, excessive nutrients, and algal growth, resulting in oxygen depletion, suffocation, decay, and stagnation.

Open space and access should be designed to minimize the potential for disturbance of vegetation. Limits should be placed on the amount of impervious-surface areas.

4.2.12 Groundwater Demand

There are two problems that could arise in the future due to increasing water demand. The first is the possibility of a drop in groundwater levels. The second is saltwater intrusion into the groundwater. See Section 4.1.2 for details on the hydrology of the county including the designation of the Northern Neck region as a groundwater management area.

4.2.13 Mixed Source Composting [NEW subsection]

Composting of agricultural waste and by-products is an historic and common activity on farms and in agricultural areas. Composted organic waste is used to enhance agricultural soils and sold for landscaping and other uses. Composting operations, particularly in urban areas, are also used to manage pre- and post-consumer waste such as biosolids from waste water treatment, food waste, and other organic wastes. Each of these waste streams pose different management risks and are regulated by the EPA and state agencies.

In agricultural areas, large composting operations that use imported materials outside of the normal scale and practice of local farms pose risk of a different level of impact to the community not typical of farm compost operations. Such operations may have significant impacts from noise, odors, dust, airborne pollution, disease vectors, or leachate not typical of operations using on-farm and local sources of organics. Also, such operations may have more impact as they operate year-round rather than seasonally.

Because of this, additional land use controls on the large operations in agricultural areas should be considered.

4.3 Conservation Tools

4.3.1 Stormwater BMPs

Best Management Practices (BMPs) focus on water-

quality problems caused by increased impervious surfaces from land development. They are designed to reduce stormwater volume, peak flows, and nonpoint-source pollution through various mitigating practices. Residential developments should provide either on-site BMPs or a regional facility that may be shared by other nearby developments.

4.3.2 Chesapeake Bay Preservation Act

The Chesapeake Bay Preservation Act was enacted in 1988 (Code of Virginia, §10.1-2100 et seq.) by the Virginia General Assembly. It protects water quality and natural resources that are fundamental to economic development in the Commonwealth. Under the Act, Westmoreland County is called to promote the following:

- Protection of existing high-quality state waters
- Restoration of other state waters to a condition that will permit all reasonable public uses and support the propagation of aquatic life that might reasonably be expected to inhabit them
- Prevention of any increase in pollution
- Reduction of existing pollution
- Promotion of water-resource conservation in order to provide for the health, safety, and welfare of the present and future citizens of the Commonwealth

To implement these policies, the county adopted zoning- and subdivision-ordinance changes on September 12, 1990. The Erosion & Sedimentation Control Ordinance was revised in 1998.

The Chesapeake Bay Local Assistance Board reviewed the county's CBPA map and program on December 5, 1991, and found it consistent with the regulations.

In the coming years, the county and its residents can expect redoubled EPA efforts to clean up the Bay. This will translate into more stringent regulations. The Department of Environmental Quality is currently the commonwealth implementation and oversight agency for the CBPA.

GOALS

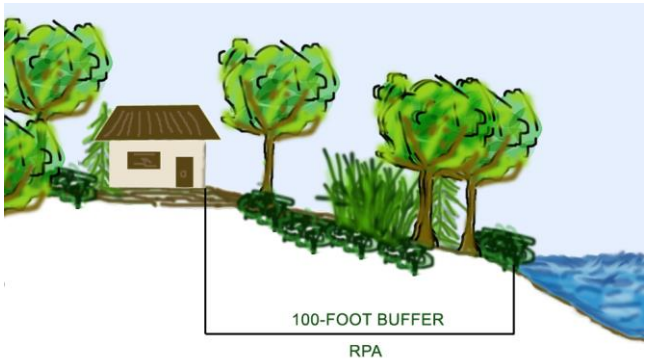
- Continued efforts to protect the Chesapeake Bay
- Increase shellfish acreage and productivity

4.3.3 Chesapeake Bay Preservation Area Overlay District (CBPAOD)

The Westmoreland County Board of Supervisors has recognized the importance of protecting the Bay through the designation of all county lands as a Chesapeake Bay Preservation Area Overlay District. The intent of this overlay district is to 1) safeguard state waters from pollution, and 2) promote water-resource conservation. (Map 8.21b, Section 8.)

4.3.4 Resource Protection Areas (RPAs)

The Resource Protection Area (Map 8.21b, Section 8) includes tidal wetlands, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow, tidal shores, highly erodible soils, and a 100-foot vegetated buffer area located adjacent to and landward of the components listed above and along both sides of any water body with perennial flow:



4.3.5 Resource Management Areas (RMAs)

The Resource Management Area of Westmoreland County consists of all lands in the County that are not in the Resource Protection Area.

4.3.6 Low-Impact Design (LID)

Low-Impact Design is an extremely effective approach in the management of stormwater runoff and water flow.

It incorporates site-specific techniques that result in enhanced water-quality protection, less costly infrastructural improvements, and a decrease in the need for large stormwater-retention basins.

The county's development ordinances should incorporate Low-Impact Design, appropriate landscaping, and open-space measures that not only minimize impact to surrounding land uses, but also add value to the community.

Public and semi-public water-quality concerns should focus on schools, churches, institutions, and buildings with large parking lots and other impervious surfaces. These facilities should be encouraged to adopt LID retrofits and share parking facilities with other institutions. Water-quality improvement may also be realized by reexamining the institution's approach to grounds maintenance and vegetative practices.

A demonstration LID retrofit project has been implemented at The Regional Center (457 Main Street) in Warsaw, Virginia:

Details at www.nnpdc.org/NNPDC-PROJ/NNPDC-0002/nnpdc-proj-0002.htm

4.3.7 Greenways and Conservation Easements

The preservation of open space is often a critical element in protecting a community's character and sense of place. The most successful efforts to protect open space and community character are those that integrate a range of open-space approaches.

Greenways are corridors of linked public and private lands that provide access to parks and other open spaces, woods, and conservation areas. They may be in the form of trails, bikeways, or linear parks.

Permanent open-space areas are a complimentary component of all types of development that can add significant value to a project, provide recreational amenities, and enhance and protect environmental resources. Often, the real-estate value added to a project by open-space areas more than compensates for any loss in development potential.

Conservation easements are a reliable technique for preserving land. Property owners may sell or donate

certain rights and interests in their lands to a government or non-profit organization, in exchange for certain tax benefits. The General Assembly has authorized the Virginia Outdoors Foundation to hold donated easements in the public interest.

5. TRANSPORTATION

5.1 Overview

Transportation infrastructure is often the most capital-intensive activity of a locality's planned development.

Because non-metropolitan areas lack federal-funding set-asides for transportation infrastructure, Virginia counties that are not part of a Metropolitan Planning Organization (MPO) depend on the state to fund any expansion of existing transportation infrastructure.

Population density is the chief determinant of how transportation dollars are allocated for the construction of new infrastructure across the State of Virginia. And over the next two decades, the population growth rate for Westmoreland County will be less than half that of the state:

Population Growth and Growth Rates

Year	West. Co.	Change	VA	Change
2030	19,261	5.04%	9,825,019	10.18%
2020	18,336	4.18%	8,917,396	12.98%
2010	17,600	5.28%	7,892,900	11.50%
2000	16,718	8.00%	7,079,025	14.41%
1990	15,480	10.25%	6,187,358	15.72%
1980	14,041	15.64%	5,346,797	15.02%
1970	12,142	70.51%	4,648,494	17.18%
1960	7,121		3,966,949	

Source: U.S. Census Bureau, Virginia Employment Commission

Westmoreland County is part of the Fredericksburg District of the Virginia Department of Transportation (VDOT). As such, it has to compete for funding with thirteen other counties, including the more densely populated Stafford, Spotsylvania, and Gloucester Counties.

Given the county's current population density and projected growth for the next twenty years, its existing transportation capacity should be adequate. However, important projects have been identified to improve system safety and efficiency, and some areas need further study.

A 2008 forecast of daily traffic volumes developed as a part of the Virginia Department of Transportation's Statewide Planning System (SPS), revealed only one road segment in Westmoreland County that is expected to "have a higher growth rate in traffic as compared to forecasted population growth."

That road segment was Flat Iron Road (Rt. 624), from the Richmond County Line to Route 640, with an annual Average Daily Traffic (ADT) Growth Rate of 2.9% for the period 2008-2035.

For the rest of the county's roads, the traffic growth patterns, as shown by the SPS data, "were mostly in the 1% to 2% range," as stated by a memorandum presenting the findings. And even Flat Iron Road's projected ADT was lowered to 1.92%, to "keep the growth rate on Route 624 consistent with the growth rates of the surrounding roads," the document added. More recent traffic counts support the assumption that low growth rate of growth will continue for some time.

In summary, Westmoreland County will likely receive state funds for transportation projects in the next twenty years for the maintenance of the existing infrastructure and for cost effective projects addressing deficiencies and needed improvements to existing roadways.

Westmoreland County has continued to work with the other counties of the Northern Neck and the Northern Neck Planning District Commission to communicate regional priorities to the Commonwealth Transportation Board and the Virginia Department of Transportation.

Among the standing requests, these are the principal transportation concerns for Westmoreland County:

1. As a long term improvement: To make all of Route 3—from Route 301 in King George County, to Route 33 in Middlesex County—a four-lane highway;
2. As an interim improvement: To improve Route 3, from Route 301 in King George County, to Oak Grove in Westmoreland County; and
3. As short term improvements: To construct Passing Lanes on Route 3 on the following segments:
    A. Potomac Mills/Flat Iron
    B. Lerty/Montross
    C. Oak Grove/King George County Line
    D. Nomini Grove/Lyells

Regional transportation planning has continued over the last several years producing two reports that that assess the transportation needs and develops recommendations for significant future work. The first was the "2035 Regional Long Range Transportation Plan" completed in 2012. The second was the "Route 3 Northern Neck Corridor Improvement Study" competed in May of 2016. These are discussed in more detail in Section 5.3, Transportation Needs/Projects.

Additionally, citizens have requested that VDOT continue to make improvements to the secondary road system such as to lay gravel and tar on some of the county's dirt roads, such as Taylor Town Road (Route 668) and Edge Hill Road (Route 695). In spring and summer, these roads have been reported to be dusty and bumpy; in the fall and winter, muddy and full of holes. Traffic on these roads includes school buses. The county has also continue to identify private roads that can be brought into the state road system as funding can be found to make necessary improvements.

In light of the limited funding resources available to the County for its road system, all potential sources of impact on road capacity, safety, and maintenance must be carefully considered, and land use decisions should balance the long-term costs and benefits to the road system for the benefit of the public.

5.2 Transportation Inventory

5.2.1 Roads

Westmoreland County has approximately **340 miles** of primary and secondary roads (see Map 8.23, Section 8 for the major and minor roads in Westmoreland County). Its principal highways are classified Minor Arterial (i.e. highways that link cities and towns and provide an integrated network for intrastate and inter-county service, and designed to handle traffic volumes between 10,000 and 25,000 vehicles per day).

Hierarchy of Highways and the Functional Classification System

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide. Most travel occurs through a network of interdependent roadways, with each roadway segment moving traffic through the system towards destinations. The concept of functional classification defines the role that a particular roadway segment plays in serving this flow of traffic through the network. Roadways are assigned

to one of several possible functional classifications within a hierarchy according to the character of travel service each roadway provides. Planners and engineers use this hierarchy of roadways to properly channel transportation movements through a highway network efficiently and cost effectively. The Virginia system is based on the federal classification system, which all states use, providing uniformity across the country.

All functional classification categories now exist in both urban and rural areas and include:

A. Principal Arterial
  i. Interstate
  ii. Other Freeways & Expressways
  iii. Other
B. Minor Arterial
C. Collector
  i. Major Collector
  ii. Minor Collector
D. Local

Minor Arterial Highways in the County

- **Route 3**, from the Richmond County line near Lyells to the King George County line just west of Oak Grove
- **Route 202**, from its intersection with Route 3 at Templemans to the Northumberland County line at Hampton Hall Bridge
- **Route 203**, from the Richmond County line near Lyells to Route 202
- **Route 205**, from Oak Grove to Colonial Beach, and then west to King George Co.

VDOT maintains all primary and secondary roads in the county through its Regional Residency Office in Warsaw, Virginia, and additional facilities in Potomac Mills and Hague.

Corridors of Statewide Significance

Corridors of Statewide Significance is another concept used in transportation planning in Virginia, As explained by VDOT, the purpose of the Corridors of Statewide Significance is to provide a coordinated multimodal (that is – roads and other forms of transportation are considered) vision for guidance of investment by the Commonwealth and for localities in their land use and transportation plans. Without guidance, local decisions could degrade a corridor's ability to move people and goods, causing bottlenecks and problems that are costly to fix, and undermine economic and quality of life goals. Identification of strategies within each corridor helps ensure that these corridors are invested in and protected for the future benefit of the entire Commonwealth. With regard to Westmoreland County Comprehensive Plan, the following corridor needs to be identified:

Corridor of Statewide Significance A – The Coastal Corridor/Route 17 – traverses the Middle Peninsula which is across the Rappahannock River, south of Westmoreland County. The influence of Corridor A extends into the Northern Neck, as Route 3 is considered a parallel, redundant alternative to Route 17.

Level of Service (LOS)

Levels of Service represent the flow characteristics of roads under normal operating conditions. They are designated by VDOT.

Six Levels of Service are generally recognized by transportation planners and engineers:

1. Level of Service A: Free flow traffic with individual users virtually unaffected by the presence of others in the traffic stream;
2. Level of Service B: Stable traffic flow with a

high degree of freedom to select speed and operating conditions but with some influence from other users;

3. Level of Service C: Restricted flow which remains stable but with significant interactions with others in the traffic stream. The general level of comfort and convenience declines noticeably at this level;
4. Level of Service D: High-density flow in which speed and freedom to maneuver are severely restricted and comfort and convenience have declined even though flow remains stable;
5. Level of Service E: Unstable flow at or near capacity levels with poor levels of comfort and convenience; and
6. Level of Service F: Forced traffic flow in which the amount of traffic approaching a point exceeds the amount that can be served. LOS F is characterized by stop-and-go waves, poor travel times, low comfort and convenience and increased accident exposure.

Westmoreland County's primary and secondary roads comfortably fall within LOS A and B.

Based on traffic counts from 1990 to 2008, plus county demographic projections for the next twenty years, it is very likely that these LOS for the county's roads will be maintained.

TRAFFIC COUNTS - SAMPLE

Location: Segment of Route 3, between Routes 204 (N. of Potomac Mills) and 205 (Oak Grove)

	1990	2000	2008
Annual Average Daily Traffic (AADT)	5,225	5,500	6,500
% that are cars	92%	85%	91%

Source: http://virginiadot.org/info/ct-TrafficCounts.asp

This sample is representative of most road segments in Westmoreland County. Even though traffic volume has gradually increased over the eighteen-year period, the totals are still well below the standard capacity of 10,000 to 25,000 vehicles per day for roads classified as *Minor Arterial Highways*, like Route 3.

Seasonal Traffic Considerations

The county experiences large increases in the flow of traffic beginning in late spring and continuing through late fall. The seasonal increase in traffic is linked to certain days of the week, usually from Thursday evenings through noontime on Mondays, during the season. The peaks of this traffic occur on Friday afternoons or evenings, and again on Sunday afternoons or evenings.

The impact of seasonal traffic on local road conditions cannot be underestimated, and it has to be further studied in order to properly assess future transportation needs in the county.

Road Maintenance

Most streets and roads in the county are maintained by VDOT. State law requires VDOT to assume operation and maintenance responsibilities for up to one-quarter mile of new road in each locality per year, provided the roads are constructed to VDOT specifications.

This provides an effective mechanism to encourage developers to construct high-standard roads for subdivisions and other projects—to then turn them over to VDOT for maintenance.

However, this approach creates problems for rural localities where needs are vastly different from those of more urban areas, like Richmond, for which VDOT standards are more applicable.

County officials should coordinate with VDOT to

determine the most appropriate use of general standards.

5.2.2 Standards

Westmoreland County should consider translating into law the standards proposed by the *NNPDC Transportation Corridor Protection Plan* (2000). This can be accomplished in the form of a Highway Corridor Overlay District (HCOD) that should cover, at least, Route 3.

As per the Corridor Protection Plan, such an overlay district should address the following basic standards:

Turn Lanes

By separating turning vehicles and through traffic, turn lanes can improve highway safety and efficiency. In general, left-turn lanes should be required at median crossovers, and right-turn lanes should be required at all commercial entrances and side streets. In some cases, the use of a paved shoulder can substitute for a right-turn lane.

Number of Access Points

Each tract of land should be permitted one point of direct or indirect access to the public roadway system, provided that such access conforms to the corner-clearance and sight-distance requirements. Where the roadway frontage of a tract of land is greater than 500 feet, an additional access point may be permitted, if it is determined in consultation with VDOT that such access will not be detrimental to highway safety, capacity, or function.

Corner Clearance

This technique is related to driveway spacing. It addresses the distance from roadway intersections to the nearest driveway. On the primary road (such as Route 3), clearances should be 400 feet upstream of the intersection and 250 feet downstream. On the intersecting street, the clearances should be 250 feet upstream and 100 feet downstream.

Sight Distance (Visibility)

Sight distances provided along the HCOD should be a minimum of 1,000 feet. Where town and village areas have posted speed limits below those of the main artery, the county and VDOT may consider sight distances of less than 1,000 feet.

Crossover Spacing and Consolidation

Like driveways, median crossovers require adequate spacing for efficient highway function. In general, full-access crossovers should have a minimum spacing of 0.5 miles, while directional crossovers should be a minimum of 0.25 miles apart. In some cases, attaining this standard may require closure of existing crossovers.

Median Crossover

Where a proposed development fronts an existing or planned median crossover, access from the development to adjacent sites should be provided to promote shared access and minimize demand for additional crossovers.

Signal Spacing and Timing

Because the spacing of signals dramatically affects roadway function, a spacing of 0.5 miles should be maintained in developing areas, and a spacing of 0.25 miles in developed areas.

Inter-Parcel Connection

Connecting adjacent parcels by means of an access drive can eliminate short local trips on the main road. Where new commercial development occurs, the county should require connection to adjacent commercial uses or "stubbing" of connector roads to adjacent, vacant, commercial parcels.

Crosswalks and Pedestrian Safety

Crosswalk enhancements are needed at various locations where Route 3 intersects key points of commercial interest in villages and close to incorporated town borders. Pedestrian walkways should be incorporated into each project and should be coordinated with on-site landscaping so as to minimize conflicts with vehicular traffic.

Gateways

Formal, landscaped entrances to the county and the towns within it provide visitors with a good first impression. As such, their appearance, traffic flow, and character are extremely important.

Transition Areas

Transition areas are those where road uses are predominantly highway-oriented, but also where speed limits begin to come down and the highway's rural character shifts to suburban and commercial.

Setbacks

In order to preserve and enhance highway safety and efficiency, setbacks should be provided for front, side, and rear yards on all developments subject to the HCOD. Setbacks should remain free from all development, including buildings, parking areas, gas pumps, canopies, and similar structures and facilities. Where necessary to accommodate an approved circulation plan, access driveways may be permitted within setbacks.

For large developments such as shopping centers, setbacks should apply to the full perimeter of the project, not to internal property lines.

Setbacks for rural roadway sections should be 50 feet from the right-of-way for front yards, 15 feet from the property line for side yards, and 20 feet from the property line for rear yards.

For town and village areas, where traditional shallow setbacks contribute to local character, new development and redevelopment should conform to the traditional setbacks. In these areas, existing building frontages should constitute a "build-to" line, with moderate variations permitted based on the existing pattern. Side and rear setbacks should also follow traditional patterns.

Lighting

All lighting should be designed, located,

and arranged so as not to direct glare on adjoining streets or residential properties. Site lighting other than that needed for security purposes should be set on a timer system that shuts off all but security lighting by 11:00 p.m.

Landscaping

Landscaping should preserve and enhance the visibility and visual quality of designated corridors, as well as reduce the volume and improve the quality of stormwater runoff.

Site plans should include a landscaping plan, drawn to the same scale as the site plan, and showing the location, size, and description of all landscaping materials in relation to structures, parking areas, and driveways.

Signs

To manage roadway signs in a manner consistent with traffic safety and corridor appearance, the following standards should be adopted:

Number: One freestanding sign per main entrance, not to exceed two signs per development. For commercial properties, each structure should be permitted one on-structure sign, in addition to the freestanding sign

Size: One square foot per 5 linear feet of lot frontage, up to a maximum of 32 square feet, for freestanding signs. The square footage for on-structure signs should be one square foot per linear foot of building frontage, up to a maximum of 100 square feet.

Location: No freestanding sign should be located closer than 15 feet to the right-of-way of a designated HCOD route. Signs should not obstruct sight-distances requirements.

Height: The maximum height for freestanding signs should be 5 feet above grade. Signs may be placed on landscaped berms or structural bases no higher than 3 feet tall.

Construction: Freestanding signs should be ground mounted. Signs should be designed and constructed to complement the architecture of the building to which the sign refers.

5.2.3 Scheduled VDOT Projects

Project Number	Description
103582	**EN12 – Monroe Birthplace Timeline Walk**
T17984	**Route 3 – Passing Lanes Potomac Mills/Flat Iron**
108737	**Pave Unpaved Road – Madison Drive**

Source: 2017 Final Six Year Improvement Program, VDOT.

GOALS

Directly Related to Transportation

- Safer roads
- VDOT maintenance of road capacity according to traffic volumes

Related to Land Use

- Minimizing the impact of development proposals on major roads

- Primary road intersections that maximize economic-development potential
- Connection of residential and non-residential areas with adjoining neighborhoods, via internal roads and trails
- Developments that contribute to the improvement of the local transportation infrastructure
- Locate any new industrial uses so as to keep impacts on the public road network to a minimum
- Ensure safe road access into industrial use sites

Related to Quality of Life & Environment

- Preserved rural views along main highways
- Greenways
- Improved appearance of highly visible focal points like county entrance, corridors, medians, and highway frontage of undeveloped parcels
- Bicycle and pedestrian trails

5.2.4 Other Transportation Modes & Options

Buses

The development density of Westmoreland County does not lend itself to the provision of fixed-route, fixed-schedule bus services—at least not without significant subsidies.

Bay Transit has one bus operating in the county, providing on-demand, curb-to-curb service for all Westmoreland County residents, Monday to Friday, from 6 a.m. to 6 p.m. The service requires riders to call 24 hours in advance to schedule a pick-up and drop-off, and to be flexible with their schedules. A Bay Transit bus offers a commuter service to Dahlgren from Monday to Friday, departing Colonial Beach at 6:00 a.m. and returning from Dahlgren at 4:00 p.m.

The Colonial Beach Transit System—also operated by Bay Transit—runs one bus on alternating schedules:

- Service within the Town of Colonial Beach (Mondays, Wednesdays, and Fridays, from 9 a.m. to 2 p.m.)
- A day trip to the City of Fredericksburg (Tuesdays and Thursdays, leaving Colonial Beach at 8:30 a.m. and departing Fredericksburg at 2:30 p.m.)
- A day trip to Potomac Mills every third Wednesday of the month

Carpools & Vanpools

The Northern Neck Rideshare Program (NNRP) maintains a commuter database to provide residents with matches that facilitate the formation of carpools and vanpools. This is a free service made possible by a state grant administered by the Northern Neck Planning District Commission.

The trend in inter-county commuting for Westmoreland County has been for a higher proportion of the resident workforce to commute outside of the county for employment. The tables below show the commuting pattern according to the 2000 US Census and according to the most recent information provided in 2016.

Individuals who live *and* work in Westmoreland County	2,876	36% of Total
In-Commuters	956	12%
Out-Commuters	4,158	52%
Net Out-Commuters	3,202	

Source: U.S. Census 2000

Individuals who live *and* work in Westmoreland County	1,414	15% of Total
In-Commuters	1804	19%
Out-Commuters	6025	65%
Net Out-Commuters	4,301	

Source: Route 3 Northern Neck Corridor Improvement Study, May 2016, VDOT

Carpools and vanpools are a viable option, but most commuters have been reluctant to join them with gas prices under $3.00 per gallon.

Other activities of the NNRP include employer outreach, the promotion of *telework* as an alternative option to commuting, and long-term planning to improve mobility throughout the region by increasing the availability and use of alternative modes of transportation.

Park & Ride Lots

There are two park-and-ride lots in the Northern Neck, and they are both located in Westmoreland County—one at Oak Grove, the other on Route 3, not far east from the Town of Montross.

The lots have been popular with commuters using vanpools, and the county should explore other locations for additional park-and-ride lots for when they are needed.

Medicaid Taxi Services

Several private companies offer taxi services throughout the county and beyond. To be eligible, a passenger must have the required Medicaid documentation. The county's website provides a list of current providers.

Sidewalks, Bikeways & Greenways

Non-roadway improvements such as bike lanes, sidewalks, and greenways perform a vital community function. They link residential areas with businesses, schools, and historic or scenic sites. Sidewalks are mostly available in the towns of Colonial Beach and Montross. The rest of the county offers few spaces where pedestrians can walk safely.

Bikeways and sidewalks should be considered in all road projects (improvements and new construction). The inclusion of sidewalks and bikeways concurrent with road improvements is much easier and cheaper than retrofitting an existing road.

Small projects—such as painting bike-lane stripes on existing roadways with sufficient pavement width—could be a useful start in providing these facilities and getting motorists accustomed to dealing with bicycles.

Possibilities for striping include the four-lane portion of Route 3 south of Montross, the portion of Route 3 near Washington & Lee high school, and the intersection improvements on Route 3 at Lyells.

A relatively short and easy project providing significant benefits would be paved shoulders for the portion of Route 3 north of Montross leading to Hurt Field and Chandlers Mill Pond. Installation of "Share the Road" signs will also begin the process of acclimating people to observing the rules of the road and making room for bicyclists.

Larger projects such as paved shoulders and separate paths could be constructed along heavily traveled or dangerous roadways, or as part of development projects in more populated areas.

In 2003, the NNPDC sponsored the development of a Transportation Corridor Protection Plan to address issues of public health, safety, and welfare along major roadway corridors. The plan recommended certain corridor-protection policies and provided a model Highway Corridor Overlay District that Westmoreland County subscribes to.
Greenways also provide a unique transportation alternative in the form of walking, hiking, horse-riding, and biking trails. Widths of the trails and surrounding open space can vary greatly depending on factors such as property constraints or environmental features.

While the development of a continuous greenway over a long distance might be considered ambitious or impossible, access to smaller segments could provide greatly improved recreational opportunities in the county (Map 8.03, Section 8).

GOALS

- Roads that accommodate future improvements and eventual bus and transit services
- Roads that incorporate bikeways and sidewalks
- Bicycle and pedestrian trails
- Alternatives to private automobile dependency

Rail Transportation

Neither passenger nor freight rail service is available within Westmoreland County. And none is planned. The closest passenger service is Amtrak, in the City of Fredericksburg and the City of Richmond. Freight services can be found in West Point, the City of Richmond, and the City of Fredericksburg.

Air Transportation

There is no general-aviation airport in Westmoreland County, and no county or regional plans to build one. The Middle Peninsula Regional Airport (right outside Tappahannock) is 60 miles from Montross. Larger, regional airports include Richmond International (70 miles), Ronald Reagan National Airport (84 miles), and Williamsburg/Newport News International Airport (87 miles).

Water Transportation

Historically, Westmoreland County has seen a great deal of commercial and recreational activity among its docks, landings, piers, and wharves.

Commercial traffic has declined significantly with increased trucking services and personal automobile use. The county is not likely to experience again previous levels of activity associated with freighters and passenger ships.

However, several of its historical landings can benefit from tourism-related traffic. Maintaining proper channels for navigation and adequate depths for mooring—as well as determining suitable sites for dredge spoils—will continue to be high priorities to preserve the usefulness of Westmoreland's waterways.

5.3 Transportation Needs/Projects

Two recent regional transportation documents have been completed for Westmoreland County and neighboring counties. The first was the Northern Neck Planning District Commission's "2035 Regional Long Range Transportation Plan" completed in 2012. This Plan will serve as a long term strategy for the transportation network of the region and as a component of the Commonwealth of Virginia's 2035 Surface Transportation Plan.

The second regional plan was VDOT's "Route 3 Northern Neck Corridor Improvement Study" competed in May of 2016. This study updates and supplements previous work done in identifying and prioritizing projects on Route 3.

The study recognizes the importance of Route 3 as one of two main highways in the Northern Neck (the second being Route 360) and as the only highway that runs the entire length of the peninsula. The focus of the study was increasing the efficiency of the regional road network for local, seasonal, and freight traffic. While the localities support making all of Route 3 four-lane divided highway, the cost of such a project, and the lack of justification on the basis of safety or congestion, means that funding is unlikely for many years until traffic volumes increase significantly.

The study does conclude, however, that the installation of passing lanes at carefully selected locations would be an affordable and effective means of improving the efficiency of Route 3. This would be done by providing three-lane or four-lane sections to provide passing capability. These changes would support the regional network. The improvements for short term action are prioritized by the study. A list and map of the projects is included within this comprehensive plan in *Chapter 7. Supporting Documents*.

Improvements to the efficiency and reliability of Route 3 by adding reasonably spaced safe passing opportunities on the two lane road segments will support economic development in the county and region. The county supports these projects and priorities and will work with VDOT to implement them.

GOALS

- Work with VDOT to Identify geometric deficiencies within the county's road system and support projects that eliminate or improve such deficiencies
- Seek funding for improvements located within the county as identified in the "Route 3 Northern Neck Corridor Improvement Study" dated May, 2016, according to the priorities suggested by the study (on page 31)
- Work with VDOT and King George County to identify, design, and fund a location for

additional Route 3 passing lanes in western Westmoreland County (west of Oak Grove) or in eastern King George County (east of Route 301)

- Continue to work with VDOT to monitor transportation conditions and to study the transportation network to identify additional areas for improvement and adjust program planning as necessary in the future
- Work to address safety and roadway performance deficiencies, including those identified in The Northern Neck Planning District Commission's "2035 Regional Long Range Transportation Plan" on page 13
- Continue to work on the long-term vision of all of Route 3—from Route 301 in King George County, to Route 33 in Middlesex County—as a four-lane highway

Also, the Northern Neck Planning District Commission's "2035 Regional Long Range Transportation Plan" (2035 Plan) presented roadway analysis focused on safety, geometry and structure, and congestion. Through the review of available data, input at public meetings, and information provided by local and regional officials, the NNPDC, in conjunction with the local jurisdictions, prepared a list of priority locations. The priority list and map of projects for Westmoreland County is on page 13 of the 2035 Plan and is included within this comprehensive plan in *Chapter 7. Supporting Documents*. Priorities are based on roadway performance measures, safety considerations, or a combination of the two. The county supports the Westmoreland County's recommended projects and priorities and will work with VDOT to implement them. A more detailed discussion of all deficiencies and recommendations with planning level cost estimates is located in the 2035 Plan's Technical Report.

The Westmoreland County School District and Westmoreland County are planning together on constructing a replacement high school in the Montross area and a recreational park for the general public on a 103 acre site. Access roads and other facilities will be shared between a proposed new high school and the recreational park to the extent practicable.

Finally, the county intends to continue to participate in the Revenue Sharing Program to improve local county roads and to bring road segments into the state road system when appropriate.

The following is a list of specific projects for which are considered by the county to have the highest priority and for which cost estimates have been generated. The first two of these projects (#1 and #2) are discussed in the "Route 3 Northern Neck Corridor Improvement Study" competed in May of 2016. Project #3 was developed during joint planning between the Westmoreland County School District and the County. Maps showing the location of these projects is included within this comprehensive plan in *Chapter 7. Supporting Documents, Section 7.9 Other Documents (Attached)*.

Transportation Needs and Recommendations

1.
UPC #109478
Route 3 Passing Lanes at Potomac Mills/Flat Iron
Estimated Cost: $12,750,000

2.
(No UPC)
Route 3 Passing Lanes at Lerty/Montross
Estimated Cost: $14,700,000

3.
(No UPC)

Access roads for recreational park and high school at Montross Estimated Cost: $675,000

6. IMPLEMENTATION & EVALUATION

6.1 Overview

The implementation of this plan is viewed as an ongoing process. Other plans, policies, regulations, and programs—at the federal, state, county, and town levels—will be coordinated to fully implement the goals of this plan.

The Vision2030 "To-Do" charts, found at the end of this *Implementation & Evaluation* section, will be the principal tool for implementing and evaluating the goals and actions set forth by this plan.

These "To-Do" charts are the result of several public meetings held in 2008 and 2009 to produce this comprehensive plan. Each chart lists the goals and actions to be implemented by the county's Planning Commission. Each acts as a checklist of actions to be undertaken in order to reach the goals.

6.2 Tools of Implementation

In addition to the Vision2030 "To-Do" charts, several tools are available to planners for implementation.

6.2.1 Community Participation

Involvement of the business community, civic groups, and other organizations is essential to the success of this comprehensive plan. Private-sector participation also eases the burden placed on the county government and administration to implement the plan.

Land Use Administration Tools

6.2.2 Subdivision Ordinance

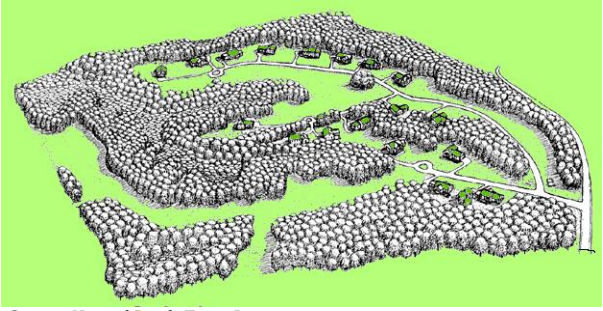
The division of land—for immediate or future transfer of ownership—can be controlled with the use of subdivision ordinances. Standards include the minimum right-of-way width, pavement width, block length, lot size, water-and-sewer facilities, and parks and recreation areas. These requirements are intended to insure orderly development. They also help reduce a locality's cost of providing public facilities and services. In accordance with §15.1-466 of the Code of Virginia, all municipalities in Virginia must have such ordinances.

Revisions to subdivision ordinances should always address the protection of sensitive environmental features and the preservation of useable open space, particularly during the process of designing and platting subdivision lots.

6.2.3 Open-Space Subdivision (Cluster Development)

Open-space subdivision presents a cost-effective alternative to conventional residential development. Clustering of homes may offset the negative impact of conventional zoning and subdivision ordinances, which sometimes encourage sprawl.

By clustering improvements on less sensitive portions of a property, environmentally vulnerable lands and open spaces can be preserved while maintaining allowable density.



Source: Natural Lands Trust, Inc.

Typically, reduced lot sizes and closer arrangement of structures is exchanged for the preservation of useable open space.

From the developer's point of view, this approach is worth considering because it nearly always reduces construction costs by lessening utility and infrastructure requirements of the site.

A further advantage of clustering comes from the relative freedom in design options that this approach offers, as opposed to conventional, cookie-cutter lot patterns.

6.2.4 Planned Unit Development (PUD)

PUDs allow developers to propose a mix of land uses in exchange for the protection of environmentally sensitive areas.

They can be effective in encouraging traditional town development patterns, which favor neighborhoods with parks and squares, a mix of housing types, and an emphasis on alternative access and expanded public use of community spaces.

Such developments encourage walking and pedestrian accessibility to commercial areas, as well as building placement to spatially define streets and open spaces.

6.2.5 Erosion and Sediment-Control Ordinance

Last adopted on July 28, 2008, and designed to control sediment pollution, this ordinance helps protect the water and land resources of Westmoreland County.

6.2.6 Flood-Plain Management Ordinance

Loss of life and property, the disruption of commerce and government services, and large expenditures of public funds for flood protection and relief can be prevented by:

- Regulating development, uses, and activities that—acting alone or with other existing or future development, uses, and activities—will cause unacceptable increases in flood risks.
- Restricting or prohibiting certain development, uses, and activities from locating within areas subject to flooding.
- Requiring all development, uses, and activities that *do* take place in flood-prone areas (Map 8.18, Section 8), to be designed, built, or organized in a manner that will allow them to withstand flooding.
- Protecting individuals from buying lands and structures that are unsuited for intended purposes because of flood hazards.

This ordinance was last adopted by the county on January 15, 2015. The current Flood Insurance Rate Maps have an effective date of April 16, 2015.

For property in the county to be eligible for Federal Flood Insurance, the county must enact such an ordinance and remain in good standing with its implementation, as determined during community reviews by the FEMA. This ordinance, combined with other appropriate measures, can also effect flood insurance rates. (See Section 6.2.32 for more information on this program.)

6.2.7 Land Application of Bio-solids Ordinance

The application of bio-solids (a.k.a. sludge) on agricultural lands needs to be properly implemented and enforced. This ordinance secures and promotes the health, safety, and welfare of the county's citizens. It deters the creation of a public nuisance, and prevents pollution of soils and water.

6.2.8 Solid-Waste Ordinance

This ordinance regulates the removal, hauling and disposal of garbage and trash. It controls the establishment of transfer stations, convenience centers, and incinerators in the county.

6.2.9 Wetlands Ordinance

There are approximately 6,300 acres of tidal wetlands in Westmoreland County, as defined and regulated in the county's Wetlands Ordinance. In addition to their aesthetical and recreational value, these areas are important for the role they play in the coastal ecosystems.

Coastal ecosystems reside at the interface between the land and water, and are naturally very complex. They perform a vast array of functions by way of shoreline stabilization, improved water quality, and habitat for fishes; from which humans derive direct and indirect benefits.

The science behind coastal ecosystem resource management has revealed that traditional resource management practices limit the ability of the coastal ecosystem to perform many of these essential functions. The loss of these services has already been noted throughout coastal communities in Virginia as a result of development in coastal zone areas coupled with common erosion control practices. Beaches and dunes are diminishing due to a reduction in a natural sediment supply. Wetlands are drowning in place as sea level rises and barriers to inland migration have been created by construction of bulkheads and revetments. There is great concern on the part of the Commonwealth that the continued armoring of shorelines and construction within the coastal area will threaten the long-term sustainability of coastal ecosystems under current and projected sea level rise.

In the 1980s, interest arose in the use of planted wetlands to provide natural shoreline erosion control. Today, a full spectrum of living shoreline design options is available to address the various energy settings and erosion problems found. Depending on the site characteristics, they range from marsh plantings to the use of rock sills in combination with beach nourishment.

Research continues to support that these approaches combat shoreline erosion, minimize impacts to the natural coastal ecosystem and reinforce the principle that an integrated approach for managing tidal shorelines enhances the probability that the resources will be sustained. Therefore, adoption of new guidance and shoreline best management practices for coastal communities is now necessary to insure that functions performed by coastal ecosystems will be preserved and the benefits derived by humans from coastal ecosystems will be maintained into the future.

Policy Statement

In 2011, the Virginia Assembly passed legislation to amend §28.2-1100 and §28.2-104.1 of the Code of Virginia and added section §15.2-2223.2, to codify a new directive for shoreline management in Tidewater Virginia. In accordance with section §15.2-2223.2, all local governments shall include in the next revision of their comprehensive plan beginning in 2013, guidance prepared by the

Virginia Institute of Marine Science (VIMS) regarding coastal resource management and, more specifically, guidance for the appropriate selection of living shoreline management practices. The legislation establishes the policy that living shorelines are the preferred alternative for stabilizing eroding shorelines.

This guidance, found within the Comprehensive Coastal Resource Management Portal, is being prepared by VIMS for localities within the Tidewater region of Virginia. It explicitly outlines where and what new shoreline best management practices should be considered where coastal modifications are necessary to reduce shoreline erosion and protect our fragile coastal ecosystems. This guidance will include a full spectrum of appropriate management options which can be used by local governments for site-specific application and consideration of cumulative shoreline impacts. The guidance applies a decision-tree method using a based resource mapping database that will be updated from time to time, and a digital geographic information system model created by VIMS.

Recommendations

- Refer to the guidance presented in the locality's Comprehensive Coastal Resource Management Portal (CCRMP) prepared by VIMS to guide regulation and policy decisions regarding shoreline erosion control.
- Utilize VIMS Decision Trees for onsite review and subsequent selection of appropriate erosion control/shoreline best management practices, located at: http://ccrm.vims.edu/decisiontree/index.html.
- Utilize VIMS' CCRMP Shoreline Best Management Practices for management recommendation for all tidal shorelines in the jurisdiction.
- Consider a policy where the above Shoreline Best Management Practices become the recommended adaptation strategy for erosion control, and where a departure from these recommendations by an applicant wishing to alter the shoreline must be justified at a hearing of the board(s).
- Encourage staff training on decision making tools developed by the Center for Coastal Resources Management at VIMS.
- Follow the development of the state-wide General Permit being developed by VMRC. Ensure that local policies are consistent with the provisions of the permit.
- Evaluate and consider a locality-wide permit to expedite shoreline applications that request actions consistent with the VIMS recommendation.
- Seek public outreach opportunities to educate citizens and stakeholders on new shoreline management strategies including Living Shorelines.
- Follow the development of integrated shoreline guidance under development by VMRC.
- Evaluate and consider a locality-wide regulatory structure that encourages a more integrated approach to shoreline management.
- Consider preserving available open spaces adjacent to marsh lands to allow for inland retreat of the marshes under rising sea level.
- Evaluate and consider cost share opportunities for construction of living shorelines.

As a signatory to the Chesapeake Bay Act, Virginia adheres to the overall policy of "no net loss" of wetlands, with a long-term goal of gaining wetland acreage.

The Westmoreland County Wetlands Board considers the locality portion of joint applications to the Virginia Marine Resources Commission and the Army Corps of Engineers for projects affecting tidal wetlands and navigable waters.

Under §62.1 of the Code of Virginia (1950), as amended, localities in the Tidewater portion of Virginia are authorized to adopt wetlands ordinances for regulating the use and development of wetlands. The county adopted a wetlands ordinance on January 1, 1983, and appointed a local wetlands board to administer the ordinance.

6.2.10 Building Codes

Building codes are intended to protect the health, safety, and welfare of the public by assuring that all structures are built and maintained to acceptable standards.

These codes are set forth in the Virginia Uniform Statewide Building Code and relate to such issues as fire, electrical, plumbing, construction, and maintenance.

Zoning Ordinance

6.2.11 Overlay Districts

An overlay district supplements the requirements of already established zoning districts (Map 8.25, Section 8).

With an overlay district, development can be further regulated by specific requirements of interest to the community.

Article 3 of the Zoning Ordinance contains the overlay district and related regulations for the Chesapeake Bay Preservation Area.

The strategies recommended by the Joint Land Use Studies (JLUS) for the Naval Air Station Patuxent River and Naval Support Facility Dahlgren Naval bases to promote compatibility between the bases and the neighboring jurisdictions, including Westmoreland County, includes an overlay district to be developed for issues that are location dependent. (See Section 3.2.4.7 for additional discussion.) Tools besides the use of an overlay district are recommended. Some of the strategies, such as to control light and glare and to enhance coordination between the bases and the communities thru ongoing cooperation, memorandums of understanding, establishing notice procedures for some types of proposed land development, may best be implemented through other administrative or regulatory tools. It may take a few years to get all of these elements in place. Once they are in place, it will be an on-going task to implement them and to keep them current and effective.

For example, corridor overlay districts can designate an architectural review board to evaluate changes proposed to historical buildings within the corridor.

In this way, compatibility with other buildings in the district can be maintained. Protection of historic landmarks is best accomplished by the creation of an overlay district.

Local governments also use overlay districts to protect the scenic character of corridors, minimize curb cuts and the proliferation of signage (i.e. billboards), and ensure safe access between arterial roads and adjacent properties.

Highway Corridor Overlay District

Implementing the Corridor Protection Plan will require coordination among the localities and VDOT. Some of the recommendations included herein fall under the control of the transportation

agency, while some fall under local control. Because the roadway corridors are regional resources, consistent application of the standards across political boundaries is a critical factor. This does not mean that the localities will necessary implement the standards in identical ways, but it does require adherence to the basic principles of corridor management.

The first step toward implementation involves adoption by the localities of comprehensive plan policies and subsequent ordinances. Not only will these actions begin the corridor protection process, they will demonstrate to VDOT a strong commitment on the part of the jurisdictions.

Based on this commitment, VDOT should work to ensure that highway improvements are consistent with the plan; where locally sanctioned standards are greater than VDOT minimum standards, the transportation agency should promote the higher provisions. Finally, the localities should involve VDOT in site plan and development review at the earliest possible stage, so that coordination can occur as an integral part of the review process.

6.2.12 Zoning for Resource Extraction

Given the potential oil and gas resources that underlie the western part of the county, and the need to balance the potential risks and benefits of extraction activities related to those and other extractive resources, and the unique character of extractive industries, the County should amend the zoning ordinance to ensure that such resource extraction activities do not cause significant damage to the groundwater resources that all county citizens rely on or cause other significant impacts. Zoning regulations could prohibit certain types or scales of resource extraction activities, and/or could set clear standards for the location, design, and development of extractive operations, including a process for review and approval, which could include rezoning to a new district tailored for resource development.

6.2.13 Development Review

The careful review of proposed developments provides the opportunity to examine the relationship of the proposed land disturbance with the physical features of a specific site and the surrounding properties.

Plan review is the vehicle for ensuring compliance with local regulations as they apply to a particular property.

A strong local development-review process is critical to ensure the protection of water quality as lands develop. Accurately assessing the physical characteristics of a site—and delineating environmentally sensitive features—is essential to protect these resources and minimize development costs.

6.2.14 Stormwater BMPs

Best Management Practices (BMPs) focus on water-quality problems caused by increased impervious surfaces from land development. They are designed to reduce stormwater volume, peak flows, and nonpoint-source pollution through various mitigating practices. Residential developments should provide either on-site BMPs or a regional facility that may be shared by other nearby developments.

6.2.15 Chesapeake Bay Preservation Act

The Chesapeake Bay Preservation Act was enacted in 1988 (Code of Virginia, §10.1-2100 et seq.) by the Virginia General Assembly. It protects water quality and natural resources that are fundamental to economic development in the Commonwealth.

Under the Act, Westmoreland County is called to promote the following:

- Protection of existing high-quality state waters
- Restoration of other state waters to a condition that will permit all reasonable public uses and support the propagation of aquatic life that might reasonably be expected to inhabit them
- Prevention of any increase in pollution
- Reduction of existing pollution
- Promotion of water-resource conservation in order to provide for the health, safety, and welfare of the present and future citizens of the Commonwealth

To implement these policies, the county adopted zoning and subdivision ordinance changes beginning in September of 1990. In addition to the Chesapeake Bay Preservation Area Overlay District regulations in Article 3 of the Zoning Ordinance, the county has also adopted and implements the Erosion and Sediment Control Ordinance (Title 54 of the Westmoreland County Code) and the Chesapeake Bay Preservation Area Land Disturbances Ordinance (Title 55 of the Westmoreland County Code).

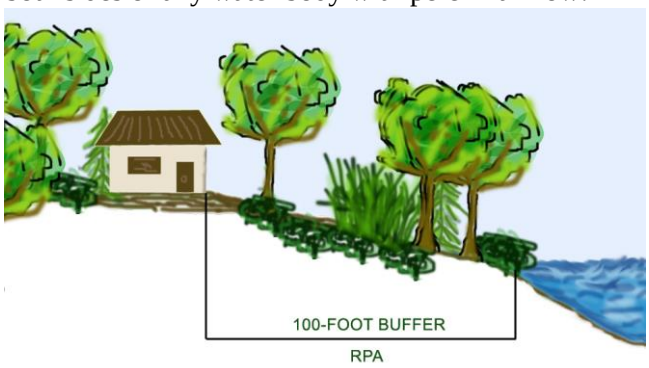
In the coming years, the county and its residents can expect redoubled efforts to clean up the Bay under the Watershed Improvement Plan adopted by the Commonwealth of Virginia as part of the regional Chesapeake Bay TMDL process.

6.2.16 Chesapeake Bay Preservation Area Overlay District (CBPAOD)

The Westmoreland County Board of Supervisors has recognized the importance of protecting the Bay through the designation of all county lands as a Chesapeake Bay Preservation Area Overlay District. The intent of this overlay district is to 1) safeguard state waters from pollution, and 2) promote water-resource conservation. (Map 8.21b, Section 8.)

6.2.17 Resource Protection Areas (RPAs)

The Resource Protection Area (Map 8.21b, Section 8) includes tidal wetlands, non-tidal wetlands connected by surface flow and contiguous to tidal wetlands or water bodies with perennial flow, tidal shores, highly erodible soils, and a 100-foot vegetated buffer area located adjacent to and landward of the components listed above and along both sides of any water body with perennial flow:



6.2.18 Resource Management Areas (RMAs)

The Resource Management Area of Westmoreland County consists of all lands in the County that are not in the Resource Protection Area.

6.2.19 Low-Impact Design (LID)

Low-Impact Design is an extremely effective approach in the management of stormwater runoff and water flow.

It incorporates site-specific techniques that result in enhanced water-quality protection, less costly infrastructural improvements, and a decrease in the need for large stormwater-retention basins.

The county's development ordinances should incorporate Low-Impact Design, appropriate

landscaping, and open-space measures that not only minimize impact to surrounding land uses, but also add value to the community.

Public and semi-public water-quality concerns should focus on schools, churches, institutions, and buildings with large parking lots and other impervious surfaces. These facilities should be encouraged to adopt LID retrofits and share parking facilities with other institutions. Water-quality improvement may also be realized by reexamining the institution's approach to grounds maintenance and vegetative practices.

A demonstration LID retrofit project has been implemented at The Regional Center (457 Main Street) in Warsaw, Virginia:

Details at www.nnpdc.org/NNPDC-PROJ/NNPDC-0002/nnpdc-proj-0002.htm

6.2.20 Greenways and Conservation Easements

The preservation of open space is often a critical element in protecting a community's character and sense of place. The most successful efforts to protect open space and community character are those that integrate a range of open-space approaches.

Greenways are corridors of linked public and private lands that provide access to parks and other open spaces, woods, and conservation areas. They may be in the form of trails, bikeways, or linear parks.

Permanent open-space areas are a complimentary component of all types of development that can add significant value to a project, provide recreational amenities, and enhance and protect environmental resources. Often, the real-estate value added to a project by open-space areas more than compensates for any loss in development potential.

Conservation easements are a reliable technique for preserving land. Property owners may sell or donate certain rights and interests in their lands to a government or non-profit organization, in exchange for certain tax benefits. The General Assembly has authorized the Virginia Outdoors Foundation to hold donated easements in the public interest.

6.2.21 Public Investment and Assistance Programs

The principal methods to provide funding to accomplish the goals of this plan are the county's annual budget, capital-improvements programs, and periodic appropriations.

There are also federal and state programs designed to aid localities in community development, historic preservation, infrastructure repair, and general capital needs. Here are some of them:

- *The Department of Environmental Quality (DEQ)*- Technical and grant assistance for the protection of ground and surface waters; technical assistance for the establishment and protection of preservation areas
- *Virginia Department of Housing and Community Development (DHCD)* – Block-grant program designed to increase a locality's business and employment opportunities, housing opportunities, and the availability of

community facilities; a Main Street Program provides financial and technical assistance to revitalize downtown and business districts

- *Virginia Economic Development Partnership (VEDP)* - Promotion economic development by offering technical assistance
- *Virginia Department of Conservation and Recreation (DCR)* - Areas: natural resources protection
- *Virginia Department of Health (VDH)* - Areas: Health services, septic-system permits
- *Virginia Department of Historic Resources (DHR)* Areas: Highway historic markers, surveys of historical structures, acquisition and rehabilitation of historic properties
- *Virginia Department of Transportation (VDOT)* - Areas: Maintenance and construction of roads, land-use reviews, traffic studies
- *Northern Neck Planning District Commission (NNPDC)* - Areas: Planning and coordination assistance, policy analysis, grant writing and management services, technical assistance

6.2.22 Capital Improvements Program (CIP)

A method through which expenditures on the part of a local government are planned and coordinated with the development pattern set forth in the comprehensive plan.

A CIP is generally developed for a five-year period. It is usually updated annually, and it plans for expenditures that involve large initial investments—including those in sewers, water systems, parks, and streets.

6.2.23 Business Incentives

Northern Neck Enterprise Zone – Provides job-creation grants (based on permanent, full-time jobs created) and real-property investment grants (based on qualified real property investments). These grants are available to businesses located on parcels designated Enterprise Zone parcels (Map 8.26, Section 8).

HubZone Program - A location-based, federal-contracting program for small businesses. Because of Westmoreland's proximity to several federal government agencies, businesses already in the county, as well as businesses relocating in Westmoreland, can substantially improve their bidding success and contract profitability by taking advantage of the HubZone Program.

6.2.24 Industrial Development Authority (IDA)

Established in 1970, the IDA assists the county with the creation and implementation of economic development efforts, such as the creation of the county's industrial parks.

6.2.25 Northern Neck Tourism Commission

Westmoreland County is active in regional tourism efforts through the NNTC, whose mission is to facilitate and promote tourism by capitalizing on the natural, historical, cultural, and recreational resources of the region.

Other state, federal, or regional agencies and programs

6.2.26 Northern Neck Soil & Water Conservation District

The NNSWCD is based in Warsaw (Richmond County) and covers the four counties of the Northern Neck. The NNSWCD's mission is to promote the stewardship of natural resources through leadership, education, and technical assistance.

6.2.27 Chesapeake Bay Commission

The Chesapeake Bay Commission is a tri-state legislative commission created in 1980 to advise the members of the General Assemblies of Maryland, Virginia and Pennsylvania on matters of Bay-wide concern.

6.2.28 Department of Environmental Quality.

DEQ reviews the county's comprehensive plan and ordinances for consistency with state regulations regarding the Chesapeake Bay Preservation Act, the Erosion and Sediment Control Act, and the Stormwater Management Act. Westmoreland County has adopted regulations to implement these acts.

Since 2014, DEQ is also responsible for permit reviews for larger users of groundwater for the area of Westmoreland County since the area was designated as part of a Groundwater Management Area. This program is focused on the supply of groundwater, which has been declining in this area, leading to falling water levels in major aquifers.

6.2.29 No-Discharge Zones

Through the establishment of NDZs, boaters are required to safely dispose of their sewage waste in marine pump-out facilities or dump stations. No discharges of boat sewage waste—whether treated or untreated—are allowed in these designated areas. Thus, the establishment of NDZs improves the overall water quality of the county. (See Section 7.6 for a list of marinas.)

As of 2015, the Virginia Department of Environmental Quality has applied to the US Environmental Protection Agency to designate all the tidal creeks in Westmoreland County as NDZs. Action has not been taken by the EPA.

Such zones are not a county responsibility, however the county can work with marinas or establish its own facilities where public restrooms and pump-out facilities are available to boaters, thereby assisting boaters in complying with the requirements and protecting water quality.

6.2.30 U.S. Environmental Protection Agency and the Virginia Department of Environmental Quality

The mission of these two agencies, one federal (EPA), one state (DEQ), is to protect human health and the environment. Both agencies assist Westmoreland County with regulatory and enforcement activities.

6.2.31 Coastal America Partnership

The Coastal America process joins the efforts of federal agencies with those of state, local, and private alliances to collaboratively address environmental problems along our nation's coasts.

6.2.32 Virginia Department of Transportation

The Virginia Department of Transportation, through its Fredericksburg District office, works closely with Westmoreland County to address all aspects of the county's transportation infrastructure.

6.2.33 FEMA Community Rating

The Community Rating System (CRS) rewards communities that go beyond the requirements set by

the National Flood Insurance Program (NFIP) for managing local floodplains. Flood-insurance premiums are discounted for participating communities in increments of 5% based on the rating achieved (e.g. a Class 1 community receives a 45% premium discount, while a Class 9 community receives a 5% discount).

The three goals of the CRS are: 1) Reduce flood losses; 2) Facilitate accurate insurance ratings; and 3) Promote awareness of flood insurance.

6.3 Revisions

To maintain this plan current, the Westmoreland County Planning Commission will review it annually. Full revisions, as per the Code of Virginia, will be officially undertaken every five years.

6.4 Implementation & Evaluation

The "To-Do" charts that follow will be used by the county to implement and evaluate the goals of this plan.

County & Economy

2030 Vision

Category	GOAL What do we want?	ACTION How do we accomplish it?	WHO Responsibility	STATUS	✓
Development – Residential	Adequate, convenient pedestrian circulation and access ways	Review and modify zoning and ordinances, if necessary, to match this goal Work with Montross and Colonial Beach to include benefits to pedestrians in their revitalization plans	PC, BOS		
Economic Development	More retail stores	Support and actively promote the Northern Neck Enterprise Zone Program by displaying posters, maps, and information about the program at the building-permit office Where public sewer service is available, rezone parcels to match their economic-development potential. Work with landowners to explore the possibility of converting part of their parcels to commercial zoning. Create an economic-development position in the county Encourage the purchase of county and Northern Neck products	NNPDC, CA, County Land Use PC, BOS BOS, CA		
Economic Development	More employers and jobs for young people, and higher-paying jobs	Maintain an active business-recruitment program to attract new businesses and help with the expansion of existing ones Participate in the Northern Neck-Chesapeake Bay Region Partnership's Business Visitation Program Support existing industries like fishing, farming, and forestry	CA CA, BOS BOS, CA, NNPDC,		

		so that they continue to be viable Promote the resources of the Northern Neck Technical Center, Rappahannock Community College, and state universities to local companies seeking technical and research assistance Support the Northern Neck Tourism Commission to develop a more robust tourism industry in the region, county, and towns Encourage technology training programs within the existing educational facilities	NNCBRP BOS, RCC, NN Tech Center, CA, NNCBRP, VEDP, VA Dept. of Business Assistance BOS Westmoreland County Schools, RCC, Technical Center		
Education	Better schools and teachers	Maintain competitive teacher salaries Improve facilities for the community, teachers, and students Better communication between Board of Supervisors and School District – continue dialog	BOS, School Board		
Federal & State Relations	Mitigate negative impact of unfunded mandates on county budgetary and staff resources	Cooperate with the Virginia Association of Counties, the National Association of Counties, and the Virginia Municipal League to control unfunded state and federal mandates Inform state and federal legislators and agencies of unnecessary or financially prohibitive requirements, and seek to eliminate or to reduce such requirements	BOS, CA		
Federal & State Relations	Regional cooperation with other counties of the Northern Neck	Consider the benefits of producing regional plans whenever possible (e.g. Water Supply Plan, EOP, Hazard Mitigation, Hazardous Materials Response Plan, Water Supply Plan, CEDS, Solid Waste Management Plan, etc.) Actively participate in meetings	BOS, CA		

		and activities of the Northern Neck Planning District Commission and the Northern Neck-Chesapeake Bay Region Partnership, the Northern Neck Chesapeake Bay Public Access Authority, and NNTC) Support Bay Transit with the goal of its providing service at a regional level rather than at a county level			
Governance	A county government that does a better job communicating with its citizens	Establish a public information system that offers better transparency of planning and zoning activities A better website, with regular updates. Have someone in charge and responsible for it. Address civic and professional groups; provide copies for public review at libraries and public facilities; and review all projects in accordance with Section 15.2-2232 of the Code of Virginia Better explain the reasons for raising taxes and fees	BOS, CA, Land Use, PC BOS, CA		
Governance	Constant readiness to implement improvements and find appropriate funding for them	Update the Capital Improvements Plan (CIP) annually and provide an annual report. Get the Planning Commission involved Utilize future sewer district, special taxing districts, grants, loans, and other funding techniques to provide community improvement	BOS, CA, PC		
Housing	Better housing choices (variety, affordability, densities, and locations)	Work with developers to encourage the construction of homes that meet different budgets within each development Support efforts to provide affordable housing as part of the larger community Create public-private partnerships to provide housing rehabilitation efforts for existing substandard units, and apply for federal and state funds to aid the process	BOS, PC		

		Strongly enforce building codes			
Recreation	Sports fields, parks and water recreation	Use the most current version of the Virginia Outdoors Plan to draw a list of what Westmoreland County needs to meet all state standards Encourage cooperation between private landowners, neighborhood associations, conservation land trusts, businesses, developers, public agencies, and other jurisdictions in developing a linear park and trail system Continue to actively participate in the Northern Neck Public Access Authority and consider locations for additional public access or recreational facilities Cooperate with VDOT on bridge repair or replacement projects in order to assist with options to provide water access at the sites	BOS, CA BOS, CA, PC, County Land Use BOS BOS		
Revitalization	Get rid of trash and abandoned buildings	Review and modify zoning and ordinances, if necessary, to match this goal Enforce zoning and ordinance laws and don't allow businesses to be run where not permitted Provide a system for citizens to complain about "residential junk" and "farm junk" that needs to be removed—and act on the complaints	BOS, CA, PC, Land Use		
Services	Better waste-disposal facilities	Improve access and provide more recycling options Improve collection of environmentally hazardous materials Keep the county's Solid Waste Management Plan up to date and relevant to development trends	BOS, CA BOS, CA BOS, CA, NNPDC		
Services	A litter-free county	Continue to cooperate with VDOT and participate in the Northern Neck Assign-a-Highway Program	BOS, CA, NNPDC		
Services	Better	Support efforts to create a	BOS, CA		

	telecommunications options	Northern Neck Broadband Authority to work with all Internet service providers in the region Strive for high-speed Internet services utilizing an open-access, regional fiber-optic network			
Services	Better emergency services	Review the effectiveness and viability of paid police, fire, and rescue services Continue to enhance volunteer services Support training opportunities for police, fire, and rescue—and coordinate with the region	BOS, CA		
Services	More local medical services	Explore the possibility of establishing a community clinic and birthing center	BOS, CA		
Tourism & Quality of Life	A better organized tourism industry that can provide jobs and income for the county	Participate in the Northern Neck Tourism Commission Support and advertise local festivals and events Develop a marketing plan for the county, and update it periodically	BOS, CA		

Key: Westmoreland County Planning Commission (PC), Westmoreland County Board of Supervisors (BOS), Northern Neck Planning District Commission (NNPDC), Northern Neck–Chesapeake Bay Region Partnership (NNCBRP), Westmoreland County Administrator (CA), Rappahannock Community College (RCC), Virginia Economic Development Partnership (VEDP)

Land Use

Vision 2030

Category	GOAL What do we want?	ACTION How do we accomplish it?	WHO Responsibility	STATUS	✓
Coastal Management	No boathouses in creeks or waterways where their height and bulk may have adverse visual effects	Review and modify zoning and ordinances, if necessary, to match this goal Follow the standards established by the Virginia Marine Resources Commission in "Criteria for the Siting of Marinas or Community Facilities for Boat Mooring" Allow only facilities that are aesthetically and functionally appropriate to the site Expand notification requirement regarding boat houses so that more than just next-door neighbors get a say	PC, BOS		
Conservation	The natural and wooded character of the county to endure	Promote historic, scenic and conservation easements as a means to preserve properties for public enjoyment and other conservation purposes without giving up ownership Work closely with the Parks & Recreations Department to coordinate any easements created for greenways, historic sites, water-access areas, or similar uses Require wooded buffers of 100 feet or more adjacent to roadways, Resource Protection Areas (RPAs), and residential subdivisions, except for properties dedicated to timber harvesting and reforesting – Goal: Ordinance that will	PC, BOS		

		require a permit for clear cutting, with the condition to reforest at least within a 100' from frontage road Require mitigation of commercial and industrial impact with performance standards, buffering, and setback regulations Develop zoning that establishes height limits of structures in the vicinity of mature trees Do not allow strip developments that does not blend well with surrounding Incorporate cluster development requirements in the zoning ordinances Implement a Corridor Overlay District and enforce it			
Development - Commercial	Keep commercial and industrial uses away from residential or sensitive areas, except in the case of commercial services to the residential community (i.e. mixed use)	Review and modify zoning and ordinances, if necessary, to match this goal Require buffering, screening or fencing in order to aid the transition of dissimilar land uses	PC, BOS		
Development - Industrial	Protect the county's ground and surface water resources, public facilities and infrastructure, fiscal well-being, tourism and agricultural industries, and the overall rural quality of life, from any potential impacts of resource extraction activities, including oil and gas extraction	Amend the zoning ordinance to limit the potential impacts of resource extraction industries through prohibitions and/or regulation of extraction activities (see action under Water Quality)	PC, BOS		
Development - General	Consider the overall impact of every new development	Review existing and proposed residential-unit locations against public revenues and expenditures Require each new development to submit impact studies and address concerns related to traffic, historic and archeological resources, water quality and quantity, and the	PC, BOS		

		county's budget prior to the preparation of development plans Establish and enforce "Adequate Public Facilities" ordinances Approval of projects only if the proposal does not exceed present capacities of facilities and services Establish and enforce policies that discourage residential uses in areas unsuitable for septic systems and areas not planned for sewer service Create incentives to encourage infill development in residential zones to maximize potential of land that already has access to public facilities and services Where possible, ensure that adequate land zoned for higher-density housing be located in areas served by public utilities and convenient to public transportation and major thoroughfares, employment centers, schools, recreational facilities, and shopping facilities Require the submission and adherence to conceptual plans with every rezoning and special-exception application submitted (change ordinance to make this possible)			
Development - General	Limits to the non-agricultural uses of agricultural land, in order to preserve the rural nature of the county	Review and modify zoning and ordinances, if necessary, to match this goal	PC, BOS		
Development - General	Community-living atmosphere	Develop neighborhood plans in cooperation with existing property-owner associations Require mixed-use communities that encourage a village feel and limit encroachment on agricultural	PC, BOS		

		land Support Montross and Colonial Beach in the revitalization and preservation of their small-town character Establish, via the Capital Improvement Program, an underground utility escrow fund, with priority on the areas surrounding Colonial Beach and Montross Determine how many housing units for the elderly are needed in the county and work with organizations like Bay Aging to incorporate such units in existing and new subdivisions Limit public-housing projects whose sole goal is the concentration of low-income homes. Favor mixed-use approaches instead			
Development - Residential	Neighborhoods that foster a sense of place and community and avoid the image of continuous suburban sprawl	Encourage clustering of residential development using smaller lots and larger common spaces with wooded buffers (a.k.a. "Conservation Planning" principles) Encourage off-street parking areas for multi-family residential development Encourage innovative residential design practices Accommodate medium-density residences (such as apartments and townhouses) within existing Primary Growth Areas Accommodate low-density, single-family homes in existing subdivisions, if possible Determine the specific needs of each existing residential subdivision, with the purpose of incorporating those needs in the county's community planning efforts Encourage pedestrian-friendly	PC, BOS		

		communities with appropriate infrastructure			
Governance	Better communication with citizens regarding land-use issues	Address civic and professional groups; provide copies for public review at libraries and public facilities; and review all projects in accordance with Section 15.2-2232 of the Code of Virginia	PC, BOS		
Planning	Balanced growth between residential and non-residential areas	Encourage new development that is compatible with the character of adjoining uses Reduce incompatible subdivision-development situations adjacent to lands zoned or used for agricultural purposes, including setback requirements Discourage development on lands currently designated agricultural and forestal and on sensitive areas such as steep slopes, wetlands, tributaries and impoundments, greenways, wildlife habitat, and historical and archeological sites Continued cooperation relative to Towns of Colonial Beach and Montross Reserve sewage disposal sites (i.e. drain fields) for existing development not on public sewer system Maintain specific planning boundaries for Primary and Secondary Growth Areas such as Oak Grove, Hague, Montross, and Colonial Beach; encourage practices that reinforce the visual separation of these areas from surrounding lands Monitor development trends and review priorities as needed Develop a model (i.e. buildout) for the county and use it to weight the merits of every development proposal, with the goal of encouraging sustainable	PC, BOS		

		development Review and modify zoning and ordinances, if necessary, to match this goal			
Tourism & Quality of Life	Beautification of existing developments by the installation of buffering	Review and modify zoning and ordinances, if necessary, to match this goal	PC, BOS		
Tourism & Quality of Life	Protection of all archeological and historical properties in the county	Identify and document historical and archeological sites in the county, following guidelines from the Virginia Department of Historic Resources and the Department of Interior. Consider these sites when reviewing every development proposal Register all eligible sites at the state and national levels Require archeological studies and historical evaluations for development proposals on lands identified as meriting such a study, and require recommendations to be implemented Promote voluntary techniques to preserve historical properties Discourage the demolition or inappropriate use of cultural and historic resources	PC, BOS		
Tourism & Quality of Life	Effective and productive regulations concerning signs and advertisements	Review and modify zoning and ordinances, if necessary, to match this goal	PC, BOS		

Key: Westmoreland County Planning Commission (PC), Westmoreland County Board of Supervisors (BOS), Northern Neck Planning District Commission (NNPDC), Northern Neck–Chesapeake Bay Region Partnership (NNCBRP), Westmoreland County Administrator (CA), Rappahannock Community College (RCC), Virginia Economic Development Partnership (VEDP)

Vision 2030 Natural Resources Protection

Category	GOAL What do we want?	ACTION How do we accomplish it?	WHO Responsibility	STATUS	✓
Coastal Management	Increased shellfish acreage & productivity	Encourage the creation of new hatchery projects	NNPDC, NNCBRP, PC, BOS		
Coastal Management	An estuarine ecosystem whose sensitive areas are protected	Locate boat-mooring facilities away from shellfish beds and other recreational and commercial fisheries, sea grass communities, and areas frequented by endangered plants and animals Encourage the concentration of boat slips in a single facility in densely populated areas Limit number of piers/wharves crossing vegetated wetlands & sea-grass areas to the number necessary for water access	PC, BOS, Wetlands Board		
Coastal Management	Facilities that encourage the public to protect the waterways	Provide solid waste disposal and recycling facilities, pump-out facilities, and other sanitary facilities with convenient user access to those docks with significant levels of public use Require automatic fuel shutoff valves for all fuel facilities and ensure all employees, staff, and/or residents are familiar with proper operation of equipment and spill contingency plans	PC, BOS, Virginia Coastal Program		
Coastal Management	Maintenance of the existing shoreline profile as much as possible	Support a comprehensive study that addresses the effects of piers, groins, rip-rap, bulkheads, and other shoreline erosion-control and property-improvement projects on the erosion and accretion of soils and sand	PC, BOS, Virginia Coastal Program		

Conservation	Agricultural, fishing, and forestry practices consistent with environmental standards	Encourage the use of Best Management Practices	PC, BOS		
Conservation	A county that works with landowners and the public on conservation issues	Consider a Green Infrastructure Plan Develop specific recommendations for voluntary and regulatory means to protect open spaces, agricultural lands, forest lands, waterfront lands, scenic vistas, and wildlife habitats Encourage conservation easements and the use of land trusts to facilitate open space preservation Educate the public about voluntary techniques to conserve sensitive environmental lands, wildlife habitats, and agricultural, forestal, and other open-space lands Encourage the development of educational access and passive recreation to special environmental and historical areas Support the continued development of valuable forestry resources and encourage reforestation for sustainable forestry in the county Support environmental education programs in the school system and through the Parks and Recreation Department Encourage the use of voluntary techniques, such as the creation of conservation easements, agricultural and forestal districts, land trusts, and open-space residential developments Develop an assistance, information, and education	PC, BOS, NNPDC, Northern Neck Land Conservancy, Tidewater RC&D		

		policy to coordinate and administer voluntary preservation efforts, investigate additional techniques and incentives, and promote landowner participation Encourage close cooperation between landowners and the Department of Forestry			
Conservation	A county that maintains its rural character	Continue to develop and enforce zoning regulations and ordinances that ensure conservation of agricultural land Encourage conservation easements of environmentally-sensitive lands when other protection measures are not effective Protect existing agricultural operations through techniques such as notification to new property owners of allowed uses and practices and the need to maintain adequate buffers in new developments to avoid potentially adverse impacts from existing operations	PC, BOS		
Energy Efficiency	Active county participation in energy conservation	Promote the construction of fuel-efficient homes and businesses Review energy consumption by the county and look for possible savings by adopting new technologies or establishing guidelines Promote energy conservation measures to the public and with the assistance of non-profit groups	PC, BOS, NNPDC		
Stormwater & Erosion Control	Improved flood-insurance ratings for county residents	Support participation in FEMA's hazard mitigation plan Investigate FEMA's community-rating system to see where the county stands Encourage good design practices, such as community retention ponds Maintain known "problem" ditches in order to alleviate	PC, BOS, NNPDC		

		flooding of roadways and property in cooperation with the Virginia Department of Transportation and private landowners			
Stormwater & Erosion Control	Continued efforts to protect the Chesapeake Bay	Encourage stormwater run-off to be less than pre-development rates on each developed site Require stormwater management features of every new development Require wooded buffers of 100 feet or more adjacent to Resource Protection Areas (RPAs), and residential subdivisions, except for properties dedicated to timber harvesting and reforesting – Goal: Ordinance that will require a permit for clear cutting, with the condition to reforest at least within a 100' from frontage road Support common driveways and interconnection of developments Investigate the expansion of the current Resource Protection Area (RPA) to include intermittent streams and slopes greater than 25% Apply local ordinances that reach the objectives of the Bay Act regarding water-quality improvements through redevelopment and the reduction of pollution sources Use non-structural approaches to manage shoreline erosion, especially in areas with low-to-moderate wave energy	PC, BOS		
Tourism & Quality of Life	Consideration of alternative conservation methods to enhance the value of existing natural resources	Request the Virginia Department of Conservation and History Resources to review the potential of the Rappahannock and Potomac Rivers for Scenic River designation; educate landowners as to the limitations and benefits of such designation	PC, BOS, Northern Neck Public Access Authority		

		Encourage a community ramp on the Rappahannock and a community marina with supporting services Support the Northern Neck National Heritage Area Designation study			
Water Quality	The future growth and economic vitality of the County depends on procuring and protecting long-term water resources; thus long-term planning of water resources and short-term action on all land use issues should seek to protect those potable resources as much as possible. Carefully limit potentially adverse land uses such as mineral extraction to ensure a proper balance between costs and benefits to the public	Support the development of the regional water-supply plan Support regional efforts to construct groundwater monitoring wells Minimize impervious cover and use design techniques such as swales Enforce rules that protect water quality and avoid runoff Continue to monitor existing and potential sources of surface and groundwater pollution and take action to prevent or control the effect of these sources Allow for potential water quality improvements through the reduction of pollution sources and through redevelopment efforts Amend the zoning ordinance to limit the potential impacts of resource extraction industries through prohibitions and/or regulation of extraction activities (see action under Land Use)	PC, BOS, NNPDC, NNCBRP		

Key: Westmoreland County Planning Commission (PC), Westmoreland County Board of Supervisors (BOS), Northern Neck Planning District Commission (NNPDC), Northern Neck–Chesapeake Bay Region Partnership (NNCBRP), Westmoreland County Administrator (CA), Rappahannock Community College (RCC), Virginia Economic Development Partnership (VEDP)

Transportation

2030 Vision

Category	GOAL What do we want?	ACTION How do we accomplish it?	WHO Responsibility	STATUS	✓
Economic Development	Primary road intersections that maximize economic-development potential	Review and modify zoning and ordinances, if necessary, to match this goal Consolidate Enterprise Zone parcels around intersections of Primary Growth Areas	PC, BOS, NNPDC, VDOT		
Infrastructure	Roads that accommodate future improvements and eventual bus and transit services	Review and modify zoning and ordinances, if necessary, to match this goal Include future public transit considerations when reviewing development plans along primary roads	PC, BOS, NNPDC, Bay Transit		
Infrastructure	Bicycle and pedestrian trails	Support regional efforts to develop trails, bikeways and greenways adjacent to thoroughfares Create and implement a detailed Sidewalk Plan and Bike Plan Review Zoning & Ordinances to require walking and biking trails within any major developments	PC, BOS, NNPDC		
Marine Transportation	Maintain established waterways for boaters (a.k.a. water trails)	Identify sites that require regular dredging, and work with the Corps of Engineers to keep waterways dredged	PC, BOS, NNPDC		
Planning	Connection of residential and non-residential areas with adjoining neighborhoods, via internal roads and	Review and modify zoning and ordinances, if necessary, to match this goal	PC, BOS, VDOT		

	trails				
Planning	Minimizing the impact of development proposals on major roads	Review and modify zoning and ordinances, if necessary, to match this goal Limit access points and require side-street access and joint entrances	PC, BOS		
Planning	Developments that contribute to the improvement of the local transportation infrastructure	Review and modify zoning and ordinances, if necessary, to match this goal Make sure that private land developments adequately provide transportation improvements needed to support such developments	PC, BOS		
Public Transit	Alternatives to private automobile dependency	Actively pursue additional local, state, and federal funding to accelerate the construction of needed transportation facilities Continue cooperation with VDOT and Bay Transit in the provision of transportation services for citizens with special needs, such as the elderly and disabled Support of the Northern Neck Rideshare Program and the creation of Park & Ride lots in the county Support Bay Transit with the goal to provide service at a regional level rather than at a county level Support the establishment of fixed-route service	PC, BOS, NNPDC, Bay Transit		
Tourism & Quality of Life	Preserved rural views along main highways	Investigate the need to establish scenic or historic overlay districts to provide specific preservation measures along Routes 3, 202, 203, and 205, and along other roads that need different or more specific corridor-protection techniques	PC, BOS, NNPDC, VDOT		
Tourism & Quality of Life	Improved appearance of highly visible focal points like county entrance, corridors, medians, and highway frontage of undeveloped parcels	Encourage individual groups, organizations or businesses to "Adopt a Highway" Support public funding and seek citizen support for improvements Support the Assign-a-Highway	PC, BOS, NNPDC, VDOT		

		Program			
Tourism & Quality of Life	Road buffers, setbacks and landscaping along designated greenbelt routes	Review which roads should be designated greenbelt routes Review and modify zoning and ordinances, if necessary, to match this goal Require wooded buffers of 100 feet or more adjacent to Resource Protection Areas (RPAs), and residential subdivisions, except for properties dedicated to timber harvesting and reforesting – Goal: Ordinance that will require a permit for clear cutting, with the condition to reforest at least within a 100' from frontage road	PC, BOS		
Tourism & Quality of Life	Having the safest roads possible	Enforce speed limits	Westmoreland County Sheriff, Virginia State Police		
Working with VDOT	Maintenance of road capacity related to traffic volumes	Maintain a local ranking system for establishing priorities for road improvement projects Attempt to provide loan and grant funds for the improvement of substandard roads in residential subdivisions that minimize the use of the county's general funds	BOS, VDOT		
Working with VDOT	Road standards that are appropriate to Westmoreland County	Support state legislation that requires VDOT to apply more flexible standards when it comes to accepting new rural roads into the State Highway system	BOS		

Key: Westmoreland County Planning Commission (PC), Westmoreland County Board of Supervisors (BOS), Northern Neck Planning District Commission (NNPDC), Northern Neck–Chesapeake Bay Region Partnership (NNCBRP), Westmoreland County Administrator (CA), Rappahannock Community College (RCC), Virginia Economic Development Partnership (VEDP), Virginia Department of Transportation (VDOT)

7. SUPPORTING DOCUMENTATION

7.1 Code of Virginia, Title 15.2-2223 of the Code of Virginia

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

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

The comprehensive plan shall be general in nature, in that it shall designate the general or approximate location, character, and extent of each feature, including any road improvement and any transportation improvement, shown on the plan and shall indicate where existing lands or facilities are proposed to be extended, widened, removed, relocated, vacated, narrowed, abandoned, or changed in use as the case may be.

As part of the comprehensive plan, each locality shall develop a transportation plan that designates a system of transportation infrastructure needs and recommendations that may include the designation of new and expanded transportation facilities and that support the planned development of the territory covered by the plan and shall include, as appropriate, but not be limited to, roadways, bicycle accommodations, pedestrian accommodations, railways, bridges, waterways, airports, ports, and public transportation facilities. The plan should recognize and differentiate among a hierarchy of roads such as expressways, arterials, and collectors. The Virginia Department of Transportation shall, upon request, provide localities with technical assistance in preparing such transportation plan.

The plan, with the accompanying maps, plats, charts, and descriptive matter, shall show the locality's long-range recommendations for the general development of the territory covered by the plan. It may include, but need not be limited to:

1. The designation of areas for various types of public and private development and use, such as different kinds of residential, including age-restricted, housing; business; industrial; agricultural; mineral resources; conservation; active and passive recreation; public service; flood plain and drainage; and other areas;

2. The designation of a system of community service facilities such as parks, sports playing fields, forests, schools, playgrounds, public buildings and institutions, hospitals, nursing homes, assisted living facilities, community centers, waterworks, sewage disposal or waste disposal areas, and the like;

3. The designation of historical areas and areas for urban renewal or other treatment;

4. The designation of areas for the implementation of reasonable ground water protection measures;

5. A capital improvements program, a subdivision ordinance, a zoning ordinance and zoning district maps, mineral resource district maps and agricultural and forestal district maps, where applicable;

6. The location of existing or proposed recycling centers;

7. The location of military bases, military installations, and military airports and their adjacent safety areas; and

8. The designation of corridors or routes for electric transmission lines of 150 kilovolts or more.

The plan shall include: the designation of areas and implementation of measures for the construction, rehabilitation and maintenance of affordable housing, which is sufficient to meet the current and future needs of residents of all levels of income in the locality while considering the current and future needs of the planning district within which the locality is situated.

The plan shall include: a map that shall show road improvements and transportation improvements, including the cost estimates of such road and transportation improvements as available from the Virginia Department of Transportation, taking into account the current and future needs of residents in the locality while considering the current and future needs of the planning district within which the locality is situated.

Summary of Legal Authority to Address the Impacts of Oil and Gas Extraction

A detailed analysis of Virginia localities' authority to prohibit or regulate "fracking" (unconventional oil and gas drilling activities) via their zoning and land use authority was presented in an official advisory opinion by the Office of the Attorney General, May 5, 2015.

The conclusion states:
"It is my opinion that the General Assembly intended to permit localities to prohibit fracking operations through duly enacted land use or zoning ordinances, and the *Code of Virginia* so provides. With respect to your second inquire, localities may enact zoning restrictions on fracking only if and to the extent that the restrictions are reasonable in scope and are not inconsistent with the [Virginia Oil and Gas] Act or regulations properly enacted pursuant to the Act."

In the footnotes of the Opinion, the validity of a localities use of a special exception process to review oil and gas drilling projects, as follows:

> [32] *See* 1993 Op. Va. Att'y Gen. 173 (discussing passage of the Act). The 1993 Opinion of this Office interpreted § 45.1-361.5 to allow a locality to require special use permits for gas drilling and made no distinction between special use permits and a locality's power to prohibit gas wells. "The legislature is presumed to have had knowledge of the Attorney General's interpretation of . . . statutes, and its failure to make corrective amendments evinces legislative acquiescence in the Attorney General's view" of legislative language. Richard L. Deal & Assocs., Inc. v. Commonwealth, 224 Va. 618, 622 (1983) (citations omitted). Had the General Assembly disagreed with the view of this Office expressed in 1993, it has enjoyed many opportunities to amend the law. That it made no changes to the Act's language for over 20 years may be seen as acquiescence with the 1993 Opinion.

Source: http://www.oag.state.va.us/files/Opinions/2015/14-084_Stuart.pdf

Based on this, any local ordinance should be limited to zoning, land use, and land development provisions so as to address and protect the local public health, safety, and welfare from adverse impacts, and to address applicable purposes authorized by statute for a zoning ordinance in a reasonable manner. Any zoning regulations should be designed to harmonize and not be inconsistent with the provisions of the Virginia Gas and Oil Act (VA. Code 45.1-361.1 et seq.), the DMME regulations (4 VAC 25-150-10 *et seq.*), and VA Code 62.1-195.1. Chesapeake Bay; drilling for oil or gas prohibited.

Local zoning ordinances may address traffic, noise, dust, runoff, minimum lot size, setback requirements, well-pad footprints/dimensions, site plans, fencing/screening, location restrictions, hours of operation, measures to protect water quality, liner requirements for wastewater pits, related uses, etc. to minimize adverse impacts, enhance emergency preparedness and potential incident mitigation.

A local ordinance may provide for baseline environmental assessments/testing of surface water and groundwater within a defined zone surrounding a well site.

A local ordinance may also provide for bonding or other securitization to ensure proper site development and reclamation.

The Virginia Oil and Gas Act establishes limitations on local government zoning authority that are unique to this type of activity and therefore require special consideration in developing reasonable regulations. But, the Virginia Gas and Oil Act recognizes and provides for local regulation pursuant to local zoning ordinances:

§ 45.1-361.5. Exclusivity of regulation and enforcement
No county, city, town or other political subdivision of the Commonwealth shall impose any condition, or require any other local license, permit, fee or bond to perform any gas, oil, or geophysical operations which varies from or is in addition to the requirements of this chapter. **However, no provision of this chapter shall be construed to limit or supersede the jurisdiction and requirements of other state agencies, local land-use ordinances, regulations of general purpose, or §§ 58.1-3712, 58.1-3712.1, 58.1-3713, 58.1-3713.3, 58.1-3741, 58.1-3742, and 58.1-3743.** [Emphasis added]

The Virginia Code provides authority for zoning regulations related to extractive activities in several Code provisions, including but not limited to the following:

VA Code § 15.2-2280. Zoning ordinances generally.
Any locality may, by ordinance, classify the territory under its jurisdiction or any substantial portion thereof into districts of such number, shape and size as it may deem best suited to carry out the purposes of this article, and in each district it ***may regulate, restrict, permit, prohibit, and determine*** the following:

1. The use of land, buildings, structures and other premises for agricultural, business, ***industrial***, residential, flood plain and other specific uses;

2. The size, height, area, bulk, location, erection, construction, reconstruction, alteration, repair, maintenance, razing, or removal of structures; ……

….4. The excavation or mining of soil or other natural resources. [Emphasis added]

VA Code § 15.2-2283 Purpose of zoning ordinances.
Zoning ordinances shall be for the general purpose of promoting the health, safety or general welfare of the public and of further accomplishing the objectives of § 15.2-2200. To these ends, such ordinances shall be designed to give reasonable consideration to each of the following purposes, where applicable: (i) to provide for adequate light, air, convenience of access, and safety from fire, flood, impounding structure failure, crime and other dangers; (ii) to reduce or prevent congestion in the public streets; (iii) to facilitate the creation of a convenient, attractive and harmonious community; (iv) to facilitate the provision of adequate police and fire protection, disaster evacuation, civil defense, transportation, water, sewerage, flood protection, schools, parks, forests, playgrounds, recreational facilities, airports and other public requirements; (v) to protect against destruction of or encroachment upon historic areas; (vi) to protect against one or more of the following: overcrowding of land, undue density of population in relation to the community facilities existing or available, obstruction of light and air, danger and congestion in travel and transportation, or loss of life, health, or property from fire, flood, impounding structure failure, panic or other dangers; (vii) to encourage economic development activities that provide desirable employment and enlarge the tax base; (viii) to provide for the preservation of agricultural and forestal lands and other lands of significance for the protection of the natural environment; (ix) to protect approach slopes and other safety areas of licensed airports, including United States government and military air facilities; (x) to promote the creation and preservation of affordable housing suitable for meeting the current and future needs of the locality as well as a reasonable proportion of the current and future needs of the planning district within which the locality is situated; and (xi) to provide reasonable protection against encroachment upon military bases, military installations, and military airports and their adjacent safety areas, excluding armories operated by the Virginia National Guard. ***Such ordinance may also include reasonable provisions, not inconsistent with applicable state water quality standards, to protect surface water and ground water as defined in § 62.1-255.*** [Emphasis added]

VA Code § 62.1-255.
"Ground water" means any water, except capillary moisture, beneath the land surface in the zone of saturation or beneath the bed of any stream, lake, reservoir or other body of surface water wholly or partially within the boundaries of this Commonwealth, whatever the subsurface geologic structure in which such water stands, flows, percolates or otherwise occurs.

§ 62.1-195.1. Chesapeake Bay; drilling for oil or gas prohibited.

A. Notwithstanding any other law, a person shall not drill for oil or gas in the waters of the Chesapeake Bay or any of its tributaries. In Tidewater Virginia, as defined in § 62.1-44.15:68, a person shall not drill for oil or gas in, whichever is the greater distance, as measured landward of the shoreline:

1. Those Chesapeake Bay Preservation Areas, as defined in § 62.1-44.15:68, which a local government designates as "Resource Protection Areas" and incorporates into its local comprehensive plan. "Resource Protection Areas" shall be defined according to the criteria developed by the State Water Control Board pursuant to § 62.1-44.15:72; or

2. Five hundred feet from the shoreline of the waters of the Chesapeake Bay or any of its tributaries.

B. In the event that any person desires to drill for oil or gas in any area of Tidewater Virginia where drilling is not prohibited by the provisions of subsection A, he shall submit to the Department of Mines, Minerals and Energy as part of his application for permit to drill an environmental impact assessment. The environmental impact assessment shall include:

1. The probabilities and consequences of accidental discharge of oil or gas into the environment during drilling, production, and transportation on:

a. Finfish, shellfish, and other marine or freshwater organisms;

b. Birds and other wildlife that use the air and water resources;

c. Air and water quality; and

d. Land and water resources;

2. Recommendations for minimizing any adverse economic, fiscal, or environmental impacts; and

3. An examination of the secondary environmental effects of induced economic development due to the drilling and production.

C. Upon receipt of an environmental impact assessment, the Department of Mines, Minerals and Energy shall notify the Department of Environmental Quality to coordinate a review of the environmental impact assessment. The Department of Environmental Quality shall:

1. Publish in the Virginia Register of Regulations a notice sufficient to identify the environmental impact assessment and providing an opportunity for public review of and comment on the assessment. The period for public review and comment shall not be less than 30 days from the date of publication;

2. Submit the environmental impact assessment to all appropriate state agencies to review the assessment and submit their comments to the Department of Environmental Quality; and

3. Based upon the review by all appropriate state agencies and the public comments received, submit findings and recommendations to the Department of Mines, Minerals and Energy, within 90 days after notification and receipt of the environmental impact assessment from the Department.

D. The Department of Mines, Minerals and Energy may not grant a permit under § 45.1-361.29 until it has considered the findings and recommendations of the Department of Environmental Quality.

E. The Department of Environmental Quality shall, in conjunction with other state agencies and in conformance with the Administrative Process Act (§ 2.2-4000 et seq.), develop criteria and procedures to assure the orderly preparation and evaluation of environmental impact assessments required by this section.

F. A person may drill an exploratory well or a gas well in any area of Tidewater Virginia where drilling is not prohibited by the provisions of subsection A only if:

1. For directional drilling, the person has the permission of the owners of all lands to be directionally drilled into;

2. The person files an oil discharge contingency plan and proof of financial responsibility to implement the plan, both of which have been filed with and approved by the State Water Control Board. For purposes of this section, the oil discharge contingency plan shall comply with the requirements set forth in § 62.1-44.34:15. The Board's regulations governing the amount of any financial responsibility required shall take into account the type of operation, location of the well, the risk of discharge or accidental release, the potential damage or injury to state waters or sensitive natural resource features or the impairment of their beneficial use that may result from discharge or release, the potential cost of containment and cleanup, and the nature and degree of injury or interference with general health, welfare and property that may result from discharge or accidental release;

3. All land-disturbing activities resulting from the construction and operation of the permanent facilities necessary to implement the contingency plan and the area within the berm will be located outside of those areas described in subsection A;

4. The drilling site is stabilized with boards or gravel or other materials which will result in minimal amounts of runoff;

5. Persons certified in blowout prevention are present at all times during drilling;

6. Conductor pipe is set as necessary from the surface;

7. Casing is set and pressure grouted from the surface to a point at least 2500 feet below the surface or 300 feet below the deepest known ground water, as defined in § 62.1-255, for a beneficial use, as defined in § 62.1-10, whichever is deeper;

8. Freshwater-based drilling mud is used during drilling;

9. There is no onsite disposal of drilling muds, produced contaminated fluids, waste contaminated fluids or other contaminated fluids;

10. Multiple blow-out preventers are employed; and

11. The person complies with all requirements of Chapter 22.1 (§ 45.1-361.1 et seq.) of Title 45.1 and regulations promulgated thereunder.

G. The provisions of subsection A and subdivisions F 1 and 4 through 9 shall be enforced consistent with the requirements of Chapter 22.1 (§ 45.1-361.1 et seq.) of Title 45.1.

H. In the event that exploration activities in Tidewater Virginia result in a finding by the Director of the Department of Mines, Minerals and Energy that production of commercially recoverable quantities of oil is likely and imminent, the Director of the Department of Mines, Minerals and Energy shall notify the Secretary of Commerce and Trade and the Secretary of Natural Resources. At that time, the Secretaries shall develop a joint report to the Governor and the General Assembly assessing the environmental risks and safeguards; transportation issues; state-of-the-art oil production well technology; economic impacts; regulatory initiatives; operational standards; and other matters related to the production of oil in the region. No permits for oil production wells shall be issued until (i) the Governor has had an opportunity to review the report and make recommendations, in the public interest, for legislative and regulatory changes, (ii) the General Assembly, during the next upcoming regular session, has acted on the Governor's recommendations or on its own initiatives, and (iii) any resulting legislation has become effective. The report by the Secretaries and the Governor's recommendations shall be completed within 18 months of the findings of the Director of the Department of Mines, Minerals and Energy.

1989, c. 325; 1990, c. 967; 1992, cc. 480, 887; 1993, c. 239; 1994, c. 957; 2012, cc. 785, 819; 2013, cc. 756, 793.

Source: http://law.lis.virginia.gov/vacode/title62.1/chapter20/section62.1-195.1/

7.2 Codes and Ordinances

Westmoreland County Code

www.municode.com/resources/gateway.asp?pid=11977&sid=46

- **Westmoreland County Erosion and Sediment Control Ordinance**
  www.westmoreland-county.org/assets/docs/ErosionSedOrdinance_1998.pdf
- **Westmoreland County Subdivision Ordinance**
  www.westmoreland-county.org/assets/docs/SubdivisionOrdinance_1-07.pdf
- **Westmoreland County Flood Plain Management Ordinance**
- **Land Application of Bio-solids Ordinance**
- **Westmoreland County Wetlands Ordinance**
- **Westmoreland County Solid Waste Ordinance**

Westmoreland County Building Code
Not Online. Copies available at the county office.

Westmoreland County Zoning Ordinance
www.westmoreland-county.org/assets/docs/ZoningOrdinance_1-07.pdf

Industrial Development Authority (IDA)
http://law.justia.com/virginia/codes/toc1502000/15.2-4901.html

7.3 Condemned Shellfish Beds

Westmoreland County (last updated 6/3/2009)

Rosier Creek, Goldman Creek & tributaries — Shellfish Area Condemnation # 001-088

Monroe Bay, Mattox Creek & tributaries — Shellfish Area Condemnation # 002-001

Popes Creek & tributaries — Shellfish Area Condemnation # 003-146

Nomini and Currioman Bay & tributaries — Shellfish Area Condemnations # 004-082, # 004-184

Lower Machodoc Creek & tributaries — Shellfish Area Condemnation # 005-083

Gardner, Jackson, and Bonum Creeks — Shellfish Area Condemnation # 006-143

Yeocomico River & tributaries — Shellfish Area Condemnation # 007-028

Source: http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey/westmoreland/index.htm

7.4 Additional Statistics

Taxable Sales	Westmoreland County
2008	83,759,887
2007	84,829,969
2006	82,385,017
2004	75,177,273
2003	65,970,432
2002	64,687,766
2001	59,260,046
2000	60,619,089
1999	60,014,132
1998	62,080,626
1997	60,240,065
1996	56,828,505
1995	55,069,865

1994	53,368,305
1993	47,267,553
1992	47,620,822
1991	47,437,940
1990	45,355,373
1989	43,266,468
1988	43,527,815
1987	40,612,179
1986	37,835,346
1985	36,713,833
1984	35,340,418
2005**	71,650,779

Source: Weldon Cooper Center

*** In the third quarter of calendar year 2005 the Department of Taxation began tracking quarterly taxable sales using the North American Industry classification System (NAICS) business categories rather than Standard Industrial Classification (SIC) categories. Consequently, data from the two time periods are not fully compatible for purposes of comparison. Taxable sales reported on this page can be compared from 1995 through the second quarter of 2005 (the quarters using the SIC categories) or from the third quarter of 2005 through the current quarter (quarters using the NAICS categories), but comparing data from between the two periods will carry misleading results.*

Northern Neck Housing Units by Value - 2008	
< $10,000	2.0%
$10K – 14,999K	1.0%
$15K - $19,999	0.9%
$20K - $24,999	0.3%
$25K - $29,999	0.2%
$30K - $34,999	0.9%
$35K - $39,999	1.0%
$40K - $49,999	1.1%
$50K - $59,999	1.3%
$60K - $69,999	1.4%
$70K - $79,999	1.3%
$80K - $89,999	1.7%
$90K - $99,999	1.6%
$100K - $124,999	8.4%
$125K - $149,999	10.6%
$150K - $174,999	13.7%
$175K - $199,999	11.4%
$200K - $249,999	13.3%
$250K - $299,999	7.8%
$300K - $399,999	10.1%
$400K - $499,999	3.7%
$500K - $749,999	4.6%
$750K - $999,999	1.1%
$1,000,000+	0.7%
Median Value	$181,061

Source: ESRI Business Analyst

HUD Fair Market Rent FY 2009

Efficiency	$453
1 Bdr	$552
2 Bdr	$697
3 Bdr	$956
4 Bdr	$985

Source: US Department of Housing and Urban Development

Estimated Earnings (May 2007)

Occupation	Med. Wage	Mean Wage	Med. Salary	Mean Salary
Laborers and freight, stock, and material movers, hand	$7.15	$9.99	$14,873.17	$20,770.06
Truck drivers, heavy and tractor-trailer	$10.49	$16.59	$21,827.90	$34,510.71
Maintenance and repair workers, general	$10.38	$14.45	$21,592.66	$30,057.74
Construction laborers	$9.52	$11.61	$19,805.66	$24,144.76
Carpenters	$12.30	$17.15	$25,587.69	$35,678.88
Office clerks, general	$7.61	$11.53	$15,837.21	$23,992.37
Stock clerks and order fillers	$6.43	$9.10	$13,379.73	$18,932.31
Receptionists and information clerks	$7.28	$10.25	$15,132.16	$21,315.20
Customer service representatives	$9.46	$14.86	$19,673.13	$30,902.95
Bookkeeping, accounting, and auditing clerks	$8.47	$13.77	$17,614.16	$28,632.46
First-line supervisors/managers of office & admin support workers	$13.77	$20.42	$28,645.75	$42,478.15
Sales reps, wholesale & manufacturing, ex technical & scientific products	$12.34	$25.31	$25,666.88	$52,650.00
Nursing aides, orderlies, and attendants	$9.34	$10.45	$19,423.02	$21,742.93
Home health aides	$7.46	$9.17	$15,506.65	$19,082.83
Licensed practical and licensed vocational nurses	$16.57	$18.42	$34,472.26	$38,307.52
Registered nurses	$19.34	$26.21	$40,223.10	$54,519.20
Teacher assistants	$6.61	$8.59	$13,753.63	$17,865.77
Secondary school teachers, except special and vocational education	$16.62	$22.51	$34,575.83	$46,826.11
Elementary school teachers, except special education	$12.06	$19.51	$25,080.99	$40,588.17
Accountants and auditors	$14.13	$24.07	$29,381.17	$50,075.58

Population Projections

Age Group	2010	% of Total	2020	% of Total	2030	% of Total
Under 5 years	1,004	5.7%	1,129	6.2%	1,253	6.5%
5 to 9 years	1,005	5.7%	1,128	6.2%	1,265	6.6%
10 to 14 years	939	5.4%	1,116	6.1%	1,255	6.5%
15 to 19 years	1,060	6.1%	1,028	5.6%	1,172	6.1%
20 to 24 years	1,207	6.9%	943	5.1%	1,140	5.9%
25 to 29 years	1,120	6.4%	1,120	6.1%	1,066	5.5%
30 to 34 years	869	5.0%	1,269	6.9%	985	5.1%
35 to 39 years	829	4.7%	1,221	6.7%	1,230	6.4%
40 to 44 years	980	5.6%	952	5.2%	1,356	7.0%
45 to 49 years	1,220	7.0%	898	4.9%	1,284	6.7%
50 to 54 years	1,316	7.5%	1,053	5.7%	1,020	5.3%
55 to 59 years	1,284	7.3%	1,285	7.0%	950	4.9%
60 to 64 years	1,228	7.0%	1,385	7.6%	1,099	5.7%
65 to 69 years	1,091	6.2%	1,210	6.6%	1,202	6.2%
70 to 74 years	826	4.7%	961	5.2%	1,095	5.7%
75 to 79 years	639	3.7%	717	3.9%	802	4.2%
80 to 84 years	453	2.6%	466	2.5%	533	2.8%
85 years and over	413	2.4%	455	2.5%	554	2.9%
Total	17,483		18,336		19,261	

http://bi.cao.virginia.gov/VEC_EIS/rdPage.aspx?rdReport=lmitools_demographics&tabsDemographics=tpnlPopProj&rdNoShowWait=True&rdWaitCaption=Loading...

7.5 Historical & Archaeological Sites in Westmoreland County

Virginia Landmarks Register, National Register of Historic Places
Updated Through DHR September 17, 2009 and NPS October 8, 2009 Announcements

PROPERTY	USGS Quad Map	VLR	NRHP	FILE #
George Washington Birthplace National Monument (Wakefield)	Colonial Beach South	10-18-83	10-15-66	096-0026
Stratford Hall	Stratford Hall	09-09-69	10-15-66, NHL 10-07-60	096-0024
Yeocomico Church	Kinsale	09-09-69	11-12-69, NHL 04-15-70	096 0031
Chantilly (44WM01)	Stratford Hall	10-06-70	12-16-71	096-0005
Spence's Point (John R. Dos Passos Farm)	Kinsale	02-20-73	11-11-71, NHL 11-11-71	096-0022
Morgan Jones 1677 Pottery Kiln (44WM198)	St. Clements Island	06-18-74	10-16-74	096-0081
Blenheim	Colonial Beach South	02-18-75	06-05-75	096-0003
Ingleside	Rollins Fork	12-21-76	03-15-79	096-0012
Roxbury	Rollins Fork	12-21-76	03-15-79	096-0020
Wirtland	Rollins Fork	12-21-76	03-15-79	096-0029
James Monroe Family Home Site (44WM38)	Colonial Beach South	12-21-76	07-24-79	096-0046
James Monroe Family Home Site, Updated Boundary and Documentation	Colonial Beach South	12-05-07	04-10-08	096-0046
Spring Grove	Machodoc	06-21-83	10-10-85	096-0023
Bell House	Colonial Beach South	03-17-87	09-21-87	199-0003
Rochester House	Machodoc	12-11-90	01-25-91	096-0087
Armstead T. Johnston High School	Montross	06-17-98	08-14-98	096-0113
Mount Pleasant	Machodoc	09-11-02	11-27-02	096-5003
St. Peter's Episcopal Church	Colonial Beach South	09-10-03	01-16-04	096-0045
Bushfield St.	Clements Island	12-03-03	02-11-04	096-0052
Kinsale Historic District	Kinsale	03-16-05	07-22-05	096-0090
Westmoreland State Park (see also MPS 134-5088)	Col Bch S, Stratford Hall	06-01-05	11-16-05	096-0089

Source: www.dhr.virginia.gov/registers/RegisterMasterList.pdf

7.6 Public and Private Waterfront Access Areas in Westmoreland County

Name	Type of Facility	Location	Slips	Fee	Pump-out Available
Bayside Marina	Marina	Monroe Creek	39	No	No
Bonums Landing	Public Boat Ramp	Bonum Creek	N/A	No	N/A
Branson Cove Landing	Public Boat Ramp	Branson Cove	N/A	No	N/A
Branson Cove Marina	Marina	Branson Cove	38	Yes	Yes
Chandler's Millpond	Boat Ramp	Chandler's Millpond	N/A	No	N/A
Coles Point Harbour	Marina	Lower Machodoc Creek	23	0	Yes
Coles Point Plantation Marina	Marina	Potomac River	157	Yes	Yes
Colonial Beach Beaches	Beach	Potomac River	N/A	No	N/A
Colonial Beach Landing	Boat Ramps	Monroe Creek	N/A	No	N/A
Colonial Beach Public Pier	Fishing Pier	Potomac River	N/A	No	N/A
Colonial Beach Yacht Center	Marina	Monroe Creek	166	Yes	Yes
Currioman Landing	Boat Ramp	Currioman Bay	N/A	No	N/A
Drury's Marine	Marina	Branson Cove	20	No	No
Gardy's Millpond	Boat Ramp	Gardy's Millpond	N/A	No	N/A
Harbor View Marina	Marina	Mattox Creek	144	Yes	Yes
Hart's Landing	Boat Ramp	Rappahannock River	N/A	No	N/A
Kinsale Harbour Marina	Marina	West Yeocomico River	92	Yes	Yes
Leedstown Campground	Boat Ramp	Rappahannock River	N/A	Yes	N/A
Lower Machodoc Marine	Marina	Branson Cove	N/A	Yes	No
Monroe Bay Boat Club	Marina	Monroe Creek	94	Yes	Yes
Monroe Bay Campground	Boat Ramp	Monroe Creek	14	Yes	No
Nightingale Marina & Motel	Marina	Monroe Creek	33	Yes	No
North Point Marina	Marina	Branson Cove	N/A	Yes	No
Parkers Marina	Marina	Monroe Creek	35	Yes	No
Port Kinsale Marina	Marina	West Yeocomico River	100	Yes	Yes
Ragged Point Beach	Marina	Potomac River	N/A	Yes	No
Sandy Point Marina	Marina	Shannon Branch	50	Yes	Yes
Shannon Branch Marine Service	Marina	Shannon Branch	8	Yes	Yes
Stratford Harbour Boat Club	Marina	Cold Harbor Creek	37	Yes	No
Westmoreland State Park	Beach, Boat Ramp	Potomac River	N/A	Yes	No
White Point Marina	Marina	NW Yeocomico River	54	Yes	Yes
Winkiedoodle Point Marina	Marina	Monroe Creek	65	Yes	No

Sources: Virginia Department of Game and Inland Fisheries: http://www.dgif.virginia.gov/boating/access/?filtertype=fips&fips=193; Chesapeake Bay Program: http://archive.chesapeakebay.net/publicaccess/index.cfm?id=tbl_Potomac; http://www.chesapeakebay.net/publicaccess.aspx?menuitem=14805; http://archive.chesapeakebay.net/publicaccess/index.cfm?id=tbl_York_n_Rap; Virginia Department of Health: http://www.vdh.state.va.us/EnvironmentalHealth/Wastewater/MARINA/pumpoutdata/county/westmoreland.htm
Note: Smaller marinas operated by community associations are not included since there are generally NOT open to the public.

7.7 Boat-Mooring Standards

1. Locate boat mooring areas away froth areas of high natural resource value such as shellfish beds and other recreational and commercial fisheries, sea grass communities, and areas frequented by endangered plants and animals. Acceptable locations will generally be areas with good, natural flushing to minimize the build-up of organic material and other pollutants on the bottom.
2. Avoid dense concentrations of boats along a shoreline due to the cumulative disruptive impact on plant and animal species. In densely populated areas, a concentration of slips in a single facility may be preferable to furthering development along a shoreline.
3. Size and design boat mooring facilities with appropriate relation to on-site water body characteristics compatible with the number and type of vessels. A shallow cove or basin is not an appropriate site for a deep draft sailboat marina. The appropriate size of boat mooring facilities associated with residential development is more dependent on upland and on-site conditions than the number of residential dwelling units.
4. Limit the number of piers and wharves crossing vegetated wetland and sea grass areas to the number necessary for water access.
5. Incorporate specific stormwater management techniques such as buffer strips, grassed swales, wet detention ponds and permeable parking surfaces.

6. Provide solid waste disposal and recycling facilities, pump-out facilities, and other sanitary facilities with convenient user access to those docks with significant levels of public use.
7. Incorporate automatic fuel shutoff valves for all fuel facilities and ensure all employees, staff, and/or residents are familiar with proper operation of equipment and spill contingency plans.
8. Provide, if possible, public access for fishing, boat launching and/or other waterfront recreational activities.

CRITERIA FOR THE SITING OF MARINAS OR COMMUNITY FACILITIES FOR BOAT MOORING

The Virginia Marine Resources Commission (VMRC) considers the following siting criteria in reviewing permit applications for boat mooring facilities:

Criteria	Undesirable	Desirable
Water Depth	Less than 3 ft. MLW	Greater than 3 ft. MLW
Salinity	Suitable for shellfish growth	Unsuitable for shellfish growth
Water Quality	Approved, conditionally approved, or seasonally approved for shellfish harvesting	Closed for direct harvesting or shellfish. Little or no potential for future productivity
Designated shellfish grounds	Private leases or public oyster ground in proximity	No private leases or public ground within affected area. No potential for future productivity
Maximum wave height	Greater than 1 ft.	Less than 1 ft.
Current	Greater than 1 knot	Less than 1 knot
Dredging	Requires frequent dredging	Does not require frequent maintenance
Flushing rate (Tidal exchange)	Inadequate to maintain water quality	Adequate to maintain water quality
Proximity to natural or improved channel	Greater than 50 ft. to navigable water depths	Less than 50 ft. to navigable channel
Threatened or Endangered species	Present as defined in existing regulations, or project has potential to affect habitat	Absent; project will not affect
Adjacent wetlands	Cannot maintain suitable buffer	Suitable buffer to be maintained
Navigation and safety	Water body difficult to navigate or presently overcrowded conditions exist	Navigation not impeded
Existing use of site	Presently used for skiing, crabbing, fishing, swimming, or other potentially conflicting uses	Not presently used for skiing, fishing, swimming, or other recreational use
Submerged aquatic vegetation	Present	Absent
Shoreline Stabilization	Bulk-heading required	Shoreline protected by natural or planted vegetation or riprap
Erosion control structures	Groins and/or jetties necessary	No artificial structures needed
Fishing habitat usage	Important spawning and nursery area	Unimportant area for spawning or nursery for any commercially or recreationally valuable species.

Source: http://ccrm.vims.edu/gis_data_maps/interactive_maps/marinasiting/marsitefinal.pdf

7.8 Sources

County & Economy Section

Housing Affordability Ratios
www.benengebreth.org/archives/2005/06/housing_priceto.php
"Ratios that are far above 3.86 are worrisome because they are telling us that the people that live in the city can't afford to buy a home that is placed in the same region of the distribution as their income (i.e. the median)."

Population Projections
www.vec.virginia.gov/pdf/Pop_projs.pdf
www.lva.virginia.gov
www.vawc.virginia.gov/gsipub/index.asp?docid=359
http://bi.cao.virginia.gov/VEC_EIS/rdPage.aspx?rdReport=lmitools_demographics&tabsDemographics=tpnlPopProj&rdNoShowWait=True&rdWaitCaption=Loading...
http://virginiascan.yesvirginia.org/communityprofiles/displayProfileDetails.aspx?id=92

Revenue
http://www.dhcd.virginia.gov/CommissiononLocalGovernment/PDFs/locrev08.pdf
http://www.dhcd.virginia.gov/CommissiononLocalGovernment/pages/data.htm

Schools
http://division.wmlcps.org/www/westmoreland_division/site/hosting/SUP/AT_A_GLANCE_09-10fINAL.pdf
https://p1pe.doe.virginia.gov/reportcard/

Land Use Section

Virginia Department of Historic Resources – Landmarks Register
http://www.dhr.virginia.gov/registers/RegisterMasterList.pdf

Population Projections
www.vec.virginia.gov/pdf/Pop_projs.pdf
www.lva.virginia.gov
www.vawc.virginia.gov/gsipub/index.asp?docid=359
http://bi.cao.virginia.gov/VEC_EIS/rdPage.aspx?rdReport=lmitools_demographics&tabsDemographics=tpnlPopProj&rdNoShowWait=True&rdWaitCaption=Loading...

Natural Resources Protection Section

Agricultural Data
www.agcensus.usda.gov/Publications/1992/Volume_1/Virginia/index.asp
www.agcensus.usda.gov/Publications/2002/County_Profiles/Virginia/index.asp
www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_2_County_Level/Virginia/index.asp

Erosion and Sediment Control Handbook
www.dcr.virginia.gov/soil_&_water/e&s-ftp.shtml

FEMA's National Flood Insurance Program
www.fema.gov/about/programs/nfip/index.shtm

FEMA's Community Rating System Resource Center
http://training.fema.gov/EMIWeb/CRS/
www.fema.gov/business/nfip/crs.shtm

Fauna
http://vafwis.org/fwis/?Menu=Home.Geographic+Search
http://vafwis.org/fwis/?Title=VaFWIS+Report+Search&lastMenu=Home.__By+Place+Name&placeName=Westmoreland%C2%A0County%C2%A0%28Civil%29%C2%A0Westmoreland&tn=&species=all&report=1&orderBY=

Fisheries
Washington Post, 15 February 2009. Article on Page C01
Washington Post, 27 December 2008. "Chesapeake Bay Cleanup," Page A01

Flora, Westmoreland County
Digital Atlas of the Virginia Flora

http://www.biol.vt.edu/digital_atlas/index.php?do=browse:county&letter=W&search=Westmoreland

Groundwater
www.groundwatervirginia.org/groundwateruse.html

Low-Impact Design Methods (Demonstration Site)
www.nnpdc.org/NNPDC-PROJ/NNPDC-0002/nnpdc-proj-0002.htm

Waterfront Access Areas in Westmoreland County
www.vdh.state.va.us/EnvironmentalHealth/Wastewater/MARINA/pumpoutdata/county/westmoreland.htm
http://www.dgif.virginia.gov/boating/access/?filtertype=fips&fips=193
http://archive.chesapeakebay.net/publicaccess/index.cfm?id=tbl_Potomac
http://www.chesapeakebay.net/publicaccess.aspx?menuitem=14805
http://archive.chesapeakebay.net/publicaccess/index.cfm?id=tbl_York_n_Rap

National Wetlands Inventory
www.fws.gov/wetlands

Virginia Department of Emergency Management (Storm Surge and Shoreline Erosion)
www.vaemergency.com/threats/hurricane/stormsurge.cfm
www.vaemergency.com/threats/hurricane/surgemaps/updated/VirginiaStormSurge_Westmoreland.pdf
www.vaemergency.com/threats/hurricane/surgemaps/updated/VirginiaStormSurge_Westmoreland.png
http://ccrm.vims.edu/gis_data_maps/shoreline_inventories/virginia/westmoreland/westmorelandva_disclaimer.html

Forestry
www.dof.virginia.gov/regEast/wes-econ-value-volume.shtml
www.dof.virginia.gov/regEast/wes-index.shtml
www.dof.virginia.gov/econ/2007-county-value-volume.shtml
www.dof.virginia.gov/resinfo/forest-ownership.shtml
www.dof.virginia.gov/econ/harvest-val-county-name.shtml
http://ncrs2.fs.fed.us/4801/fiadb/rpa_tpo/wc_rpa_tpo.ASP
Tidewater Resource Conservation and Development Council (Forestry Committee); Dick Porterfield, Professional Forester, Tree Grower, and Professor at Yale, William and Mary, Mississippi State, and Arkansas; Virginia Department of Forestry (Ecoservices Group); Virginia Tech Natural Resources Alumni; Virginia Association of Counties (Environment and Land Use Committee); and Lynn C. Brownley, Tree Hugger, and author of "A Heritage of Trees", *Westmoreland County Magazine* (350 Year Celebration) and 'Conservative Communal Conservation" (Winter 2009-2010)

Virginia Institute of Marine Science (VIMS) Westmoreland County Map Inventory
http://ccrm.vims.edu/gis_data_maps/shoreline_inventories/virginia/westmoreland/index.html

Virginia Outdoors Plan
www.dcr.virginia.gov/recreational_planning/vop.shtml
The Virginia Outdoors Plan (VOP) is the state's primary document regarding Virginia's outdoor recreation and open-space needs. It provides guidance to all levels of government and the private sector. The document covers issues and needs and provides detailed regional analyses and recommendations. The VOP also provides recommended area standards for recreational development related to outdoor recreation. The 2002 VOP released this April has been enhanced to more closely serve as a guide for future land conservation activities.

Documents and Sources Related to Oil and Gas Extraction

Following are examples of relevant technical findings with broad implications for local action.

"Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources", United States Environmental Protection Agency (External Review Draft)

This report concludes in part:

"…there are above and below ground mechanisms by which hydraulic fracturing activities have the potential to impact drinking water resources… [however] … [w]e did not find evidence that these mechanisms have led to widespread, systemic impacts on drinking water resources… [w]e found specific instances where one or more mechanisms led to impacts on drinking water resources… "There are limiting facts to the EPA's assessment, including "insufficient pre- and post-fracturing data on the quality of drinking water resources; the paucity of long-term systemic studies;…and the inaccessibility of some information on hydraulic fracturing activities and potential impacts."

Source: "Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources", United States Environmental Protection Agency, June 2015

Proposed Regulations by the State of Maryland's Secretary of the Environment in 2015:

DEPARTMENT OF THE ENVIRONMENT, Subtitle 19 OIL AND GAS RESOURCES
26.19.01 Oil and Gas Exploration and Production, Notice of Proposed Action [15-001-P-I]
To repeal existing Regulations .01—.15 and adopt new Regulations .01—.58 under COMAR 26.19.01 Oil and Gas Exploration and Production.

Statement of Purpose:

"…new standards for oil and gas exploration and production in Maryland are needed to provide adequate protection for public health, safety, the environment and natural resources…."

Estimate of Economic Impact:

"F (4)….by enacting these more stringent regulations. The regulations will minimize the impacts from drilling to public health, safety, the environment and natural resources in these two Counties. By minimizing these impacts, the general citizenry of the two Counties will benefit from enhanced public health protection and safety, including better protections for air quality and sources of drinking water. Additionally, the natural environment of the two Counties will be better protected, including forests, rivers, streams and other water bodies, wildlife, flora and fauna."

Source: Maryland Register, VOL 42, Issue 1, Friday, January 9, 2015
http://www.mde.state.md.us/programs/Land/RecyclingandOperationsprogram/SpecialProjects/Documents/Oil%20and%20gas%20reg%20proposal%20-%20MD%20Register%20notice%201-9-15.pdf

Maryland Senate Bill 29, GA Session 2015

Excerpt from analysis of the bill:

"…A draft of the final report of the Marcellus Shale Safe Drilling Initiative Study was released on November 25, 2014, and contained information from a risk assessment, a public health study, and an economic impact study commissioned by the departments. The final report contained all final findings and recommendations and addressed all remaining issues identified by the executive order. The report incorporated findings from the risk assessment, including several impacts that were characterized as high, moderate, or low risks.

"Impacts identified as high-risk include:

(1) road repair costs; (2) disruptive noise and vibrations from truck traffic; (3) temporary and localized air emissions during the drilling process (under a "high-extraction" development scenario only); and (4) ecosystem fragmentation from pipeline development (high-extraction scenario only). "

The report also identified several moderate risks, SB 29/ Page 8 including:

"(1) air emissions from combustion equipment, well pads, pipelines, and trucks; (2) ecological and agricultural impacts from land clearing; (3) community health and safety impacts from a significant increase in truck traffic; (4)

the effect on aquatic ecosystems from large water withdrawals; (5) land fragmentation from the construction of natural gas gathering lines; and (6) exposure of dissolved methane to drinking water wells and groundwater.

The characterization of a risk as "low," "moderate," or "high" results from a weighing of both the probability of an event's occurrence and its severity. Ultimately, the departments concluded that the risks to public health and the environment can be adequately managed under a stringent regulatory regime that relies on the best practices identified in their report. MDE subsequently developed such regulations, which were published in the Maryland Register on January 9, 2015."

Source: http://mgaleg.maryland.gov/2015RS/fnotes/bil_0009/sb0029.pdf

Maryland Institute for Applied Environmental Health School of Public Health Potential Public Health Impacts of Natural Gas Development and Production in the Marcellus Shale in Western Maryland(July 2014)

Source:
http://phpa.dhmh.maryland.gov/OEHFP/EH/Shared%20Documents/Reports/MDMarcellusShalePublicHealthFinalReport08.15.2014.pdf

New York State Department of Health, A Public Health Review of High Volume Hydraulic Fracturing for Shale Gas Development (Dec. 2014)

Available at: http://www.health.ny.gov/press/reports/docs/high_volume_hydraulic_fracturing.pdf

New York Department of Environmental Conservation, Final Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program: Regulatory Program for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs (May 2015),

Source: http://www.dec.ny.gov/energy/75370.html

Transportation Section

Traffic Data
http://virginiadot.org/info/ct-TrafficCounts.asp

VDOT Projects
http://syip.virginiadot.org/LineItems.aspx

Virginia Draft Surface Transportation Plan 2035
http://www.vtrans.org/2035_surface_plan.asp

Implementation & Evaluation Section

Westmoreland County Code
www.municode.com/resources/gateway.asp?pid=11977&sid=46

Coastal America Partnership
www.coastalamerica.gov

7.9 Other Documents (Attached)

- Westmoreland County Comprehensive Plan **Survey and Overall Results**
- Virginia Coastal Plain Aquifers Diagram
- Water Cycle Diagram
- 2035 Regional Long Range Transportation Plan, 2012 (Page 13)
- Route 3 Northern Neck Corridor Improvement Study, May of 2016 (Page 31)

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Westmoreland County's

Comprehensive Plan

Vision2030

Westmoreland2030.org

Westmoreland County in the year 2030

Help us shape the future

SURVEY RESULTS

NOTES

- Total number of valid surveys submitted = 148
- Because blank responses were allowed to any question (other than name, address and phone), percentages are weighed over total answers received for each question, rather than for 148 total answers
- Unless noted otherwise, all numbers in red represent percentages

General Information

Your Name *

---

911 Address *

E-mail

Phone number *

Average age of respondent: 60
Gender distribution of respondents: 58% male, 42% female

Which of these categories best describes your household?

18 Single, with no children at home
2 Single, with children at home
61 More than one adult, with no children at home
19 More than one adult, with children at home

Including yourself, how many people live in your household?
Average: 2.16 individuals per household

How many members of your household are under the age of 18?
27 households with a total of 40 individuals under 18

How many motor vehicles do members of your household own or operate? Average: 2.36 vehicles per household

---

You…

27 Live and Work in Westmoreland County (West. Co.)
10 Live in West. Co., work elsewhere in the Northern Neck
1 Live in West. Co., work in the City of Richmond
6 Live in West. Co., work in Washington, D.C.
3 Live in West. Co., work in Fredericksburg
53 None of the above

How many years have you lived in Westmoreland County?
Average: 20.58 years in the county

Your annual gross household income is…*

9 Under $25,000
19 $25,000 - $49,999
20 $50,000 - $74,999
31 $75,000 or more
21 Prefer not to answer

---

* modified during survey – last two options were changed

You...

1 = Strongly Disagree → 5 = Strongly Agree N.O. = No Opinion

	1	2	3	4	5	N.O.
The quality of life in the county is good.	2	2	33	35	26	2
Living in the county has improved in recent years.	7	14	37	20	7	16
Westmoreland should "keep the farms as farms and the towns as towns."	6	11	13	16	51	3
Residential subdivision development should be prohibited or sharply reduced in outlying areas until sewer service and other public facilities become available.	9	7	13	14	55	1
Residential developments should be designed in a manner that fosters a sense of place and community and avoids the image of suburban sprawl.	5	2	7	14	69	2
Residential development should take place in appropriate locations and strongly discouraged on rural lands.	8	6	12	23	49	2
Most low-density, single-family housing can be accommodated within existing subdivisions.	10	8	23	16	25	18
Residential subdivisions outside Colonial Beach, Montross, Oak Grove, Carmel Church, Coles Point, Kinsale, Hague, and Monroe Hall should be discouraged.	13	14	19	14	31	10
Agriculture should be protected, preserved, and promoted as the primary land use in Westmoreland County.	8	5	17	18	49	3

	1	2	3	4	5	N.O.
It is important to preserve the agricultural nature of the county, limiting development to primary and secondary growth areas in which residential growth is focused, and avoiding the creation of isolated subdivisions scattered amidst existing farms properties.	10	5	12	25	47	1
There is a need to promote a sense of community in residential developments, to emphasize the importance of sidewalks and bike ways, and to encourage interactions among residents. Small subdivisions should be coupled to adjacent subdivision via sidewalks and bike ways to facilitate establishment of this sense of community.	8	6	15	23	37	12
Isolated subdivisions should only be approved if they are planned in a manner that fosters a sense of community, including, for example, community common areas and facilities.	8	3	21	23	37	10
The county should utilize scenic or historic overlay districts to provide more specific preservation measures for roads such as Routes 3, 202, 203 and 205, and along other roads that need different or more specific corridor-protection techniques.	9	5	12	20	42	12
Westmoreland County should have greenways adjacent to major highways and investigate potential corridors for the development of a county-wide greenway linking natural, scenic, historic, and recreational areas.	14	6	15	20	39	6
Bike ways and/or pedestrian facilities should be part of the county's primary and secondary road plans.	13	9	17	23	35	3
Request the Department of Transportation to perform preliminary engineering to identify improvement options and a right-of-way corridor for Route 3 as a four-lane facility with a landscaped median and paved-shoulder bike lanes.	16	7	14	16	40	5
More multi-family housing is needed in the county.	36	14	22	9	8	12
More single-family housing is needed.	13	6	33	21	12	14
More mixed-use development is needed. Note: Mixed-use development includes a mix of housing types, commercial, retail, open space, churches, schools, civic institutions, and other public facilities designed as an integral part of the neighborhood and within walking distance—what is known as "The Village Concept."	15	4	25	27	22	7
More condominiums, townhouses, and apartments are needed.	39	14	23	9	8	8
More senior-citizen communities are needed.	7	10	27	23	25	8

How important are these?

1 = Not Important 5 = Very Important N.O. = No Opinion

	1	2	3	4	5	N.O.
Location of housing, shopping, office, industry, parks, schools, churches, etc.	6	3	14	22	52	3
Transportation infrastructure (roads, railroads, airports, public transit, bikeways, walkways, etc.)	4	8	14	29	39	6
Water and sewer systems	6	7	15	18	51	3
Libraries, fire stations, schools, etc.	1	2	11	23	63	0
Park and recreational facilities	5	8	10	26	50	1

	1	2	3	4	5	N.O.
Pedestrian and bike trails	15	12	23	22	23	3
Water trails	15	11	30	22	14	8
Securing and preserving sensitive environmental areas	2	2	14	20	57	5
Environmental issues	3	1	10	23	60	3
Improving employment opportunities	1	1	14	15	66	3
Encouraging industrial growth	13	10	17	14	41	3
Encouraging tourism	5	7	12	18	56	2
Attracting new businesses	4	3	11	16	63	3
Preventing business sprawl	8	8	12	23	44	5
Encouraging industrial-park development	14	7	23	20	29	8
Preserving agriculture	3	3	10	21	61	1
Protecting water quality and natural resources	2	0	3	8	86	0
Preserving the rural character of the county	3	3	7	19	66	1
Keeping taxes at present level	5	6	16	20	48	4
Controlling the location of new growth	6	3	6	22	60	3
Preserving historic buildings and historic areas	2	1	5	22	68	1
Neighborhood parks, community gathering areas	4	9	21	27	34	5
Making developers pay for new infrastructure required by their developments	3	1	3	12	81	1
Being very involved in economic development to create jobs and attract new businesses and industries	4	1	14	23	54	3
Establishing standards to improve the quality and appearance of new buildings	6	1	15	27	47	4
Establishing standards to improve the quality and appearance of site development	5	1	14	27	47	7

You are...

1 = Not Satisfied → 5 = Very Satisfied N.O. = No Opinion

	1	2	3	4	5	N.O.
With sanitary sewer facilities in the county	22	10	21	8	12	27
With drinking water quality	7	8	16	25	27	18
With drainage and handling of storm water runoff	14	17	26	12	6	24
With preservation efforts of open spaces	10	16	35	16	6	16
With air and water quality	12	9	23	28	21	7
The number of parks, playing fields, and playgrounds	21	16	27	12	11	14
The quality of parks, playing fields, and playgrounds	17	17	28	12	9	18
Fire and rescue services	8	6	18	37	25	5
Public safety and law enforcement	8	10	21	34	23	5
Schools	19	12	22	13	4	31
Diversity and affordability of housing	6	14	30	17	8	25
Boating, fishing, and swimming access	8	10	21	25	26	10
How the county communicates with citizens	34	23	19	13	2	9
Public libraries	3	6	18	28	33	11
Social services and facilities	7	8	28	12	9	37

	1	2	3	4	5	N.O.
Medical services and facilities available	28	30	20	11	3	9
Recycling options	21	23	21	14	8	12
The way the county's roads handle traffic	10	18	32	18	14	7
Public transit options	24	21	15	4	5	32
Number and quality of sidewalks	21	18	16	8	10	27
The landscaping along roads	23	25	23	8	8	14
Distances you must drive to get to stores, school, jobs, etc., on a daily basis	23	19	31	12	10	5

You would...

1 = Not Support → 5 = Strongly Support N.O. = No Opinion

	1	2	3	4	5	N.O.
A continuation of the current residential development pattern.	18	10	34	12	4	22
Clustering housing on smaller lots within a residential development to preserve open space.	25	17	19	14	17	8
Development that integrates single-family, multi-family, retail, offices and institutional uses into cohesive, planned communities.	17	8	25	23	21	7
New residential and commercial development located adjacent to existing development to connect into existing infrastructure (sewer, water, roads).	16	5	14	27	29	8
Addition of residential uses into existing office or commercial areas to create mixed-use development that integrates multi-family, retail, offices and institutional uses into cohesive, planned community in areas.	13	9	20	26	18	15
The location of commercial, business, or industrial development along the highways and major roads in the county.	10	14	30	24	18	4
Significant restriction of commercial development along recognized historic corridors.	9	10	18	14	42	6

To conclude...

Should the county restrict or manage the amount of new development that occurs in areas not served by county sewer services?

Yes	No	No Opinion
72%	19%	9%

Should the county require a minimum lot size for building in areas without county sewer service? And if so, how many acres should that minimum be? (SELECT ONLY ONE)

34 2 acres
12 3 acres
16 5 acres
6 10 or more acres
12 No Opinion
20 No minimum requirement should exist

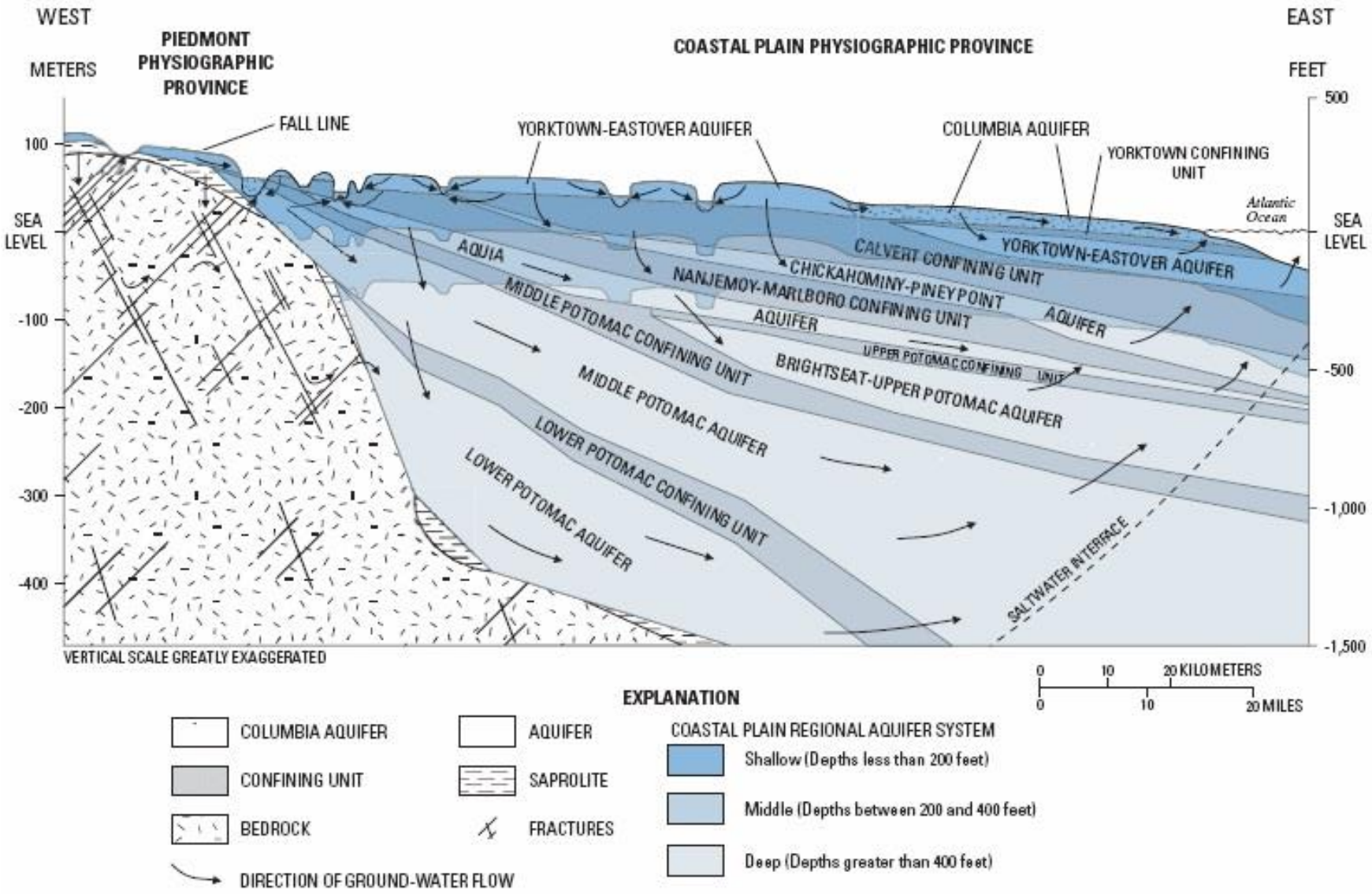
Your comments

See attached

Thank You for your participation. Please direct any comments about this survey to (804) 333-1900, or to info@westmoreland2030.org

Return the completed survey **by 12/31/2008** to:
The Northern Neck Planning District Commission
P.O. Box 1600
Warsaw VA 22572

Or complete the survey online by 12/31/2008 at
www.Westmoreland2030.org


WEST
EAST
PIEDMONT PHYSIOGRAPHIC PROVINCE
COASTAL PLAIN PHYSIOGRAPHIC PROVINCE
METERS
FEET
FALL LINE
YORKTOWN-EASTOVER AQUIFER
COLUMBIA AQUIFER
YORKTOWN CONFINING UNIT
Atlantic Ocean
SEA LEVEL
100
-100
-200
-300
-400
500
-500
-1,000
-1,500
AQUIA
CALVERT CONFINING UNIT
YORKTOWN-EASTOVER AQUIFER
CHICKAHOMINY-PINEY POINT AQUIFER
NANJEMOY-MARLBORO CONFINING UNIT
MIDDLE POTOMAC CONFINING UNIT
UPPER POTOMAC CONFINING UNIT
BRIGHTSEAT-UPPER POTOMAC AQUIFER
MIDDLE POTOMAC AQUIFER
LOWER POTOMAC CONFINING UNIT
LOWER POTOMAC AQUIFER
SALTWATER INTERFACE
VERTICAL SCALE GREATLY EXAGGERATED
0 10 20 KILOMETERS
0 10 20 MILES
EXPLANATION
COLUMBIA AQUIFER
CONFINING UNIT
BEDROCK
DIRECTION OF GROUND-WATER FLOW
AQUIFER
SAPROLITE
FRACTURES
COASTAL PLAIN REGIONAL AQUIFER SYSTEM
Shallow (Depths less than 200 feet)
Middle (Depths between 200 and 400 feet)
Deep (Depths greater than 400 feet)

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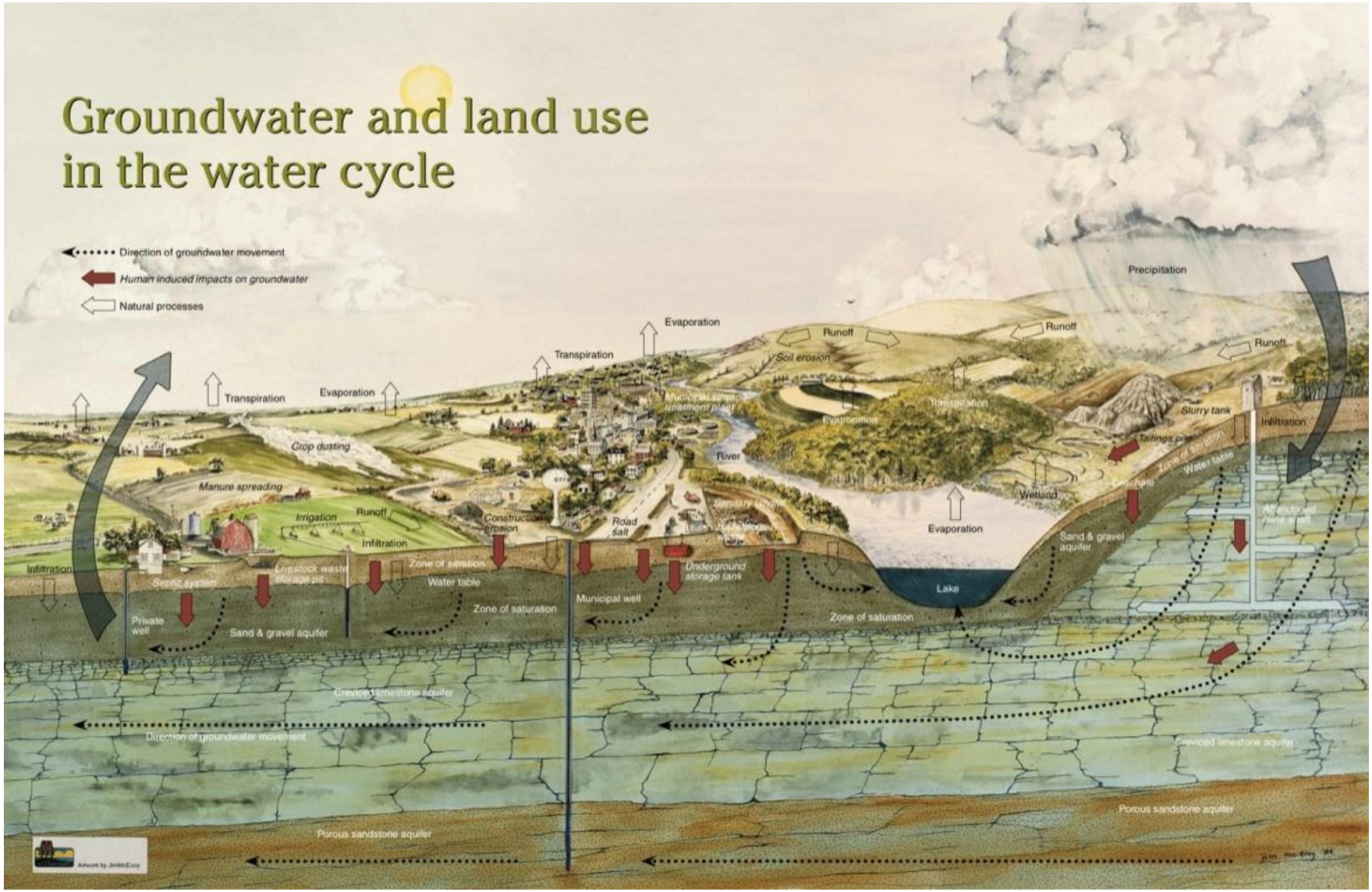
Westmoreland County's

Comprehensive Plan

Vision2030


Groundwater and land use in the water cycle
Direction of groundwater movement
Human induced impacts on groundwater
Natural processes
Precipitation
Evaporation
Transpiration
Runoff
Soil erosion
Municipal sewage treatment plant
River
Crop dusting
Manure spreading
Irrigation
Runoff
Infiltration
Construction erosion
Road salt
Sanitary landfill
Septic system
Livestock waste storage pit
Zone of aeration
Water table
Zone of saturation
Private well
Sand & gravel aquifer
Municipal well
Underground storage tank
Fractured limestone aquifer
Porous sandstone aquifer
Wetland
Lake
Slurry tank
Tailings pile
Leachate
Sand & gravel aquifer
Abandoned mine shaft

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Westmoreland County's

Comprehensive Plan

Vision2030

NORTHERN NECK Planning District Commission

2035 Regional Long Range Transportation Plan, 2012 (Page 13)

WESTMORELAND COUNTY RECOMMENDATIONS

18 VA-3 from VA-637 to VA-205
Long-term: Reconstruct road to address geometric deficiencies (12-foot lanes).

19 VA-643 from VA-622 W to VA-645
Short-term: Widen road to 12-ft lanes and install shoulders.

20 VA-645 from VA-3 to VA-643
Short-term: Paint new edgelines and restripe center double yellow. Install Curve warning and Chevron signs at horizontal curves.

21 VA-202 from VA-3 to VA-202 Y
Short-term: Enhance curvature and hidden entrance signage.

22 VA-205 (James Monroe Hwy.) at VA-628 (Stoney Knoll Rd.)
Short-term: Install Intersection Warning (W 2) series on both approaches of VA-205; trim vegetation to improve sight distance for VA-628.

23 VA-205 from VA-3 to VA-628 N.
Short-term: Install Object Markers (OM-3) at bridge ends and Intersection Warning (W2) signs.

24 VA-3 from VA-664 to VA-204
Short-term: Install No Passing (W14-3) and Deer Warning signs at appropriate locations; Mid-term:VA-3 Widen shoulders; Long-term: reconstruct road to address geometric deficiencies (12-foot lanes).

25 VA-3 from VA-204 to VA-624
Short-term: Install No Passing (W14-3) and Deer Warning signs at appropriate locations; Mid-term: VA-3 Widen shoulders; Long-term: reconstruct road to address geometric deficiencies (12-foot lanes).

26 VA-621 from VA-600 N. to VA-202
Short-term: Bridge rehabilitation; Long-term: Rural - 2 Lane 22 Feet

27 VA-631 from VA-205 S. to VA-205 N.
Long-term: reconstruct road to address geometric deficiencies (11-foot lanes).

28 VA-3 from T-622 E. to T-1202
Long-term: widen to urban four lanes with median.

29 VA-3 from Montross W. CL to T-622 W.
Long-term: widen to urban four lanes with median.

33 VA-3 from VA-624 W. to VA-622
Long-term: reconstruct road to address geometric deficiencies (12-foot lanes).

34 VA-622 from VA-609 to Montross N. City Limits
Long-term: reconstruct road to address geometric deficiencies (11-foot lanes).

35 VA-622 from Montross S. City Limits to Richmond Co. Line
Long-term: reconstruct road to address geometric deficiencies (11-foot lanes).

36 VA-600 from VA-202 to VA-621 W.
Long-term: reconstruct road to address geometric deficiencies (12-foot lanes).

37 VA-626 from VA-202 W. to VA-621 S.
Long-term: reconstruct road to address geometric deficiencies (11-foot lanes).

38 VA-600 from VA-621 E. to VA-203
Long-term: reconstruct road to address geometric deficiencies (12-foot lanes).

39 VA-628 from VA-630 to VA-205 N.
Short-term: Install Curve warning (W1 series) signage; Long-term: reconstruct road to address geometric deficiencies (11-foot lanes.

40 VA-638 from VA-3 to VA-625
Short-term: Paint new edgelines and restripe center double yellow; Install Curve warning and Chevron signs at horizontal curves; Long-term: Widen road to 12-ft lanes and install shoulders.

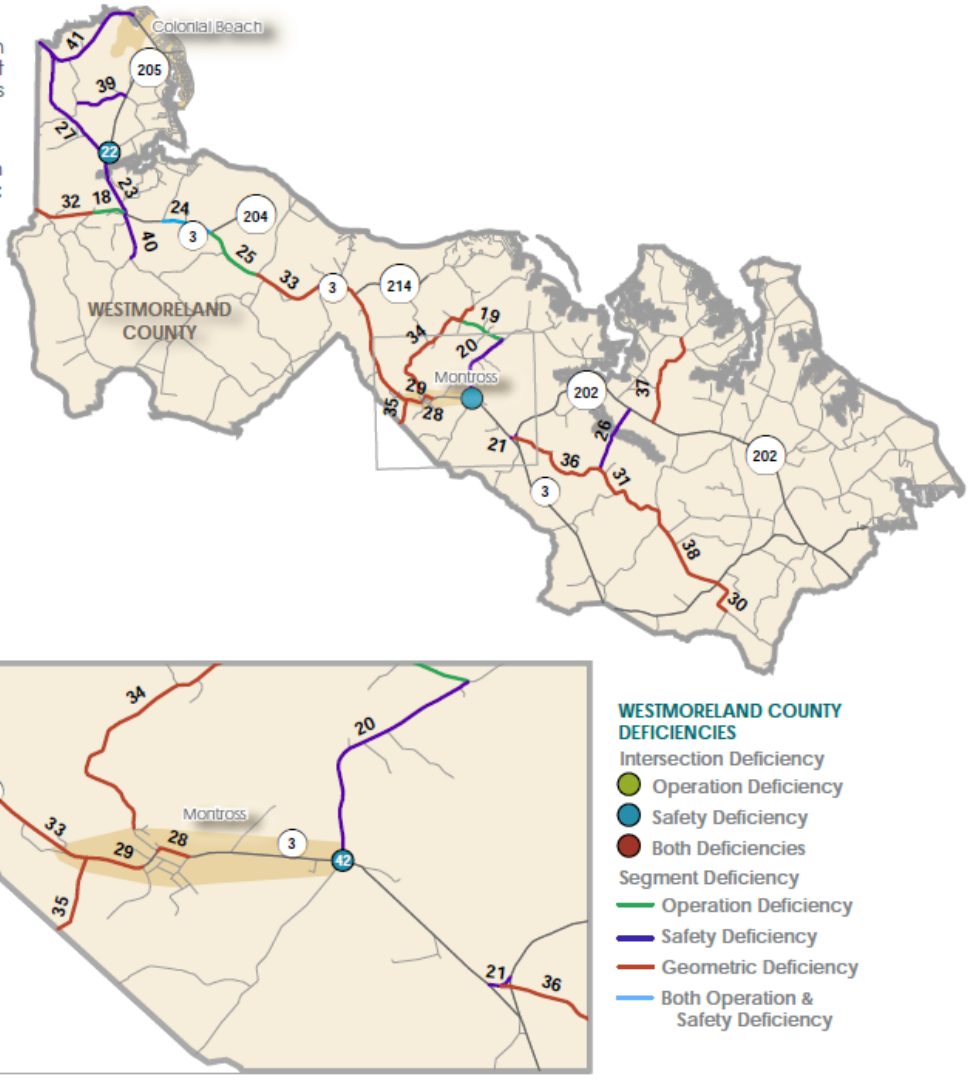
41 VA-205 from Colonial Beach CL to King George CL
Mid-term: Install Curve warning and Chevron signs at horizontal curves Long-term: Bridge rehabilitation.

42 VA-3 (Kings Hwy.) at VA-645 (Zacata Rd)
Short-term: Assess lane configuration changes on VA-3 to provide exclusive turn bays; Mid-term: Install turn bays on VA-3. Recommendations completed in Spring 2011.

30 **VA-600 from VA-619 to VA-203**
Short-term: Install Curve warning and Chevron signsathorizontalcurves;Long-term:reconstruct road to address geometric deficiencies (12-foot lanes).

31 **VA-600 from VA-621 E. to VA-621 W.**
Short-term: Install Curve warning and Chevron signs at horizontal curves; Long-term: reconstruct road to address geometric deficiencies (12-foot lanes).

32 **VA-3 from King George Co. Line to VA-637**
Long-term: reconstruct road to address geometric deficiencies (12-foot lanes).



WESTMORELAND COUNTY DEFICIENCIES

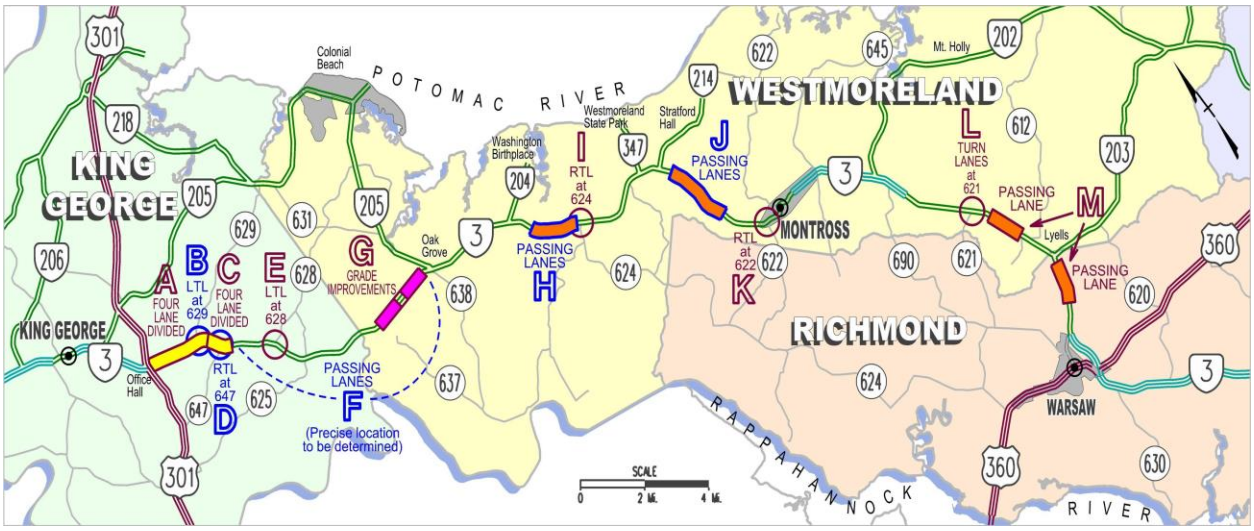
Intersection Deficiency
- Operation Deficiency
- Safety Deficiency
- Both Deficiencies

Segment Deficiency
- Operation Deficiency
- Safety Deficiency
- Geometric Deficiency
- Both Operation & Safety Deficiency

Virginia Department of Transportation

Route 3 Northern Neck Corridor Improvement Study, May of 2016 (Page 31)

RECOMMENDED IMPROVEMENTS – WESTERN SECTION



A Four-Lane (Divided) Widening of Rte 3 from Rte 301 to Rte 622 **	Short-Term
B Left-Turn-Lane @ Intersection of Rte 629 **	Short-term
C Four-Lane (Divided) Widening of Rte 3 from Rte 622 through Rte 647	Long-term
D Right-Turn-Lane @ Intersection of Rte 647 *	Short-term
E Left-Turn-Lane @ Intersection of Rte 628	Long-term
F Rte 3 Passing Lanes Eastern King George County or Western Westmoreland County (Location TBD)**	Short-term
G Grade/Vertical Sight Distance Improvements - Possible Passing Lanes	Long-term
H Rte 3 Passing Lanes Western Westmoreland County ***	Short-term
I Right-Turn-Lane @ Intersection of Rte 624-S	Long-term
J Rte 3 Passing Lanes between Lerty and Montross ***	Short-term
K Right-Turn-Lane @ Intersection of Rte 622	Long-term
L Left and Right-Turn-Lanes @ Intersection of Rte 621	Long-term
M Rte 3 Passing Lanes @ Westmoreland / Richmond Co. Line	Long-term

*Short-term Project Priority Ranking: ***Highest **Medium *Lower*

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Westmoreland County's

Comprehensive Plan

Vision2030

8. MAPS

8.32 Parcels with Active Oil & Gas Leases

8.33 Location of Public Water Wells

8.34 Location of Resources Subject to Potential Impact from Oil and Gas Drilling (Resource Protection Areas, existing houses, public wells, major subdivisions, schools, etc.)

8.35 Areas Currently Prohibited from Oil or Gas Drilling by Existing Regulations (state setback requirements, local zoning/land use limitations)

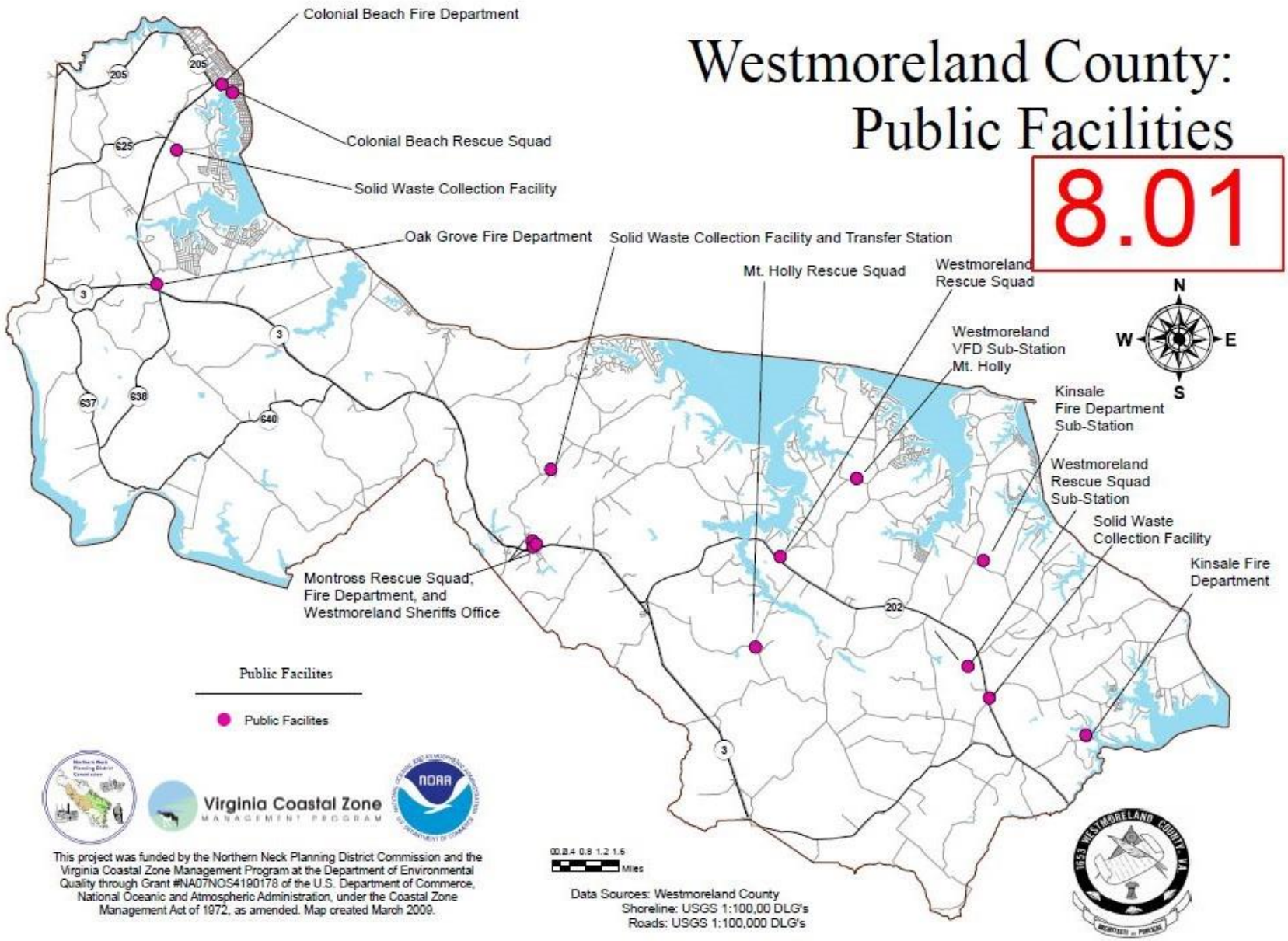
8.36 Oil and Gas Leases Less Land within 500 feet of perennial streams and wetlands

8.37 Oil and Gas Leases Less Land within 500 feet of perennial streams & houses, and 1,000 feet of public water

8.38 Oil and Gas Leases Less Land within 500 feet of perennial streams, 750 feet of houses, and 1,000 feet of public water

Westmoreland County: Public Facilities

8.01



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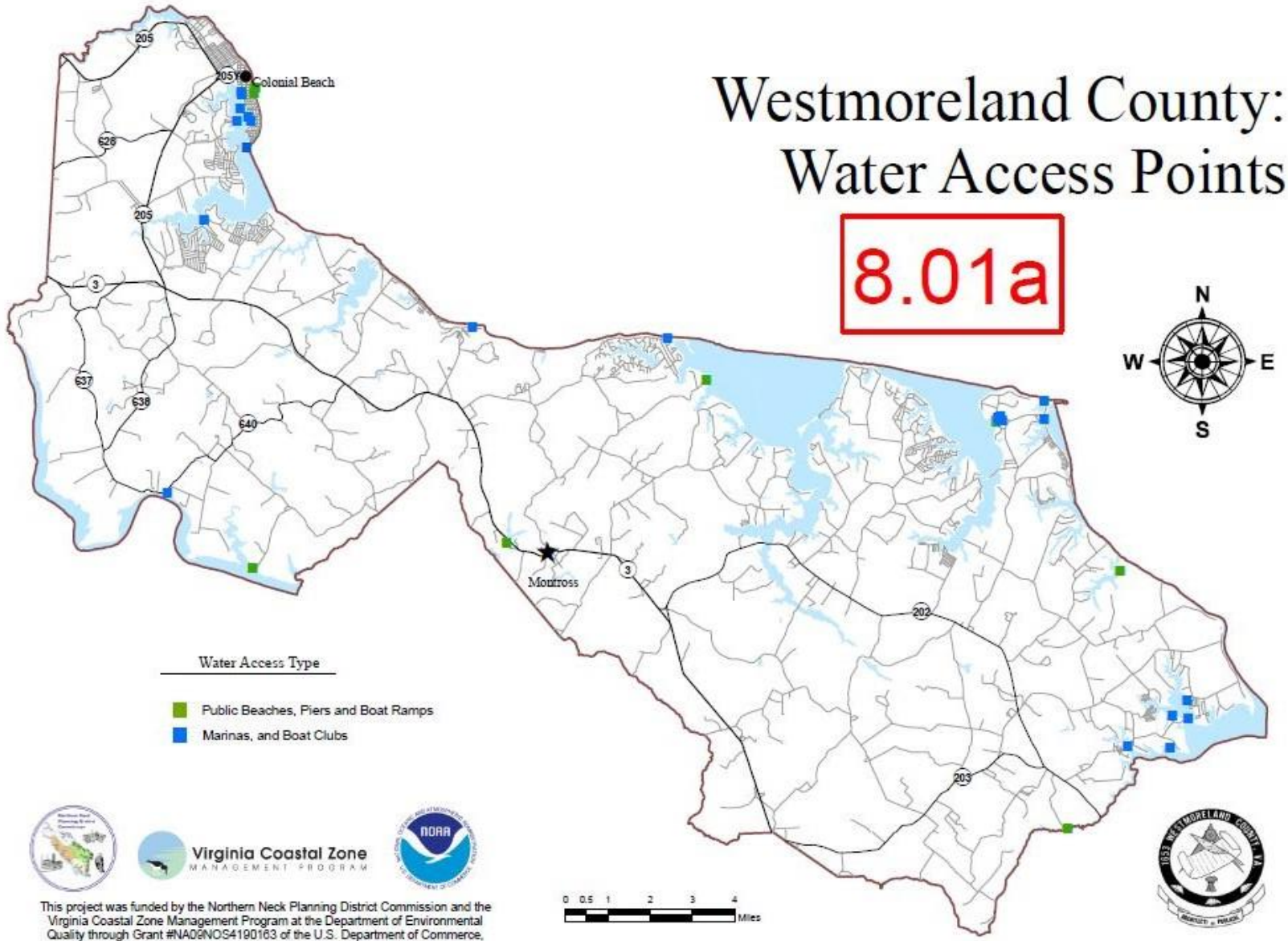
Westmoreland County: Water Access Points

8.01a

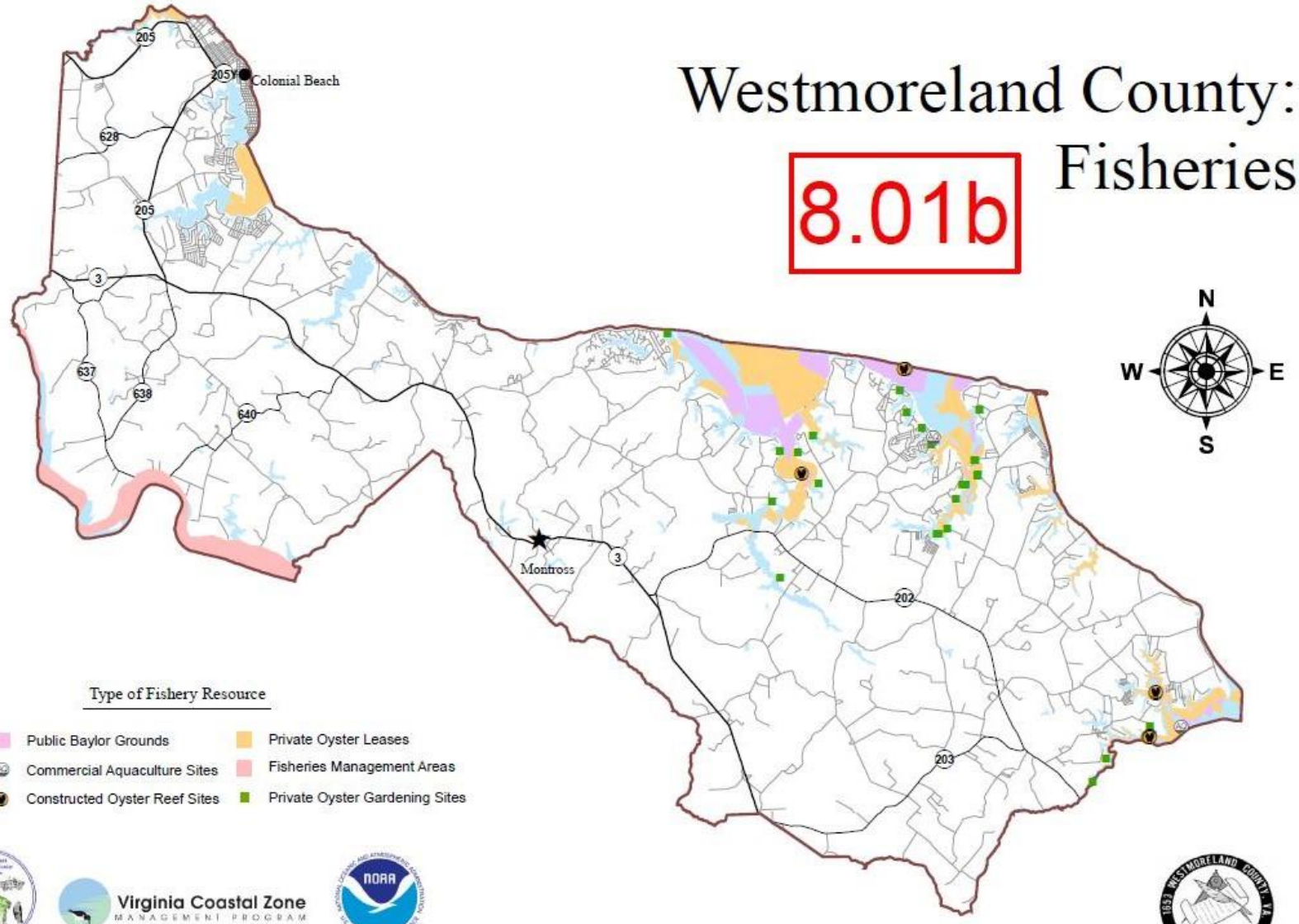


This project was funded by the Northern Neck Planning District Commission and the Virginia Coastal Zone Management Program at the Department of Environmental Quality through Grant #NA09NOS4190163 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended. Map created July 2010.

Data Sources: Virginia Department of Game and Inland Fisheries and other sources.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Fisheries

8.01b



Virginia Coastal Zone MANAGEMENT PROGRAM

NOAA

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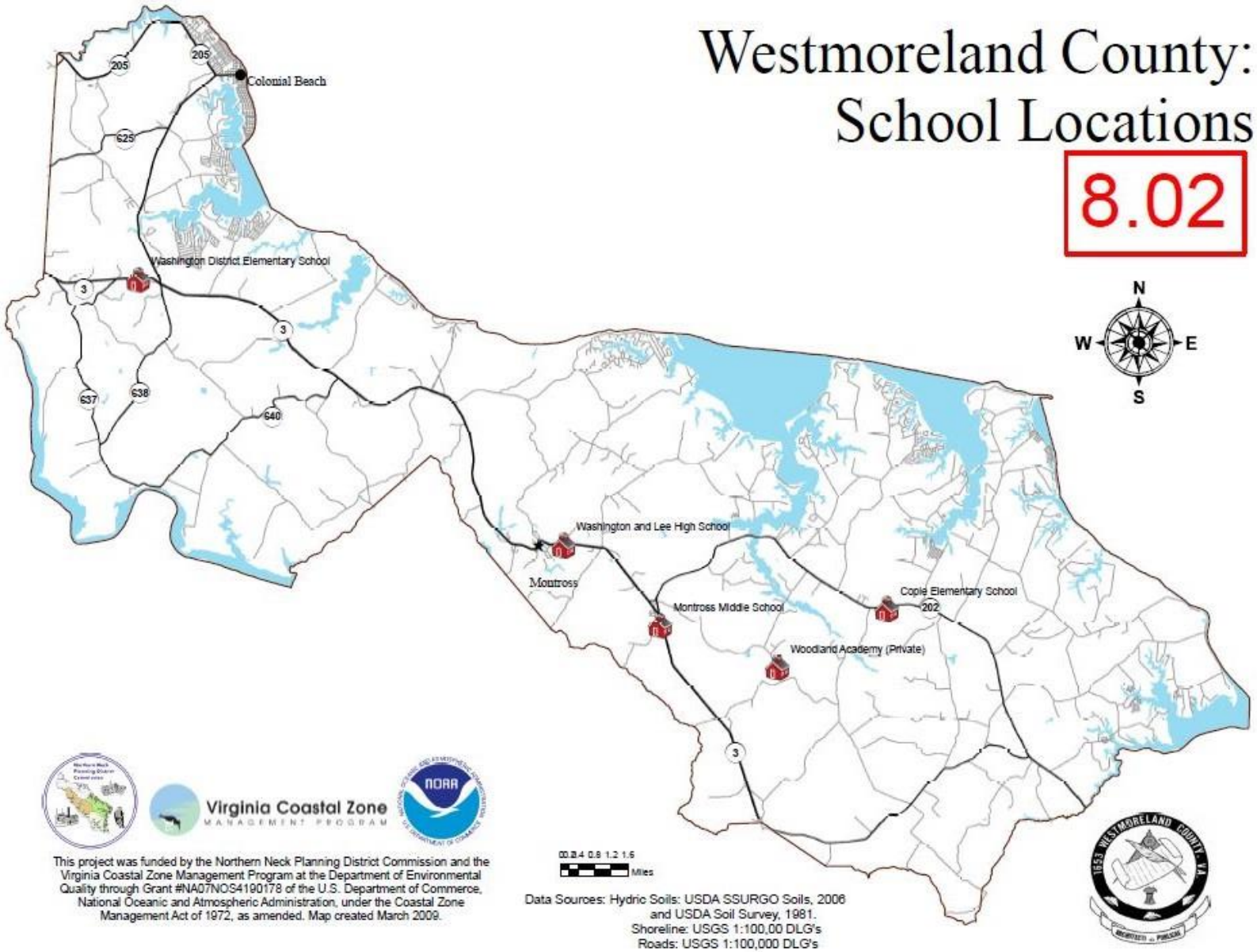
Data Sources: Virginia Coastal Zone Management Programs, Coastal GEMS data layers - http://www.deq.state.va.us/coastal/coastalgems.html
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: School Locations

8.02



Virginia Coastal Zone MANAGEMENT PROGRAM

NOAA

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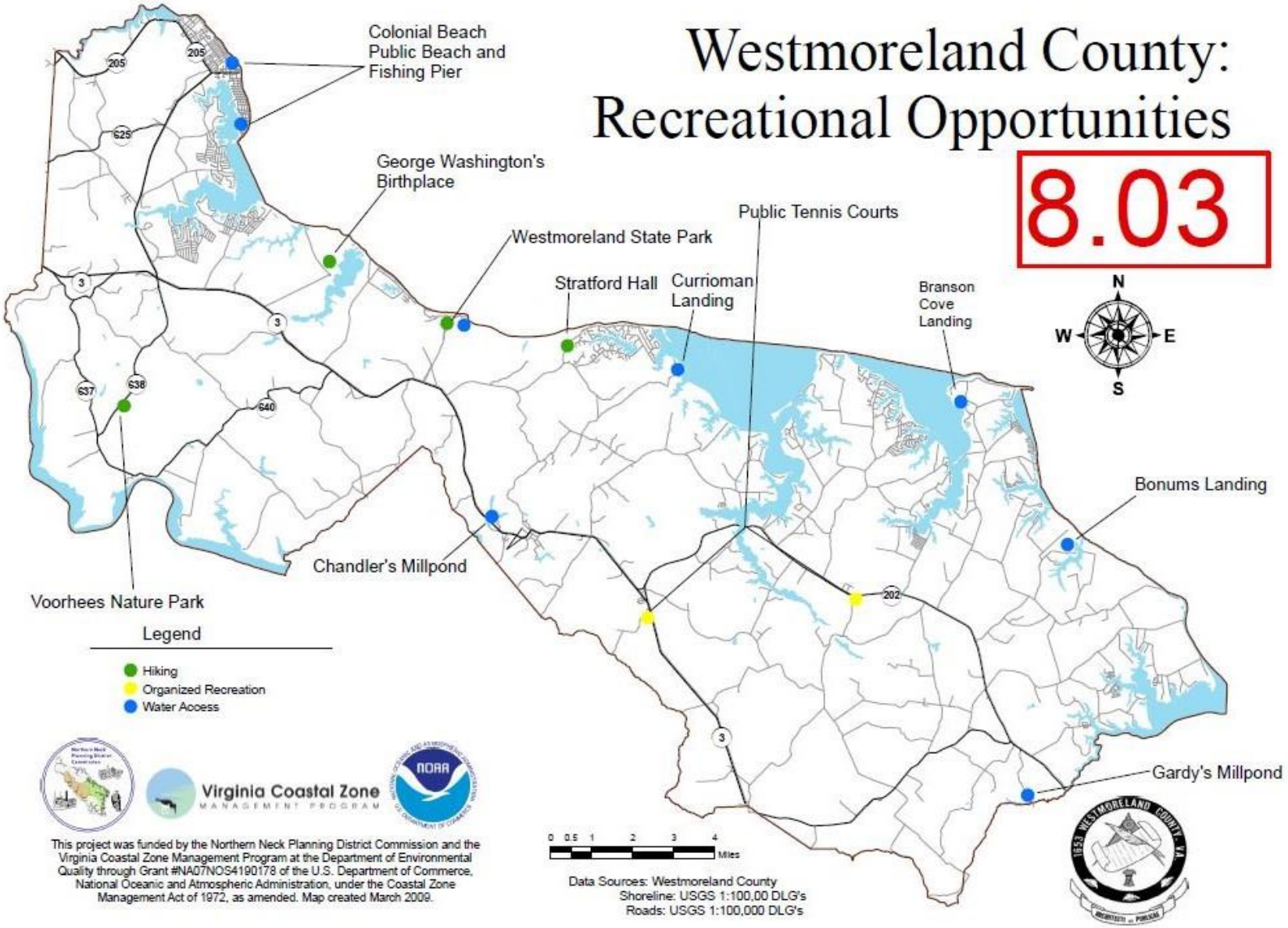
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

1653 WESTMORELAND COUNTY, VA



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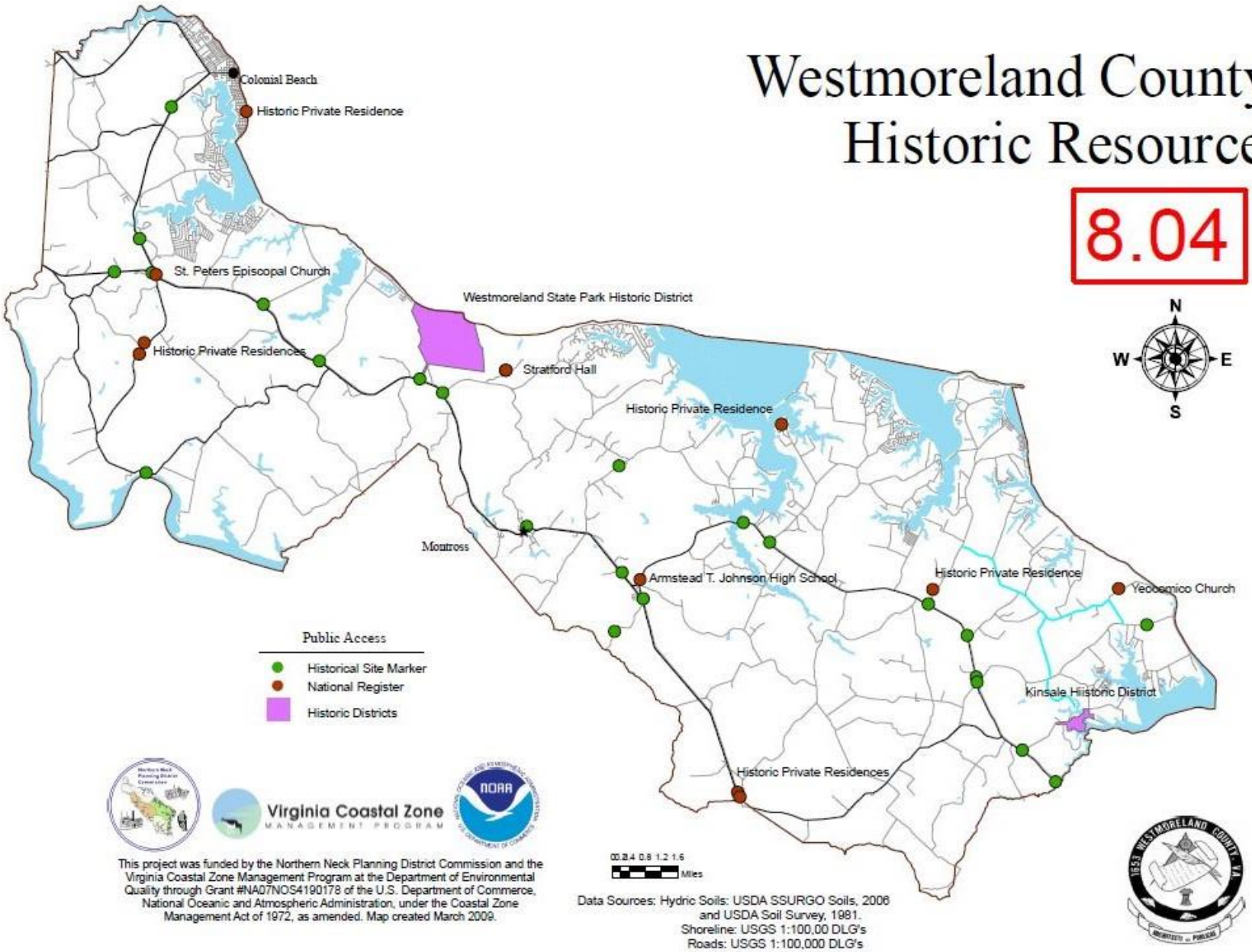
Westmoreland County: Historic Resources

8.04



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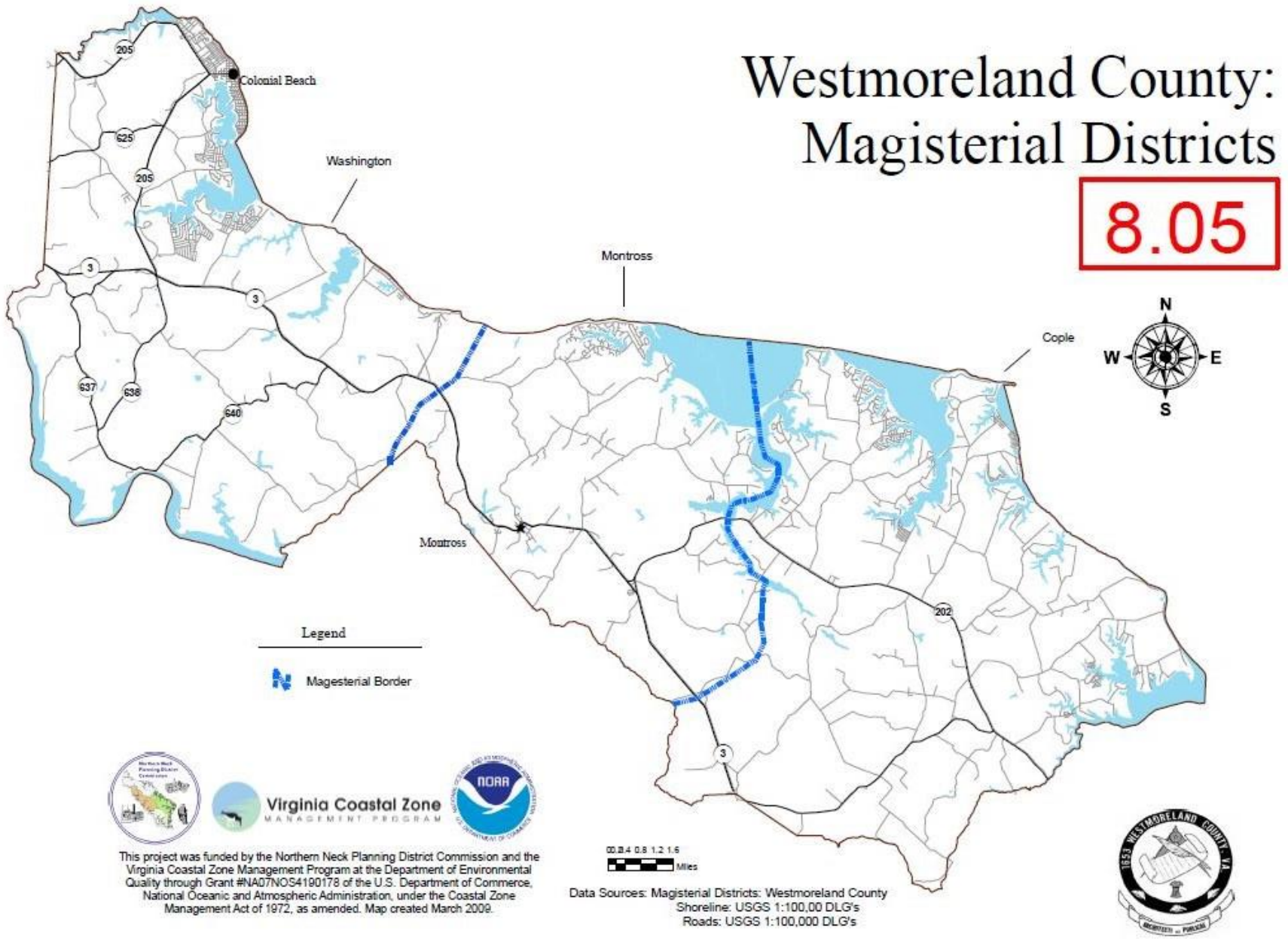
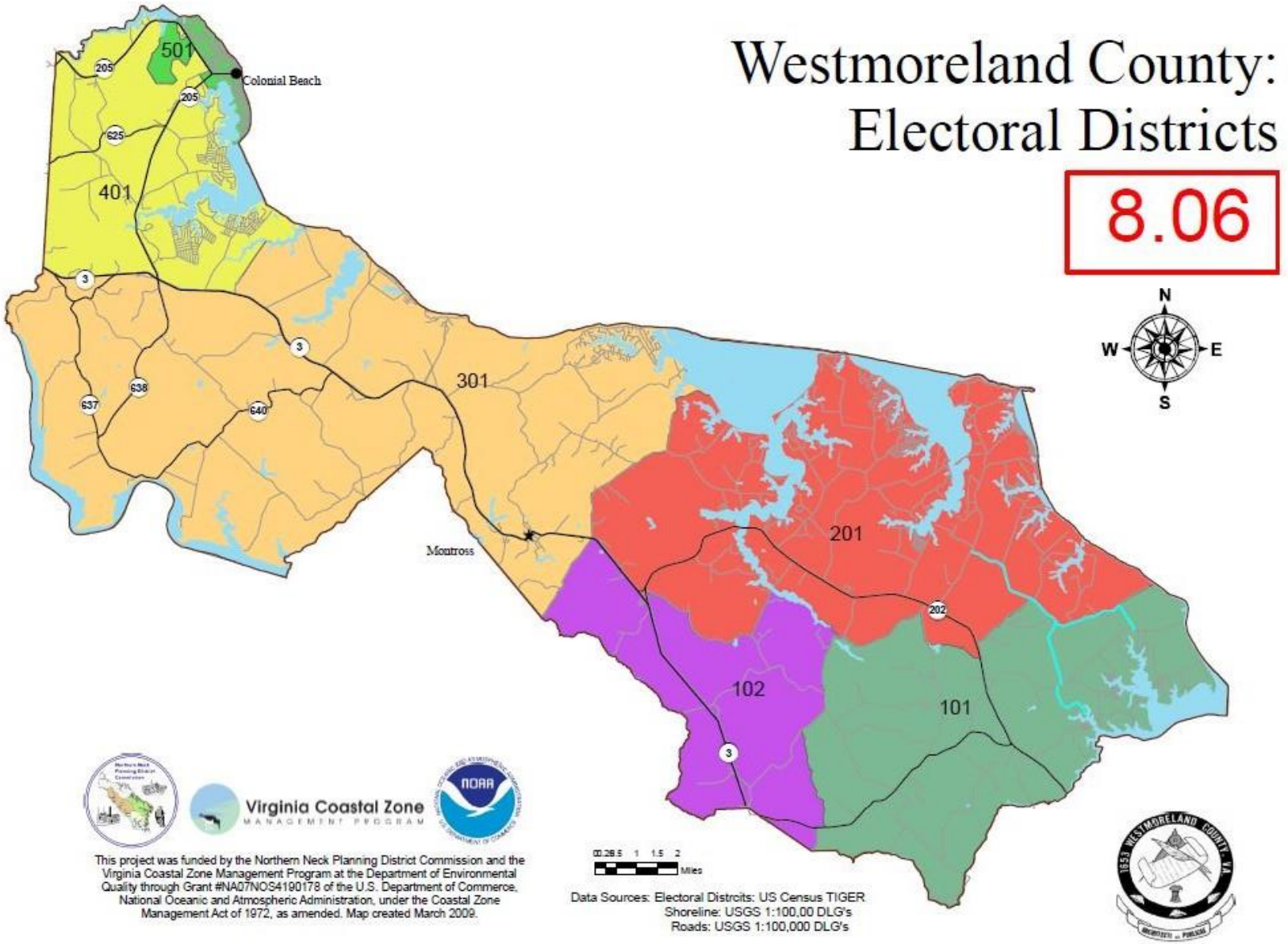
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's


Westmoreland County:
Magisterial Districts
8.05
Colonial Beach
Washington
Montross
Cople
Montross
205
625
205
3
3
637
638
640
202
3
N
W
E
S
Legend
Magesterial Border
Virginia Coastal Zone
MANAGEMENT PROGRAM
NOAA
0 0.2 0.4 0.8 1.2 1.6
Miles
This project was funded by the Northern Neck Planning District Commission and the Virginia Coastal Zone Management Program at the Department of Environmental Quality through Grant #NA07NOS4190178 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended. Map created March 2009.
Data Sources: Magisterial Districts: Westmoreland County
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's


Westmoreland County:
Electoral Districts
8.06
N
W
E
S
501
401
301
201
202
102
101
205
205
625
3
3
3
638
637
640
Colonial Beach
Montross
Virginia Coastal Zone
MANAGEMENT PROGRAM
NOAA
0 0.25 0.5 1 1.5 2
Miles
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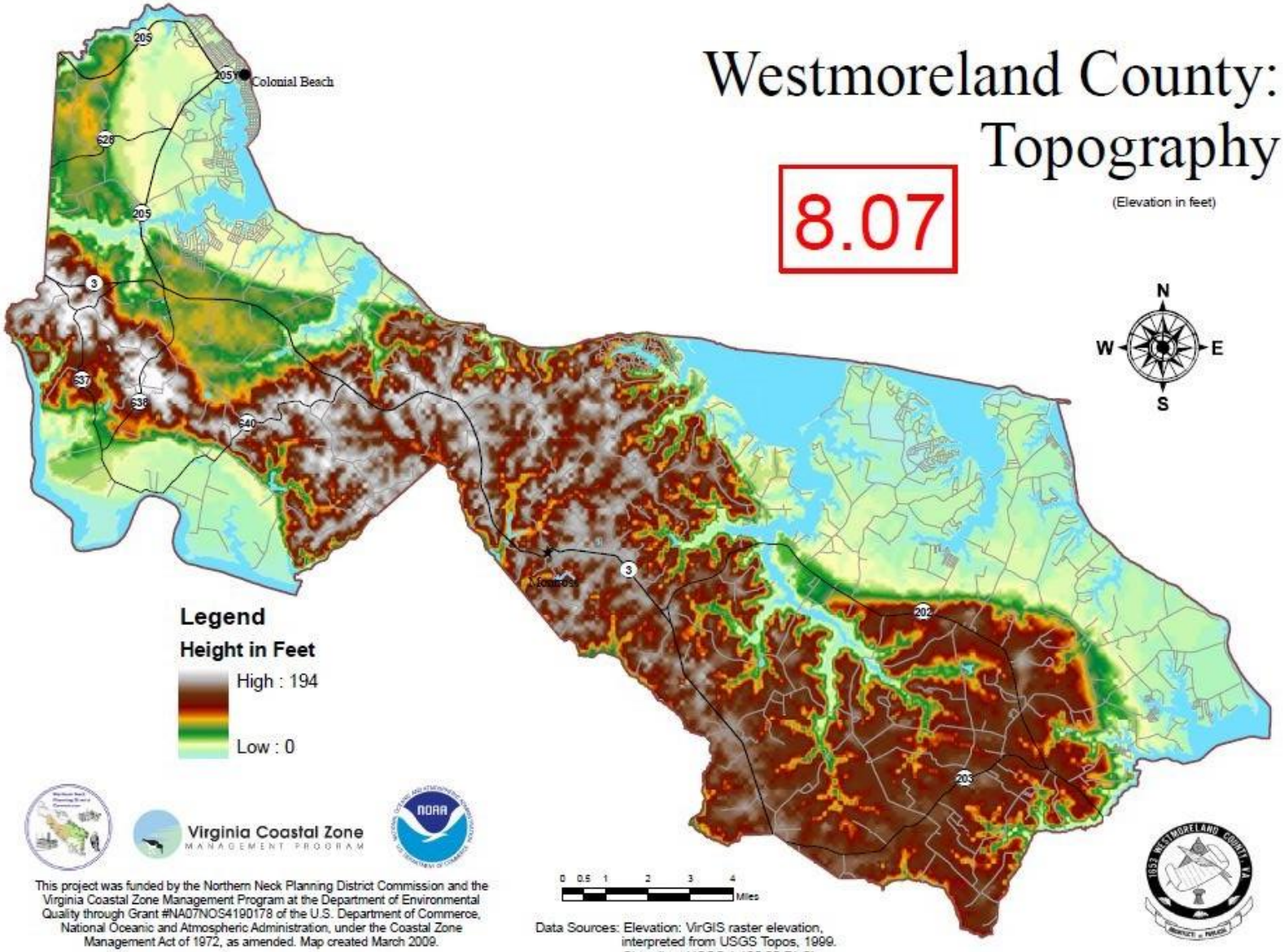
Data Sources: Electoral Distrcits: US Census TIGER
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's
1653 WESTMORELAND COUNTY VA

Westmoreland County: Topography

8.07

(Elevation in feet)



Virginia Coastal Zone MANAGEMENT PROGRAM

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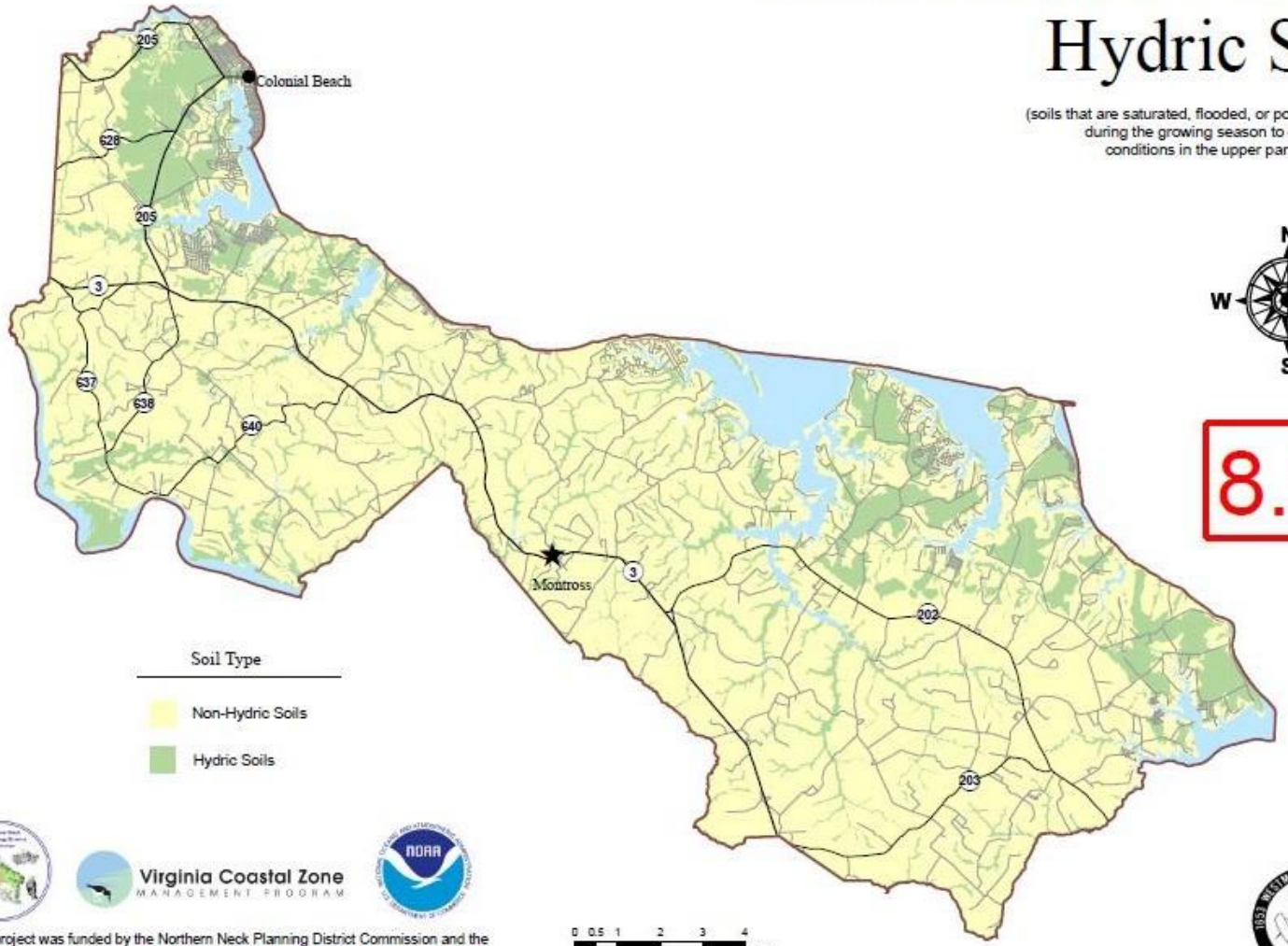
Data Sources: Elevation: VirGIS raster elevation, interpreted from USGS Topos, 1999.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Hydric Soils

(soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile)



8.08

Virginia Coastal Zone
MANAGEMENT PROGRAM

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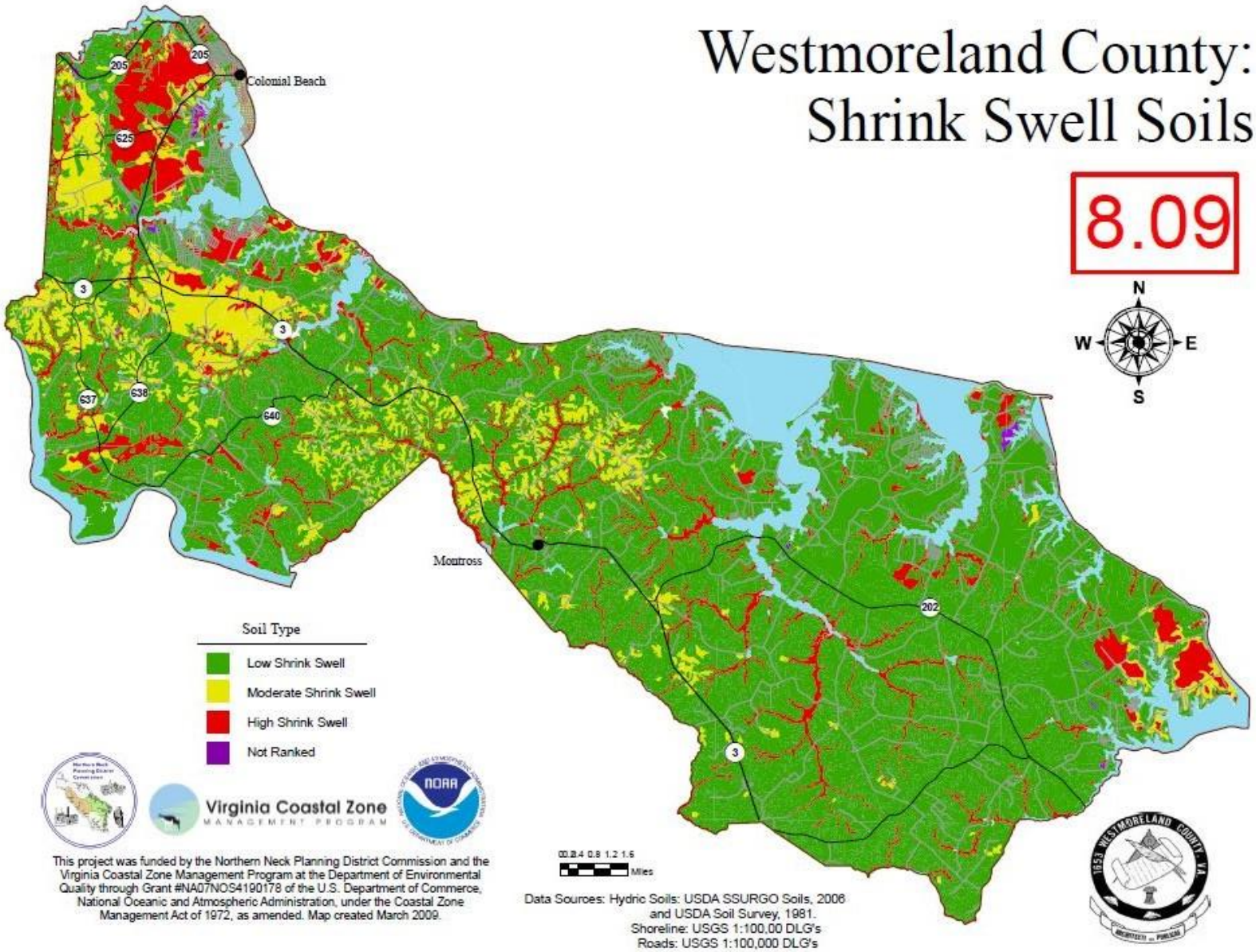
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's



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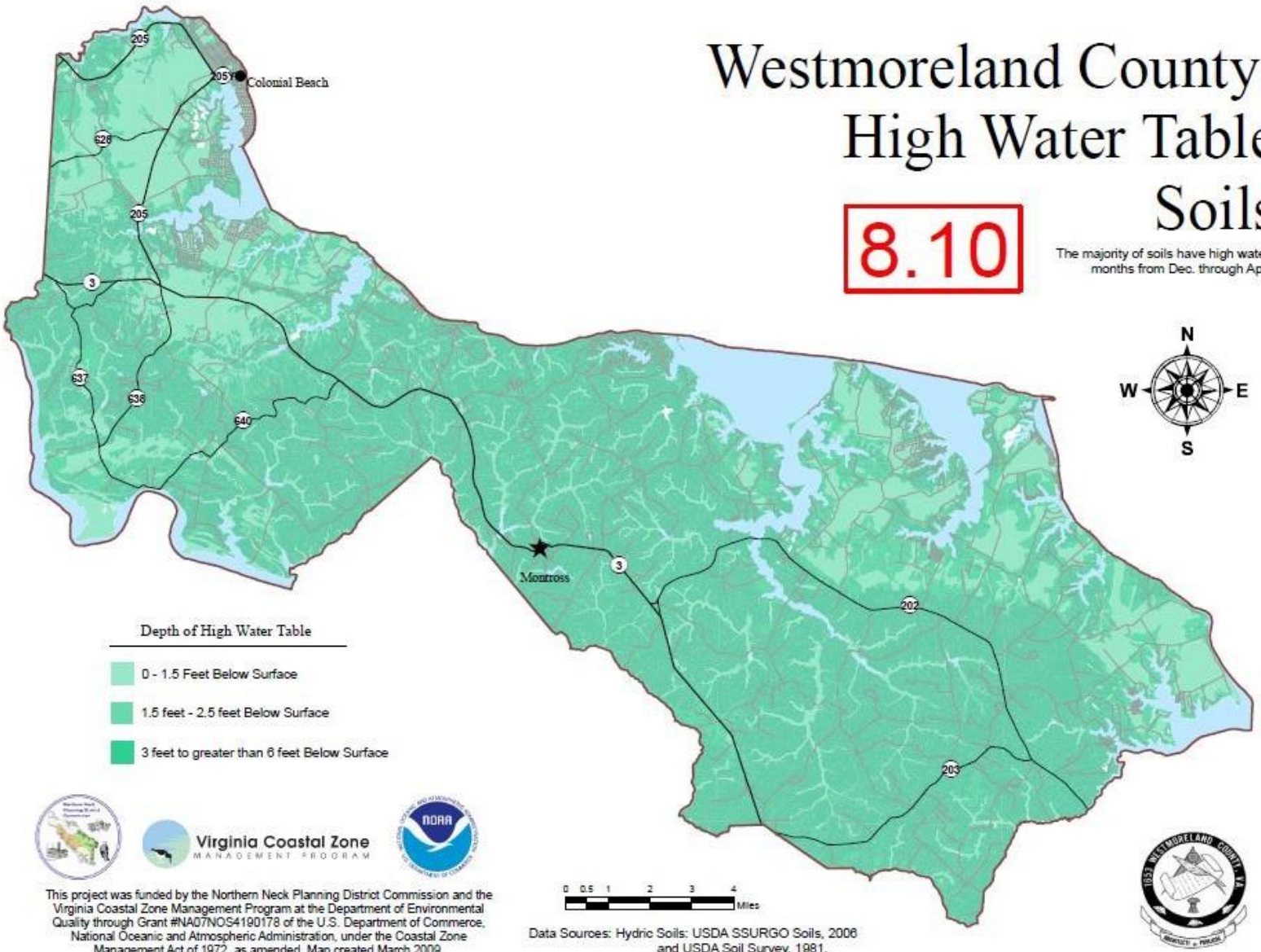
Westmoreland County: High Water Table Soils

8.10

The majority of soils have high water months from Dec. through Apr.



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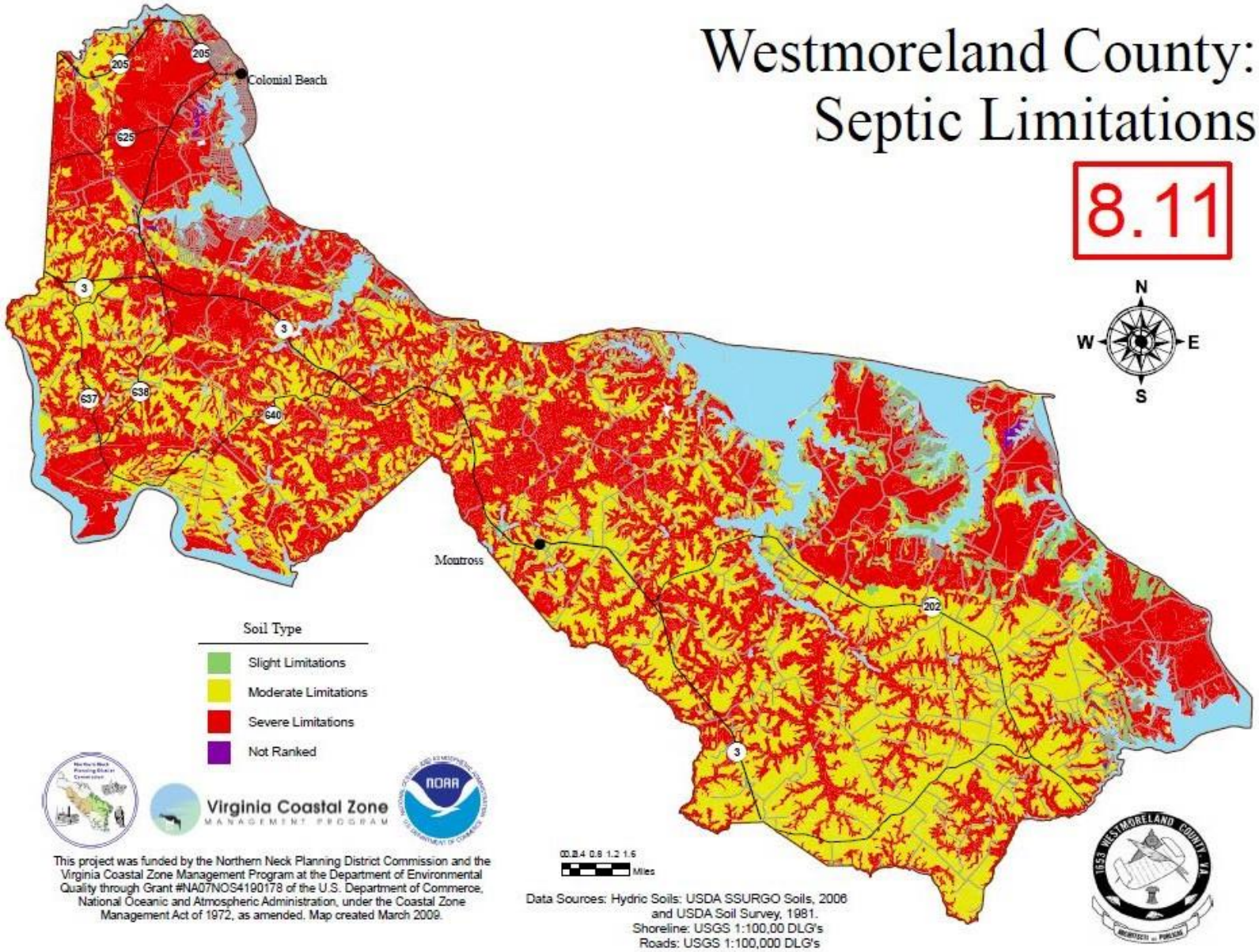
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Septic Limitations

8.11



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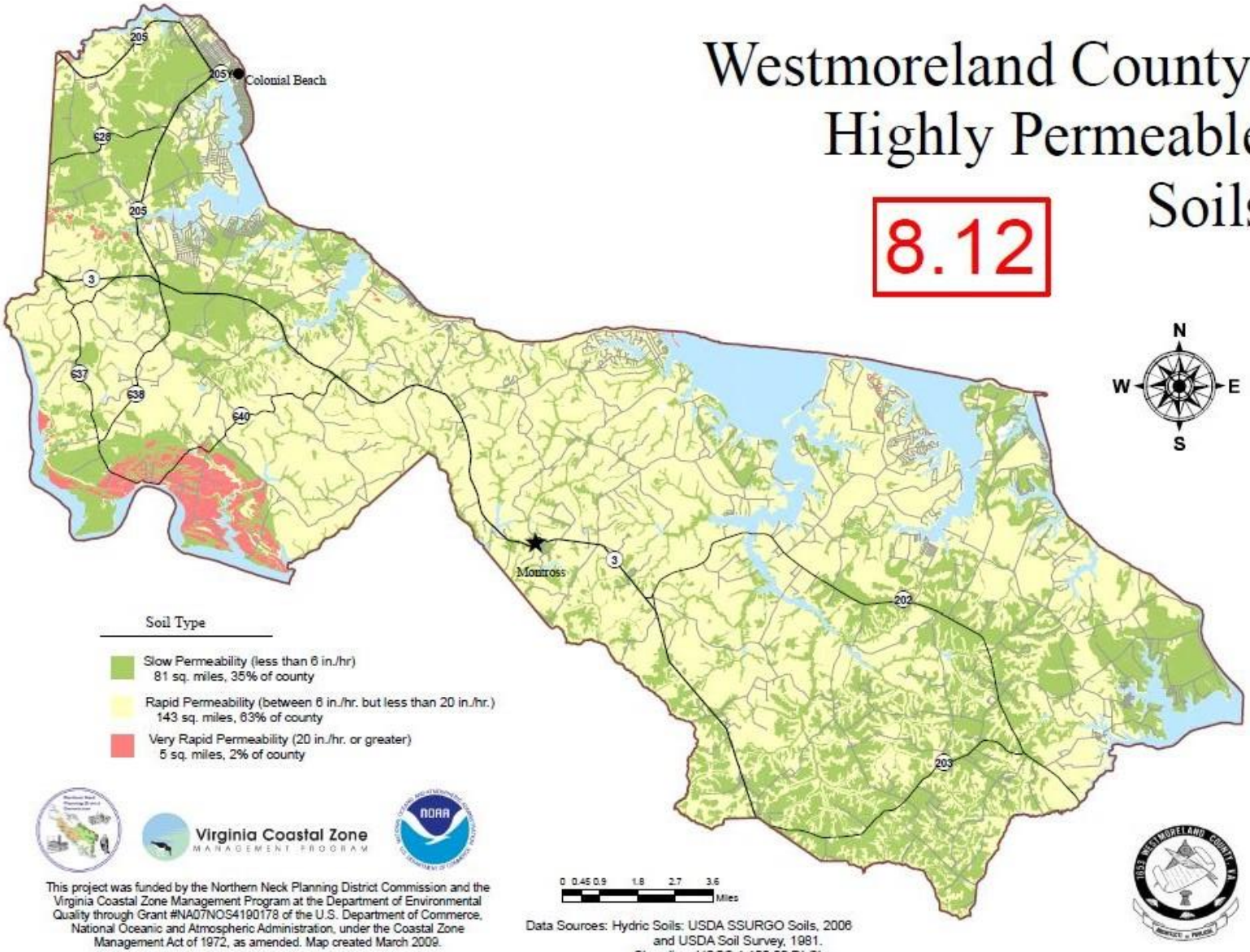
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Highly Permeable Soils

8.12



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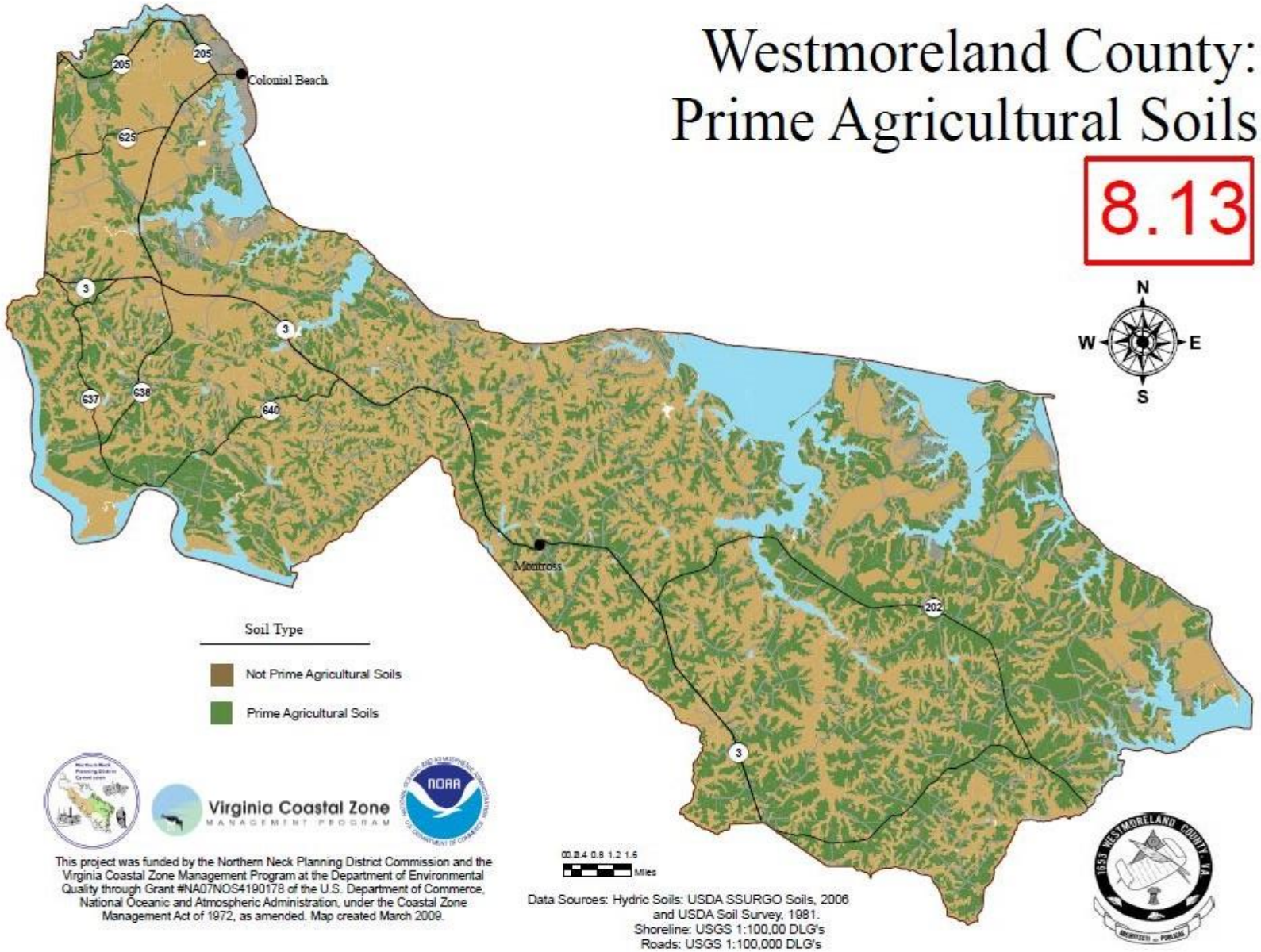
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Prime Agricultural Soils

8.13



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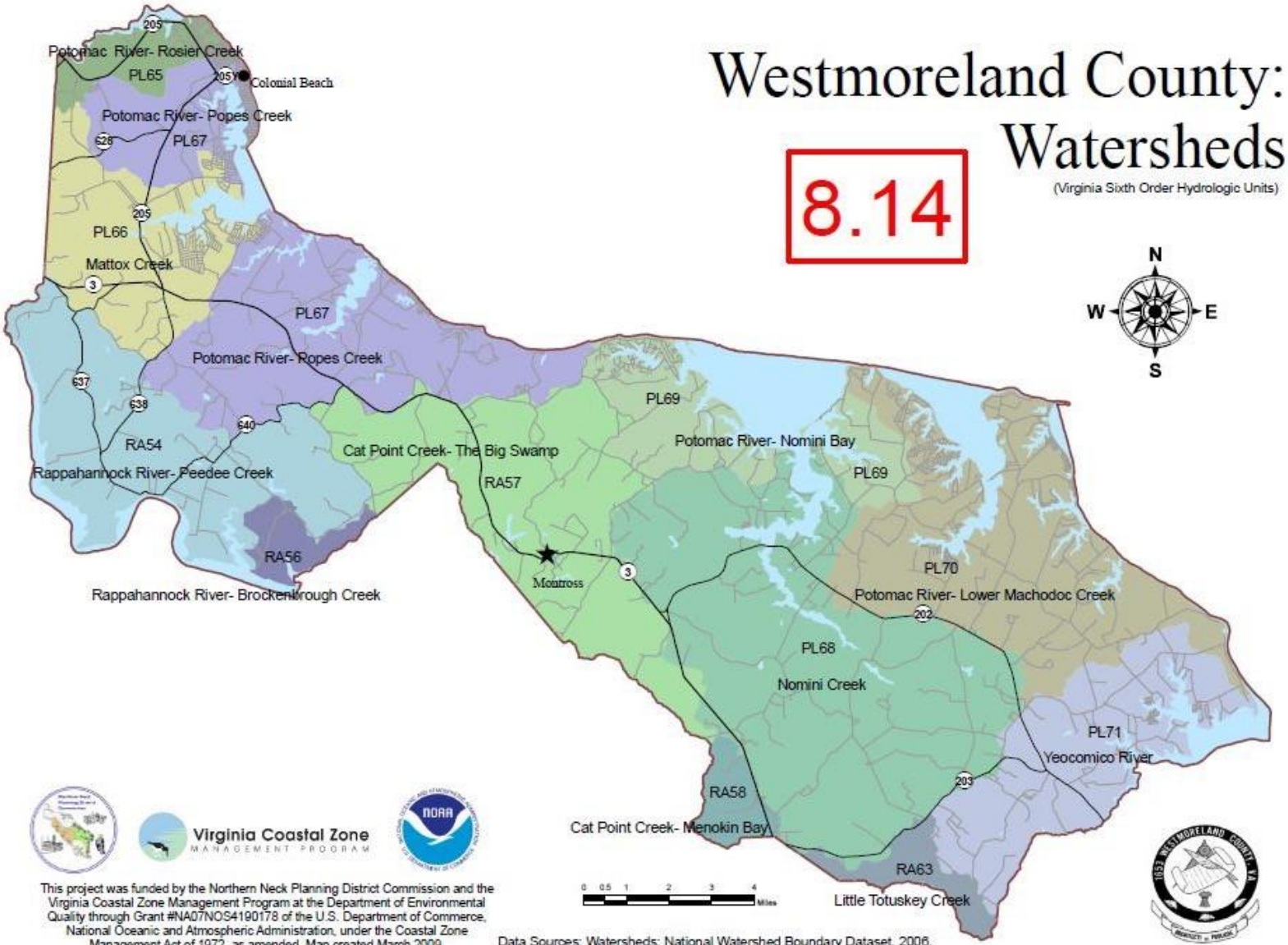
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Watersheds

(Virginia Sixth Order Hydrologic Units)

8.14



Virginia Coastal Zone MANAGEMENT PROGRAM

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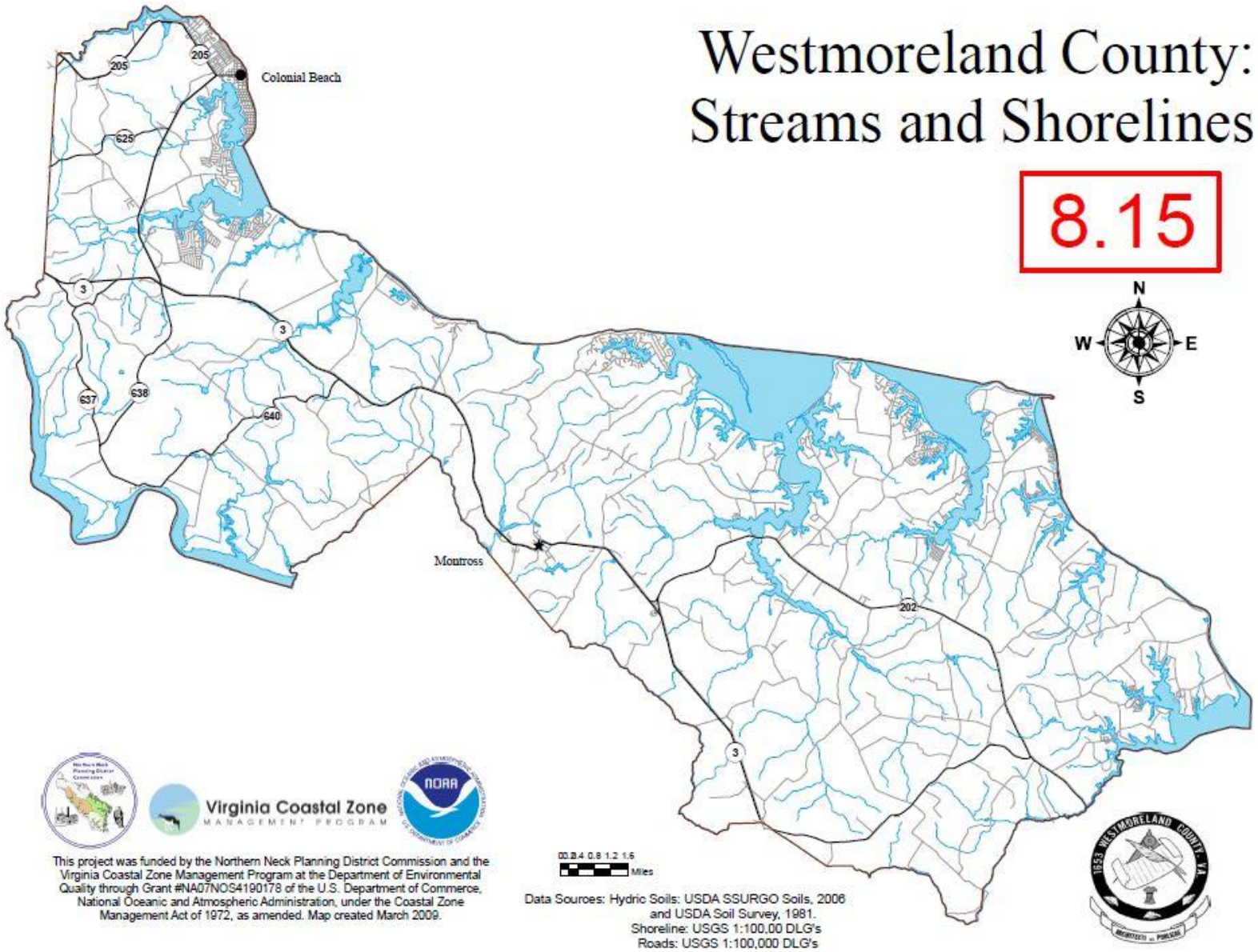
Data Sources: Watersheds: National Watershed Boundary Dataset, 2006.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's


Westmoreland County:
Streams and Shorelines
8.15
Colonial Beach
Montross
205
625
3
637
638
640
202
N
W
E
S
Virginia Coastal Zone
MANAGEMENT PROGRAM
NOAA
0 0.4 0.8 1.2 1.6
Miles
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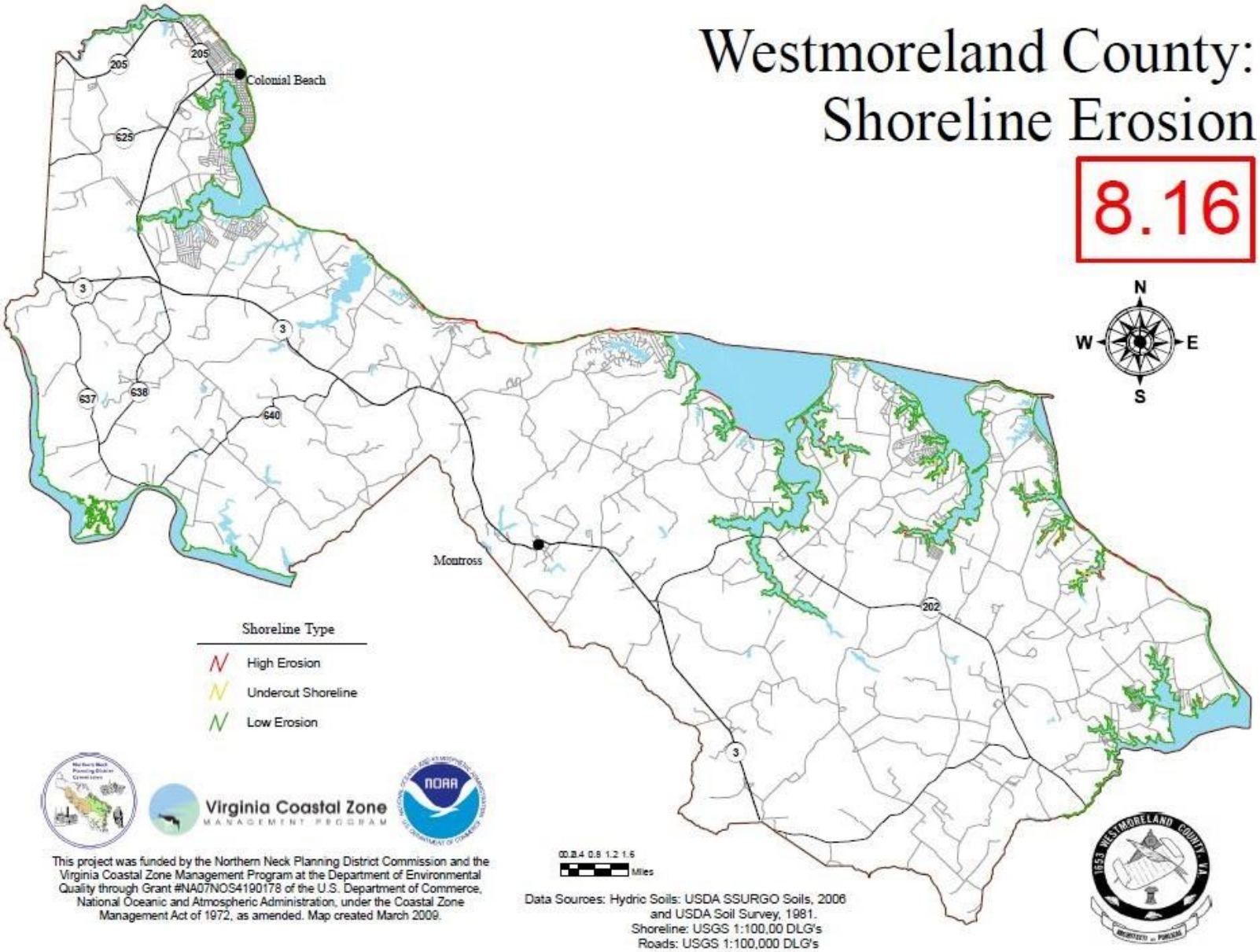
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Shoreline Erosion

8.16



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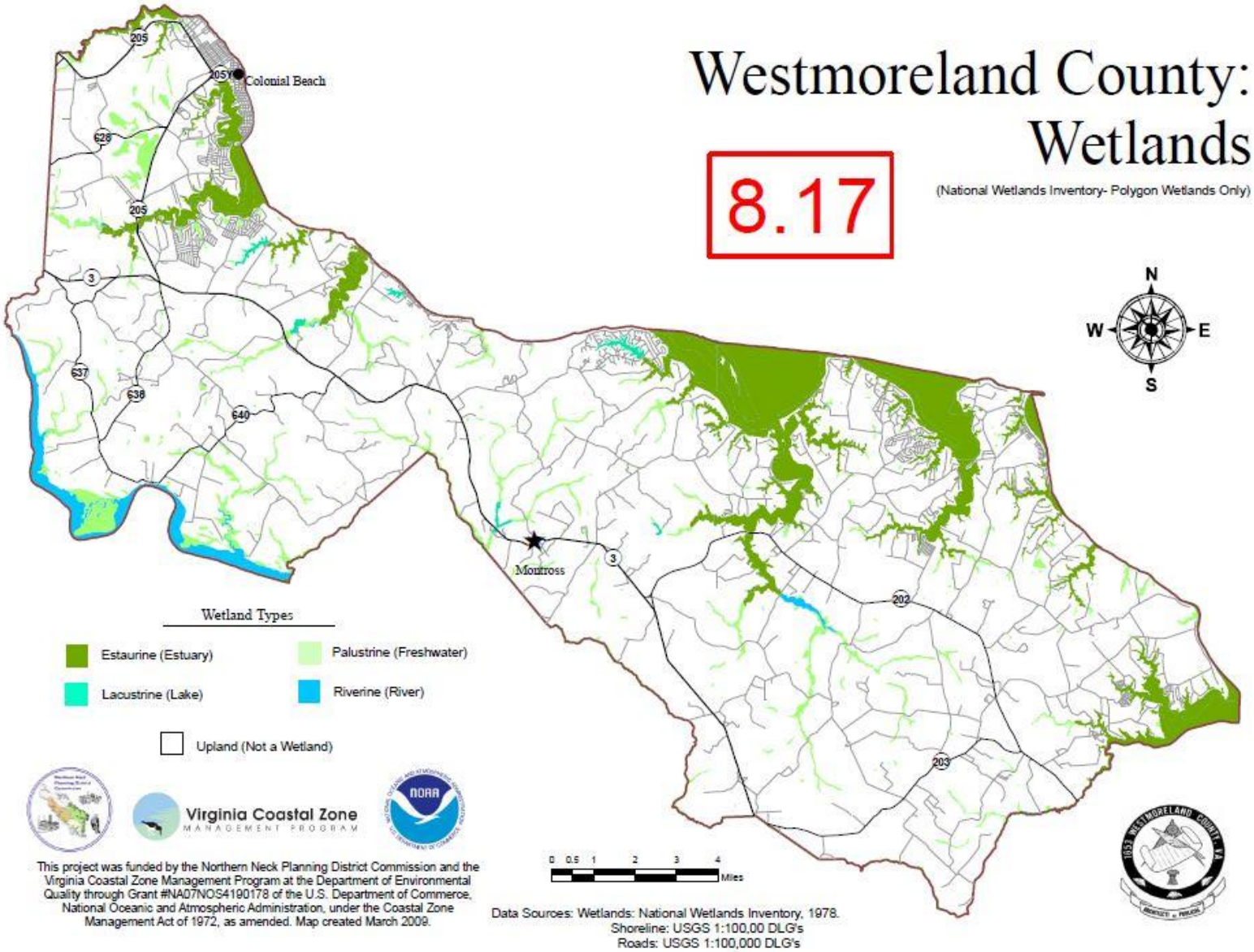
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Wetlands

8.17

(National Wetlands Inventory- Polygon Wetlands Only)



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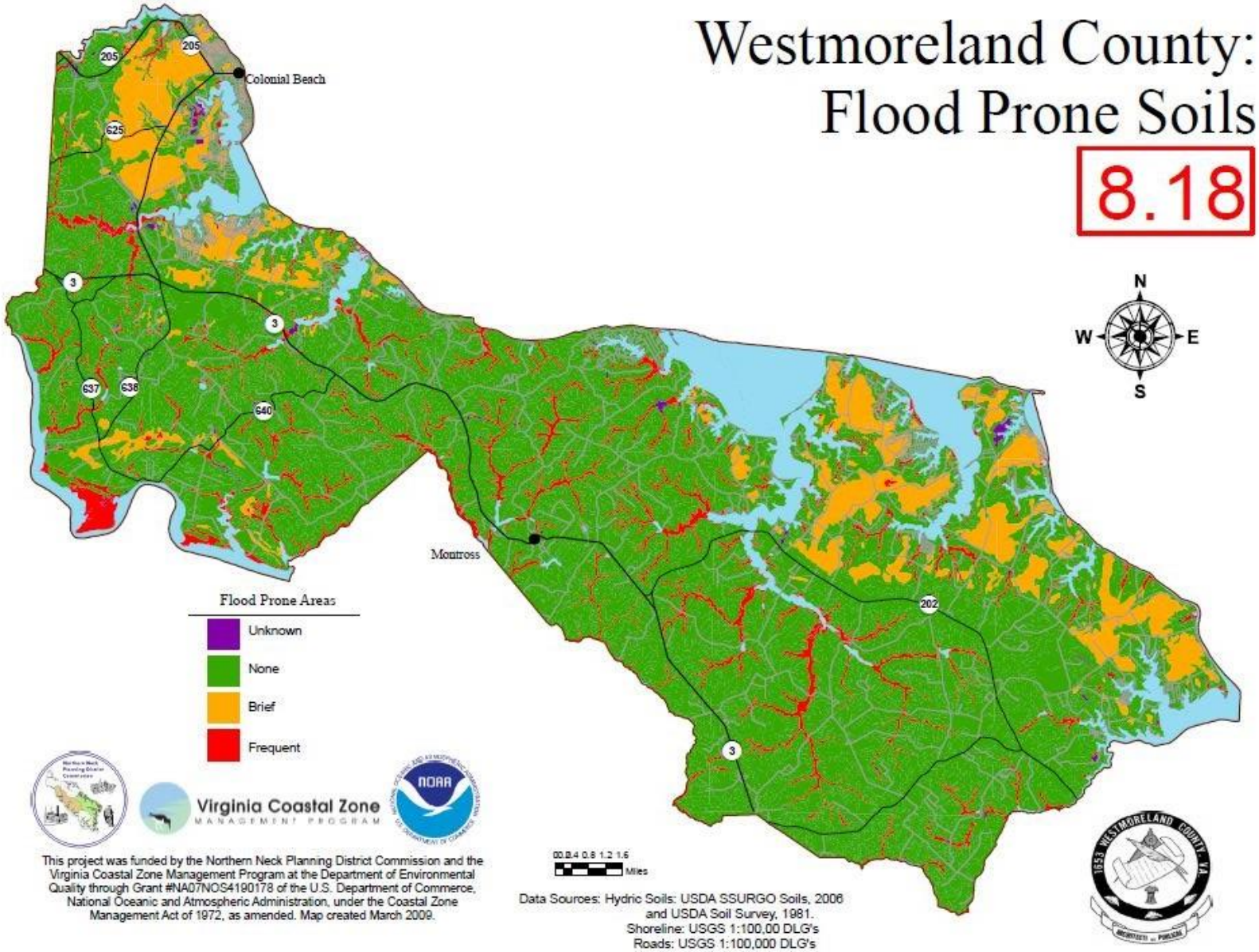
Data Sources: Wetlands: National Wetlands Inventory, 1978.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Flood Prone Soils

8.18



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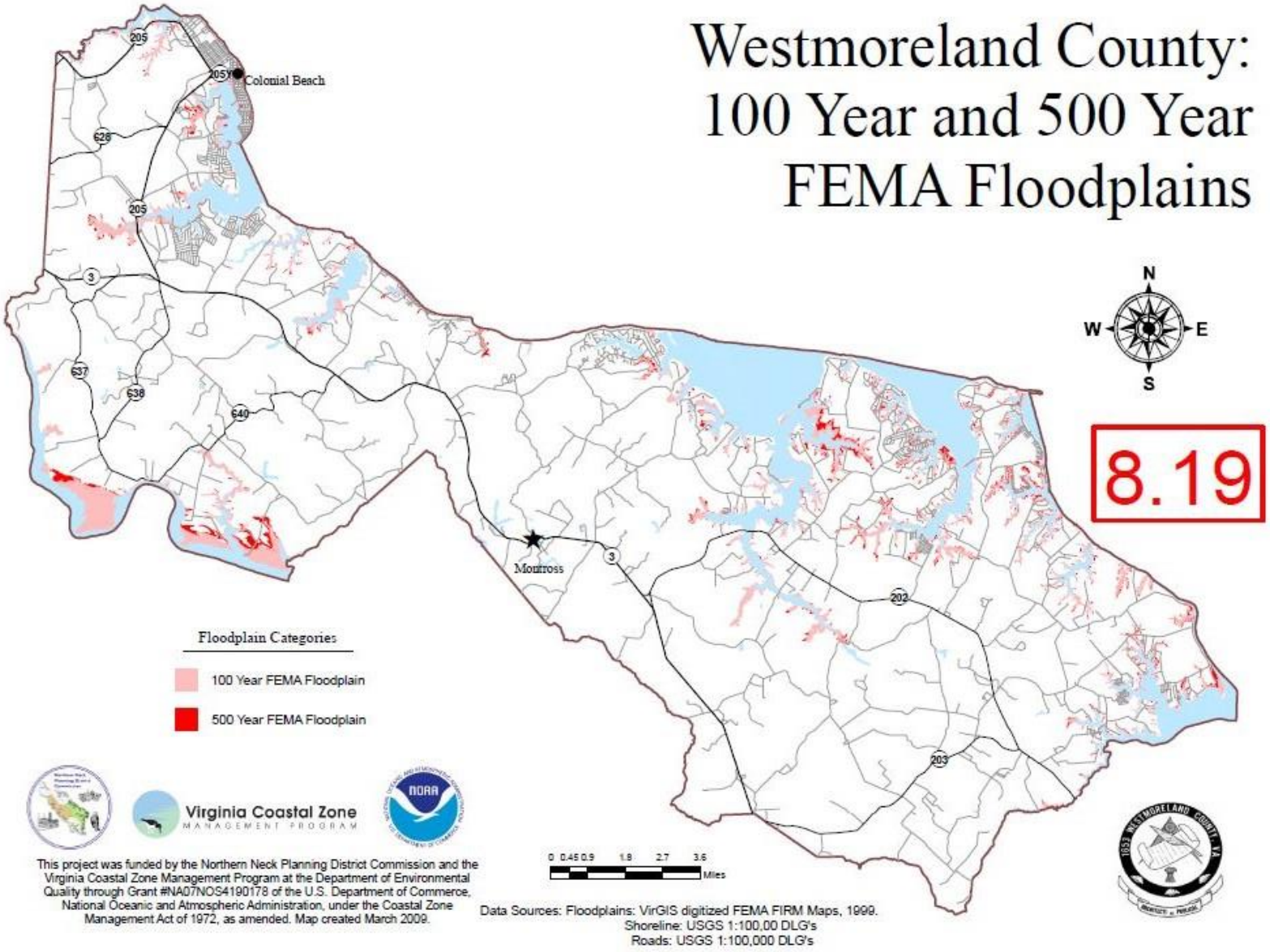
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's


Westmoreland County:
100 Year and 500 Year
FEMA Floodplains
8.19
N
W
E
S
Colonial Beach
Montross
205
205Y
628
205
3
637
638
640
3
202
203
Floodplain Categories
100 Year FEMA Floodplain
500 Year FEMA Floodplain
Virginia Coastal Zone
MANAGEMENT PROGRAM
NOAA
0 0.45 0.9 1.8 2.7 3.6
Miles
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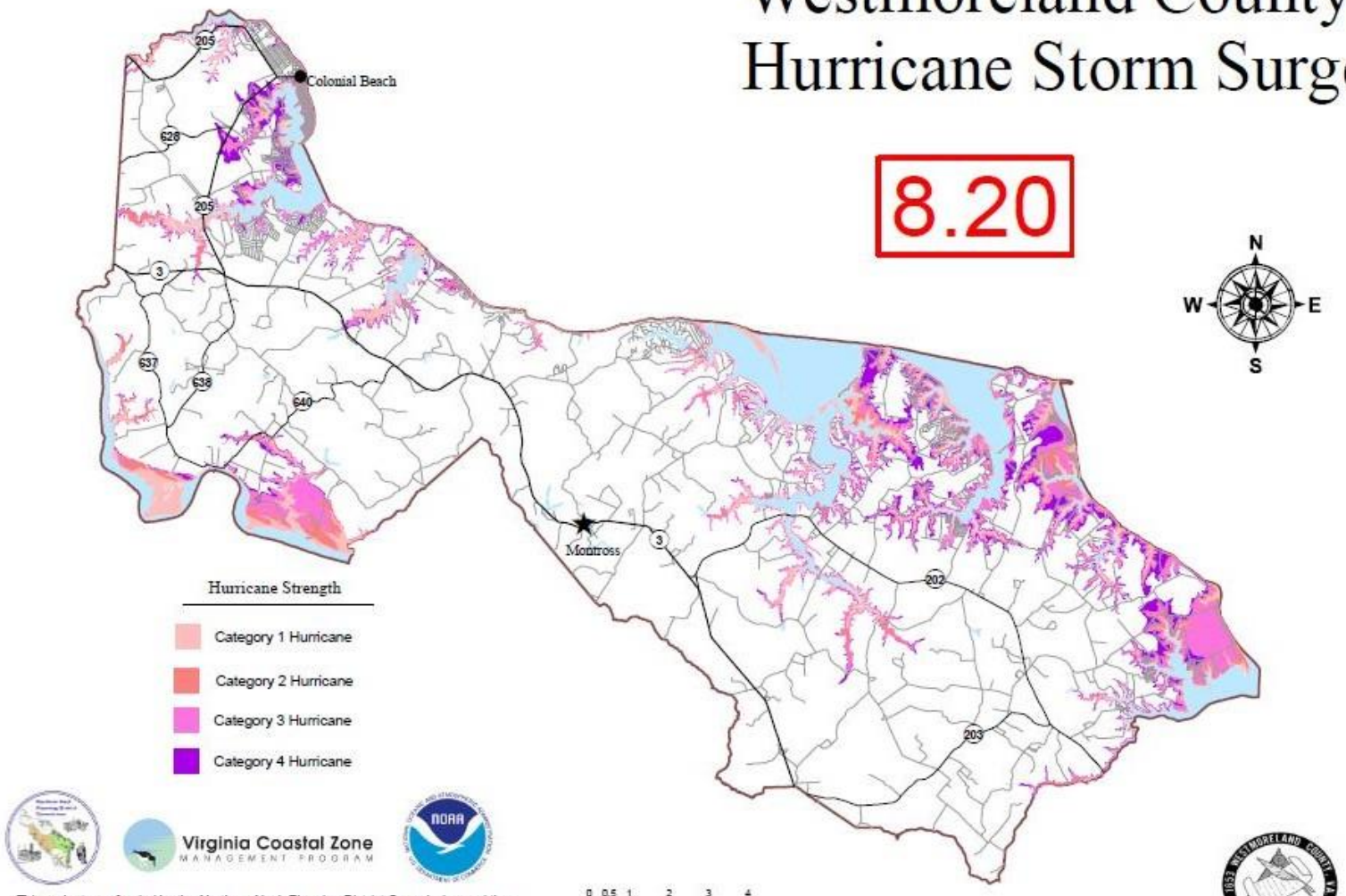
Data Sources: Floodplains: VirGIS digitized FEMA FIRM Maps, 1999.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Hurricane Storm Surge

8.20



Virginia Coastal Zone MANAGEMENT PROGRAM

NOAA

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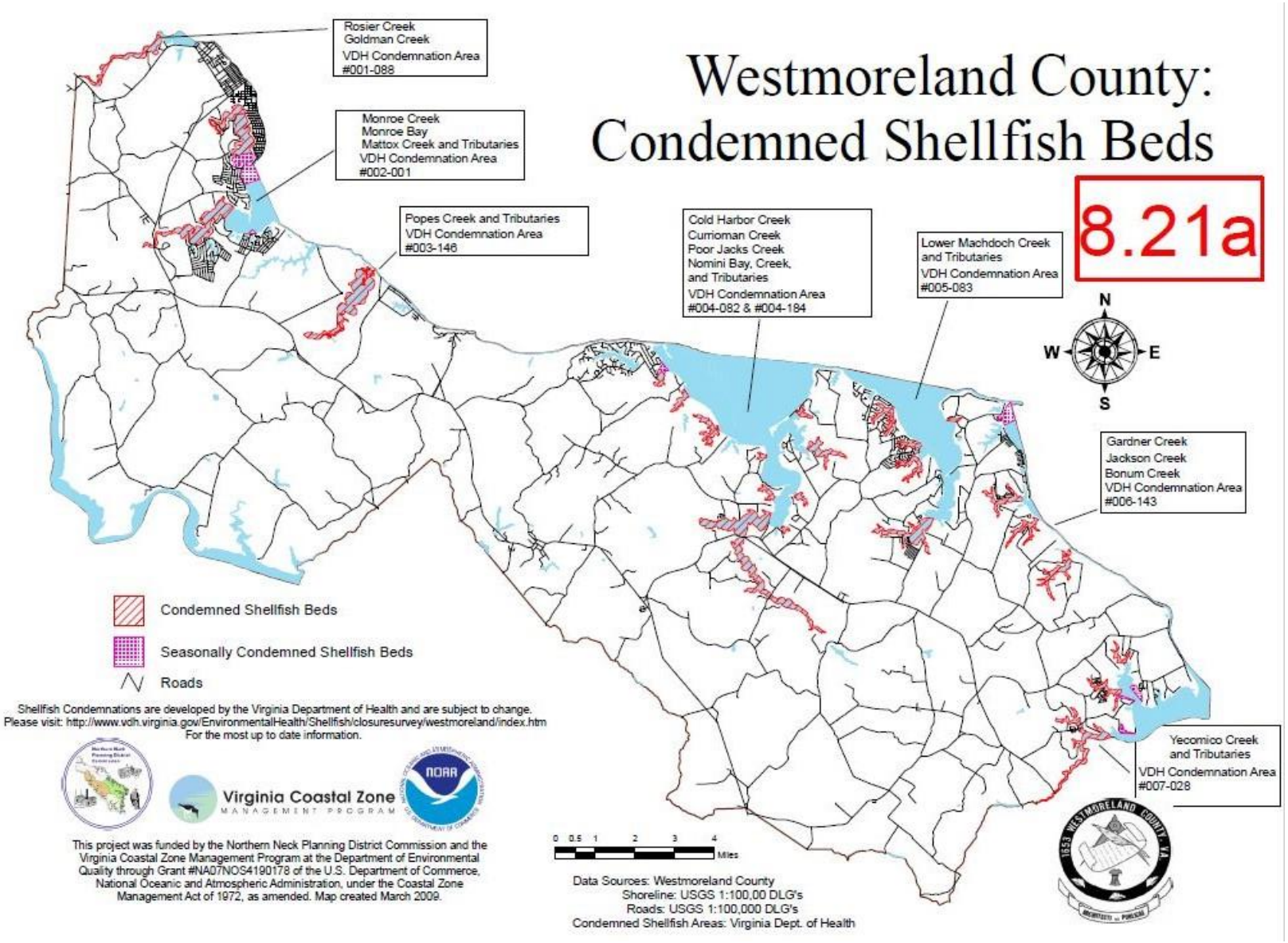
Data Sources: Hurricane Surge Zones: Virginia Department of Emergency Management, (VDEM) 2006.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's


Westmoreland County:
Condemned Shellfish Beds
8.21a
Rosier Creek
Goldman Creek
VDH Condemnation Area
#001-088
Monroe Creek
Monroe Bay
Mattox Creek and Tributaries
VDH Condemnation Area
#002-001
Popes Creek and Tributaries
VDH Condemnation Area
#003-146
Cold Harbor Creek
Currioman Creek
Poor Jacks Creek
Nomini Bay, Creek,
and Tributaries
VDH Condemnation Area
#004-082 & #004-184
Lower Machdoch Creek
and Tributaries
VDH Condemnation Area
#005-083
Gardner Creek
Jackson Creek
Bonum Creek
VDH Condemnation Area
#006-143
Yecomico Creek
and Tributaries
VDH Condemnation Area
#007-028
N
W
E
S
Condemned Shellfish Beds
Seasonally Condemned Shellfish Beds
Roads
Shellfish Condemnations are developed by the Virginia Department of Health and are subject to change.
Please visit: http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closuresurvey/westmoreland/index.htm
For the most up to date information.
Virginia Coastal Zone
MANAGEMENT PROGRAM
NOAA
0 0.5 1 2 3 4
Miles
Data Sources: Westmoreland County
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's
Condemned Shellfish Areas: Virginia Dept. of Health
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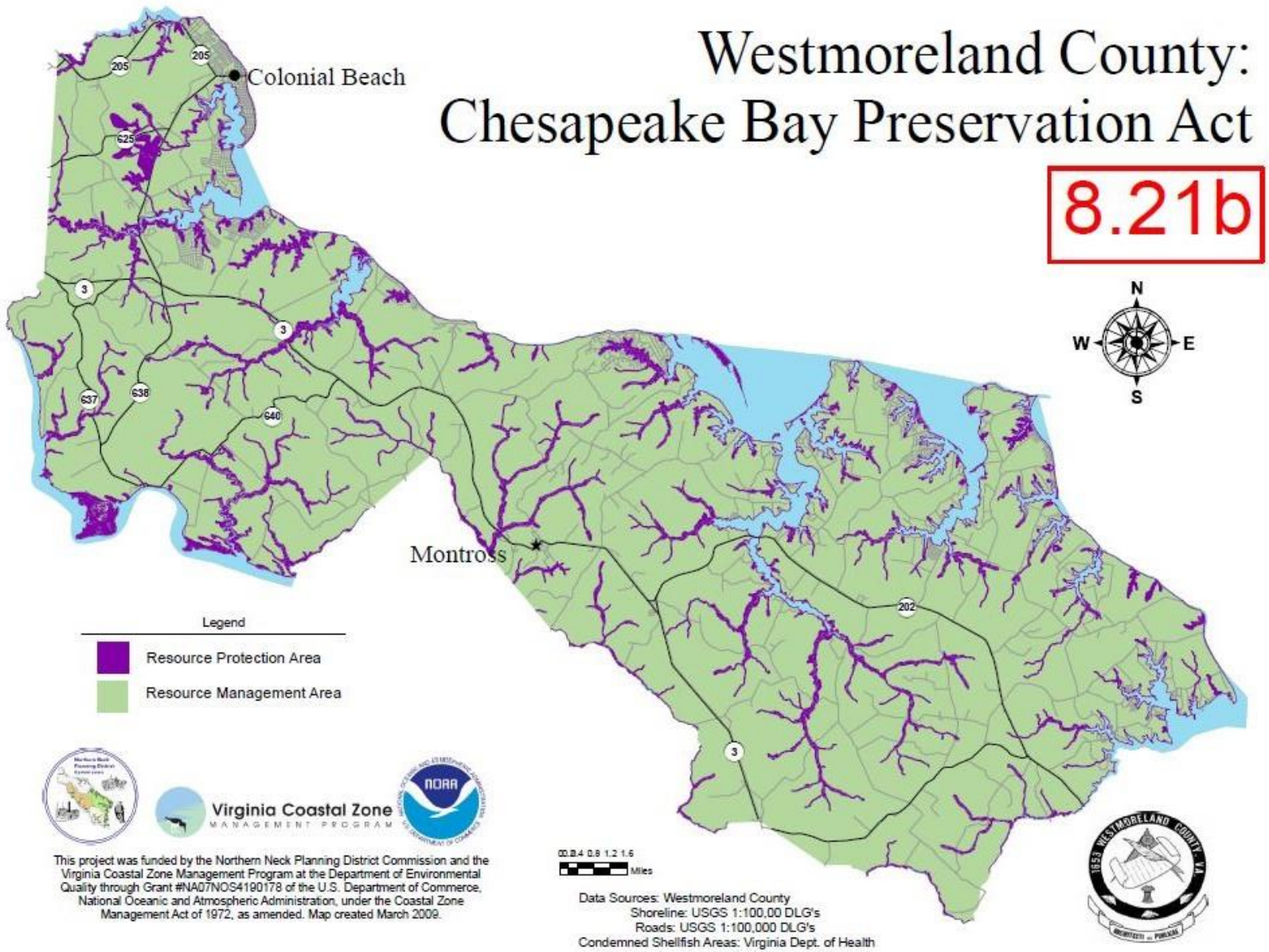
Virginia Coastal Zone Management Program at the Department of Environmental
Quality through Grant #NA07NOS4190178 of the U.S. Department of Commerce,
National Oceanic and Atmospheric Administration, under the Coastal Zone
Management Act of 1972, as amended. Map created March 2009.


Westmoreland County:
Chesapeake Bay Preservation Act
8.21b
Colonial Beach
Montross
205
625
3
637
638
640
202
N
W
E
S
Legend
Resource Protection Area
Resource Management Area
Virginia Coastal Zone
MANAGEMENT PROGRAM
NOAA
Miles
Data Sources: Westmoreland County
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's
Condemned Shellfish Areas: Virginia Dept. of Health
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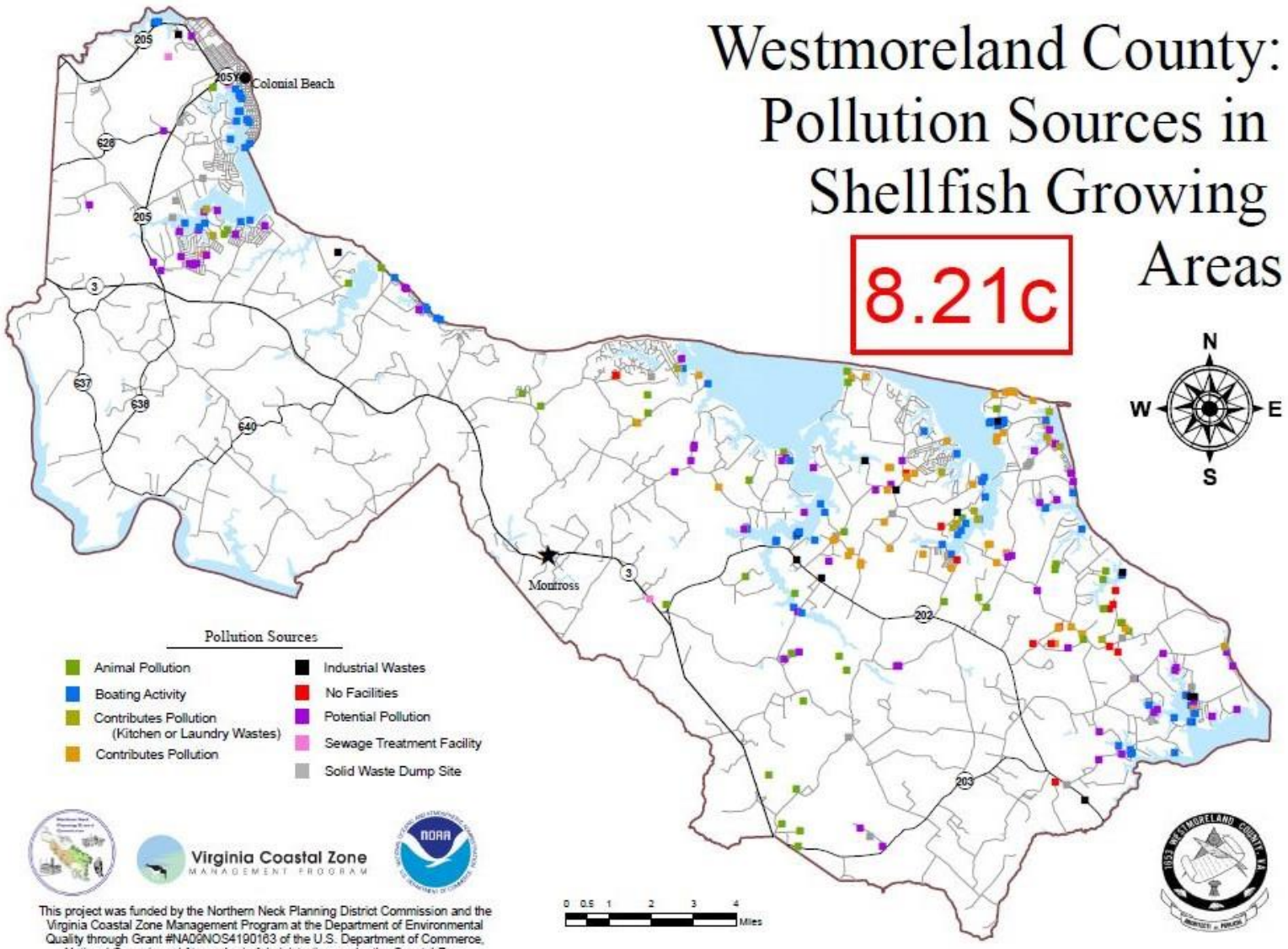
Westmoreland County: Pollution Sources in Shellfish Growing Areas

8.21c

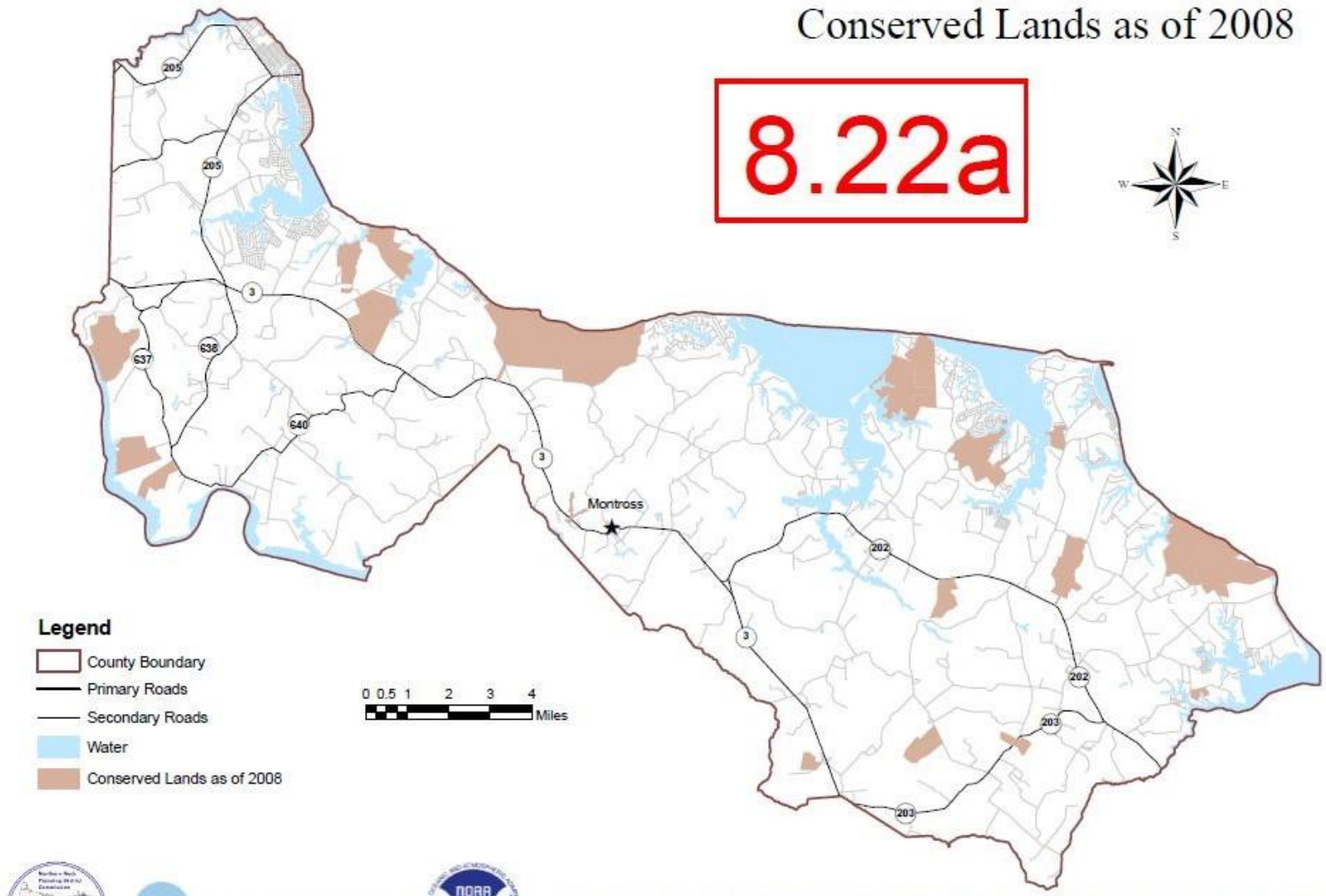


This project was funded by the Northern Neck Planning District Commission and the Virginia Coastal Zone Management Program at the Department of Environmental Quality through Grant #NA09NOS4190163 of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, under the Coastal Zone Management Act of 1972, as amended. Map created July 2010.

Data Sources: Virginia Department of Health, Division of Shellfish Sanitation, Shoreline Surveys of Growing Areas 001, 002, 003, 004, 005, 006, 007, 2003-2010.
http://www.vdh.state.va.us/EnvironmentalHealth/Shellfish/closureSurvey/index.htm#Survey
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County Green Infrastructure: Conserved Lands as of 2008

8.22a



Virginia Coastal Zone MANAGEMENT PROGRAM

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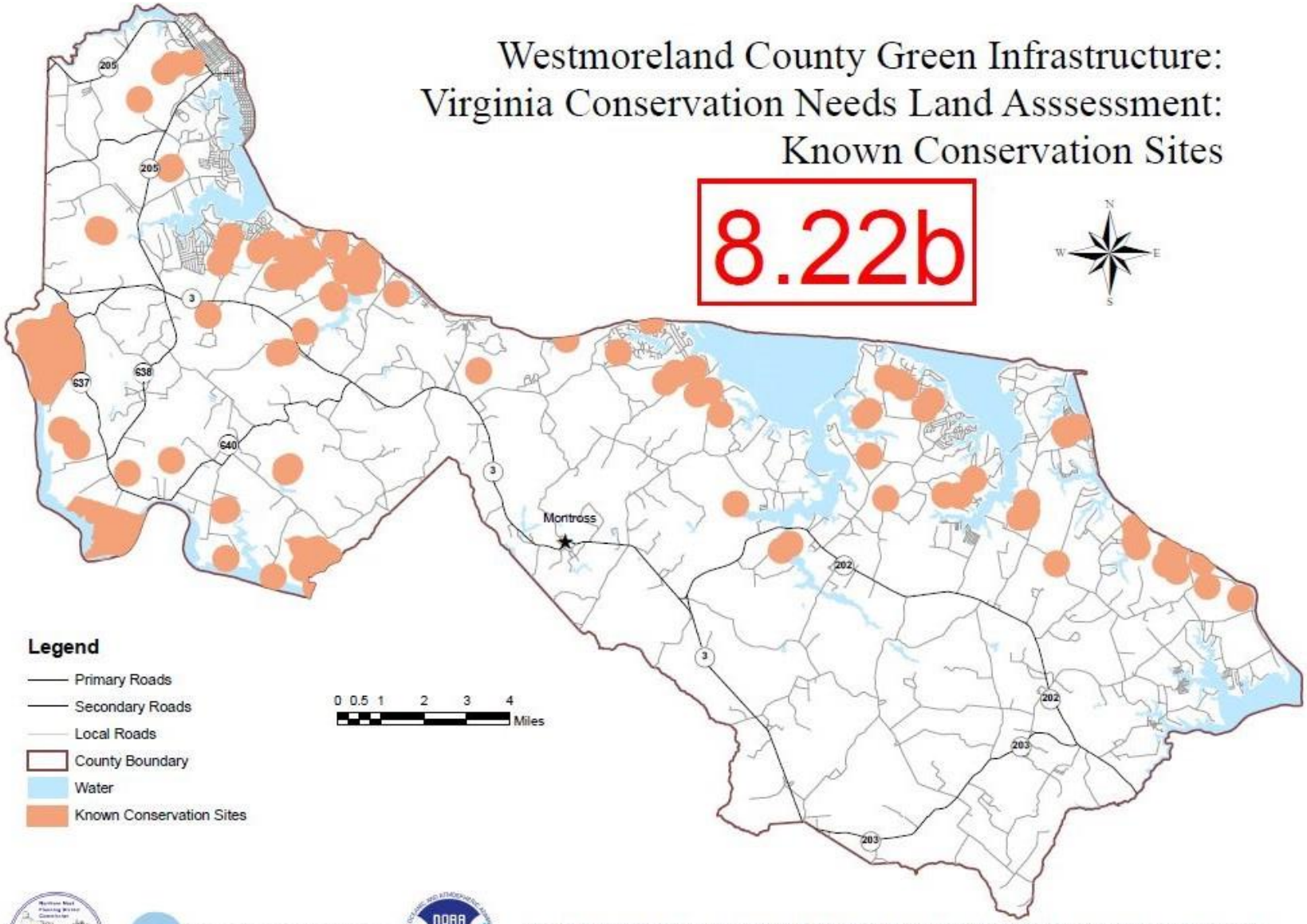
Westmoreland County Green Infrastructure: Virginia Conservation Needs Land Asssessment: Known Conservation Sites

8.22b



Virginia Coastal Zone MANAGEMENT PROGRAM

NOAA

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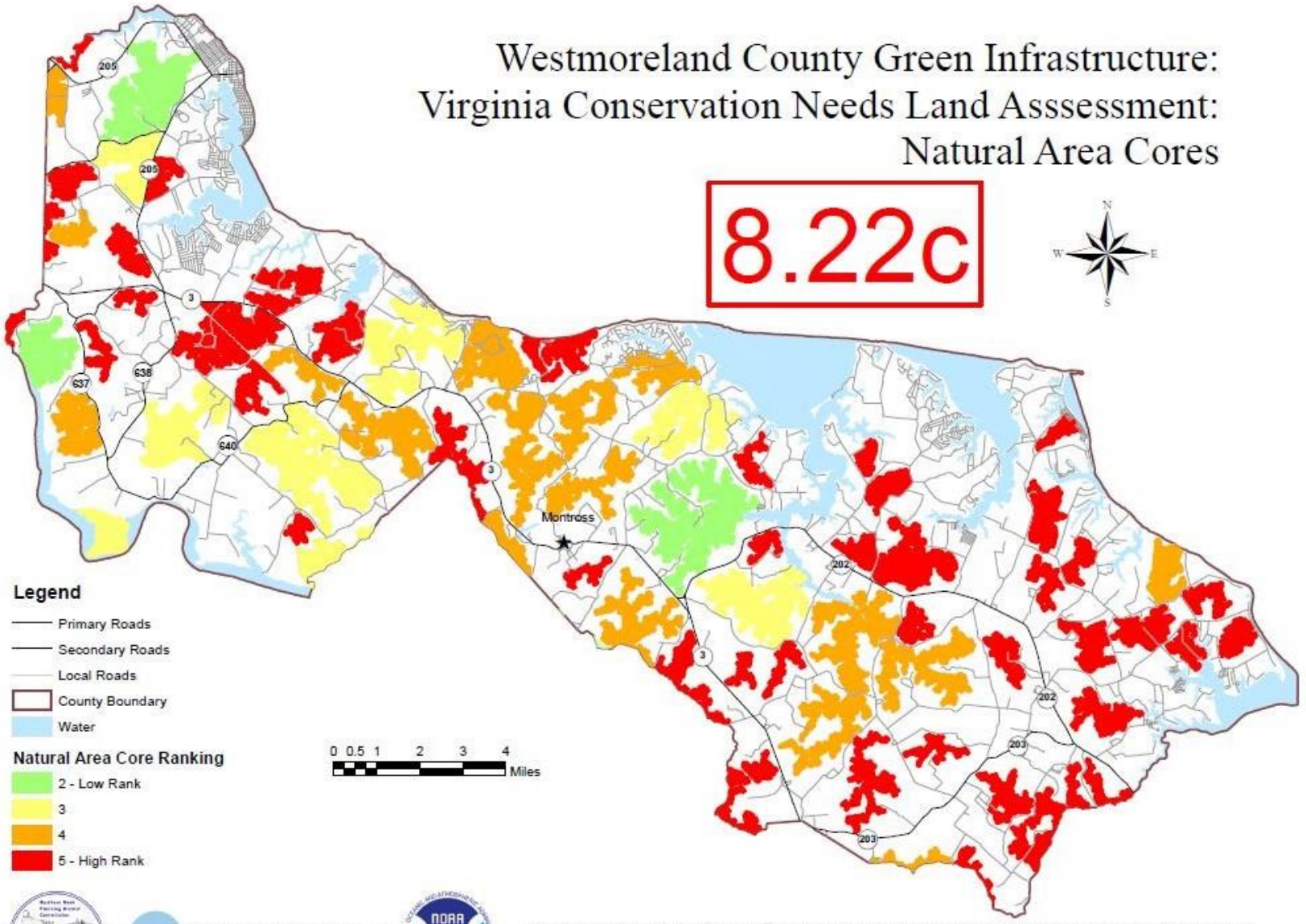
Westmoreland County Green Infrastructure: Virginia Conservation Needs Land Asssessment: Natural Area Cores

8.22c



Virginia Coastal Zone MANAGEMENT PROGRAM

NOAA

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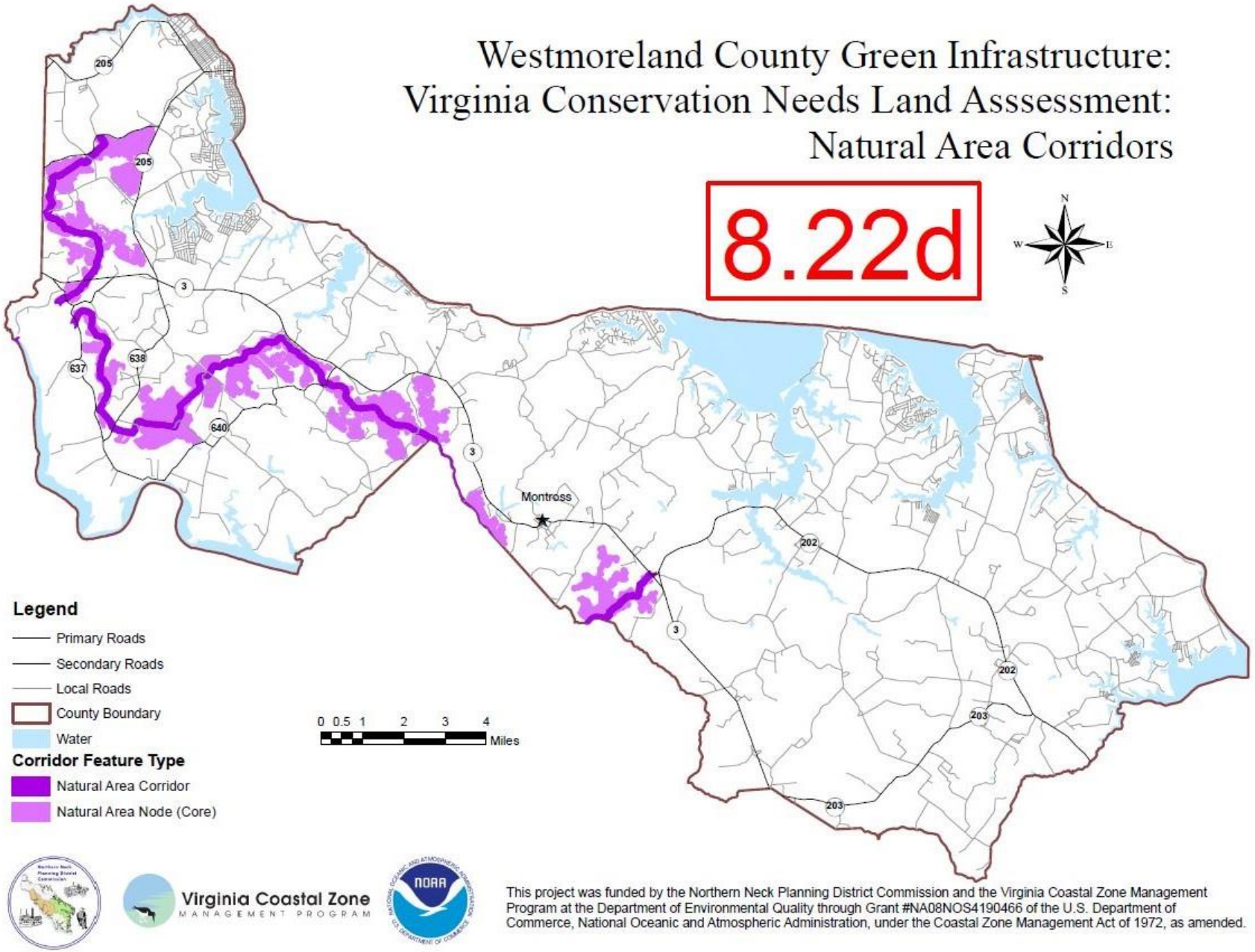

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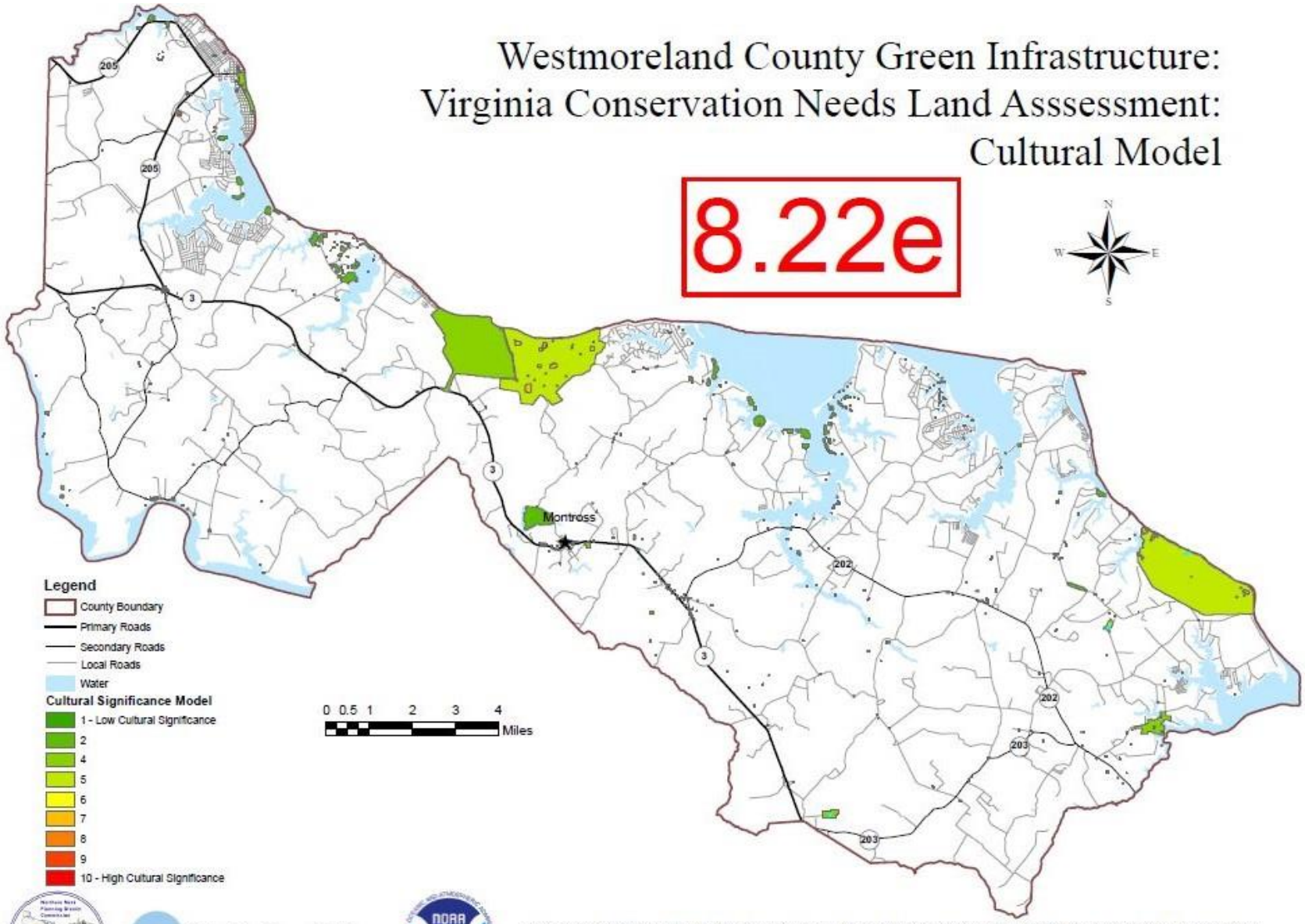
Westmoreland County Green Infrastructure: Virginia Conservation Needs Land Asssessment: Cultural Model

8.22e



Virginia Coastal Zone MANAGEMENT PROGRAM

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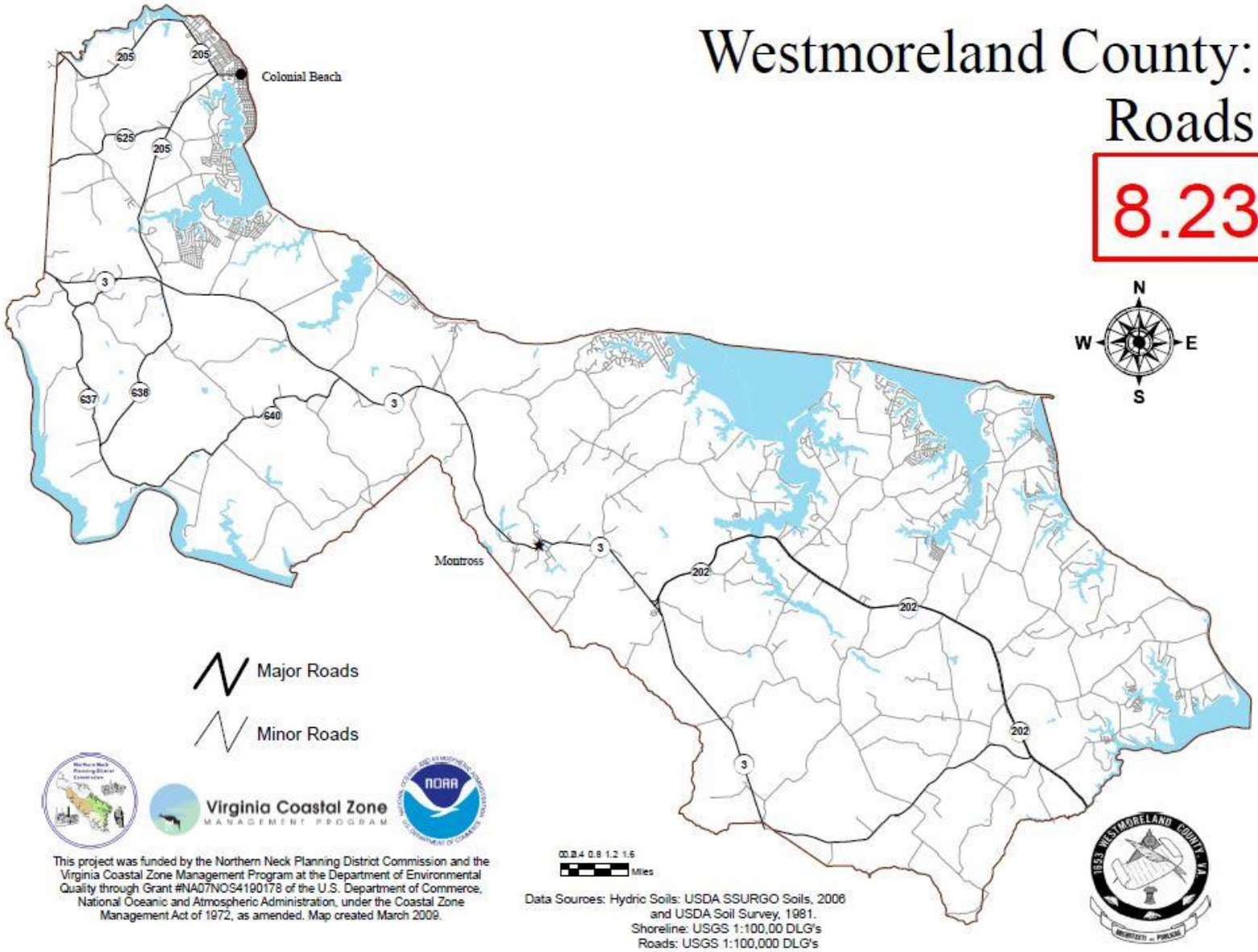
Westmoreland County: Roads

8.23



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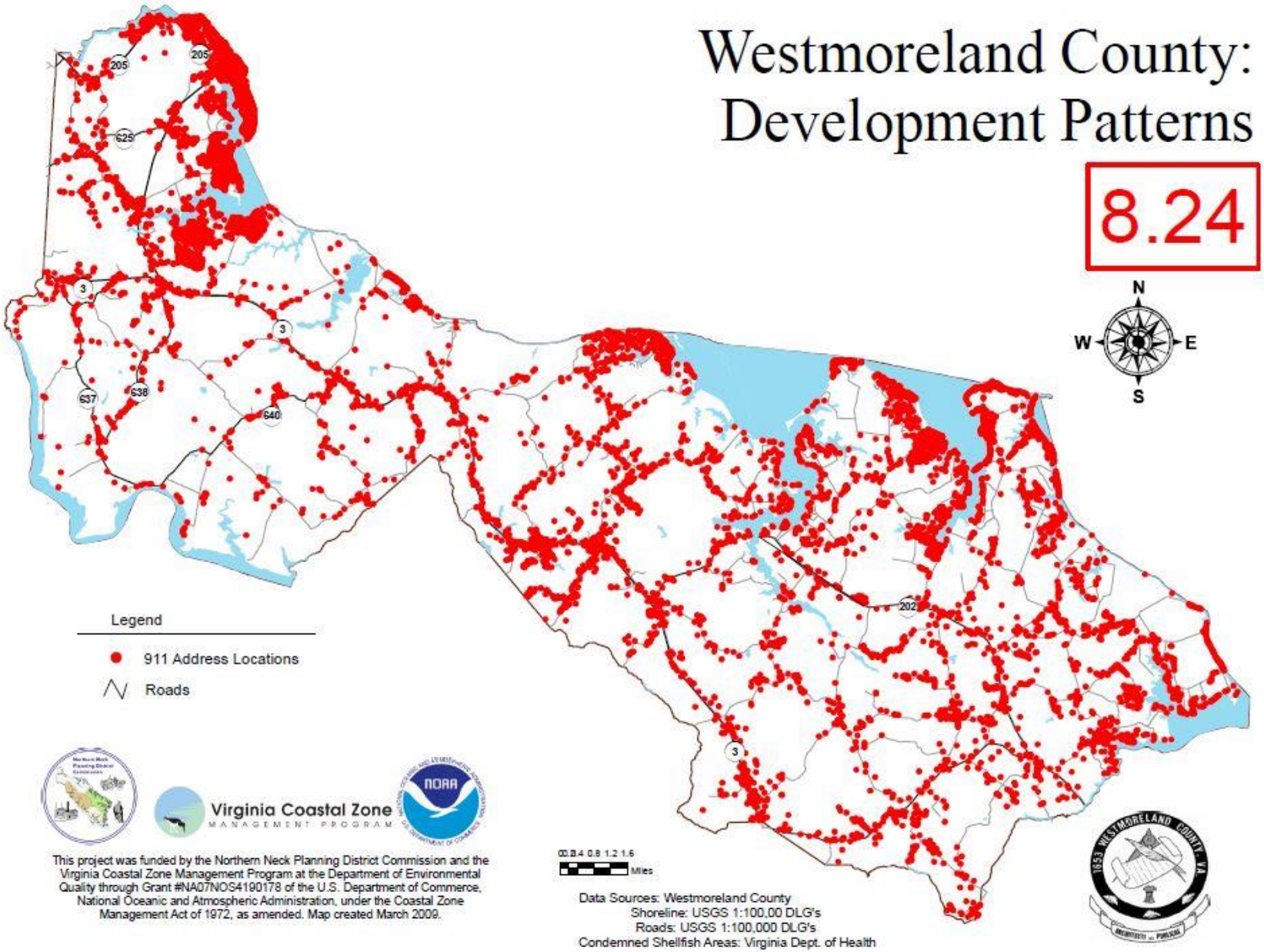
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Development Patterns

8.24



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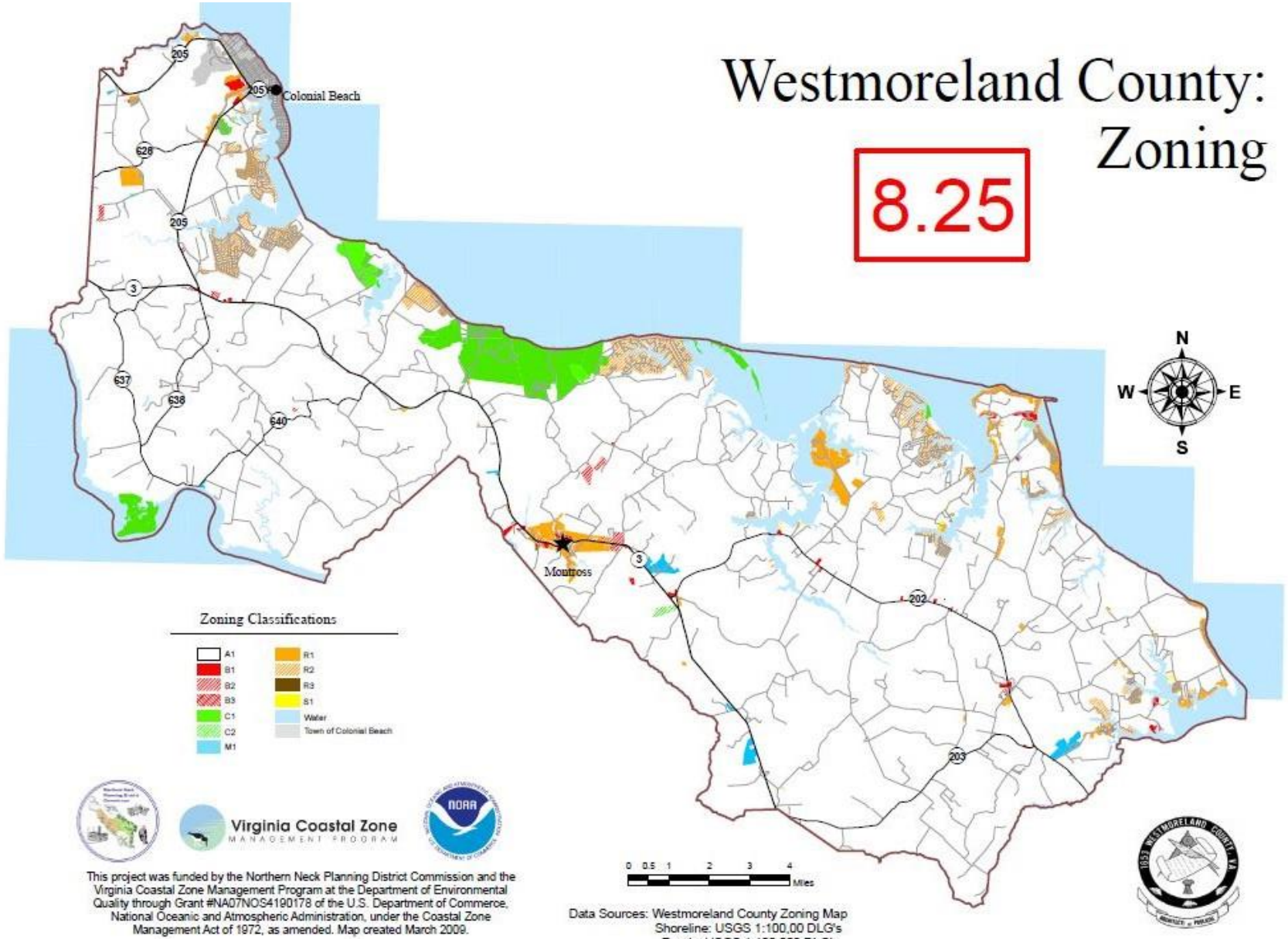
Westmoreland County: Zoning

8.25



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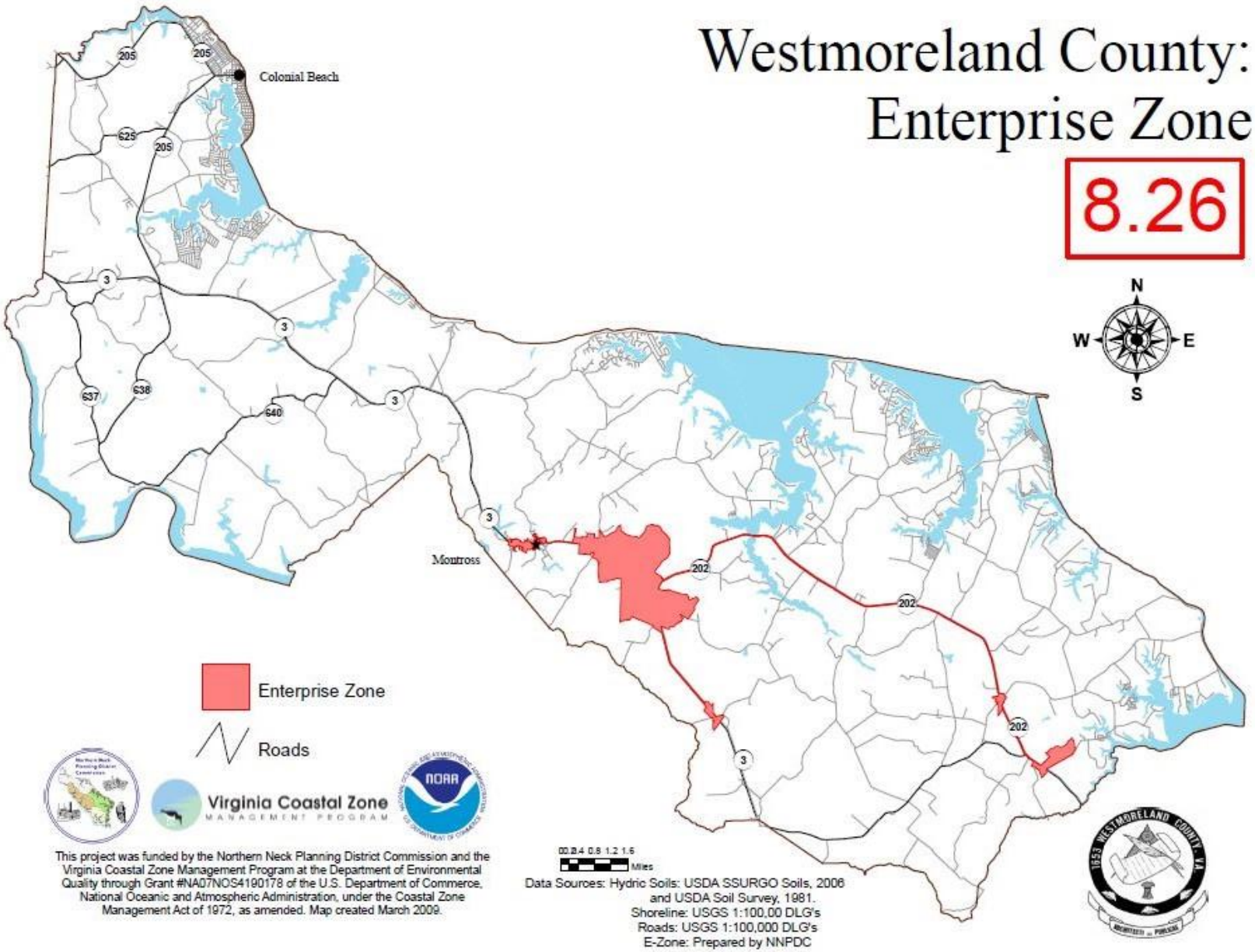
Data Sources: Westmoreland County Zoning Map
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's

Westmoreland County: Enterprise Zone

8.26



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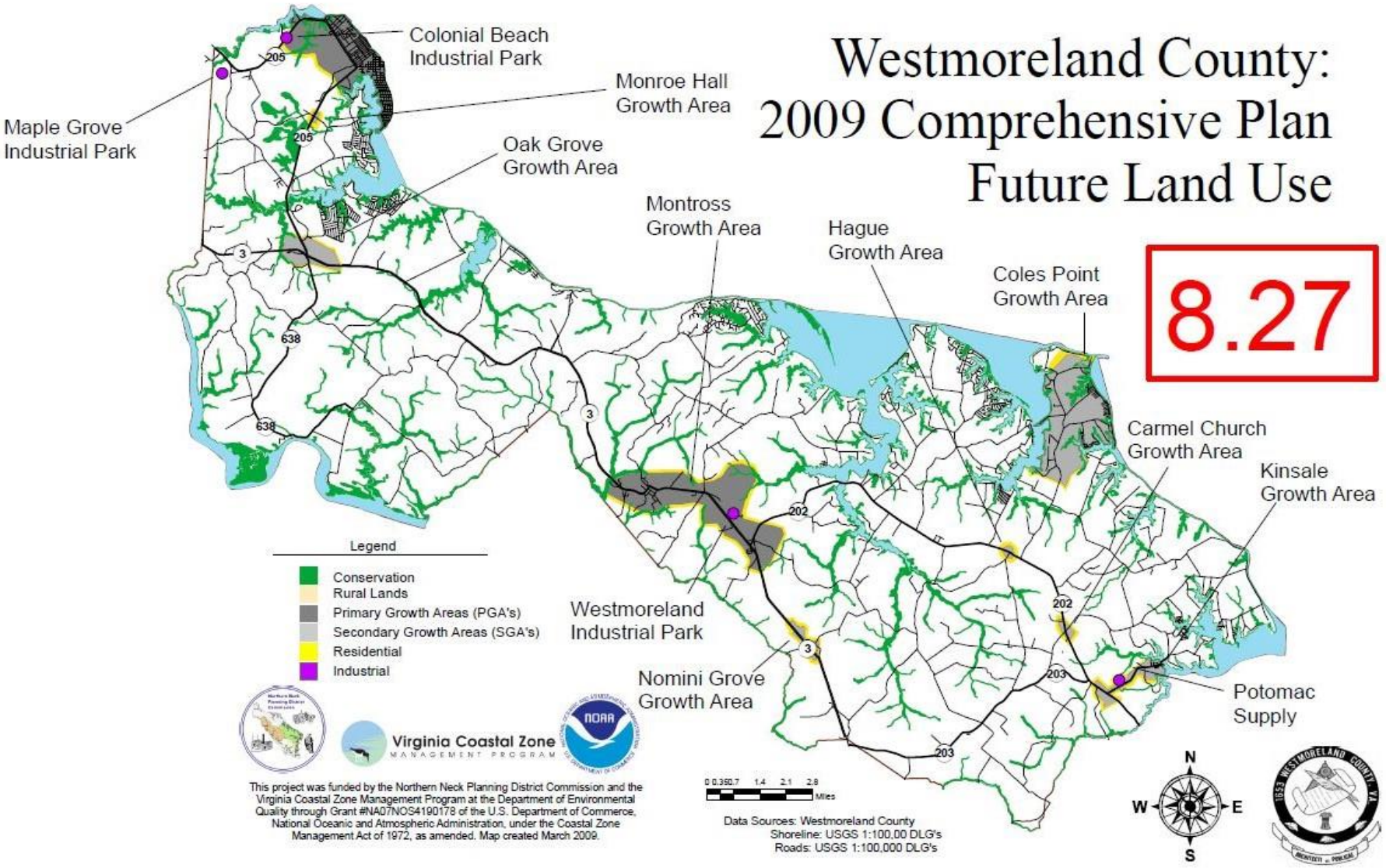
Data Sources: Hydric Soils: USDA SSURGO Soils, 2006 and USDA Soil Survey, 1981.
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's
E-Zone: Prepared by NNPDC


Westmoreland County:
2009 Comprehensive Plan
Future Land Use
8.27
Colonial Beach
Industrial Park
Monroe Hall
Growth Area
Maple Grove
Industrial Park
Oak Grove
Growth Area
Montross
Growth Area
Hague
Growth Area
Coles Point
Growth Area
Carmel Church
Growth Area
Kinsale
Growth Area
Westmoreland
Industrial Park
Nomini Grove
Growth Area
Potomac
Supply
Legend
Conservation
Rural Lands
Primary Growth Areas (PGA's)
Secondary Growth Areas (SGA's)
Residential
Industrial
Virginia Coastal Zone
MANAGEMENT PROGRAM
NOAA
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0 0.35 0.7 1.4 2.1 2.8
Miles
Data Sources: Westmoreland County
Shoreline: USGS 1:100,00 DLG's
Roads: USGS 1:100,000 DLG's
N
W
E
S
205
205
3
638
638
3
202
202
3
203
203