

A Socioeconomic Atlas for the



Chesapeake Bay Watershed and its Region 2009



A Socioeconomic Atlas
for the
Chesapeake Bay Watershed
and its Region

by
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2009

About this Atlas

This atlas for the Chesapeake Bay Watershed and its region is one of 17 similar atlases that have been prepared for the National Park Service (NPS). The purpose of these atlases is to supplement the scientific knowledge of park managers and local communities with information on socioeconomic conditions in the regions surrounding national park units. Each atlas presents information about population, economy and commerce, social and cultural characteristics, recreation and tourism, administration and government, and land use for counties that surround a national park unit.

The NPS unit of particular interest for this atlas is the Captain John Smith Chesapeake National Historic Trail, managed through the NPS Chesapeake Bay Program Office. However, the scope and geographic extent of this atlas is the entire watershed, where many federal, state, and local agencies collaborate with individuals and organizations in scientific and management activities of importance to the Chesapeake Bay and its watershed.

An atlas of regional socioeconomic trends provides specific benefits. For example, this atlas provides important and timely information about the spatial character of human activities and changing land use in the region surrounding the Chesapeake Bay Watershed. The data and maps can be linked to collaborative management planning and serve other planning needs.

The atlas can be used as a tool to orient NPS staff (and their management partners) about regional trends. The atlas can be used as a public participation tool with local communities. Presentation graphics delivered with each atlas can be used directly in management, education, outreach, and planning efforts.

Regional socioeconomic atlases have been completed for the Appalachian National Scenic Trail, Blue Ridge Parkway, Big Thicket National Preserve, Canyon De Chelly National Monument, Chickamauga and Chattanooga National Military Park, Flight 93 National Memorial, Harpers Ferry National Historical Park, John Day Fossil Beds National Monument, Joshua Tree National Park, King's Mountain National Military Park, Mount Rainier National Park, National Capital Parks,

New River Gorge National River, Rosie the Riveter/ World War II Home Front National Historical Park, Saguaro National Park, and Wilson's Creek National Battlefield. Digital copies of these atlases can be downloaded from the following site: <http://www.nature.nps.gov/socialscience/archive.cfm#SocioAtlas>.

For more information about the socioeconomic atlases, please contact Dr. Jean McKendry, Principal Scientist, College of Natural Resources, University of Idaho, P.O. Box 441133, Moscow, ID 83844-1133, (jeanm@uidaho.edu). Dr. McKendry is assigned to work on this project under a cooperative agreement with the NPS, and serves as Principal Investigator/ Project Manager for this atlas series.

Acknowledgments

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Preface

Protection of the National Park System requires active and scientifically informed management. If park resources – both natural and cultural – are to be protected for future generations, the NPS must develop efficient ways to monitor the condition and trends of natural and human systems. Such monitoring must provide usable knowledge that managers can apply to the preservation of resources. And the NPS must share this information with surrounding communities, stakeholders, and partners to help them make important collaborative choices about their future.

Because of these reasons and more, the NPS embarked on a significant initiative – the Natural Resource Challenge, an action plan for preserving natural resources and our country’s natural heritage within the complexities of modern landscapes (<http://www.nature.nps.gov/challenge/>).

This socioeconomic atlas is one component in that effort. It is a tool for managers, planners, community leaders, and others to use in addressing the challenge of preserving the natural and cultural resources of the Captain John Smith Chesapeake National Historic Trail and other areas throughout the Chesapeake Bay Watershed. Part of that challenge involves understanding conditions in the region surrounding the watershed – conditions which can have significant impacts on its resources. Systematic study and monitoring of regional conditions involves, to a large degree, investigation of human activities. This atlas focuses on such human activities, characterizing them in terms of standardized measures known as socioeconomic indicators.

The atlas can currently serve as an aid to management and planning, as a training tool, and as a means to facilitate public participation. It can be of long-term benefit by establishing baseline data for monitoring changing socioeconomic conditions and trends in the region, complementing other well-established data collection programs being conducted throughout the watershed. Through these and other potential uses, the atlas supports the critical goal of improving management through a greater reliance on usable scientific knowledge, and contributes to meeting the Natural Resource Challenge.

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Introduction

The purpose of this atlas is to provide managers, planners, community leaders, and others with a better understanding of changing human activities and socioeconomic conditions in the region surrounding the Captain John Smith Chesapeake National Historic Trail and broader Chesapeake Bay Watershed. Such changes can create complex management challenges. Information about regional trends and conditions is needed in order to manage and conserve resources – both natural and cultural – more effectively. This atlas provides such information in a series of maps, complemented by tables, other graphics, and explanatory text.

Maps are effective ways of conveying information. A map can highlight geographical patterns in data by showing the relationship between what is happening and where it is happening. The maps in this atlas combine contextual information (such as boundary lines) with thematic information (such as demographic or economic statistics). This combination of contextual and thematic information helps the reader observe general trends inherent in the distribution of data. For example, a map that shows the population growth rate for each county in the region may reveal that many of the highest growth rates are concentrated in counties close to the bay.

Each map, together with tabular data and other graphics, is designed to allow for easy comparison, so readers can see how conditions and trends in their own counties compare with those in other counties and relate to larger regional patterns. The consistent map design allows readers to make comparisons among two or more maps. For example, comparing maps of federal expenditures per person and poverty rates might reveal that federal expenditures tend to be higher in a region's poorer counties.

There are many potential uses for this atlas. For example, managers can share the atlas with new staff, management partners, regional NPS staff, the media, or policy makers as a way of orienting them to the basic facts about the region. Planners can use the atlas to examine emerging trends in the region surrounding the

watershed. Local and regional leaders can consult the atlas in developing environmental policies that support management goals while remaining responsive to local needs. Researchers can use the atlas to design studies that have practical benefit to ecosystem management. Additional uses are discussed in the atlas' concluding section, pages 136-137. Regardless of how it is used, the atlas can serve as a useful reference tool that adds to the body of usable scientific knowledge about the Captain John Smith Chesapeake National Historic Trail and the surrounding Chesapeake Bay Watershed region.

Note: There are several approaches to the use of and display of data in tabular and/or map form. Percentages are a common way to specify and standardize data, and are an accessible approach for users of the atlases in this series.

Socioeconomic Indicators: Valuable Management Tools

The Relevance of Human Activities to Resource Management

The management of natural and cultural resources always requires attention to human behavior and activities. Protection of a threatened archaeological site can mean educating visitors about the Antiquities Act. Controlling non-native plant species can require close collaboration with local neighbors and volunteers. Preservation of scenic values can depend upon the monitoring of emissions from electrical generation plants several states away.

While there is an on-going and healthy debate about how to address this “human factor” in park management, a consensus has emerged about three basic principles:

- people are part of ecosystems, and their needs and activities must be considered in management plans;
- park managers should be concerned with short- and long-term trends, as well as the local, regional, and national consequences of actions; and
- where appropriate, decisions about park resources should be made collaboratively, including federal agencies, local governments, and citizens in the process.

Managing parks in accordance with these principles requires careful planning, for people have many competing needs. Careful planning requires an accurate and objective assessment of current conditions as well as on-going trends. Hence, understanding the social, cultural, and economic characteristics of the Captain John Smith Chesapeake National Historic Trail and the surrounding Chesapeake Bay Watershed region is crucial for successful management.

The Value of Socioeconomic Indicators

One approach to understanding social, cultural, and economic conditions and trends is to use socioeconomic indicators. Socioeconomic indicators are regularly collected economic or social statistics that describe or predict changes and trends in the general state of society. For example, the consumer price index (CPI) keeps track of changes in the price of a typical group of consumer goods. The CPI is used to monitor inflation, to compare the cost-of-living in one region of the country to another, and to support economic policy-making. Socioeconomic indicators can address historical trends, present conditions, or future projections.

An integrated set of socioeconomic indicators can be effective in presenting the “basic facts” about the people of a region. Such basic facts are important to management, and can be used in many ways: assessing the potential impact of government policies, developing sound resource management strategies, designing effective interpretive programs, increasing public involvement in the planning process, and so forth. Like measures of water quality or wildlife populations, socioeconomic indicators enable managers and citizens to make scientifically informed decisions concerning public resources.

The Integrated Set of Indicators

The indicators in this atlas are not simply a collection of various statistics displayed in maps, but an integrated set of indicators organized around broad areas of human activity that are of particular relevance to park management. The selection of a broad range of relevant indicators is important because the dynamics of human interaction on a regional scale are complex. For example, the growth of a new industry can influence immigration, which in turn can influence other human activities such as housing development. While industry, immigration, and housing are categorically different indicators, each one could be important for a manager trying to anticipate growth issues that might impact visitation or ecological systems.

The integrated set of indicators displayed in this atlas encompasses six general categories:

- *General population* indicators measure how many people live in a given area, where those people are concentrated, their ages, patterns of migration, and so forth. General population indicators provide a profile of the people who are neighbors within the region and potential partners in management.
- *Economy and commerce* indicators measure the flow and distribution of money, materials, and labor. Economy and commerce indicators provide an overview of the interdependent economic relationships among people, businesses, industries, and government within the region.
- *Social and cultural indicators* measure aspects of personal and group identity such as cultural origin, political and religious beliefs, health, and language. Social and cultural indicators provide insights into the varying perceptions and expectations that people bring with them when they go to their place of work, participate in a public meeting, or visit an interpretive site
- *Recreation and tourism* indicators measure activities specifically related to the provision of accommodations, entertainment, and personal

services. Recreation and tourism indicators provide a way to analyze the economic role that travelers, vacationers, and other recreationists play in the region.

- *Administration and government* indicators measure the structure, resources, and actions of government organizations. Administration and government indicators provide an orientation to the role of government – local, state, and federal – in the region.
- *Land use indicators* measure the interactions between people and terrestrial resources such as land, water supply, and vegetation. Land use indicators provide a way to gauge the impact of human activities such as farming, forestry, and urban development upon ecosystems within the region.

Selecting Specific Indicators

Drawing from the six general categories of socioeconomic indicators described above, a menu of 67 socioeconomic indicators was developed. Each indicator was determined to be readily available and mappable at the county level.

From this menu, 17 core indicators were selected that are common to all atlases published through this project. The core indicators provide information useful to all park and trail managers.

Incorporating these core indicators throughout the series of atlases enables comparisons among national park units in different regions of the country. NPS Chesapeake Bay Program managers and their partners from other agencies chose additional indicators from the menu described above. Managers selected these indicators to customize the atlas so that it would target information relevant to their particular management needs. Figure 1 shows the six general categories and the specific indicators included in this atlas; for each category, indicators are listed in the order they appear in the atlas.

The maps in this atlas are based on county-level data wherever possible. County-level data have several advantages. Good quality data are available at this scale, are consistently collected at regular intervals, and are comparable across all U.S. counties. Also, counties are stable geographic units for monitoring trends, as few changes are made to county boundaries over time.

Finally, as administrative and political units, counties significantly influence environmental change and can be important partners in park and trail management.

Technical Notes

Appendix 1 provides the data sources for the indicators presented in this atlas. Appendix 2 provides technical information on the design of the maps. Appendix 3 includes endnotes and text that provide additional information on the measurement of selected indicators.

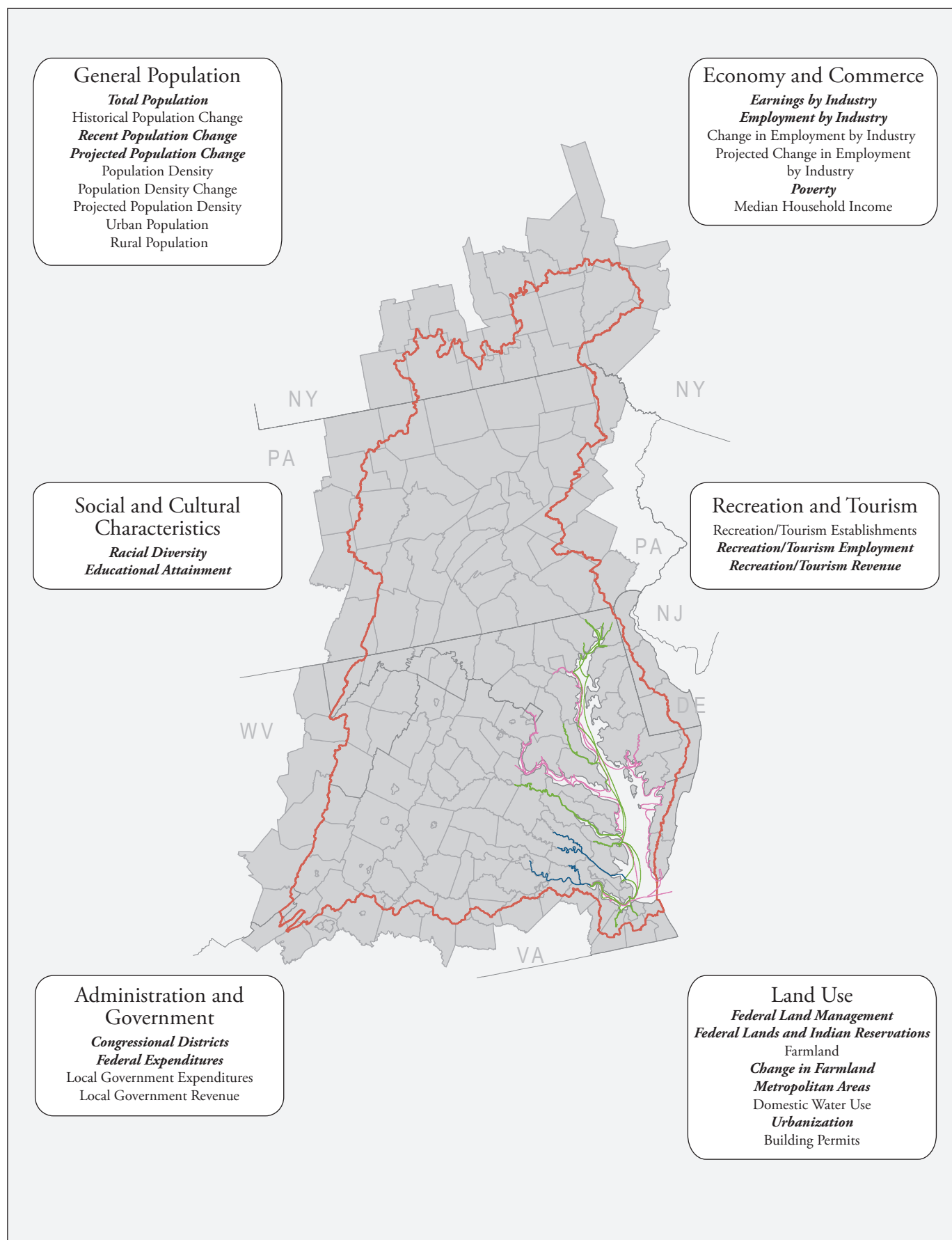


Figure 1. Indicators Included in this Atlas
core indicator || additional indicator

The Region

The Chesapeake Bay watershed stretches across more than 64,000 square miles, encompassing parts of six states—Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia—and the District of Columbia. More than 100,000 tributary streams and rivers flow into the Bay; 90% of this freshwater is delivered from the Susquehanna, Potomac, James, Rappahannock, and York rivers. This freshwater mixes with salt water from the Atlantic Ocean. The Bay is the largest estuary in the U.S. About 200 miles long, it stretches from Havre de Grace, Maryland to Norfolk, Virginia. It is 35 miles across at its widest point near the mouth of the Potomac River, and 3.4 miles across at its narrowest near Aberdeen, Maryland. The Chesapeake Bay encompasses approximately 11,684 miles of shoreline; its land-to-water ratio (14:1) is the largest of any coastal body of water in the world.

The Chesapeake's life began approximately 35 million years ago, when a meteor or comet-like object hit what is now the lower tip of the Delmarva Peninsula, near Cape Charles, Virginia, carving out a 55-mile wide basin. This impact site may have been as large as Rhode Island and as deep as the Grand Canyon. Over the course of millions of years, a series of ice ages alternately deposited sand, gravel, silt and clay on, and carved channels through, the region's Atlantic Coastal Plain. The Bay assumed its present shape about 3,000 years ago; remnants of the ancient Susquehanna River still exist today as a few troughs that form a deep channel along much of the length of the Bay's bottom.

The Chesapeake Watershed is composed of five physiographic regions. Three Appalachian mountain regions (Blue Ridge, Valley and Ridge, and Appalachian Plateau) run from south-central New York through central Pennsylvania and western Maryland and Virginia. They are characterized by alternating mountains and valleys, and are rich in coal and natural gas. The Piedmont Plateau region's rolling hills follow a band from south-central Pennsylvania down through central Maryland and Virginia. The Atlantic Coastal Plain region is located nearest the Bay in Virginia, Maryland, Delaware, and Washington, DC. The plain extends westward from the continental shelf to a fall line

ranging from 15 to 90 miles west of the Bay. Waterfalls and rapids occur along this line.

The Chesapeake Bay is rich in biodiversity, with 348 species of finfish, 173 species of shellfish and more than 2,700 plant species. It is home to 29 species of waterfowl and is a major resting ground along the Atlantic Migratory Bird Flyway. Every year, 1 million waterfowl winter in the Chesapeake Bay's basin.

Paleo-indians settled in the region around 15,000 years ago. By about 1000 BC, Native American agriculture resulted in more permanent villages. By the 1500s the Native population had reached about 24,000 and European involvement in the region began. Verrazano wrote of meeting Bay natives on his 1524 voyage. In 1570, Spanish priests traveled through the James River region, and in the 1600s, the first small cities developed in Jamestown, Williamsburg, Annapolis and St. Mary's. Captain John Smith, instrumental in establishing England's first colony in North America (Jamestown), is also known for his legendary expeditions throughout the Bay and its tributaries from 1607-1609.

The current human population in the Chesapeake Bay Watershed has grown from 8.1 million in 1950 to over 16.7 million, and continues to increase by more than 157,000 residents annually, to an anticipated 20.3 million by 2030. Two of the five major North Atlantic ports in the United States—Baltimore and Hampton Roads—are on the Bay, as well as Washington, DC. Population growth, development, landscape changes, and other factors are current stressors on the Bay.

The National Park Service has more than 60 units in the area, from Shenandoah National Park and Gettysburg National Military Park to Clara Barton National Historic Site and Captain John Smith Chesapeake National Historic Trail, America's first national water trail. Altogether, they occupy nearly 300,000 acres, and host more than 20 million visitors a year—more than the watershed's entire population.

(Source material for this section is included in Appendix 2.)

Chesapeake Bay Watershed and its Region

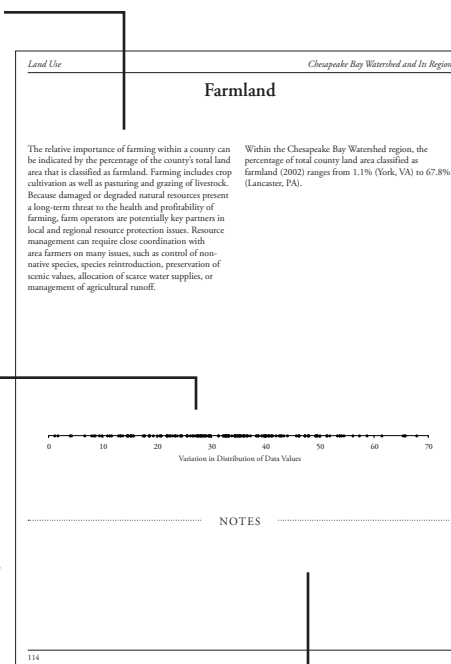


Using the Socioeconomic Indicators and Maps

The socioeconomic indicators for the Chesapeake Bay Watershed region of interest are presented in a series of maps. The best available county-level data are presented for each indicator. The following information is provided for each indicator across two facing page spreads:

- a brief description of the socioeconomic indicator and an observation about the spatial variation in the data as displayed on the map. Footnotes refer to technical information in Appendix 3.

- a number line that shows the distribution of values for the indicator; useful in understanding patterns in the data.



- a section for notes. Atlas users can add their own observations about each indicator, and note questions for further analysis.

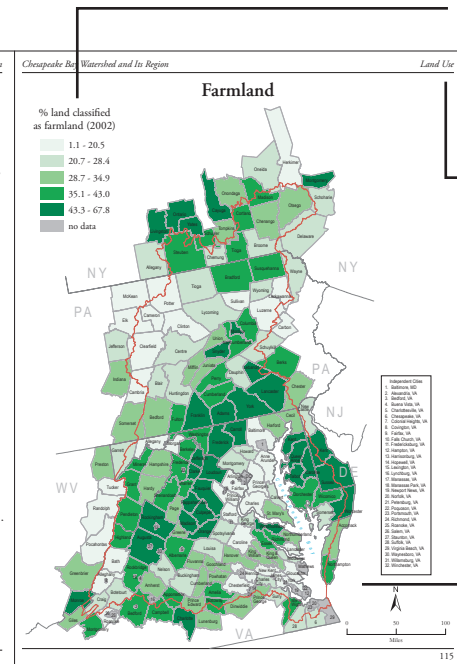
- a table that shows the data for each county. The counties are listed alphabetically by state. Independent cities are listed in order after counties in the same state. The table allows the reader to look up and compare specific values for each county. National data are included for comparison.

Land Use Chesapeake Bay Watershed and Its Region

Farmland

% land classified as farmland (2002)	Chenango, NY	33.2	Huntingdon, PA	25.6
	Cortland, NY	39.7	Indiana, PA	29.6
	Delaware, NY	20.7	Jefferson, PA	20.7
	Herkimer, NY	17.6	Junata, PA	34.4
	New Castle, DE	26.1	Livingston, NY	51.8
	Sussex, DE	47.2	Madison, NY	40.1
	District of Columbia, DC	--	Montgomery, NY	58.7
	Allegheny, MD	14.5	Onondaga, NY	29.4
	Anne Arundel, MD	13.2	Orangetown, NY	31.3
	Baltimore, MD	18.6	Ontario, NY	47.2
	Calvert, MD	21.8	Oneida, NY	32.1
	Caroline, MD	58.1	Schoharie, NY	28.3
	Carroll, MD	51.2	Schuyler, NY	35.1
	Cecil, MD	34.6	Steuben, NY	41.9
	Charles, MD	17.6	Tioga, NY	38.6
	Dorchester, MD	35.1	Tompkins, NY	33.1
	Frederick, MD	46.2	Yates, NY	53.2
	Gaithersburg, MD	24.5	Adams, PA	54.4
	Harford, MD	28.9	Bedford, PA	29.7
	Howard, MD	23.3	Berks, PA	39.2
	Kent, MD	65.6	Blair, PA	25.5
	Montgomery, MD	23.7	Bradford, PA	41.1
	Prince George's, MD	14.6	Cambria, PA	20.0
	Queen Anne's, MD	65.3	Cameron, PA	17.7
	St. Mary's, MD	23.5	Carlson, PA	7.9
	Somerset, MD	27.1	Cecil, PA	23.3
	Talbot, MD	61.4	Chester, PA	34.8
	Washington, MD	42.7	Clearfield, PA	8.3
	Wicomico, MD	38.7	Crispin, PA	9.3
	Worcester, MD	43.3	Columbia, PA	39.7
	Baltimore, MD (city)	--	Cumberland, PA	40.7
	Allegany, NY	27.3	Dauphin, PA	28.3
	Bronx, NY	21.7	Elk, PA	42.1
	Cayuga, NY	53.7	Franklin, PA	49.5
	Chemung, NY	26.5	Fulton, PA	35.9
			Bedford, VA	41.3

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- a map that displays general patterns in the data. For most indicators, counties are grouped into five classes that correspond to five sub-ranges of data values. These groups are called quintiles. The highest-ranked quintile receives the darkest shading. For more information, see Appendix 2, page 144.

- a map legend describing how the indicator is measured, the year the data were gathered, and the range of values for each quintile grouping.

- the name of the general category to which this particular indicator belongs (such as general population or land use). Maps in the same general category share similar sets of color symbols.

Land Use Chesapeake Bay Watershed and Its Region

Farmland

Bedford, VA	28.0	Madison, VA	25.4	Hampton, VA (city)	--
Buckingham, VA	21.8	Montgomery, VA	40.1	Harrisonburg, VA (city)	--
Campt, VA	43.0	Nelson, VA	28.8	Hopewell, VA (city)	--
Caroline, VA	17.4	New Kent, VA	14.4	Lexington, VA (city)	--
Charles City, VA	24.5	Northampton, VA	39.5	Lynchburg, VA (city)	--
Charlotte, VA	44.0	Northumberland, VA	32.6	Manassas, VA (city)	--
Chesterfield, VA	6.6	Nottingham, VA	25.5	Manassas Park, VA (city)	--
Chesler, VA	65.7	Orange, VA	45.0	Newport News, VA (city)	--
Craig, VA	22.9	Page, VA	32.2	Norfolk, VA (city)	--
Culpeper, VA	51.3	Powhatan, VA	32.7	Petersburg, VA (city)	--
Cumtland, VA	32.8	Prince Edward, VA	34.9	Portsmouth, VA (city)	--
Dorchester, VA	28.7	Prince George, VA	22.4	Portsmouth, VA (city)	--
Essex, VA	35.3	Prince William, VA	15.1	Richmond, VA (city)	--
Fairfax, VA	3.9	Rappahannock, VA	46.0	Roanoke, VA (city)	--
Fauquier, VA	57.3	Richmond, VA	38.5	Salem, VA (city)	--
Fluvanna, VA	32.9	Roanoke, VA	19.3	Staunton, VA (city)	--
Frederick, VA	42.5	Rockbridge, VA	41.0	Suffolk, VA (city)	27.6
Giles, VA	29.9	Rockingham, VA	45.6	Virginia Beach, VA (city)	--
Gloucester, VA	18.5	Shenandoah, VA	40.6	Waynesboro, VA (city)	--
Goodson, VA	28.7	Spotsylvania, VA	22.4	Williamsburg, VA (city)	--
Greene, VA	32.5	Stafford, VA	15.1	Winchester, VA (city)	--
Hanover, VA	33.2	Sully, VA	26.7	Berkeley, WV	37.2
Henrico, VA	18.5	Warren, VA	35.8	Grant, WV	35.2
Isle of Wright, VA	35.1	Westmoreland, VA	46.1	Greenbrier, WV	25.5
King and Queen, VA	29.1	York, VA	1.1	Harpersburg, WV	33.8
King George, VA	27.7	Alexandria, VA (city)	--	Hardy, WV	34.4
King William, VA	34.8	Bedford, VA (city)	--	Jefferson, WV	53.6
Lancaster, VA	14.6	Buena Vista, VA (city)	--	Mineral, WV	38.6
Loudoun, VA	49.5	Charlottesville, VA (city)	--	Morristown, WV	47.9
Louisville, VA	27.4	Colonial Heights, VA (city)	28.0	Morgan, WV	15.7
Lunenburg, VA	32.1	Fredericksburg, VA (city)	--	Pendleton, WV	38.2
Mathews, VA	--	Fredericksburg, VA (city)	--	Poconah, WV	20.5
				Pleasant, WV	34.3
				Randolph, WV	15.2
				Tucker, WV	13.2
				United States	41.4

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Note: For most data sources, data for independent cities in Maryland and Virginia are reported separately from data for the counties which enclose them. These data are included directly in the classification applied to the maps and in the distribution of values in the number lines.

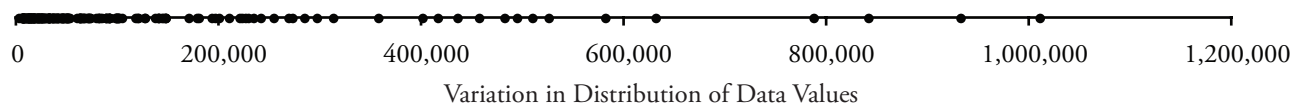
The Socioeconomic Indicators



Total Population

Population size is one of the most important influences on the character of human activities in a place and a key influence on resource use. People bring labor, knowledge, and economic activity to a place. At the same time, they generate demand for natural resources, goods, and services ranging from food to recreational opportunities.

Within the Chesapeake Bay Watershed region, population (2006) ranges from 2,510 (Highland, VA) to 1,010,443 (Fairfax, VA).¹



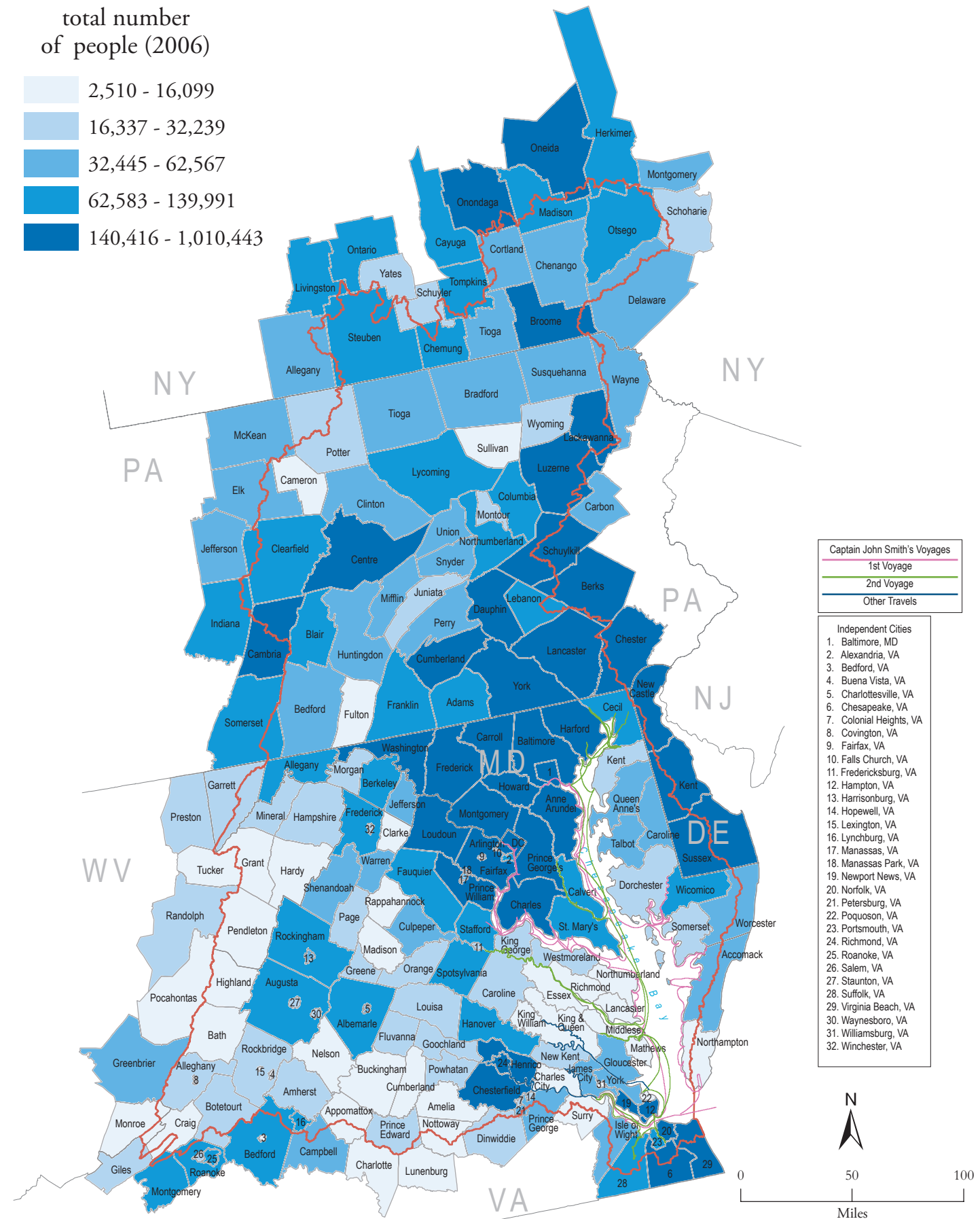
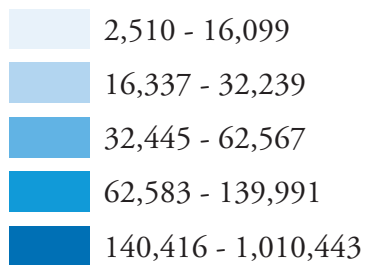
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NOTES

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Total Population

total number
of people (2006)



Total Population

total number of people (2006)

Kent, DE	147,601	Chenango, NY	51,787	Huntingdon, PA	45,771
New Castle, DE	525,587	Cortland, NY	48,483	Indiana, PA	88,234
Sussex, DE	180,288	Delaware, NY	46,977	Jefferson, PA	45,725
District of Columbia, DC	581,530	Herkimer, NY	63,332	Juniata, PA	23,512
Allegany, MD	72,831	Livingston, NY	64,173	Lackawanna, PA	209,728
Anne Arundel, MD	509,300	Madison, NY	70,197	Lancaster, PA	494,486
Baltimore, MD	787,384	Montgomery, NY	49,112	Lebanon, PA	126,883
Calvert, MD	88,804	Oneida, NY	233,954	Luzerne, PA	313,020
Caroline, MD	32,617	Onondaga, NY	456,777	Lycoming, PA	117,668
Carroll, MD	170,260	Ontario, NY	104,353	McKean, PA	44,065
Cecil, MD	99,506	Otsego, NY	62,583	Mifflin, PA	46,057
Charles, MD	140,416	Schoharie, NY	32,196	Montour, PA	17,934
Dorchester, MD	31,631	Schuyler, NY	19,415	Northumberland, PA	91,654
Frederick, MD	222,938	Steuben, NY	98,236	Perry, PA	45,087
Garrett, MD	29,859	Tioga, NY	51,285	Potter, PA	17,568
Harford, MD	241,402	Tompkins, NY	100,407	Schuylkill, PA	147,405
Howard, MD	272,452	Yates, NY	24,732	Snyder, PA	38,226
Kent, MD	19,983	Adams, PA	101,105	Somerset, PA	78,508
Montgomery, MD	932,131	Bedford, PA	49,927	Sullivan, PA	6,277
Prince George's, MD	841,315	Berks, PA	401,149	Susquehanna, PA	41,889
Queen Anne's, MD	46,241	Blair, PA	126,494	Tioga, PA	41,137
St. Mary's, MD	98,854	Bradford, PA	62,471	Union, PA	43,387
Somerset, MD	25,774	Cambria, PA	146,967	Wayne, PA	50,929
Talbot, MD	36,062	Cameron, PA	5,489	Wyoming, PA	28,093
Washington, MD	143,748	Carbon, PA	62,567	York, PA	416,322
Wicomico, MD	91,987	Centre, PA	140,953	Accomack, VA	39,345
Worcester, MD	48,866	Chester, PA	482,112	Albemarle, VA	92,035
Baltimore, MD (city)	631,366	Clearfield, PA	82,442	Alleghany, VA	16,600
Allegany, NY	50,267	Clinton, PA	37,232	Amelia, VA	12,502
Broome, NY	196,269	Columbia, PA	65,014	Amherst, VA	32,239
Cayuga, NY	81,243	Cumberland, PA	226,117	Appomattox, VA	14,128
Chemung, NY	88,641	Dauphin, PA	254,176	Arlington, VA	199,776
		Elk, PA	33,179	Augusta, VA	70,910
		Franklin, PA	139,991	Bath, VA	4,814
		Fulton, PA	14,783	Bedford, VA	66,507

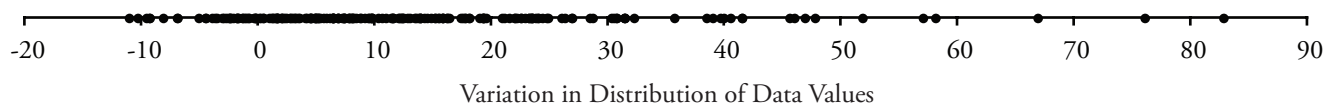
Total Population

Botetourt, VA	32,228	Middlesex, VA	10,615	Hampton, VA (city)	145,017
Buckingham, VA	16,099	Montgomery, VA	84,541	Harrisonburg, VA (city)	40,885
Campbell, VA	52,667	Nelson, VA	15,161	Hopewell, VA (city)	22,731
Caroline, VA	26,731	New Kent, VA	16,852	Lexington, VA (city)	6,739
Charles City, VA	7,221	Northampton, VA	13,609	Lynchburg, VA (city)	67,720
Charlotte, VA	12,491	Northumberland, VA	12,820	Manassas, VA (city)	36,638
Chesterfield, VA	296,718	Nottoway, VA	15,572	Manassas Park, VA (city)	11,642
Clarke, VA	14,565	Orange, VA	31,740	Newport News, VA (city)	178,281
Craig, VA	5,179	Page, VA	24,104	Norfolk, VA (city)	229,112
Culpeper, VA	44,622	Powhatan, VA	27,649	Petersburg, VA (city)	32,445
Cumberland, VA	9,465	Prince Edward, VA	20,530	Poquoson, VA (city)	11,918
Dinwiddie, VA	25,695	Prince George, VA	36,184	Portsmouth, VA (city)	101,377
Essex, VA	10,633	Prince William, VA	357,503	Richmond, VA (city)	192,913
Fairfax, VA	1,010,443	Rappahannock, VA	7,203	Roanoke, VA (city)	91,552
Fauquier, VA	66,170	Richmond, VA	9,142	Salem, VA (city)	24,825
Fluvanna, VA	25,058	Roanoke, VA	90,482	Staunton, VA (city)	23,334
Frederick, VA	71,187	Rockbridge, VA	21,337	Suffolk, VA (city)	81,071
Giles, VA	17,403	Rockingham, VA	72,564	Virginia Beach, VA (city)	435,619
Gloucester, VA	38,293	Shenandoah, VA	40,051	Waynesboro, VA (city)	21,454
Goochland, VA	20,085	Spotsylvania, VA	119,529	Williamsburg, VA (city)	11,793
Greene, VA	17,709	Stafford, VA	120,170	Winchester, VA (city)	25,265
Hanover, VA	98,983	Surry, VA	7,119	Berkeley, WV	97,534
Henrico, VA	284,399	Warren, VA	36,102	Grant, WV	11,915
Highland, VA	2,510	Westmoreland, VA	17,188	Greenbrier, WV	34,850
Isle of Wight, VA	34,723	York, VA	61,879	Hampshire, WV	22,480
James City, VA	59,741	Alexandria, VA (city)	136,974	Hardy, WV	13,420
King and Queen, VA	6,903	Bedford, VA (city)	6,249	Jefferson, WV	50,443
King George, VA	21,780	Buena Vista, VA (city)	6,457	Mineral, WV	26,928
King William, VA	15,381	Charlottesville, VA (city)	40,315	Monroe, WV	13,510
Lancaster, VA	11,519	Chesapeake, VA (city)	220,560	Morgan, WV	16,337
Loudoun, VA	268,817	Colonial Heights, VA (city)	17,676	Pendleton, WV	7,679
Louisa, VA	31,226	Covington, VA (city)	6,073	Pocahontas, WV	8,755
Lunenburg, VA	13,219	Fairfax, VA (city)	22,422	Preston, WV	30,384
Madison, VA	13,613	Falls Church, VA (city)	10,799	Randolph, WV	28,465
Mathews, VA	9,184	Fredericksburg, VA (city)	21,273	Tucker, WV	6,856
				United States	299,398,484

Historical Population Change

Population change is due to births, deaths, and migration. Trends in historical population change (1986-2006) provide a context from which to view recent population change (1996-2006). The direction and rate of population change are important socioeconomic trends. For example, population growth increases the size of the economy and can generate changes in land use that affect natural ecosystems.

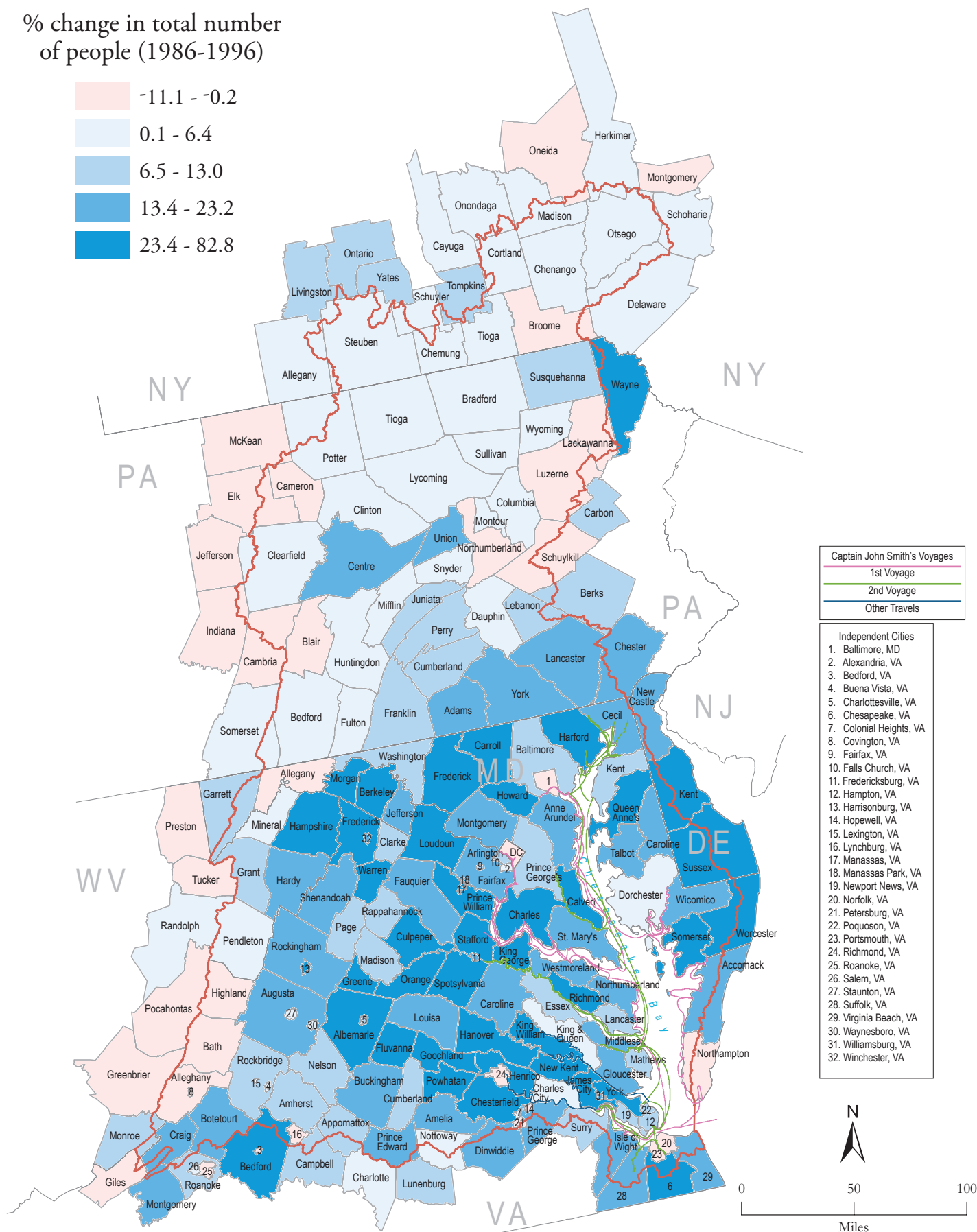
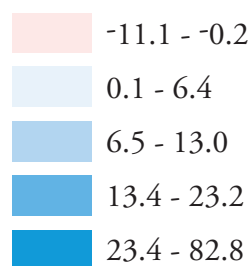
Within the Chesapeake Bay Watershed region, county growth rates (1986-2006) ranged from a decrease of 11.1% (Petersburg, VA [city]) to an increase of 82.8% (Spotsylvania, VA).



NOTES

Historical Population Change

% change in total number
of people (1986-1996)



Historical Population Change

% change in total number of people (1986-1996)					
		Chenango, NY	4.5	Huntingdon, PA	4.1
		Cortland, NY	1.6	Indiana, PA	-0.9
		Delaware, NY	4.9	Jefferson, PA	-1.8
Kent, DE	23.5	Herkimer, NY	0.1	Juniata, PA	11.5
New Castle, DE	15.2	Livingston, NY	7.2	Lackawanna, PA	-2.4
Sussex, DE	31.4	Madison, NY	5.1	Lancaster, PA	16.2
District of Columbia, DC	-10.3	Montgomery, NY	-0.8	Lebanon, PA	6.9
Allegany, MD	-1.0	Oneida, NY	-4.5	Luzerne, PA	-0.2
Anne Arundel, MD	15.8	Onondaga, NY	0.4	Lycoming, PA	4.9
Baltimore, MD	9.8	Ontario, NY	8.0	McKean, PA	-2.5
Calvert, MD	57.0	Otsego, NY	4.9	Mifflin, PA	1.6
Caroline, MD	18.1	Schoharie, NY	6.4	Montour, PA	5.8
Carroll, MD	28.4	Schuyler, NY	6.4	Northumberland, PA	-1.2
Cecil, MD	21.5	Steuben, NY	2.7	Perry, PA	11.6
Charles, MD	26.9	Tioga, NY	2.8	Potter, PA	3.1
Dorchester, MD	3.0	Tompkins, NY	7.4	Schuylkill, PA	-0.3
Frederick, MD	35.7	Yates, NY	12.1	Snyder, PA	6.1
Garrett, MD	10.6	Adams, PA	19.0	Somerset, PA	0.5
Harford, MD	30.8	Bedford, PA	4.5	Sullivan, PA	5.1
Howard, MD	46.9	Berks, PA	12.5	Susquehanna, PA	7.3
Kent, MD	10.3	Blair, PA	-0.4	Tioga, PA	1.5
Montgomery, MD	22.1	Bradford, PA	2.3	Union, PA	19.6
Prince George's, MD	12.4	Cambria, PA	-6.9	Wayne, PA	23.4
Queen Anne's, MD	26.3	Cameron, PA	-1.3	Wyoming, PA	5.2
St. Mary's, MD	21.1	Carbon, PA	7.8	York, PA	14.8
Somerset, MD	23.8	Centre, PA	13.9	Accomack, VA	14.3
Talbot, MD	15.8	Chester, PA	17.7	Albemarle, VA	23.4
Washington, MD	11.0	Clearfield, PA	1.7	Alleghany, VA	-8.1
Wicomico, MD	17.4	Clinton, PA	0.9	Amelia, VA	22.2
Worcester, MD	26.0	Columbia, PA	5.3	Amherst, VA	7.4
Baltimore, MD (city)	-9.6	Cumberland, PA	12.2	Appomattox, VA	7.8
Allegany, NY	1.6	Dauphin, PA	6.4	Arlington, VA	9.1
Broome, NY	-3.9	Elk, PA	-2.4	Augusta, VA	23.2
Cayuga, NY	3.2	Franklin, PA	8.0	Bath, VA	-2.3
Chemung, NY	2.0	Fulton, PA	5.6	Bedford, VA	39.0

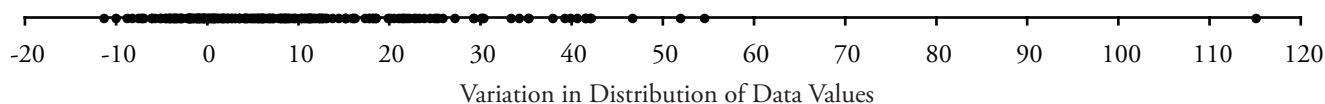
Historical Population Change

Botetourt, VA	18.1	Middlesex, VA	13.7	Hampton, VA (city)	12.4
Buckingham, VA	19.2	Montgomery, VA	16.4	Harrisonburg, VA (city)	32.3
Campbell, VA	8.4	Nelson, VA	9.4	Hopewell, VA (city)	-4.5
Caroline, VA	17.8	New Kent, VA	30.7	Lexington, VA (city)	2.1
Charles City, VA	3.6	Northampton, VA	-2.8	Lynchburg, VA (city)	-1.8
Charlotte, VA	4.8	Northumberland, VA	15.5	Manassas, VA (city)	58.1
Chesterfield, VA	39.6	Nottoway, VA	3.4	Manassas Park, VA (city)	28.7
Clarke, VA	9.8	Orange, VA	24.9	Newport News, VA (city)	12.8
Craig, VA	17.5	Page, VA	13.0	Norfolk, VA (city)	-9.4
Culpeper, VA	31.4	Powhatan, VA	46.0	Petersburg, VA (city)	-11.1
Cumberland, VA	9.6	Prince Edward, VA	13.6	Poquoson, VA (city)	8.8
Dinwiddie, VA	16.2	Prince George, VA	15.1	Portsmouth, VA (city)	-2.1
Essex, VA	11.4	Prince William, VA	38.5	Richmond, VA (city)	-6.9
Fairfax, VA	22.0	Rappahannock, VA	8.7	Roanoke, VA (city)	-1.7
Fauquier, VA	19.3	Richmond, VA	24.0	Salem, VA (city)	4.4
Fluvanna, VA	51.8	Roanoke, VA	9.5	Staunton, VA (city)	1.2
Frederick, VA	41.5	Rockbridge, VA	9.8	Suffolk, VA (city)	15.5
Giles, VA	-2.9	Rockingham, VA	22.9	Virginia Beach, VA (city)	23.2
Gloucester, VA	22.5	Shenandoah, VA	13.4	Waynesboro, VA (city)	4.5
Goochland, VA	26.9	Spotsylvania, VA	82.8	Williamsburg, VA (city)	13.9
Greene, VA	45.6	Stafford, VA	66.8	Winchester, VA (city)	14.5
Hanover, VA	40.5	Surry, VA	6.8	Berkeley, WV	31.5
Henrico, VA	23.5	Warren, VA	30.5	Grant, WV	8.1
Highland, VA	-3.5	Westmoreland, VA	13.9	Greenbrier, WV	-3.1
Isle of Wight, VA	19.3	York, VA	40.0	Hampshire, WV	24.4
James City, VA	47.8	Alexandria, VA (city)	6.4	Hardy, WV	15.9
King and Queen, VA	4.2	Bedford, VA (city)	-0.2	Jefferson, WV	19.4
King George, VA	30.3	Buena Vista, VA (city)	1.3	Mineral, WV	2.0
King William, VA	24.1	Charlottesville, VA (city)	6.8	Monroe, WV	7.4
Lancaster, VA	7.8	Chesapeake, VA (city)	41.5	Morgan, WV	24.7
Loudoun, VA	76.1	Colonial Heights, VA (city)	2.4	Pendleton, WV	1.4
Louisa, VA	22.6	Covington, VA (city)	-9.3	Pocahontas, WV	-3.7
Lunenburg, VA	12.0	Fairfax, VA (city)	6.5	Preston, WV	-1.8
Madison, VA	11.6	Falls Church, VA (city)	-1.4	Randolph, WV	0.2
Mathews, VA	8.2	Fredericksburg, VA (city)	20.9	Tucker, WV	-5.1
				United States	12.2

Recent Population Change

Measuring recent population change provides an indication of the extent to which population change is influencing current local or regional priorities. For example, population growth changes the tax base, adds new voters, and can increase demand for services ranging from schools to transportation to outdoor recreation. Population growth may drive development that, in turn, alters land uses.

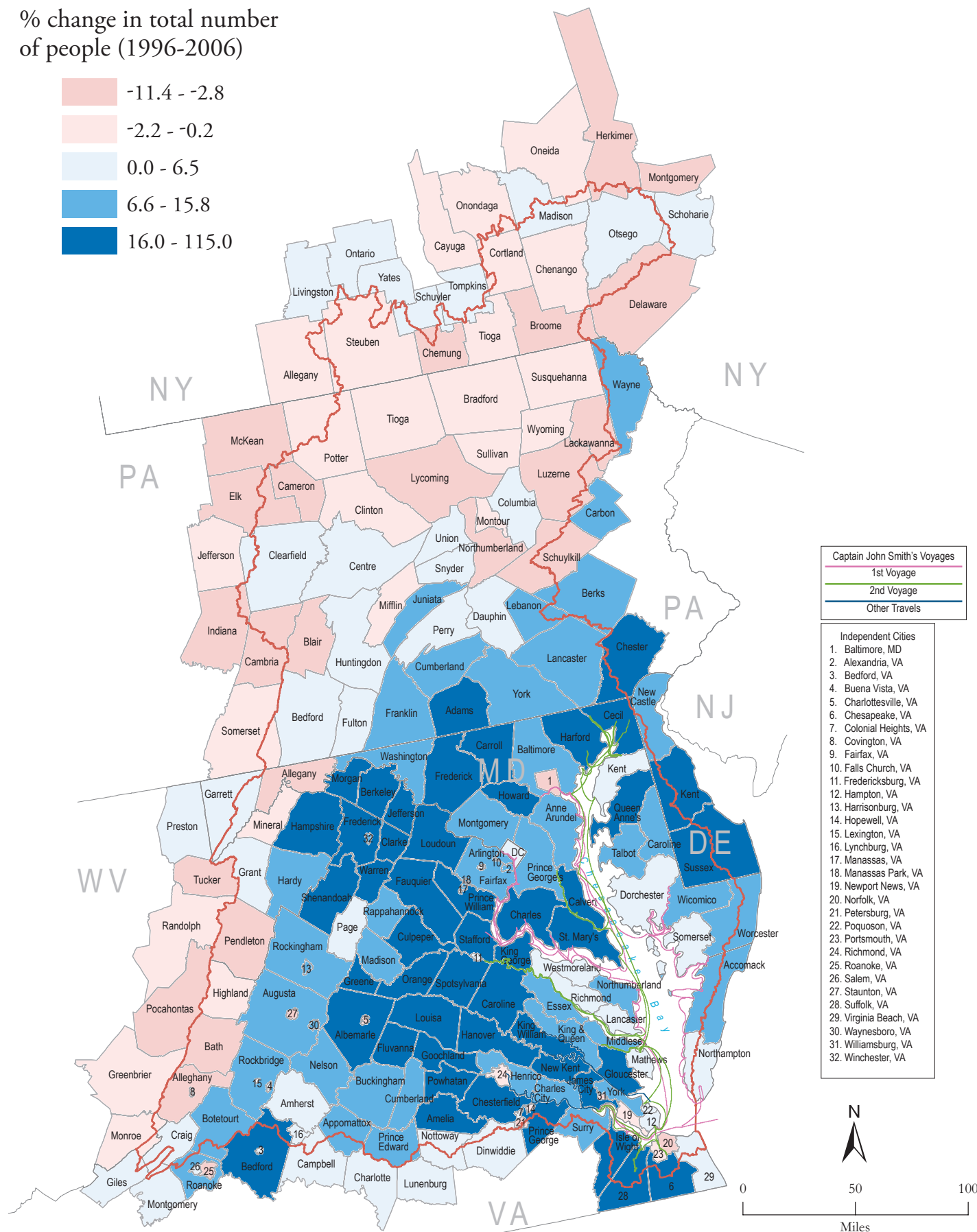
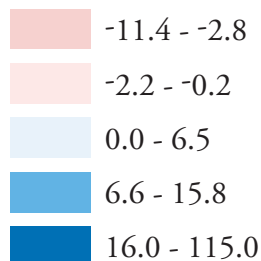
Within the Chesapeake Bay Watershed region, the recent change in county population (1996-2006) ranges from a decrease of 11.4% (Covington, VA [city]) to an increase of 115% (Loudoun, VA).



NOTES

Recent Population Change

% change in total number
of people (1996-2006)



Recent Population Change

% change in total number of people (1996-2006)					
		Chenango, NY	-1.0	Huntingdon, PA	0.5
		Cortland, NY	-0.5	Indiana, PA	-3.4
		Delaware, NY	-2.8	Jefferson, PA	-1.7
Kent, DE	21.5	Herkimer, NY	-4.7	Juniata, PA	6.8
New Castle, DE	9.5	Livingston, NY	0.0	Lackawanna, PA	-3.7
Sussex, DE	29.2	Madison, NY	0.1	Lancaster, PA	8.5
District of Columbia, DC	1.6	Montgomery, NY	-4.3	Lebanon, PA	7.2
Allegany, MD	-3.1	Oneida, NY	-2.2	Luzerne, PA	-4.4
Anne Arundel, MD	9.0	Onondaga, NY	-2.1	Lycoming, PA	-3.0
Baltimore, MD	7.1	Ontario, NY	4.9	McKean, PA	-7.0
Calvert, MD	34.2	Otsego, NY	1.6	Mifflin, PA	-1.2
Caroline, MD	11.8	Schoharie, NY	0.3	Montour, PA	-1.7
Carroll, MD	20.4	Schuyler, NY	1.7	Northumberland, PA	-5.3
Cecil, MD	25.3	Steuben, NY	-1.0	Perry, PA	4.6
Charles, MD	25.8	Tioga, NY	-1.9	Potter, PA	-0.2
Dorchester, MD	2.9	Tompkins, NY	4.3	Schuylkill, PA	-4.2
Frederick, MD	24.3	Yates, NY	2.2	Snyder, PA	0.7
Garrett, MD	0.7	Adams, PA	17.2	Somerset, PA	-2.1
Harford, MD	16.1	Bedford, PA	1.3	Sullivan, PA	-2.0
Howard, MD	21.8	Berks, PA	11.3	Susquehanna, PA	-0.3
Kent, MD	5.9	Blair, PA	-3.5	Tioga, PA	-0.4
Montgomery, MD	13.0	Bradford, PA	-0.4	Union, PA	4.2
Prince George's, MD	8.7	Cambria, PA	-7.3	Wayne, PA	11.6
Queen Anne's, MD	22.8	Cameron, PA	-8.9	Wyoming, PA	-2.0
St. Mary's, MD	22.6	Carbon, PA	6.6	York, PA	12.6
Somerset, MD	4.1	Centre, PA	5.1	Accomack, VA	10.3
Talbot, MD	10.7	Chester, PA	18.1	Albemarle, VA	21.4
Washington, MD	11.1	Clearfield, PA	0.1	Alleghany, VA	-3.5
Wicomico, MD	12.4	Clinton, PA	-1.0	Amelia, VA	22.1
Worcester, MD	15.1	Columbia, PA	0.4	Amherst, VA	4.8
Baltimore, MD (city)	-8.3	Cumberland, PA	8.0	Appomattox, VA	7.9
Allegany, NY	-1.2	Dauphin, PA	1.9	Arlington, VA	9.3
Broome, NY	-4.0	Elk, PA	-7.2	Augusta, VA	15.1
Cayuga, NY	-1.9	Franklin, PA	10.3	Bath, VA	-3.7
Chemung, NY	-4.7	Fulton, PA	4.1	Bedford, VA	18.1

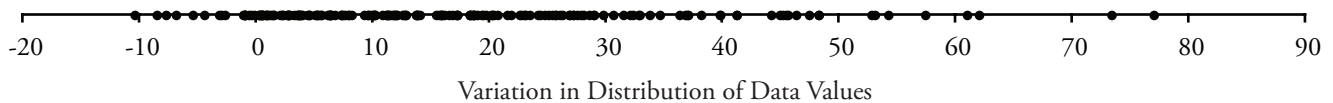
Recent Population Change

Botetourt, VA	13.7	Middlesex, VA	12.8	Hampton, VA (city)	1.0
Buckingham, VA	8.0	Montgomery, VA	6.2	Harrisonburg, VA (city)	12.2
Campbell, VA	5.4	Nelson, VA	11.0	Hopewell, VA (city)	-0.6
Caroline, VA	25.1	New Kent, VA	37.8	Lexington, VA (city)	-2.2
Charles City, VA	8.6	Northampton, VA	3.5	Lynchburg, VA (city)	3.0
Charlotte, VA	2.2	Northumberland, VA	10.2	Manassas, VA (city)	12.5
Chesterfield, VA	21.2	Nottoway, VA	0.5	Manassas Park, VA (city)	35.1
Clarke, VA	18.4	Orange, VA	30.0	Newport News, VA (city)	-0.5
Craig, VA	5.5	Page, VA	5.5	Norfolk, VA (city)	-6.2
Culpeper, VA	39.8	Powhatan, VA	41.4	Petersburg, VA (city)	-7.6
Cumberland, VA	10.6	Prince Edward, VA	7.7	Poquoson, VA (city)	5.1
Dinwiddie, VA	5.7	Prince George, VA	20.0	Portsmouth, VA (city)	-1.0
Essex, VA	8.9	Prince William, VA	41.9	Richmond, VA (city)	-1.6
Fairfax, VA	11.4	Rappahannock, VA	6.8	Roanoke, VA (city)	-5.8
Fauquier, VA	30.2	Richmond, VA	6.0	Salem, VA (city)	1.1
Fluvanna, VA	51.8	Roanoke, VA	8.3	Staunton, VA (city)	-3.8
Frederick, VA	30.1	Rockbridge, VA	8.5	Suffolk, VA (city)	41.5
Giles, VA	6.1	Rockingham, VA	9.6	Virginia Beach, VA (city)	3.5
Gloucester, VA	16.0	Shenandoah, VA	20.9	Waynesboro, VA (city)	12.1
Goochland, VA	23.2	Spotsylvania, VA	54.5	Williamsburg, VA (city)	-2.9
Greene, VA	35.2	Stafford, VA	46.6	Winchester, VA (city)	11.0
Hanover, VA	29.1	Surry, VA	8.3	Berkeley, WV	42.0
Henrico, VA	14.3	Warren, VA	19.7	Grant, WV	6.5
Highland, VA	-2.0	Westmoreland, VA	3.4	Greenbrier, WV	-0.7
Isle of Wight, VA	23.7	York, VA	15.1	Hampshire, WV	18.4
James City, VA	40.5	Alexandria, VA (city)	15.8	Hardy, WV	11.2
King and Queen, VA	7.0	Bedford, VA (city)	3.9	Jefferson, WV	27.1
King George, VA	39.1	Buena Vista, VA (city)	1.5	Mineral, WV	-1.3
King William, VA	24.9	Charlottesville, VA (city)	-5.2	Monroe, WV	-1.2
Lancaster, VA	0.6	Chesapeake, VA (city)	17.7	Morgan, WV	17.8
Loudoun, VA	115.0	Colonial Heights, VA (city)	5.7	Pendleton, WV	-6.2
Louisa, VA	33.3	Covington, VA (city)	-11.4	Pocahontas, WV	-4.2
Lunenburg, VA	0.8	Fairfax, VA (city)	5.9	Preston, WV	2.6
Madison, VA	11.2	Falls Church, VA (city)	12.2	Randolph, WV	-0.8
Mathews, VA	2.1	Fredericksburg, VA (city)	2.6	Tucker, WV	-10.1
				United States	11.1

Projected Population Change

Population projections can be made with some accuracy for short and mid-range time spans. Projections can help planners anticipate potential impacts on park and other resources. For example, population growth can generate changes in land use and transportation, growth of new and existing communities, and increases in the demand for park and other outdoor experiences.

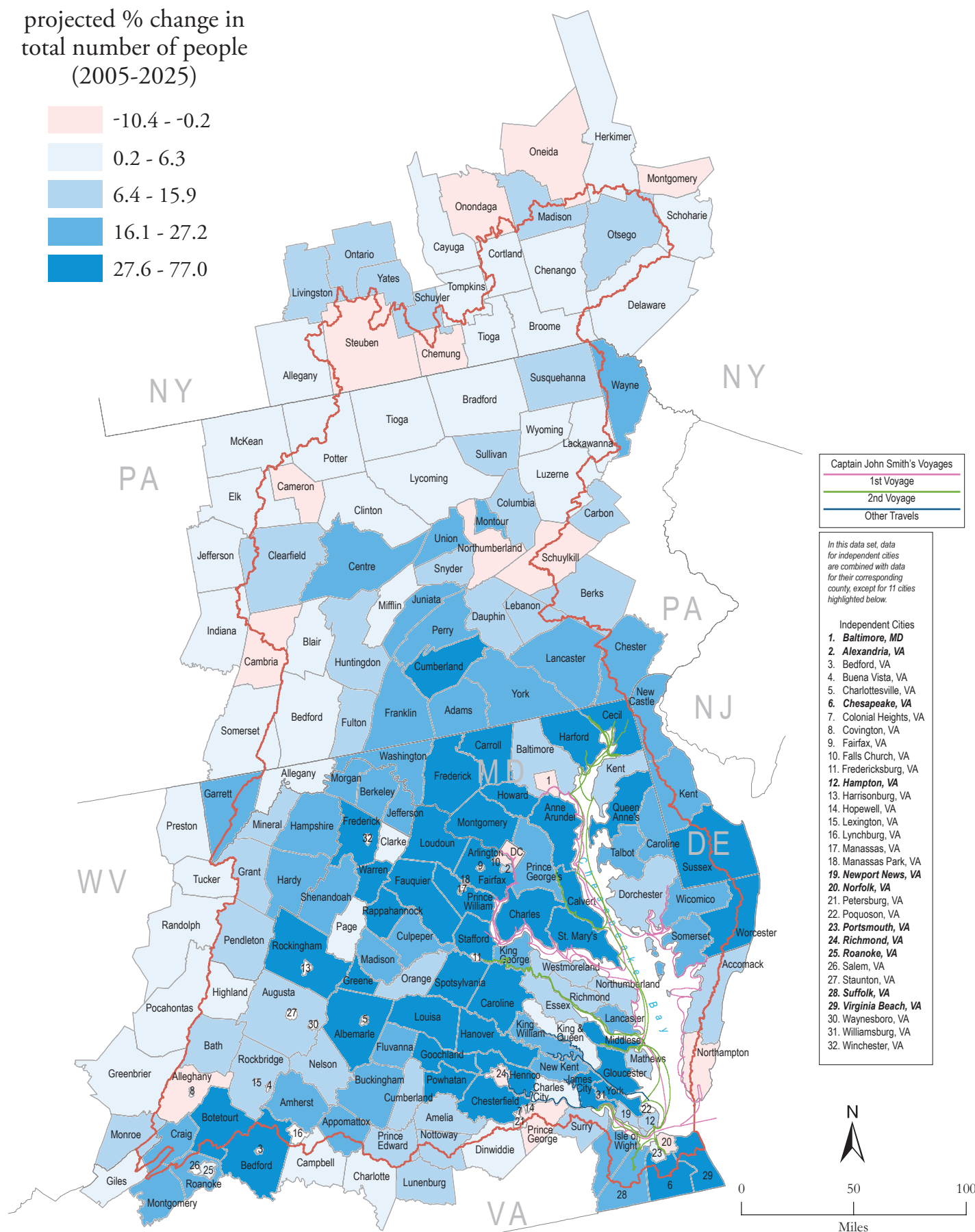
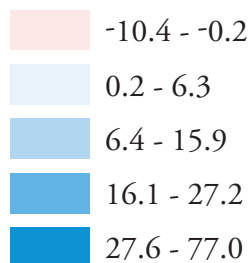
Within the Chesapeake Bay Watershed region, the projected change in county population by the year 2025 ranges from a decrease of 10.4% (Cambria, PA) to an increase of 77% (Howard, MD).²



NOTES

Projected Population Change

projected % change in
total number of people
(2005-2025)



Projected Population Change

projected % change in
total number of people (2005-2025)

Kent, DE	21.9	Chenango, NY	3.6	Huntingdon, PA	9.6
New Castle, DE	19.5	Cortland, NY	2.3	Indiana, PA	2.8
Sussex, DE	30.7	Delaware, NY	1.1	Jefferson, PA	6.2
District of Columbia, DC	-3.2	Herkimer, NY	0.9	Juniata, PA	18.3
Allegany, MD	4.6	Livingston, NY	12.7	Lackawanna, PA	1.0
Anne Arundel, MD	37.0	Madison, NY	6.4	Lancaster, PA	17.2
Baltimore, MD	15.9	Montgomery, NY	-0.4	Lebanon, PA	12.1
Calvert, MD	61.0	Oneida, NY	-2.7	Luzerne, PA	0.9
Caroline, MD	21.5	Onondaga, NY	-1.0	Lycoming, PA	2.9
Carroll, MD	47.5	Ontario, NY	6.4	McKean, PA	0.3
Cecil, MD	36.3	Otsego, NY	7.3	Mifflin, PA	5.3
Charles, MD	44.9	Schoharie, NY	5.2	Montour, PA	16.9
Dorchester, MD	6.8	Schuyler, NY	7.9	Northumberland, PA	-3.0
Frederick, MD	48.2	Steuben, NY	-5.4	Perry, PA	25.4
Garrett, MD	24.4	Tioga, NY	3.3	Potter, PA	5.3
Harford, MD	46.3	Tompkins, NY	5.5	Schuylkill, PA	-0.9
Howard, MD	77.0	Yates, NY	7.3	Snyder, PA	15.9
Kent, MD	13.7	Adams, PA	23.0	Somerset, PA	3.8
Montgomery, MD	29.8	Bedford, PA	4.0	Sullivan, PA	7.9
Prince George's, MD	16.1	Berks, PA	11.3	Susquehanna, PA	10.1
Queen Anne's, MD	39.8	Blair, PA	0.5	Tioga, PA	1.3
St. Mary's, MD	41.2	Bradford, PA	2.7	Union, PA	22.6
Somerset, MD	19.3	Cambria, PA	-10.4	Wayne, PA	26.1
Talbot, MD	20.7	Cameron, PA	-4.4	Wyoming, PA	4.6
Washington, MD	17.3	Carbon, PA	9.3	York, PA	20.4
Wicomico, MD	18.7	Centre, PA	25.7	Accomack, VA	11.8
Worcester, MD	29.0	Chester, PA	24.2	Albemarle, VA	32.3
Baltimore, MD (city)	-1.1	Clearfield, PA	14.0	Alleghany, VA	-8.5
Allegany, NY	2.8	Clinton, PA	1.4	Amelia, VA	12.8
Broome, NY	0.3	Columbia, PA	10.1	Amherst, VA	16.6
Cayuga, NY	5.1	Cumberland, PA	38.2	Appomattox, VA	19.0
Chemung, NY	-7.7	Dauphin, PA	11.2	Arlington, VA	-1.0
		Elk, PA	0.5	Augusta, VA	12.0
		Franklin, PA	18.6	Bath, VA	6.4
		Fulton, PA	12.9	Bedford, VA	54.2

Projected Population Change

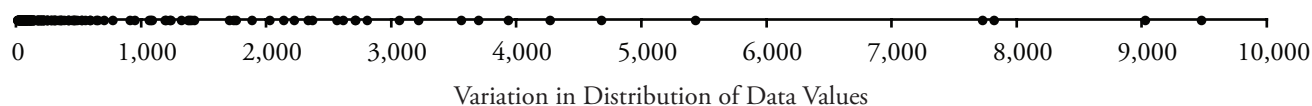
In this data set, data for independent cities are combined with data for their corresponding county, except for 11 cities listed in the table on these two pages.

Botetourt, VA	45.4	Middlesex, VA	37.1	Hampton, VA (city)	13.8
Buckingham, VA	24.8	Montgomery, VA	26.3	Harrisonburg, VA (city)	
Campbell, VA	1.5	Nelson, VA	10.9	Hopewell, VA (city)	
Caroline, VA	27.6	New Kent, VA	27.2	Lexington, VA (city)	
Charles City, VA	6.1	Northampton, VA	-0.6	Lynchburg, VA (city)	
Charlotte, VA	3.6	Northumberland, VA	9.6	Manassas, VA (city)	
Chesterfield, VA	57.4	Nottoway, VA	7.6	Manassas Park, VA (city)	
Clarke, VA	3.7	Orange, VA	15.9	Newport News, VA (city)	11.3
Craig, VA	20.3	Page, VA	3.5	Norfolk, VA (city)	-1.0
Culpeper, VA	22.8	Powhatan, VA	44.2	Petersburg, VA (city)	
Cumberland, VA	9.9	Prince Edward, VA	13.9	Poquoson, VA (city)	
Dinwiddie, VA	0.6	Prince George, VA	-0.2	Portsmouth, VA (city)	0.4
Essex, VA	10.1	Prince William, VA	62.0	Richmond, VA (city)	-6.8
Fairfax, VA	39.8	Rappahannock, VA	27.9	Roanoke, VA (city)	0.2
Fauquier, VA	29.0	Richmond, VA	11.5	Salem, VA (city)	
Fluvanna, VA	18.7	Roanoke, VA	18.4	Staunton, VA (city)	
Frederick, VA	33.8	Rockbridge, VA	10.2	Suffolk, VA (city)	27.2
Giles, VA	6.3	Rockingham, VA	34.6	Virginia Beach, VA (city)	31.5
Gloucester, VA	32.1	Shenandoah, VA	18.5	Waynesboro, VA (city)	
Goochland, VA	36.8	Spotsylvania, VA	48.3	Williamsburg, VA (city)	
Greene, VA	32.9	Stafford, VA	52.8	Winchester, VA (city)	
Hanover, VA	32.8	Surry, VA	15.4	Berkeley, WV	26.8
Henrico, VA	28.6	Warren, VA	28.1	Grant, WV	7.4
Highland, VA	2.1	Westmoreland, VA	11.9	Greenbrier, WV	0.5
Isle of Wight, VA	18.3	York, VA	45.2	Hampshire, WV	25.1
James City, VA	41.2	Alexandria, VA (city)	13.8	Hardy, WV	20.2
King and Queen, VA	2.7	Bedford, VA (city)		Jefferson, WV	23.5
King George, VA	26.9	Buena Vista, VA (city)		Mineral, WV	8.2
King William, VA	23.1	Charlottesville, VA (city)		Monroe, WV	12.6
Lancaster, VA	19.7	Chesapeake, VA (city)	53.1	Morgan, WV	17.3
Loudoun, VA	73.4	Colonial Heights, VA (city)		Pendleton, WV	11.7
Louisa, VA	45.6	Covington, VA (city)		Pocahontas, WV	5.6
Lunenburg, VA	11.2	Fairfax, VA (city)		Preston, WV	4.4
Madison, VA	25.8	Falls Church, VA (city)		Randolph, WV	2.2
Mathews, VA	15.7	Fredericksburg, VA (city)		Tucker, WV	3.8
				United States	21.5

Population Density

Population density is a measure of population in terms of persons per square mile. Higher concentrations of people tend to support more business activities and can generate greater demand for public goods ranging from roads to open space. Thus, monitoring differences in population density can be an important way to detect potential stresses and impacts on natural resources in the region.

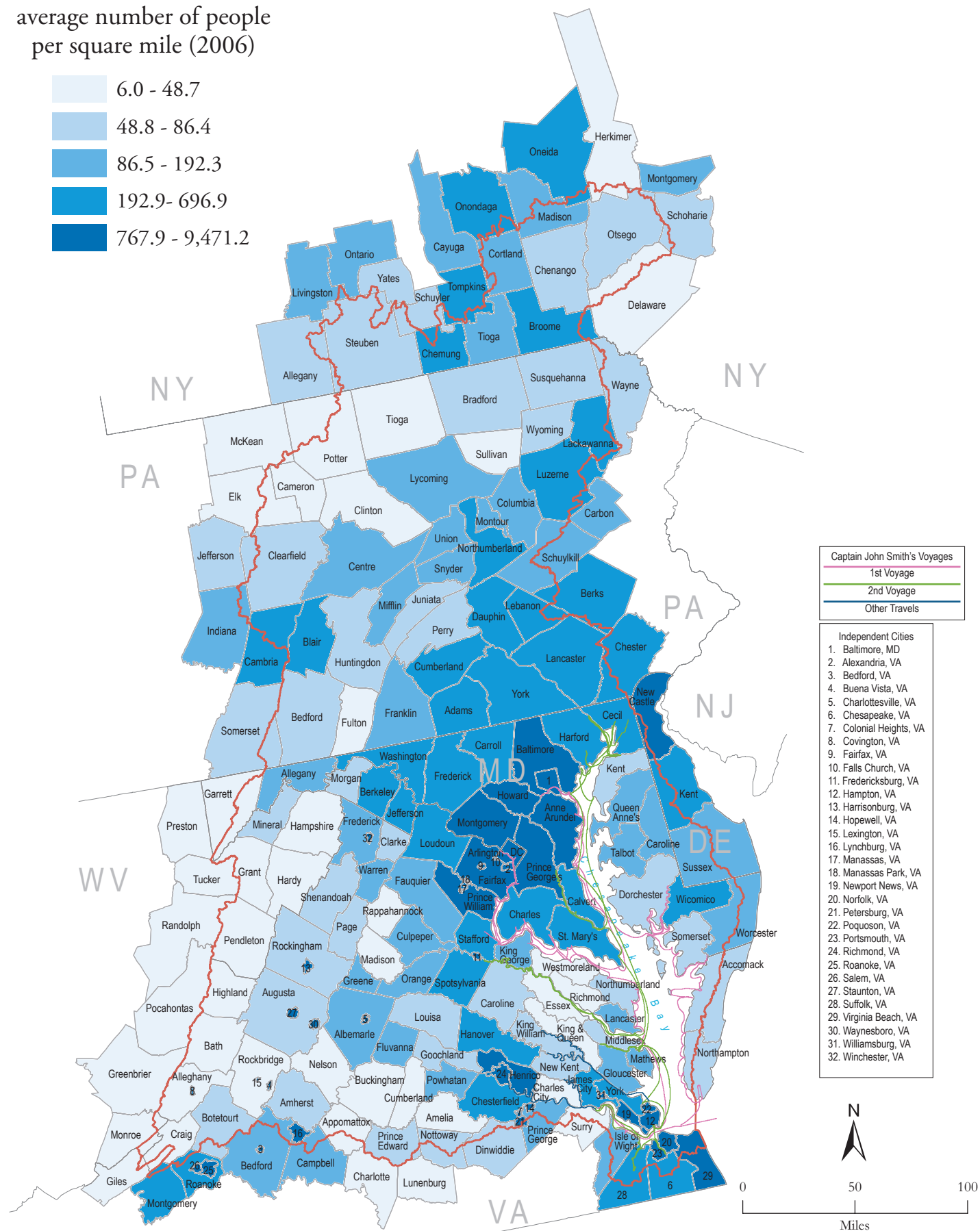
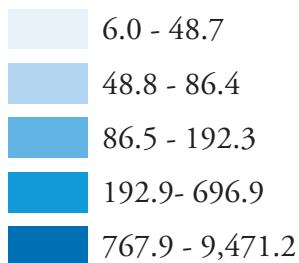
Within the Chesapeake Bay Watershed region, county population density (2006) ranges from 6.0 people per square mile (Highland, VA) to 9,471.2 people per square mile (District of Columbia).³



NOTES

Population Density

average number of people
per square mile (2006)



Population Density

average number of people
per square mile (2006)

Kent, DE	250.3	Chenango, NY	57.9	Huntingdon, PA	52.4
New Castle, DE	1,233.0	Cortland, NY	97.0	Indiana, PA	106.4
Sussex, DE	192.3	Delaware, NY	32.5	Jefferson, PA	69.8
District of Columbia, DC	9,471.2	Herkimer, NY	44.9	Juniata, PA	60.0
Allegany, MD	171.2	Livingston, NY	101.5	Lackawanna, PA	457.3
Anne Arundel, MD	1,224.5	Madison, NY	107.0	Lancaster, PA	521.0
Baltimore, MD	1,315.4	Montgomery, NY	121.3	Lebanon, PA	350.6
Calvert, MD	412.7	Oneida, NY	192.9	Luzerne, PA	351.4
Caroline, MD	101.9	Onondaga, NY	585.4	Lycoming, PA	95.3
Carroll, MD	379.1	Ontario, NY	161.9	McKean, PA	44.9
Cecil, MD	285.8	Otsego, NY	62.4	Mifflin, PA	111.8
Charles, MD	304.6	Schoharie, NY	51.8	Montour, PA	137.2
Dorchester, MD	56.7	Schuyler, NY	59.1	Northumberland, PA	199.3
Frederick, MD	336.3	Steuben, NY	70.5	Perry, PA	81.5
Garrett, MD	46.1	Tioga, NY	98.9	Potter, PA	16.2
Harford, MD	548.2	Tompkins, NY	210.9	Schuylkill, PA	189.4
Howard, MD	1,081.0	Yates, NY	73.1	Snyder, PA	115.4
Kent, MD	71.5	Adams, PA	194.4	Somerset, PA	73.1
Montgomery, MD	1,881.1	Bedford, PA	49.2	Sullivan, PA	14.0
Prince George's, MD	1,733.1	Berks, PA	467.1	Susquehanna, PA	50.9
Queen Anne's, MD	124.2	Blair, PA	240.6	Tioga, PA	36.3
St. Mary's, MD	273.6	Bradford, PA	54.3	Union, PA	137.0
Somerset, MD	78.8	Cambria, PA	213.6	Wayne, PA	69.8
Talbot, MD	134.0	Cameron, PA	13.8	Wyoming, PA	70.7
Washington, MD	313.8	Carbon, PA	164.2	York, PA	460.3
Wicomico, MD	243.9	Centre, PA	127.3	Accomack, VA	86.4
Worcester, MD	103.3	Chester, PA	637.7	Albemarle, VA	127.4
Baltimore, MD (city)	7,813.9	Clearfield, PA	71.9	Alleghany, VA	37.1
Allegany, NY	48.8	Clinton, PA	41.8	Amelia, VA	35.0
Broome, NY	277.7	Columbia, PA	133.9	Amherst, VA	67.8
Cayuga, NY	117.2	Cumberland, PA	411.0	Appomattox, VA	42.3
Chemung, NY	217.2	Dauphin, PA	483.9	Arlington, VA	7,722.3
		Elk, PA	40.0	Augusta, VA	73.1
		Franklin, PA	181.4	Bath, VA	9.1
		Fulton, PA	33.8	Bedford, VA	88.1

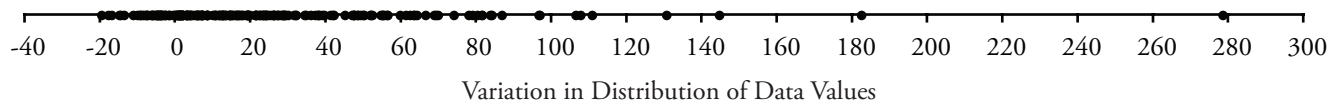
Population Density

Botetourt, VA	59.4	Middlesex, VA	81.5	Hampton, VA (city)	2,800.6
Buckingham, VA	32.0	Montgomery, VA	217.8	Harrisonburg, VA (city)	2,328.3
Campbell, VA	104.4	Nelson, VA	32.1	Hopewell, VA (city)	2,219.8
Caroline, VA	50.2	New Kent, VA	80.4	Lexington, VA (city)	2,706.4
Charles City, VA	39.5	Northampton, VA	65.6	Lynchburg, VA (city)	1,371.1
Charlotte, VA	26.3	Northumberland, VA	66.7	Manassas, VA (city)	3,689.6
Chesterfield, VA	696.9	Nottoway, VA	49.5	Manassas Park, VA (city)	4,675.5
Clarke, VA	82.5	Orange, VA	92.9	Newport News, VA (city)	2,610.6
Craig, VA	15.7	Page, VA	77.5	Norfolk, VA (city)	4,264.1
Culpeper, VA	117.1	Powhatan, VA	105.8	Petersburg, VA (city)	1,418.1
Cumberland, VA	31.7	Prince Edward, VA	58.2	Poquoson, VA (city)	767.9
Dinwiddie, VA	51.0	Prince George, VA	136.2	Portsmouth, VA (city)	3,057.2
Essex, VA	41.2	Prince William, VA	1,058.4	Richmond, VA (city)	3,211.5
Fairfax, VA	2,557.8	Rappahannock, VA	27.0	Roanoke, VA (city)	2,135.1
Fauquier, VA	101.8	Richmond, VA	47.7	Salem, VA (city)	1,701.5
Fluvanna, VA	87.2	Roanoke, VA	360.7	Staunton, VA (city)	1,183.9
Frederick, VA	171.7	Rockbridge, VA	35.6	Suffolk, VA (city)	202.7
Giles, VA	48.7	Rockingham, VA	85.3	Virginia Beach, VA (city)	1,754.5
Gloucester, VA	176.8	Shenandoah, VA	78.2	Waynesboro, VA (city)	1,396.7
Goochland, VA	70.6	Spotsylvania, VA	298.2	Williamsburg, VA (city)	1,380.9
Greene, VA	113.1	Stafford, VA	444.5	Winchester, VA (city)	2,707.9
Hanover, VA	209.4	Surry, VA	25.5	Berkeley, WV	303.7
Henrico, VA	1,194.7	Warren, VA	168.9	Grant, WV	25.0
Highland, VA	6.0	Westmoreland, VA	30.5	Greenbrier, WV	34.1
Isle of Wight, VA	109.9	York, VA	585.7	Hampshire, WV	35.0
James City, VA	418.0	Alexandria, VA (city)	9,023.3	Hardy, WV	23.0
King and Queen, VA	21.8	Bedford, VA (city)	907.0	Jefferson, WV	240.7
King George, VA	121.0	Buena Vista, VA (city)	945.4	Mineral, WV	82.2
King William, VA	55.8	Charlottesville, VA (city)	3,929.3	Monroe, WV	28.5
Lancaster, VA	86.5	Chesapeake, VA (city)	647.3	Morgan, WV	71.3
Loudoun, VA	517.1	Colonial Heights, VA (city)	2,363.1	Pendleton, WV	11.0
Louisa, VA	62.8	Covington, VA (city)	1,071.1	Pocahontas, WV	9.3
Lunenburg, VA	30.6	Fairfax, VA (city)	3,553.4	Preston, WV	46.9
Madison, VA	42.4	Falls Church, VA (city)	5,426.6	Randolph, WV	27.4
Mathews, VA	107.2	Fredericksburg, VA (city)	2,022.1	Tucker, WV	16.4
				United States	84.6

Population Density Change

Population density change is an alternate means to describe population growth, stability, or decline. Steady or decelerating growth over a 20-year time period suggests that government and institutions can anticipate and plan for needs in advance. Accelerating population growth may be placing stress on government and institutions to respond rapidly to changes in civic life, industry, infrastructure, and the use of land and resources.

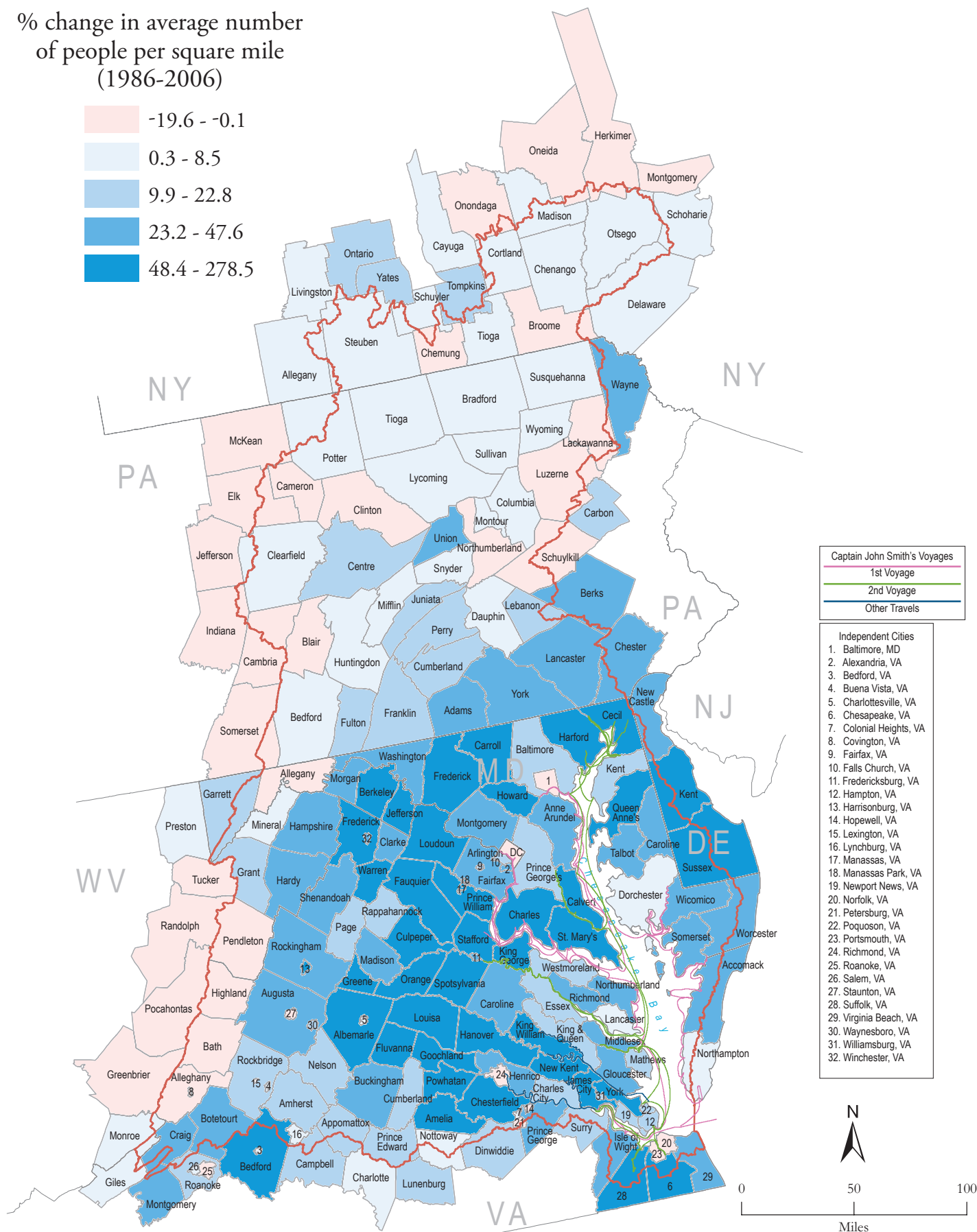
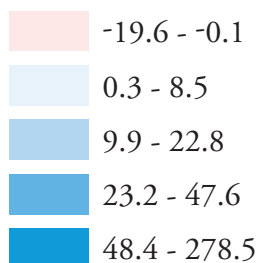
Within the Chesapeake Bay Watershed region, the change in county population density (1986-2006) ranges from a decrease of 19.6% (Covington, VA [city]) to an increase of 278.5% (Loudoun, VA).⁴



NOTES

Population Density Change

% change in average number
of people per square mile
(1986-2006)



Population Density Change

% change in average number of
people per square mile (1986-2006)

Kent, DE	50.1	Chenango, NY	3.5	Huntingdon, PA	4.5
New Castle, DE	26.1	Cortland, NY	1.1	Indiana, PA	-4.2
Sussex, DE	69.8	Delaware, NY	2.0	Jefferson, PA	-3.5
District of Columbia, DC	-8.9	Herkimer, NY	-4.6	Juniata, PA	19.1
Allegany, MD	-4.1	Livingston, NY	7.3	Lackawanna, PA	-6.0
Anne Arundel, MD	26.2	Madison, NY	5.2	Lancaster, PA	26.0
Baltimore, MD	17.6	Montgomery, NY	-5.0	Lebanon, PA	14.6
Calvert, MD	110.7	Oneida, NY	-6.6	Luzerne, PA	-4.6
Caroline, MD	32.0	Onondaga, NY	-1.7	Lycoming, PA	1.8
Carroll, MD	54.6	Ontario, NY	13.3	McKean, PA	-9.4
Cecil, MD	52.2	Otsego, NY	6.6	Mifflin, PA	0.3
Charles, MD	59.7	Schoharie, NY	6.7	Montour, PA	4.1
Dorchester, MD	6.0	Schuyler, NY	8.2	Northumberland, PA	-6.4
Frederick, MD	68.7	Steuben, NY	1.7	Perry, PA	16.7
Garrett, MD	11.4	Tioga, NY	0.8	Potter, PA	3.0
Harford, MD	51.9	Tompkins, NY	12.0	Schuylkill, PA	-4.4
Howard, MD	78.9	Yates, NY	14.5	Snyder, PA	6.9
Kent, MD	16.8	Adams, PA	39.5	Somerset, PA	-1.7
Montgomery, MD	37.9	Bedford, PA	5.8	Sullivan, PA	3.0
Prince George's, MD	22.1	Berks, PA	25.2	Susquehanna, PA	7.0
Queen Anne's, MD	55.1	Blair, PA	-3.8	Tioga, PA	1.1
St. Mary's, MD	48.5	Bradford, PA	1.9	Union, PA	24.6
Somerset, MD	28.9	Cambria, PA	-13.8	Wayne, PA	37.7
Talbot, MD	28.2	Cameron, PA	-10.1	Wyoming, PA	3.1
Washington, MD	23.3	Carbon, PA	15.0	York, PA	29.3
Wicomico, MD	32.0	Centre, PA	19.8	Accomack, VA	26.0
Worcester, MD	45.0	Chester, PA	39.0	Albemarle, VA	49.8
Baltimore, MD (city)	-17.1	Clearfield, PA	1.8	Alleghany, VA	-11.3
Allegany, NY	0.4	Clinton, PA	-0.1	Amelia, VA	49.2
Broome, NY	-7.8	Columbia, PA	5.7	Amherst, VA	12.5
Cayuga, NY	1.2	Cumberland, PA	21.2	Appomattox, VA	16.3
Chemung, NY	-2.8	Dauphin, PA	8.3	Arlington, VA	19.3
		Elk, PA	-9.4	Augusta, VA	41.8
		Franklin, PA	19.2	Bath, VA	-5.9
		Fulton, PA	9.9	Bedford, VA	64.2

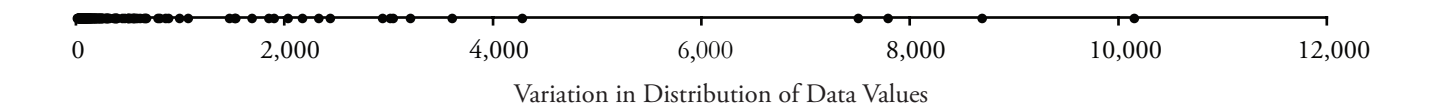
Population Density Change

Botetourt, VA	34.3	Middlesex, VA	28.4	Hampton, VA (city)	13.5
Buckingham, VA	28.8	Montgomery, VA	23.6	Harrisonburg, VA (city)	48.4
Campbell, VA	14.2	Nelson, VA	21.5	Hopewell, VA (city)	-5.0
Caroline, VA	47.4	New Kent, VA	80.2	Lexington, VA (city)	-0.2
Charles City, VA	12.4	Northampton, VA	0.6	Lynchburg, VA (city)	1.2
Charlotte, VA	7.2	Northumberland, VA	27.2	Manassas, VA (city)	77.9
Chesterfield, VA	69.3	Nottoway, VA	3.9	Manassas Park, VA (city)	73.9
Clarke, VA	30.0	Orange, VA	62.3	Newport News, VA (city)	12.3
Craig, VA	24.0	Page, VA	19.2	Norfolk, VA (city)	-14.9
Culpeper, VA	83.7	Powhatan, VA	106.4	Petersburg, VA (city)	-17.9
Cumberland, VA	21.2	Prince Edward, VA	22.4	Poquoson, VA (city)	14.3
Dinwiddie, VA	22.8	Prince George, VA	38.2	Portsmouth, VA (city)	-3.1
Essex, VA	21.3	Prince William, VA	96.5	Richmond, VA (city)	-8.4
Fairfax, VA	35.9	Rappahannock, VA	16.1	Roanoke, VA (city)	-7.4
Fauquier, VA	55.4	Richmond, VA	31.4	Salem, VA (city)	5.6
Fluvanna, VA	130.5	Roanoke, VA	18.6	Staunton, VA (city)	-2.6
Frederick, VA	84.1	Rockbridge, VA	19.0	Suffolk, VA (city)	63.4
Giles, VA	2.9	Rockingham, VA	34.7	Virginia Beach, VA (city)	27.5
Gloucester, VA	42.1	Shenandoah, VA	37.1	Waynesboro, VA (city)	17.2
Goochland, VA	56.3	Spotsylvania, VA	182.4	Williamsburg, VA (city)	10.5
Greene, VA	96.8	Stafford, VA	144.5	Winchester, VA (city)	27.1
Hanover, VA	81.5	Surry, VA	15.8	Berkeley, WV	86.8
Henrico, VA	41.2	Warren, VA	56.3	Grant, WV	15.1
Highland, VA	-5.4	Westmoreland, VA	17.8	Greenbrier, WV	-3.7
Isle of Wight, VA	47.6	York, VA	61.2	Hampshire, WV	47.3
James City, VA	107.6	Alexandria, VA (city)	23.2	Hardy, WV	28.8
King and Queen, VA	11.5	Bedford, VA (city)	3.7	Jefferson, WV	51.7
King George, VA	81.3	Buena Vista, VA (city)	2.8	Mineral, WV	0.7
King William, VA	54.9	Charlottesville, VA (city)	1.3	Monroe, WV	6.1
Lancaster, VA	8.5	Chesapeake, VA (city)	66.5	Morgan, WV	46.9
Loudoun, VA	278.5	Colonial Heights, VA (city)	8.3	Pendleton, WV	-4.9
Louisa, VA	63.3	Covington, VA (city)	-19.6	Pocahontas, WV	-7.8
Lunenburg, VA	12.9	Fairfax, VA (city)	12.8	Preston, WV	0.8
Madison, VA	24.1	Falls Church, VA (city)	10.7	Randolph, WV	-0.6
Mathews, VA	10.4	Fredericksburg, VA (city)	24.0	Tucker, WV	-14.6
				United States	24.7

Projected Population Density

Population density projections are based on population projections. Future regional variations in county population density suggest variations in how counties will approach decisions about natural resource-related issues such as transportation, zoning, and water supply. Significantly increased population density can generate rising land costs as well as increased demand for open space to be used for recreation or conservation.

Within the Chesapeake Bay Watershed region, projected county population density for the year 2025 ranges from 6.1 people per square mile (Highland, VA) to 10,144.7 people per square mile (Alexandria, VA [city]).⁵



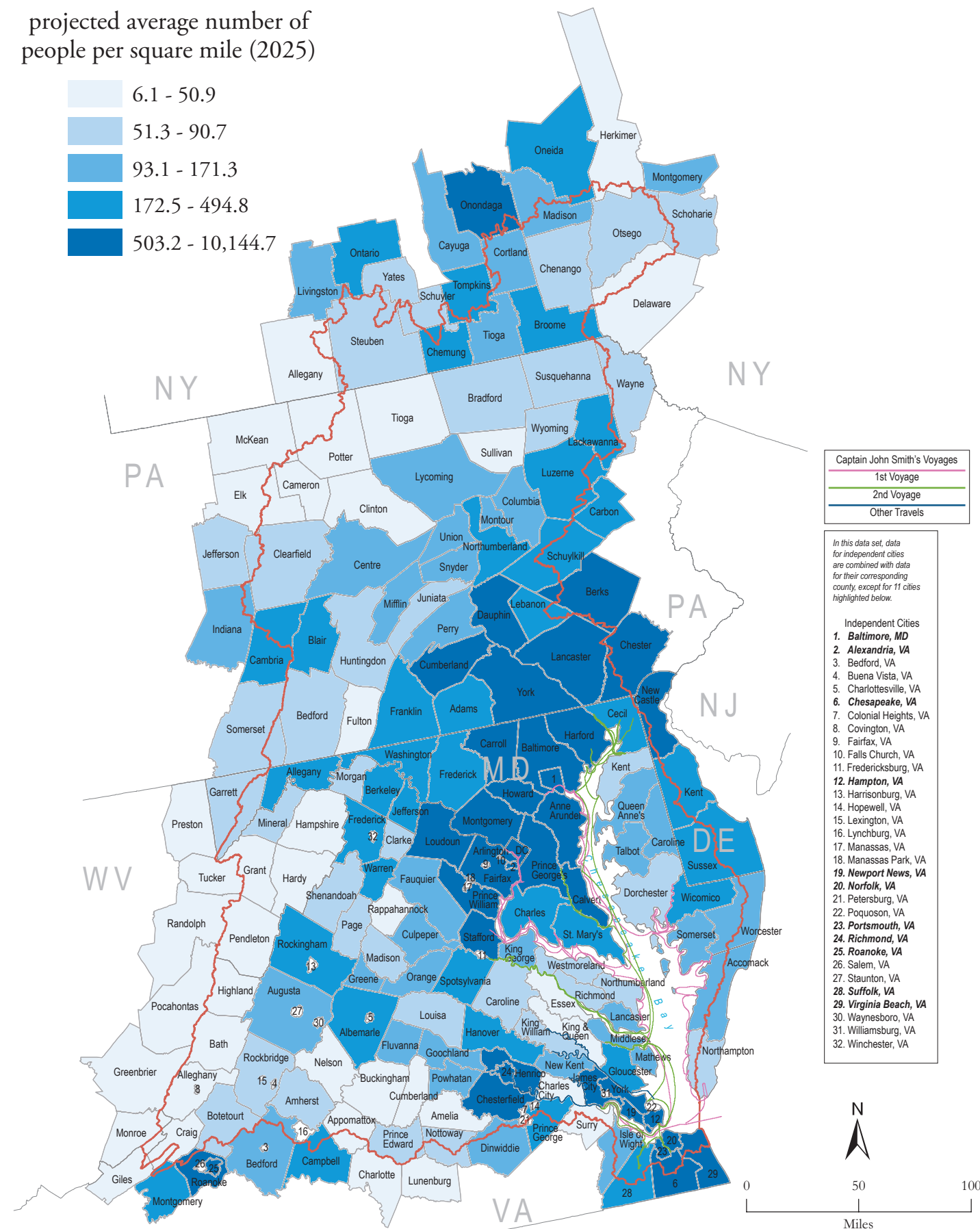
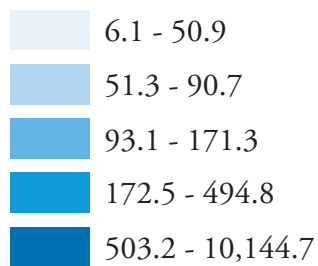
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NOTES

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Projected Population Density

projected average number of
people per square mile (2025)



Projected Population Density

projected average number of
people per square mile (2025)

Kent, DE	297.5	Chenango, NY	60.0	Huntingdon, PA	57.6
New Castle, DE	1,466.0	Cortland, NY	99.6	Indiana, PA	109.9
Sussex, DE	246.0	Delaware, NY	33.2	Jefferson, PA	74.2
District of Columbia, DC	8,683.2	Herkimer, NY	45.6	Juniata, PA	71.0
Allegany, MD	181.0	Livingston, NY	114.5	Lackawanna, PA	461.2
Anne Arundel, MD	1,682.5	Madison, NY	114.1	Lancaster, PA	605.8
Baltimore, MD	1,521.9	Montgomery, NY	120.5	Lebanon, PA	388.9
Calvert, MD	657.8	Oneida, NY	187.9	Luzerne, PA	354.3
Caroline, MD	120.8	Onondaga, NY	581.4	Lycoming, PA	98.6
Carroll, MD	553.3	Ontario, NY	172.5	McKean, PA	45.3
Cecil, MD	383.0	Otsego, NY	67.2	Mifflin, PA	118.3
Charles, MD	436.4	Schoharie, NY	54.6	Montour, PA	161.2
Dorchester, MD	60.1	Schuyler, NY	63.5	Northumberland, PA	195.4
Frederick, MD	493.6	Steuben, NY	67.0	Perry, PA	101.3
Garrett, MD	57.4	Tioga, NY	102.5	Potter, PA	17.4
Harford, MD	795.0	Tompkins, NY	221.7	Schuylkill, PA	187.7
Howard, MD	1,892.4	Yates, NY	78.5	Snyder, PA	133.7
Kent, MD	81.0	Adams, PA	236.0	Somerset, PA	76.2
Montgomery, MD	2,429.6	Bedford, PA	51.3	Sullivan, PA	15.3
Prince George's, MD	2,024.2	Berks, PA	513.7	Susquehanna, PA	56.4
Queen Anne's, MD	171.3	Blair, PA	242.3	Tioga, PA	37.2
St. Mary's, MD	377.3	Bradford, PA	55.8	Union, PA	167.0
Somerset, MD	94.3	Cambria, PA	192.8	Wayne, PA	86.6
Talbot, MD	160.0	Cameron, PA	13.6	Wyoming, PA	74.1
Washington, MD	363.2	Carbon, PA	177.7	York, PA	544.1
Wicomico, MD	284.4	Centre, PA	159.5	Accomack, VA	96.9
Worcester, MD	132.9	Chester, PA	778.7	Albemarle, VA	236.8
Baltimore, MD (city)	7,782.4	Clearfield, PA	82.3	Alleghany, VA	46.2
Allegany, NY	50.5	Clinton, PA	42.6	Amelia, VA	38.8
Broome, NY	279.5	Columbia, PA	147.3	Amherst, VA	78.8
Cayuga, NY	123.5	Cumberland, PA	560.2	Appomattox, VA	49.8
Chemung, NY	202.4	Dauphin, PA	537.7	Arlington, VA	7,496.2
		Elk, PA	40.7	Augusta, VA	127.4
		Franklin, PA	211.2	Bath, VA	9.9
		Fulton, PA	37.8	Bedford, VA	144.8

Projected Population Density

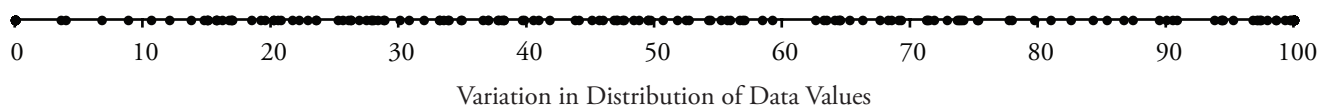
In this data set, data for independent cities are combined with data for their corresponding county, except for 11 cities listed in the table on these two pages.

Botetourt, VA	85.8	Middlesex, VA	110.4	Hampton, VA (city)	3,198.5
Buckingham, VA	34.5	Montgomery, VA	313.7	Harrisonburg, VA (city)	
Campbell, VA	218.7	Nelson, VA	35.4	Hopewell, VA (city)	
Caroline, VA	61.2	New Kent, VA	97.7	Lexington, VA (city)	
Charles City, VA	41.3	Northampton, VA	64.9	Lynchburg, VA (city)	
Charlotte, VA	27.0	Northumberland, VA	73.4	Manassas, VA (city)	
Chesterfield, VA	1,067.9	Nottoway, VA	53.2	Manassas Park, VA (city)	
Clarke, VA	83.4	Orange, VA	102.6	Newport News, VA (city)	2,932.4
Craig, VA	18.8	Page, VA	79.3	Norfolk, VA (city)	4,275.4
Culpeper, VA	137.1	Powhatan, VA	146.8	Petersburg, VA (city)	
Cumberland, VA	34.5	Prince Edward, VA	66.0	Poquoson, VA (city)	
Dinwiddie, VA	142.4	Prince George, VA	215.0	Portsmouth, VA (city)	3,034.0
Essex, VA	44.8	Prince William, VA	1,840.3	Richmond, VA (city)	3,004.9
Fairfax, VA	3,601.3	Rappahannock, VA	34.9	Roanoke, VA (city)	2,165.0
Fauquier, VA	129.0	Richmond, VA	53.1	Salem, VA (city)	
Fluvanna, VA	102.3	Roanoke, VA	503.2	Staunton, VA (city)	
Frederick, VA	297.3	Rockbridge, VA	62.4	Suffolk, VA (city)	251.2
Giles, VA	50.9	Rockingham, VA	173.1	Virginia Beach, VA (city)	2,322.2
Gloucester, VA	230.4	Shenandoah, VA	90.7	Waynesboro, VA (city)	
Goochland, VA	93.1	Spotsylvania, VA	494.8	Williamsburg, VA (city)	
Greene, VA	147.9	Stafford, VA	666.1	Winchester, VA (city)	
Hanover, VA	273.7	Surry, VA	29.0	Berkeley, WV	368.8
Henrico, VA	1,515.5	Warren, VA	213.1	Grant, WV	26.3
Highland, VA	6.1	Westmoreland, VA	84.1	Greenbrier, WV	34.5
Isle of Wight, VA	125.2	York, VA	881.3	Hampshire, WV	42.9
James City, VA	645.9	Alexandria, VA (city)	10,144.7	Hardy, WV	27.4
King and Queen, VA	22.1	Bedford, VA (city)		Jefferson, WV	290.0
King George, VA	145.5	Buena Vista, VA (city)		Mineral, WV	89.2
King William, VA	65.8	Charlottesville, VA (city)		Monroe, WV	32.1
Lancaster, VA	104.2	Chesapeake, VA (city)	983.7	Morgan, WV	82.0
Loudoun, VA	852.1	Colonial Heights, VA (city)		Pendleton, WV	12.6
Louisa, VA	87.9	Covington, VA (city)		Pocahontas, WV	9.9
Lunenburg, VA	34.0	Fairfax, VA (city)		Preston, WV	48.5
Madison, VA	52.4	Falls Church, VA (city)		Randolph, WV	28.1
Mathews, VA	124.1	Fredericksburg, VA (city)		Tucker, WV	17.2
				United States	101.8

Urban Population

The relative proportion of urban dwellers within counties in the region can be significant in addressing regional issues related to management. Urban dwellers may have easier access to schools, stores, and medical service. They may also benefit from a greater array of public services such as water utilities and municipal police protection. These and many other characteristics can generate differences in urban and rural strategies for dealing with issues such as taxation, development, and environmental protection.

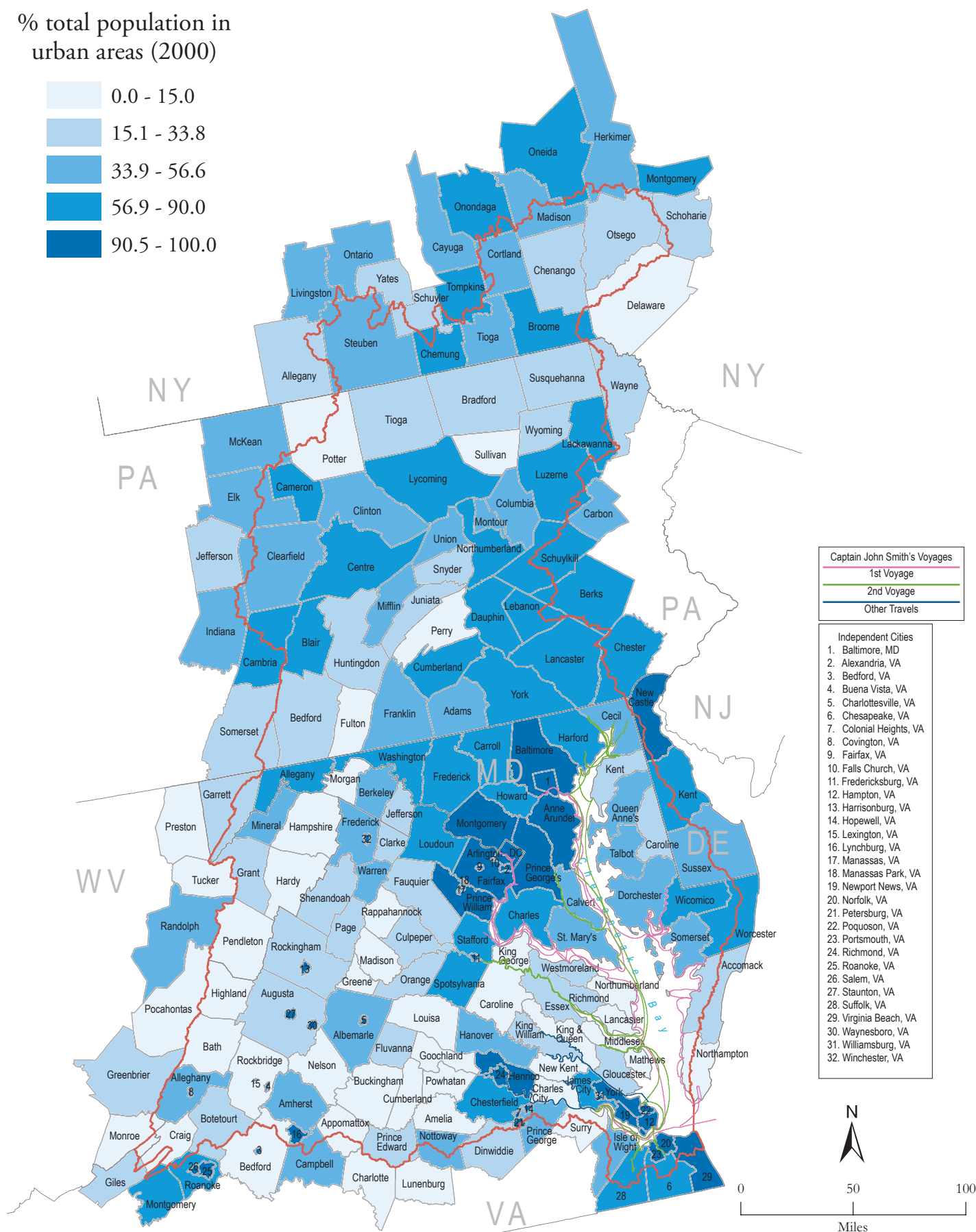
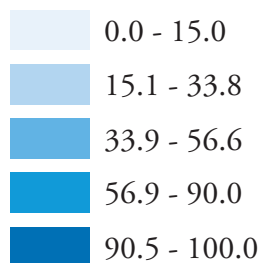
Within the Chesapeake Bay Watershed region, the percent of total county population living in urban areas (2000) ranges from 0% (33 counties in the region) to 100% (22 counties in the region).⁶



NOTES

Urban Population

% total population in
urban areas (2000)



Urban Population

% total population in urban areas (2000)

Kent, DE	64.5	Chenango, NY	17.0	Huntingdon, PA	30.8
New Castle, DE	94.4	Cortland, NY	55.2	Indiana, PA	38.0
Sussex, DE	47.0	Delaware, NY	15.0	Jefferson, PA	33.8
District of Columbia, DC	100.0	Herkimer, NY	48.8	Juniata, PA	15.1
Allegany, MD	74.1	Livingston, NY	45.1	Lackawanna, PA	82.6
Anne Arundel, MD	94.4	Madison, NY	41.8	Lancaster, PA	75.3
Baltimore, MD	93.8	Montgomery, NY	59.2	Lebanon, PA	69.1
Calvert, MD	54.2	Oneida, NY	64.5	Luzerne, PA	79.7
Caroline, MD	21.7	Onondaga, NY	86.7	Lycoming, PA	64.1
Carroll, MD	57.0	Ontario, NY	49.5	McKean, PA	36.6
Cecil, MD	47.6	Otsego, NY	26.2	Mifflin, PA	44.1
Charles, MD	66.3	Schoharie, NY	16.7	Montour, PA	45.6
Dorchester, MD	40.9	Schuyler, NY	20.2	Northumberland, PA	62.6
Frederick, MD	71.4	Steuben, NY	37.7	Perry, PA	13.8
Garrett, MD	16.9	Tioga, NY	34.8	Potter, PA	0.0
Harford, MD	77.7	Tompkins, NY	58.4	Schuylkill, PA	63.2
Howard, MD	87.4	Yates, NY	26.9	Snyder, PA	28.9
Kent, MD	26.1	Adams, PA	39.6	Somerset, PA	25.2
Montgomery, MD	97.2	Bedford, PA	15.7	Sullivan, PA	0.0
Prince George's, MD	97.4	Berks, PA	72.9	Susquehanna, PA	18.5
Queen Anne's, MD	39.8	Blair, PA	74.0	Tioga, PA	15.7
St. Mary's, MD	37.8	Bradford, PA	27.9	Union, PA	55.9
Somerset, MD	48.4	Cambria, PA	67.6	Wayne, PA	16.2
Talbot, MD	37.0	Cameron, PA	56.9	Wyoming, PA	15.1
Washington, MD	68.3	Carbon, PA	49.7	York, PA	71.3
Wicomico, MD	68.5	Centre, PA	64.3	Accomack, VA	19.2
Worcester, MD	63.4	Chester, PA	81.0	Albemarle, VA	51.8
Baltimore, MD (city)	100.0	Clearfield, PA	45.9	Alleghany, VA	47.1
Allegany, NY	20.8	Clinton, PA	49.5	Amelia, VA	0.0
Broome, NY	73.7	Columbia, PA	55.7	Amherst, VA	37.0
Cayuga, NY	47.5	Cumberland, PA	75.2	Appomattox, VA	0.0
Chemung, NY	73.7	Dauphin, PA	85.3	Arlington, VA	100.0
		Elk, PA	52.4	Augusta, VA	22.2
		Franklin, PA	52.6	Bath, VA	0.0
		Fulton, PA	0.0	Bedford, VA	14.8

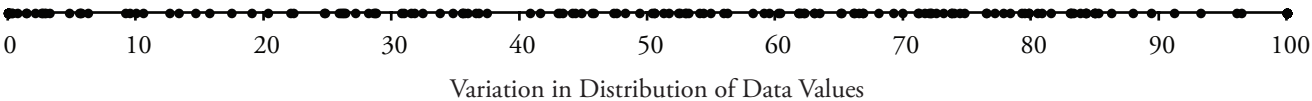
Urban Population

Botetourt, VA	33.5	Middlesex, VA	0.0	Hampton, VA (city)	99.8
Buckingham, VA	0.0	Montgomery, VA	69.3	Harrisonburg, VA (city)	99.7
Campbell, VA	38.2	Nelson, VA	0.0	Hopewell, VA (city)	100.0
Caroline, VA	0.0	New Kent, VA	0.0	Lexington, VA (city)	100.0
Charles City, VA	0.0	Northampton, VA	0.0	Lynchburg, VA (city)	96.8
Charlotte, VA	0.0	Northumberland, VA	0.0	Manassas, VA (city)	100.0
Chesterfield, VA	89.5	Nottoway, VA	46.8	Manassas Park, VA (city)	100.0
Clarke, VA	23.5	Orange, VA	33.1	Newport News, VA (city)	100.0
Craig, VA	0.0	Page, VA	20.5	Norfolk, VA (city)	100.0
Culpeper, VA	27.8	Powhatan, VA	8.8	Petersburg, VA (city)	97.3
Cumberland, VA	3.9	Prince Edward, VA	28.8	Poquoson, VA (city)	95.2
Dinwiddie, VA	26.2	Prince George, VA	40.5	Portsmouth, VA (city)	100.0
Essex, VA	20.2	Prince William, VA	90.8	Richmond, VA (city)	100.0
Fairfax, VA	98.6	Rappahannock, VA	0.0	Roanoke, VA (city)	100.0
Fauquier, VA	27.4	Richmond, VA	15.7	Salem, VA (city)	100.0
Fluvanna, VA	30.1	Roanoke, VA	77.9	Staunton, VA (city)	99.3
Frederick, VA	50.6	Rockbridge, VA	3.6	Suffolk, VA (city)	71.9
Giles, VA	16.9	Rockingham, VA	33.2	Virginia Beach, VA (city)	98.6
Gloucester, VA	28.0	Shenandoah, VA	23.5	Waynesboro, VA (city)	97.9
Goochland, VA	6.8	Spotsylvania, VA	65.2	Williamsburg, VA (city)	100.0
Greene, VA	0.0	Stafford, VA	73.9	Winchester, VA (city)	100.0
Hanover, VA	56.6	Surry, VA	0.0	Berkeley, WV	54.3
Henrico, VA	94.3	Warren, VA	43.8	Grant, WV	22.9
Highland, VA	0.0	Westmoreland, VA	25.6	Greenbrier, WV	28.3
Isle of Wight, VA	33.9	York, VA	90.5	Hampshire, WV	0.0
James City, VA	71.3	Alexandria, VA (city)	100.0	Hardy, WV	0.0
King and Queen, VA	0.0	Bedford, VA (city)	100.0	Jefferson, WV	31.9
King George, VA	0.0	Buena Vista, VA (city)	97.1	Mineral, WV	38.2
King William, VA	19.5	Charlottesville, VA (city)	100.0	Monroe, WV	10.6
Lancaster, VA	0.0	Chesapeake, VA (city)	90.0	Morgan, WV	0.0
Loudoun, VA	84.3	Colonial Heights, VA (city)	100.0	Pendleton, WV	0.0
Louisa, VA	0.0	Covington, VA (city)	100.0	Pocahontas, WV	0.0
Lunenburg, VA	0.0	Fairfax, VA (city)	100.0	Preston, WV	12.1
Madison, VA	0.0	Falls Church, VA (city)	100.0	Randolph, WV	34.9
Mathews, VA	0.0	Fredericksburg, VA (city)	99.7	Tucker, WV	0.0
				United States	79.0

Rural Population

The rural population of a county consists of people who live outside urban areas. Rural dwellers may be less dependent on government for services, such as water supply and police protection. Local networks of neighbors and community groups are likely to be very important in civic life and for rural identity. Rural dwellers may also be accustomed to significant autonomy regarding decisions about land use. Differences in attitudes toward taxation, government, development, and environmental protection between urban and rural dwellers may produce competing visions for a region's future.

Within the Chesapeake Bay Watershed region, the percent of the county population living in rural areas (2000) ranges from 0% (22 counties in the region) to 100% (33 counties in the region).⁷



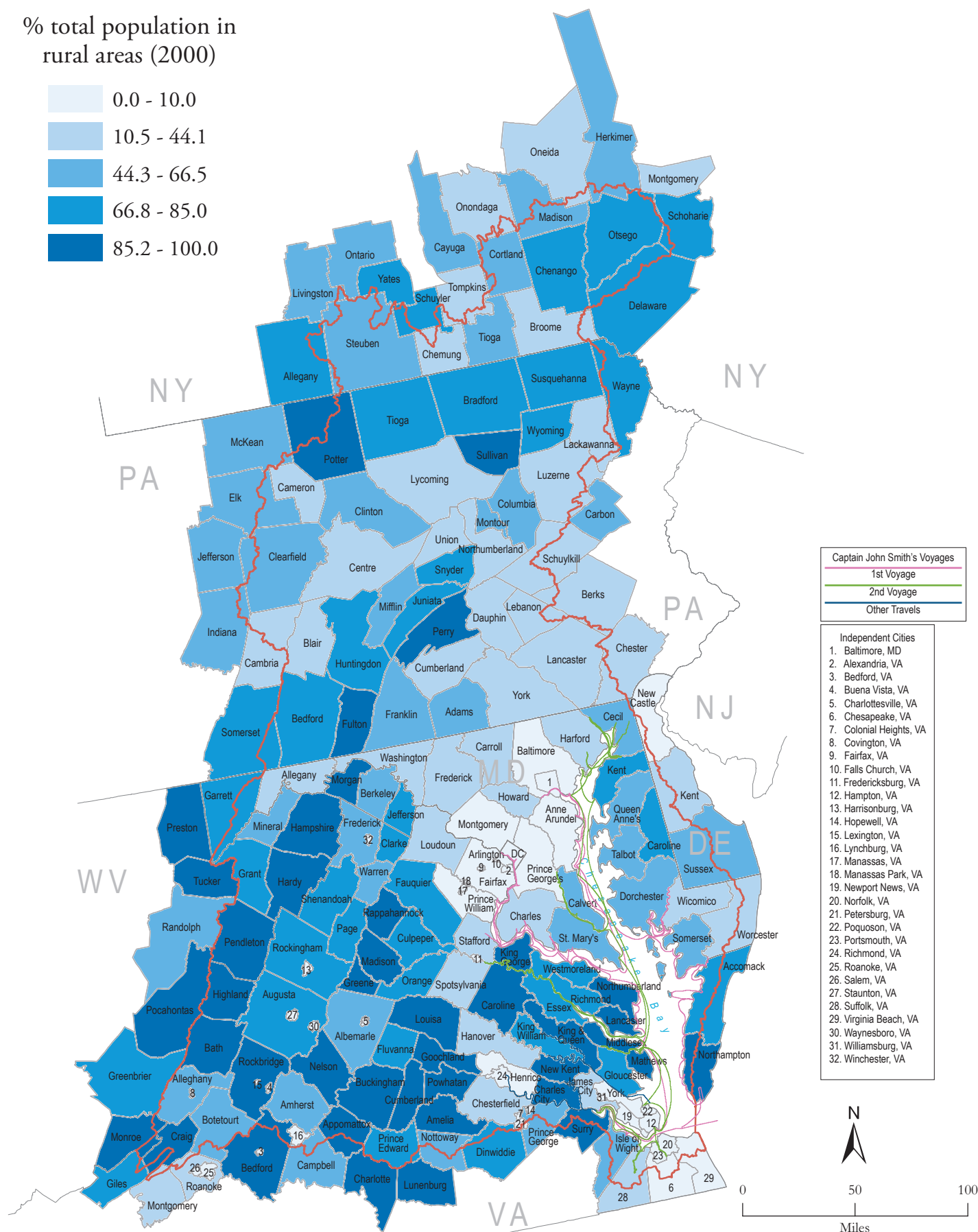
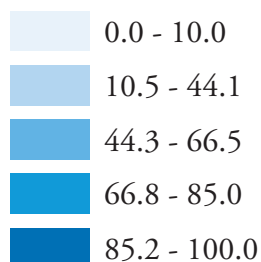
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Rural Population

% total population in rural areas (2000)



Rural Population

% total population in rural areas (2000)

Kent, DE	35.5	Chenango, NY	83.1	Huntingdon, PA	69.2
New Castle, DE	5.6	Cortland, NY	44.8	Indiana, PA	62.0
Sussex, DE	53.0	Delaware, NY	85.0	Jefferson, PA	66.2
District of Columbia, DC	0.0	Herkimer, NY	51.2	Juniata, PA	84.9
Allegany, MD	25.9	Livingston, NY	54.9	Lackawanna, PA	17.4
Anne Arundel, MD	5.6	Madison, NY	58.2	Lancaster, PA	24.7
Baltimore, MD	6.2	Montgomery, NY	40.8	Lebanon, PA	30.9
Calvert, MD	45.8	Oneida, NY	35.5	Luzerne, PA	20.3
Caroline, MD	78.3	Onondaga, NY	13.3	Lycoming, PA	35.9
Carroll, MD	43.0	Ontario, NY	50.5	McKean, PA	63.4
Cecil, MD	52.4	Otsego, NY	73.8	Mifflin, PA	55.9
Charles, MD	33.7	Schoharie, NY	83.3	Montour, PA	54.4
Dorchester, MD	59.1	Schuyler, NY	79.8	Northumberland, PA	37.4
Frederick, MD	28.6	Steuben, NY	62.3	Perry, PA	86.2
Garrett, MD	83.1	Tioga, NY	65.2	Potter, PA	100.0
Harford, MD	22.3	Tompkins, NY	41.6	Schuylkill, PA	36.8
Howard, MD	12.6	Yates, NY	73.1	Snyder, PA	71.1
Kent, MD	73.9	Adams, PA	60.4	Somerset, PA	74.8
Montgomery, MD	2.8	Bedford, PA	84.3	Sullivan, PA	100.0
Prince George's, MD	2.6	Berks, PA	27.1	Susquehanna, PA	81.5
Queen Anne's, MD	60.2	Blair, PA	26.0	Tioga, PA	84.3
St. Mary's, MD	62.2	Bradford, PA	72.1	Union, PA	44.1
Somerset, MD	51.6	Cambria, PA	32.4	Wayne, PA	83.8
Talbot, MD	63.0	Cameron, PA	43.1	Wyoming, PA	84.9
Washington, MD	31.7	Carbon, PA	50.3	York, PA	28.7
Wicomico, MD	31.5	Centre, PA	35.7	Accomack, VA	80.8
Worcester, MD	36.6	Chester, PA	19.0	Albemarle, VA	48.2
Baltimore, MD (city)	0.0	Clearfield, PA	54.1	Alleghany, VA	52.9
Allegany, NY	79.2	Clinton, PA	50.5	Amelia, VA	100.0
Broome, NY	26.3	Columbia, PA	44.3	Amherst, VA	63.0
Cayuga, NY	52.5	Cumberland, PA	24.8	Appomattox, VA	100.0
Chemung, NY	26.3	Dauphin, PA	14.7	Arlington, VA	0.0
		Elk, PA	47.6	Augusta, VA	77.8
		Franklin, PA	47.4	Bath, VA	100.0
		Fulton, PA	100.0	Bedford, VA	85.2

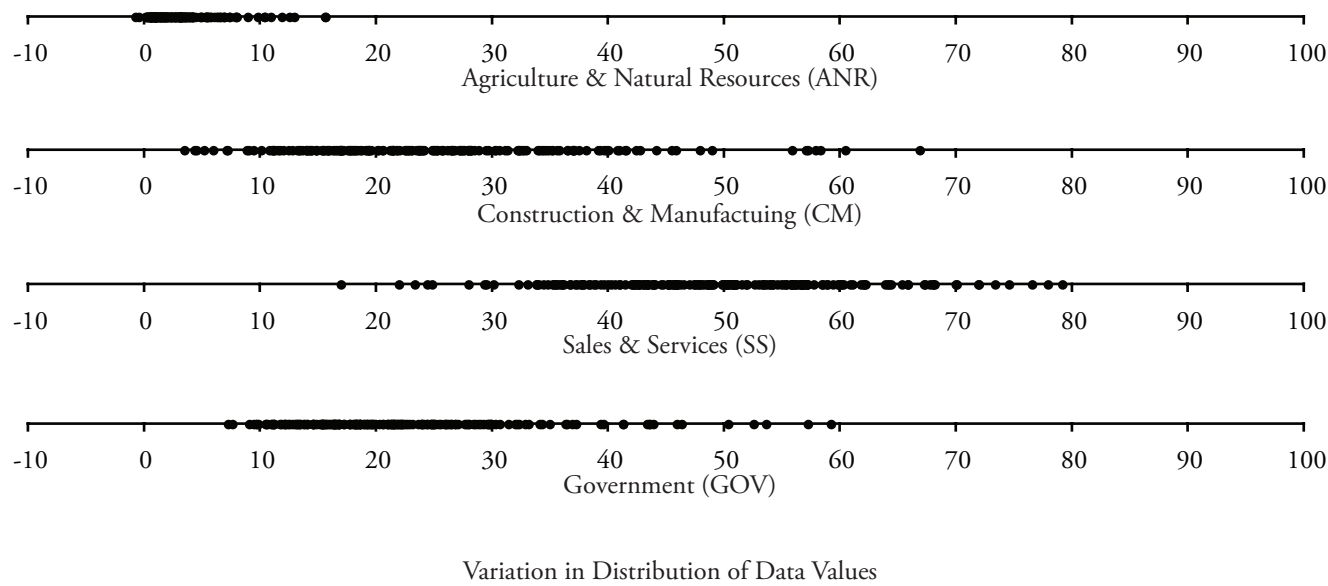
Rural Population

Botetourt, VA	66.5	Middlesex, VA	100.0	Hampton, VA (city)	0.2
Buckingham, VA	100.0	Montgomery, VA	30.7	Harrisonburg, VA (city)	0.3
Campbell, VA	61.8	Nelson, VA	100.0	Hopewell, VA (city)	0.0
Caroline, VA	100.0	New Kent, VA	100.0	Lexington, VA (city)	0.0
Charles City, VA	100.0	Northampton, VA	100.0	Lynchburg, VA (city)	3.2
Charlotte, VA	100.0	Northumberland, VA	100.0	Manassas, VA (city)	0.0
Chesterfield, VA	10.5	Nottoway, VA	53.2	Manassas Park, VA (city)	0.0
Clarke, VA	76.5	Orange, VA	66.9	Newport News, VA (city)	0.0
Craig, VA	100.0	Page, VA	79.5	Norfolk, VA (city)	0.0
Culpeper, VA	72.2	Powhatan, VA	91.2	Petersburg, VA (city)	2.7
Cumberland, VA	96.1	Prince Edward, VA	71.2	Poquoson, VA (city)	4.8
Dinwiddie, VA	73.8	Prince George, VA	59.5	Portsmouth, VA (city)	0.0
Essex, VA	79.8	Prince William, VA	9.2	Richmond, VA (city)	0.0
Fairfax, VA	1.4	Rappahannock, VA	100.0	Roanoke, VA (city)	0.0
Fauquier, VA	72.6	Richmond, VA	84.3	Salem, VA (city)	0.0
Fluvanna, VA	69.9	Roanoke, VA	22.1	Staunton, VA (city)	0.7
Frederick, VA	49.4	Rockbridge, VA	96.4	Suffolk, VA (city)	28.1
Giles, VA	83.1	Rockingham, VA	66.8	Virginia Beach, VA (city)	1.4
Gloucester, VA	72.0	Shenandoah, VA	76.5	Waynesboro, VA (city)	2.1
Goochland, VA	93.2	Spotsylvania, VA	34.8	Williamsburg, VA (city)	0.0
Greene, VA	100.0	Stafford, VA	26.1	Winchester, VA (city)	0.0
Hanover, VA	43.4	Surry, VA	100.0	Berkeley, WV	45.7
Henrico, VA	5.7	Warren, VA	56.2	Grant, WV	77.1
Highland, VA	100.0	Westmoreland, VA	74.4	Greenbrier, WV	71.7
Isle of Wight, VA	66.1	York, VA	9.5	Hampshire, WV	100.0
James City, VA	28.7	Alexandria, VA (city)	0.0	Hardy, WV	100.0
King and Queen, VA	100.0	Bedford, VA (city)	0.0	Jefferson, WV	68.1
King George, VA	100.0	Buena Vista, VA (city)	2.9	Mineral, WV	61.8
King William, VA	80.5	Charlottesville, VA (city)	0.0	Monroe, WV	89.4
Lancaster, VA	100.0	Chesapeake, VA (city)	10.0	Morgan, WV	100.0
Loudoun, VA	15.7	Colonial Heights, VA (city)	0.0	Pendleton, WV	100.0
Louisa, VA	100.0	Covington, VA (city)	0.0	Pocahontas, WV	100.0
Lunenburg, VA	100.0	Fairfax, VA (city)	0.0	Preston, WV	87.9
Madison, VA	100.0	Falls Church, VA (city)	0.0	Randolph, WV	65.1
Mathews, VA	100.0	Fredericksburg, VA (city)	0.3	Tucker, WV	100.0
				United States	21.0

Earnings by Industry

Earnings by industry are indicative of the overall size of a local economy as well as the relative importance of each major industrial sector within that economy. The diversity of economic activities in the region presents an array of challenges to park management. For example, relatively mobile industries such as light manufacturing or financial services may be concerned with land costs and tax rates, whereas natural resource dependent industries such as farming or mining may be concerned with land use regulations and other environmental policies.

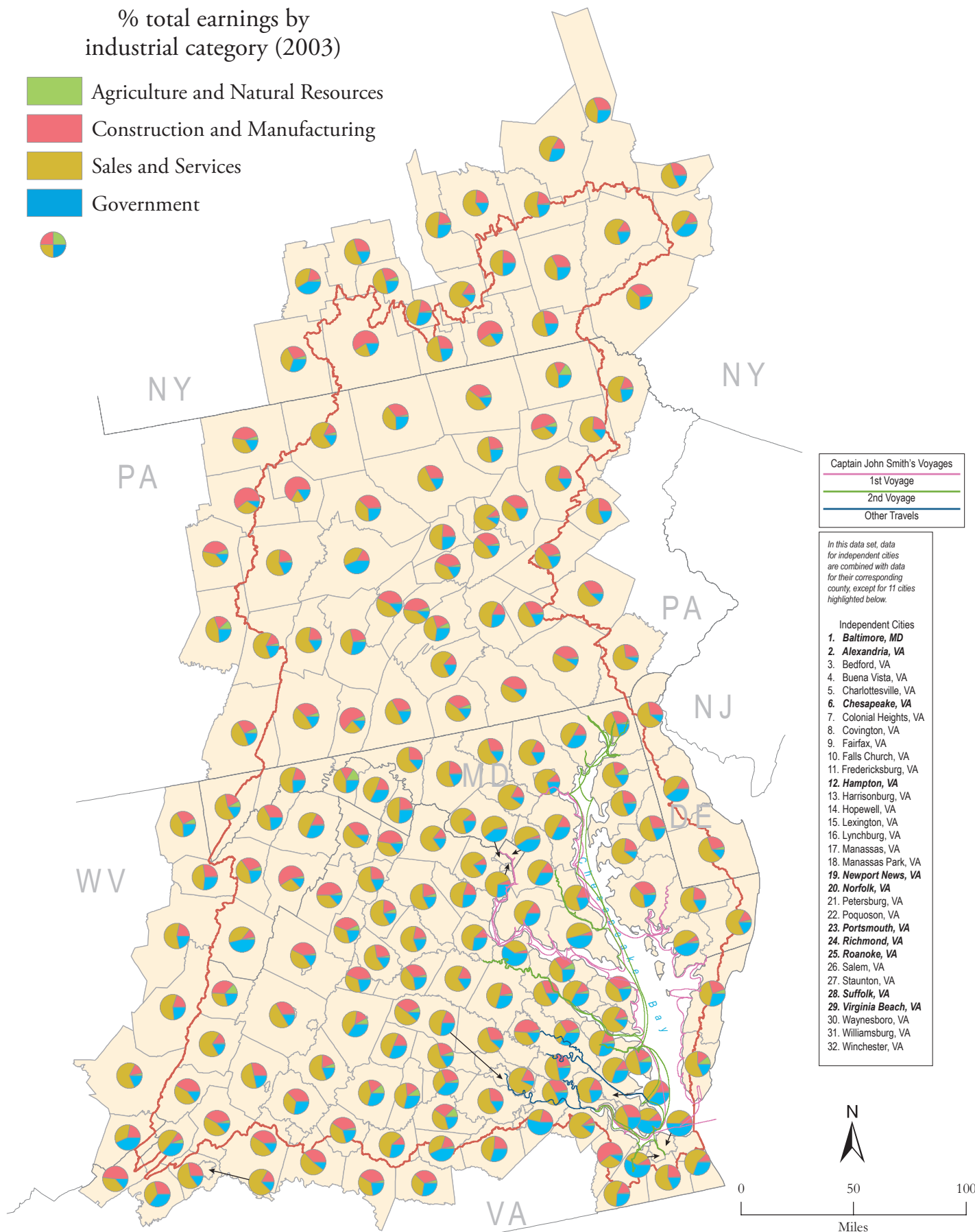
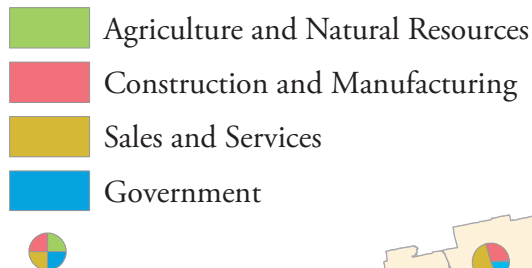
Within the Chesapeake Bay Watershed region (2003), the leading sector of earnings in 159 of 187 counties and independent cities is Sales and Services. The second-ranking sector is Construction and Manufacturing.⁸



..... NOTES

Earnings by Industry

% total earnings by
industrial category (2003)



Earnings by Industry

% total earnings by industrial category (2003)

	ANR	CM	SS	GOV		ANR	CM	SS	GOV
Kent, DE	1.3	15.3	43.8	39.6	Chenango, NY	1.4	31.3	42.6	24.7
New Castle, DE	0.6	27.9	61.1	10.5	Cortland, NY	1.2	23.0	51.0	24.9
Sussex, DE	4.0	26.4	57.2	12.4	Delaware, NY	3.5	34.8	37.6	24.1
District of Columbia, DC	1.8	3.4	53.5	41.3	Herkimer, NY	1.9	29.5	42.1	26.5
Allegany, MD	1.1	19.2	55.1	24.7	Livingston, NY	3.0	18.6	37.1	41.3
Anne Arundel, MD	0.7	16.6	50.4	32.3	Madison, NY	2.4	20.5	55.3	21.8
Baltimore, MD	0.9	17.8	64.2	17.2	Montgomery, NY	1.7	27.3	53.3	17.7
Calvert, MD	0.9	17.1	62.2	19.8	Oneida, NY	0.8	15.9	54.9	28.4
Caroline, MD	2.7	26.7	51.0	19.5	Onondaga, NY	0.6	23.7	59.8	15.9
Carroll, MD	2.6	26.1	56.2	15.1	Ontario, NY	2.1	27.4	51.9	18.7
Cecil, MD	3.3	27.9	47.5	21.3	Otsego, NY	1.5	14.2	64.1	20.2
Charles, MD	0.9	15.5	53.9	29.6	Schoharie, NY	3.0	14.2	45.6	37.2
Dorchester, MD	3.1	34.4	39.9	22.5	Schuyler, NY	2.7	19.3	49.0	29.0
Frederick, MD	1.7	22.8	56.5	19.1	Steuben, NY	1.0	57.9	22.0	19.2
Garrett, MD	7.9	20.5	55.4	16.3	Tioga, NY	2.4	57.2	24.8	15.6
Harford, MD	1.5	15.4	49.9	33.1	Tompkins, NY	1.9	14.0	71.9	12.2
Howard, MD	1.1	15.7	73.4	9.8	Yates, NY	6.2	24.0	47.6	22.2
Kent, MD	10.4	17.6	56.6	15.4	Adams, PA	5.5	35.1	44.7	14.6
Montgomery, MD	0.6	11.1	67.2	21.1	Bedford, PA	4.8	32.9	45.8	16.4
Prince George's, MD	0.6	15.4	51.9	32.1	Berks, PA	2.0	32.3	53.7	12.1
Queen Anne's, MD	2.7	23.8	54.6	18.9	Blair, PA	1.3	21.5	60.9	16.3
St. Mary's, MD	0.5	5.1	48.5	45.9	Bradford, PA	3.8	35.8	45.9	14.5
Somerset, MD	3.1	7.1	46.2	43.6	Cambria, PA	3.3	14.8	62.0	19.9
Talbot, MD	2.4	21.2	65.8	10.6	Cameron, PA	0.1	66.8	16.9	16.2
Washington, MD	0.9	25.3	60.1	13.8	Carbon, PA	0.9	24.9	55.9	18.3
Wicomico, MD	2.1	21.7	59.4	16.8	Centre, PA	0.9	16.8	38.8	43.5
Worcester, MD	3.2	13.9	64.4	18.5	Chester, PA	2.3	24.8	65.3	7.6
Baltimore, MD (city)	0.3	11.0	68.1	20.6	Clearfield, PA	2.7	21.3	57.7	18.3
Allegany, NY	4.8	28.0	37.3	29.8	Clinton, PA	1.4	36.9	37.8	23.9
Broome, NY	0.5	27.2	50.8	21.5	Columbia, PA	1.8	36.9	42.6	18.7
Cayuga, NY	3.5	20.1	50.4	26.0	Cumberland, PA	0.6	14.0	67.7	17.7
Chemung, NY	0.6	28.1	49.8	21.5	Dauphin, PA	0.9	17.0	56.7	25.4
					Elk, PA	0.5	60.4	29.5	9.6
					Franklin, PA	3.5	29.6	48.6	18.2
					Fulton, PA	6.6	57.0	23.3	13.1
					Huntingdon, PA	3.5	25.2	43.3	27.9
					Indiana, PA	11.9	18.3	45.9	23.9
					Jefferson, PA	6.8	39.8	39.6	13.7
					Juniata, PA	5.4	42.7	40.9	11.0
					Lackawanna, PA	0.7	23.9	62.0	13.4
					Lancaster, PA	2.5	39.6	48.8	9.0
					Lebanon, PA	2.9	30.2	48.6	18.3
					Luzerne, PA	0.9	22.0	61.7	15.3
					Lycoming, PA	1.6	30.6	50.6	17.2
					McKean, PA	4.9	42.4	36.0	16.7
					Mifflin, PA	2.3	40.8	43.9	13.0
					Montour, PA	1.8	9.4	79.2	9.7
					Northumberland, PA	3.3	35.2	45.1	16.4
					Perry, PA	7.3	22.4	43.4	26.8
					Potter, PA	4.2	13.3	68.0	14.5
					Schuylkill, PA	3.9	32.4	45.6	18.2
					Snyder, PA	3.1	40.0	40.2	16.6
					Somerset, PA	6.9	26.5	47.0	19.7
					Sullivan, PA	3.1	24.1	50.2	22.7
					Susquehanna, PA	15.6	14.8	44.5	25.1
					Tioga, PA	2.7	32.3	40.6	24.4
					Union, PA	1.7	22.6	50.7	25.0
					Wayne, PA	3.2	16.4	58.4	22.0
					Wyoming, PA	6.0	49.0	33.8	11.2
					York, PA	1.0	41.4	45.7	11.8
					Accomack, VA	5.5	23.7	42.3	28.5
					Albemarle, VA	7.9	14.9	42.9	34.3
					Alleghany, VA	1.1	40.9	43.1	14.8
					Amelia, VA	12.5	27.6	39.3	20.6
					Amherst, VA	1.3	35.6	35.5	27.6
					Appomattox, VA	3.6	37.1	38.3	21.0
					Arlington, VA	0.2	4.3	56.2	39.3
					Augusta, VA	1.6	31.1	50.8	16.5
					Bath, VA	1.9	13.6	68.0	16.5
					Bedford, VA	1.4	39.3	45.2	14.1

ANR = Agriculture and Natural Resources

CM = Construction and Manufacturing

SS = Sales and Services

GOV = Government

Percentages may not add to 100 due to rounding.

Earnings by Industry

In this data set, data for independent cities are combined with data for their corresponding county, except for 11 cities listed in the table on these two pages.

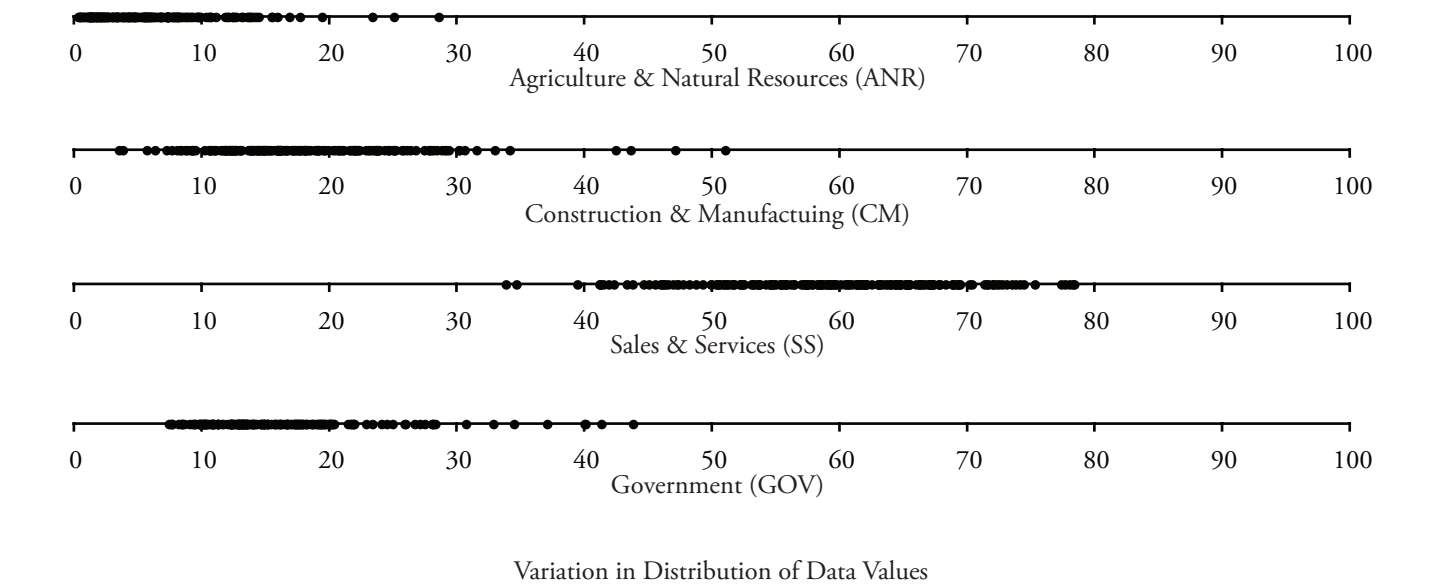
	ANR	CM	SS	GOV		ANR	CM	SS	GOV		ANR	CM	SS	GOV
Botetourt, VA	4.2	37.5	45.2	13.2	Middlesex, VA	3.8	15.9	51.5	28.8	Hampton, VA (city)	0.3	11.1	36.1	52.5
Buckingham, VA	10.9	18.2	41.0	29.9	Montgomery, VA	0.6	28.5	36.0	35.0	Harrisonburg, VA (city)				
Campbell, VA	0.5	36.5	52.6	10.5	Nelson, VA	5.4	19.5	55.7	19.4	Hopewell, VA (city)				
Caroline, VA	3.2	18.1	49.1	29.7	New Kent, VA	2.9	25.0	50.0	22.0	Lexington, VA (city)				
Charles City, VA	3.0	30.3	47.8	18.9	Northampton, VA	10.4	14.4	57.2	18.1	Lynchburg, VA (city)				
Charlotte, VA	3.3	38.1	35.5	23.1	Northumberland, VA	4.4	34.1	42.0	19.6	Manassas, VA (city)				
Chesterfield, VA	0.6	26.6	56.8	16.0	Nottoway, VA	2.9	17.0	36.7	43.4	Manassas Park, VA (city)				
Clarke, VA	2.9	44.1	38.4	14.5	Orange, VA	3.1	32.6	42.1	22.2	Newport News, VA (city)	0.3	32.2	43.2	24.4
Craig, VA	5.2	10.1	48.2	36.4	Page, VA	6.9	37.0	35.2	20.9	Norfolk, VA (city)	0.3	11.7	37.7	50.3
Culpeper, VA	2.6	19.3	58.9	19.3	Powhatan, VA	4.1	26.5	33.1	36.3	Petersburg, VA (city)				
Cumberland, VA	9.8	17.0	44.0	29.2	Prince Edward, VA	1.0	11.5	59.8	27.7	Poquoson, VA (city)				
Dinwiddie, VA	1.1	23.1	46.0	29.9	Prince George, VA	0.6	21.4	24.4	53.6	Portsmouth, VA (city)	0.2	8.8	33.8	57.2
Essex, VA	2.6	28.1	52.9	16.3	Prince William, VA	0.9	19.4	54.2	25.6	Richmond, VA (city)	0.6	18.7	54.0	26.8
Fairfax, VA	0.5	9.0	76.5	14.0	Rappahannock, VA	5.4	19.1	58.8	16.8	Roanoke, VA (city)	0.6	16.9	69.9	12.5
Fauquier, VA	4.0	21.4	56.9	17.7	Richmond, VA	4.1	12.8	50.3	32.8	Salem, VA (city)				
Fluvanna, VA	1.3	17.9	50.1	30.7	Roanoke, VA	0.6	27.5	56.6	15.2	Staunton, VA (city)				
Frederick, VA	1.2	34.6	53.2	10.9	Rockbridge, VA	1.0	27.9	49.8	21.3	Suffolk, VA (city)	1.6	16.5	55.9	26.0
Giles, VA	1.0	47.9	37.9	13.3	Rockingham, VA	3.0	39.1	42.6	15.3	Virginia Beach, VA (city)	1.8	10.8	57.1	30.3
Gloucester, VA	2.0	12.4	56.1	29.5	Shenandoah, VA	4.1	45.8	36.7	13.4	Waynesboro, VA (city)				
Goochland, VA	5.7	23.4	54.1	16.7	Spotsylvania, VA	0.8	18.1	65.8	15.4	Williamsburg, VA (city)				
Greene, VA	2.3	41.5	34.8	21.5	Stafford, VA	0.9	12.0	60.1	27.0	Winchester, VA (city)				
Hanover, VA	1.7	28.1	58.5	11.7	Surry, VA	3.8	7.2	77.9	11.1	Berkeley, WV	0.8	19.3	47.9	32.0
Henrico, VA	0.5	17.7	74.6	7.2	Warren, VA	1.7	23.6	56.7	18.0	Grant, WV	5.7	28.8	43.8	21.7
Highland, VA	12.9	36.5	29.3	21.3	Westmoreland, VA	8.9	25.8	41.4	23.9	Greenbrier, WV	3.2	14.4	63.9	18.5
Isle of Wight, VA	2.2	58.3	30.1	9.4	York, VA	2.0	15.8	45.3	36.9	Hampshire, WV	1.5	16.2	50.9	31.4
James City, VA	0.7	17.5	60.3	21.5	Alexandria, VA (city)	0.9	5.9	67.3	25.9	Hardy, WV	3.4	55.8	28.0	12.8
King and Queen, VA	6.5	27.1	32.3	34.1	Bedford, VA (city)					Jefferson, WV	2.2	22.8	48.8	26.2
King George, VA	0.5	4.5	35.8	59.2	Buena Vista, VA (city)					Mineral, WV	1.0	32.7	43.4	22.9
King William, VA	3.7	45.4	35.3	15.6	Charlottesville, VA (city)					Monroe, WV	-0.8	22.5	34.4	43.9
Lancaster, VA	3.6	13.4	71.9	11.1	Chesapeake, VA (city)	1.0	23.7	56.8	18.5	Morgan, WV	15.6	16.9	42.6	24.9
Loudoun, VA	1.4	13.2	70.0	15.4	Colonial Heights, VA (city)					Pendleton, WV	3.5	11.3	38.9	46.3
Louisa, VA	6.3	34.2	47.4	12.1	Covington, VA (city)					Pocahontas, WV	-0.5	20.2	56.7	23.6
Lunenburg, VA	4.1	33.9	34.0	28.0	Fairfax, VA (city)					Preston, WV	7.3	25.6	42.3	24.8
Madison, VA	2.5	25.1	56.7	15.7	Falls Church, VA (city)					Randolph, WV	1.0	21.4	55.8	21.8
Mathews, VA	7.9	21.8	48.0	22.3	Fredericksburg, VA (city)					Tucker, WV	1.5	25.6	46.5	26.4
ANR = Agriculture and Natural Resources					United States					2.2	21.2	60.2	16.4	
CM = Construction and Manufacturing														
SS = Sales and Services														
GOV = Government														

Percentages may not add to 100 due to rounding.

Employment by Industry

One indicator of the way a particular county’s job market is structured is the percentage of workers employed in each of the four major industrial sectors. This employment distribution is indicative of the kinds of skills, knowledge, and concerns that are most prevalent among workers. Occupational patterns can influence people’s priorities and actions with regard to parks and resource protection. For example, construction workers might welcome the prospect of rapid growth, whereas government workers such as teachers and police might worry that rapid growth would stress existing government resources.

Within the Chesapeake Bay Watershed region (2003), the leading sector of employment in 184 of 187 counties/independent cities is Sales and Services. The second-ranking sector is Construction and Manufacturing.⁹



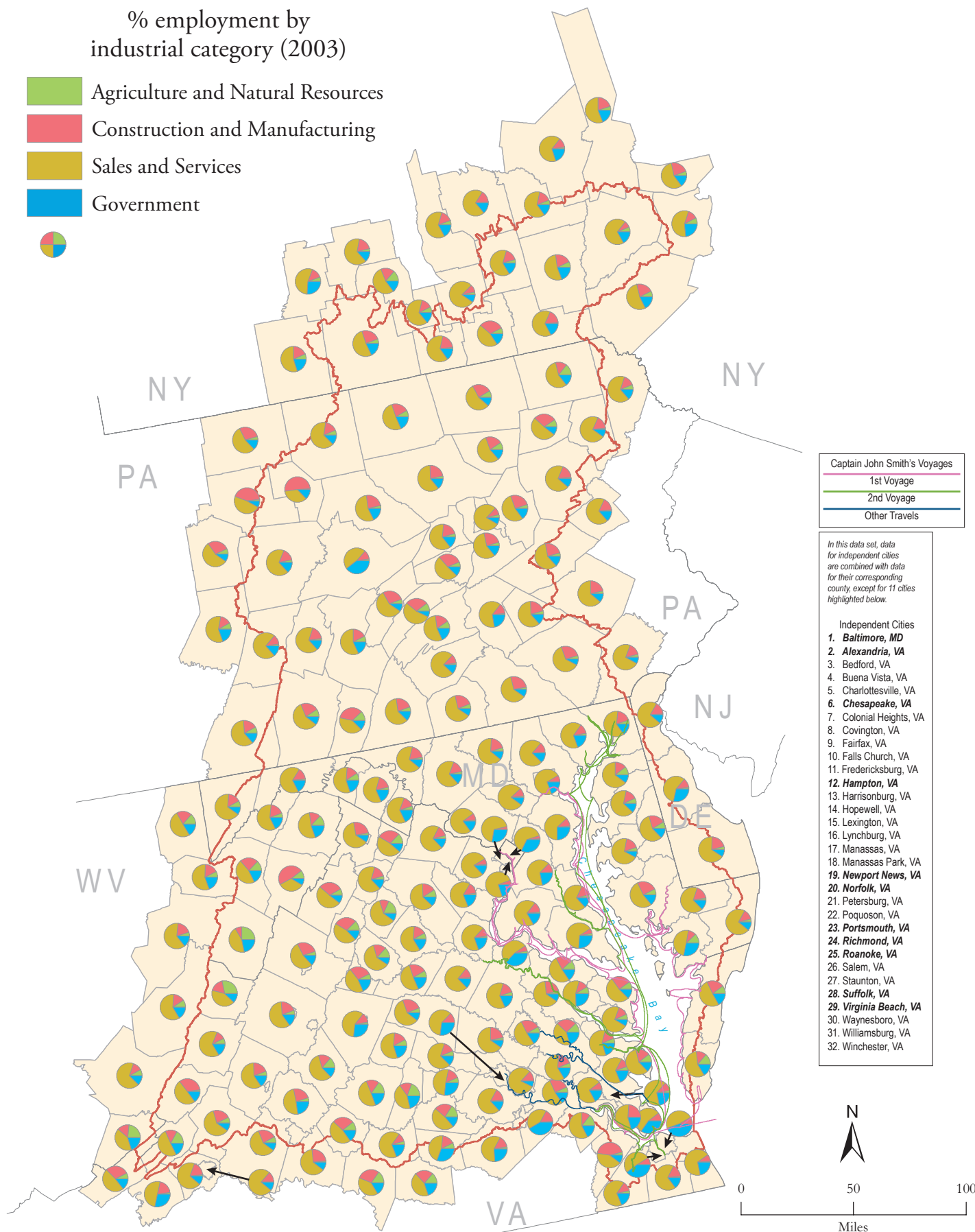
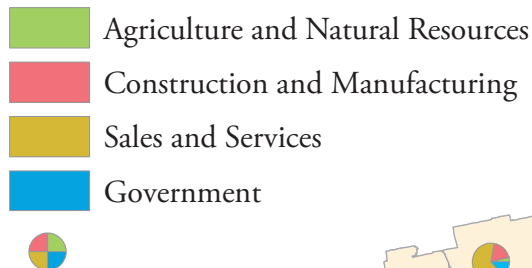
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Employment by Industry

% employment by
industrial category (2003)



Employment by Industry

% employment by industrial category (2003)					ANR	CM	SS	GOV		ANR	CM	SS	GOV	
					Chenango, NY	7.3	20.3	53.3	19.2	Huntingdon, PA	7.3	17.8	57.0	18.0
					Cortland, NY	4.2	16.1	63.6	16.1	Indiana, PA	8.2	13.8	59.0	19.1
	ANR	CM	SS	GOV	Delaware, NY	7.2	21.6	53.7	17.4	Jefferson, PA	6.9	27.9	55.4	9.9
Kent, DE	2.2	12.0	57.5	28.3	Herkimer, NY	5.2	19.9	55.8	19.2	Juniata, PA	10.3	28.8	53.5	7.4
New Castle, DE	1.3	15.9	71.6	11.2	Livingston, NY	5.4	13.8	54.8	26.0	Lackawanna, PA	1.3	17.3	71.3	10.1
Sussex, DE	3.8	20.7	66.5	9.0	Madison, NY	5.8	15.9	63.2	15.1	Lancaster, PA	4.2	26.1	62.1	7.6
District of Columbia, DC	1.1	3.5	62.5	32.9	Montgomery, NY	5.6	22.4	57.4	14.6	Lebanon, PA	4.5	21.1	60.9	13.5
Allegany, MD	1.8	14.3	66.6	17.3	Oneida, NY	1.9	12.6	65.5	20.0	Luzerne, PA	1.5	17.7	69.2	11.7
Anne Arundel, MD	1.5	10.5	63.0	24.9	Onondaga, NY	1.2	14.9	70.2	13.8	Lycoming, PA	3.3	22.0	60.7	14.1
Baltimore, MD	1.4	12.5	73.5	12.5	Ontario, NY	4.0	18.4	64.6	13.0	McKean, PA	4.4	28.1	54.6	12.9
Calvert, MD	3.6	14.4	68.8	13.2	Otsego, NY	6.0	8.0	69.2	16.7	Mifflin, PA	5.6	27.8	57.4	9.3
Caroline, MD	8.7	20.7	57.9	12.8	Schoharie, NY	7.9	12.3	56.4	23.4	Montour, PA	3.8	9.3	78.4	8.6
Carroll, MD	4.9	19.1	65.3	10.7	Schuyler, NY	7.4	13.9	64.7	14.0	Northumberland, PA	4.2	23.7	58.2	13.8
Cecil, MD	4.6	18.9	61.3	15.1	Steuben, NY	5.6	24.3	52.5	17.6	Perry, PA	9.5	17.4	55.3	17.7
Charles, MD	2.0	12.4	68.9	16.7	Tioga, NY	7.3	31.5	45.5	15.6	Potter, PA	6.3	16.2	65.3	12.2
Dorchester, MD	7.3	25.1	53.6	14.0	Tompkins, NY	3.0	9.5	77.4	10.2	Schuylkill, PA	4.3	23.6	58.7	13.4
Frederick, MD	3.4	16.4	66.9	13.3	Yates, NY	13.9	17.6	53.7	14.9	Snyder, PA	6.2	30.2	51.6	12.0
Garrett, MD	7.9	16.1	66.2	9.8	Adams, PA	5.9	23.0	61.3	9.8	Somerset, PA	8.0	18.1	60.4	13.5
Harford, MD	2.4	12.7	65.5	19.5	Bedford, PA	9.2	22.1	57.7	11.0	Sullivan, PA	9.7	20.9	55.8	13.6
Howard, MD	1.7	10.6	77.7	10.1	Berks, PA	3.2	21.6	64.4	10.9	Susquehanna, PA	14.2	14.5	57.3	14.0
Kent, MD	10.7	14.3	64.6	10.4	Blair, PA	2.0	17.7	67.1	13.2	Tioga, PA	8.2	21.8	52.1	17.9
Montgomery, MD	1.3	8.8	75.3	14.6	Bradford, PA	8.3	24.6	55.8	11.3	Union, PA	4.1	19.5	61.5	14.9
Prince George's, MD	1.1	11.8	65.2	21.9	Cambria, PA	2.2	12.2	71.5	14.2	Wayne, PA	6.2	14.0	66.2	13.5
Queen Anne's, MD	6.8	14.7	66.2	12.3	Cameron, PA	1.1	51.0	34.6	13.2	Wyoming, PA	9.0	29.2	51.1	10.7
St. Mary's, MD	2.7	6.3	65.1	25.9	Carbon, PA	1.7	16.6	68.3	13.4	York, PA	2.6	26.3	61.6	9.5
Somerset, MD	11.8	10.2	49.9	28.1	Centre, PA	2.2	11.7	46.2	40.0	Accomack, VA	9.9	21.9	51.2	16.9
Talbot, MD	5.4	16.7	70.4	7.6	Chester, PA	3.9	15.2	72.7	8.2	Albemarle, VA	2.5	11.8	58.5	27.1
Washington, MD	2.4	19.1	67.2	11.2	Clearfield, PA	3.5	15.6	67.8	13.2	Alleghany, VA	2.3	33.0	49.9	14.8
Wicomico, MD	2.9	17.3	67.1	12.8	Clinton, PA	3.4	23.8	54.9	17.8	Amelia, VA	15.9	22.8	47.7	13.6
Worcester, MD	4.2	12.9	72.0	10.9	Columbia, PA	4.5	25.8	54.5	15.2	Amherst, VA	5.3	23.1	48.7	22.9
Baltimore, MD (city)	0.4	8.3	72.0	19.3	Cumberland, PA	2.0	11.6	74.1	12.4	Appomattox, VA	11.1	27.4	46.3	15.1
Allegany, NY	6.7	18.5	54.6	20.2	Dauphin, PA	1.5	12.6	64.0	21.9	Arlington, VA	0.3	3.8	67.7	28.1
Broome, NY	1.2	17.1	64.3	17.3	Elk, PA	2.2	42.5	46.9	8.4	Augusta, VA	5.6	20.4	59.3	14.7
Cayuga, NY	5.6	15.2	61.9	17.2	Franklin, PA	5.9	21.0	60.7	12.3	Bath, VA	7.3	11.5	65.1	16.1
Chemung, NY	1.7	19.6	63.8	14.9	Fulton, PA	12.4	34.1	41.2	12.3	Bedford, VA	7.6	23.5	58.5	10.3

ANR = Agriculture and Natural Resources

CM = Construction and Manufacturing

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GOV = Government

Percentages may not add to 100 due to rounding.

Employment by Industry

In this data set, data for independent cities are combined with data for their corresponding county, except for 11 cities listed in the table on these two pages.

ANR	CM	SS	GOV	ANR	CM	SS	GOV	ANR	CM	SS	GOV
Botetourt, VA 7.7	22.0	60.5	9.8	Middlesex, VA 6.1	15.0	58.9	20.0	Hampton, VA (city) 0.7	10.7	54.2	34.5
Buckingham, VA 15.4	15.9	49.3	19.4	Montgomery, VA 2.3	19.2	50.5	28.0	Harrisonburg, VA (city)			
Campbell, VA 2.0	24.7	63.1	10.2	Nelson, VA 13.7	16.0	57.5	12.9	Hopewell, VA (city)			
Caroline, VA 4.6	16.0	61.6	17.8	New Kent, VA 5.9	18.1	59.6	16.4	Lexington, VA (city)			
Charles City, VA 6.7	25.0	52.4	15.9	Northampton, VA 13.7	13.0	57.1	16.1	Lynchburg, VA (city)			
Charlotte, VA 15.5	28.4	39.4	16.7	Northumberland, VA 9.7	25.2	52.4	12.7	Manassas, VA (city)			
Chesterfield, VA 1.4	16.1	69.3	13.3	Nottoway, VA 7.1	16.2	45.9	30.7	Manassas Park, VA (city)			
Clarke, VA 12.5	29.0	47.2	11.3	Orange, VA 8.5	21.9	50.9	18.7	Newport News, VA (city) 0.6	23.7	55.4	20.3
Craig, VA 16.9	14.9	50.6	17.6	Page, VA 12.4	29.4	45.0	13.2	Norfolk, VA (city) 0.5	8.4	47.3	43.8
Culpeper, VA 7.9	16.0	59.5	16.6	Powhatan, VA 6.7	14.9	51.7	26.7	Petersburg, VA (city)			
Cumberland, VA 19.4	15.4	43.8	21.5	Prince Edward, VA 4.7	10.9	65.3	19.1	Poquoson, VA (city)			
Dinwiddie, VA 2.6	15.0	58.4	24.1	Prince George, VA 1.3	15.9	41.5	41.3	Portsmouth, VA (city) 0.4	9.1	50.4	40.1
Essex, VA 4.4	22.3	63.3	10.0	Prince William, VA 1.8	14.1	65.3	18.8	Richmond, VA (city) 0.4	13.0	59.1	27.5
Fairfax, VA 1.3	7.6	78.0	13.1	Rappahannock, VA 17.7	11.9	60.0	10.4	Roanoke, VA (city) 0.8	14.0	74.4	10.8
Fauquier, VA 9.3	16.5	61.9	12.3	Richmond, VA 8.8	12.1	54.6	24.5	Salem, VA (city)			
Fluvanna, VA 7.7	16.7	55.6	20.0	Roanoke, VA 1.5	18.1	68.9	11.6	Staunton, VA (city)			
Frederick, VA 3.0	24.6	63.0	9.5	Rockbridge, VA 5.8	19.6	59.2	15.4	Suffolk, VA (city) 3.3	12.2	65.9	18.6
Giles, VA 7.4	30.1	48.2	14.3	Rockingham, VA 5.4	26.7	54.7	13.2	Virginia Beach, VA (city) 1.2	9.3	67.8	21.7
Gloucester, VA 4.7	12.3	64.4	18.7	Shenandoah, VA 8.1	30.6	50.9	10.5	Waynesboro, VA (city)			
Goochland, VA 6.5	13.6	67.3	12.6	Spotsylvania, VA 1.7	12.4	73.1	12.9	Williamsburg, VA (city)			
Greene, VA 7.3	28.0	46.6	18.2	Stafford, VA 1.9	11.1	67.3	19.6	Winchester, VA (city)			
Hanover, VA 3.1	22.1	64.8	9.9	Surry, VA 14.5	10.7	57.4	17.5	Berkeley, WV 3.3	17.0	61.4	18.3
Henrico, VA 1.0	13.1	78.3	7.7	Warren, VA 4.8	15.9	67.0	12.3	Grant, WV 12.7	23.7	46.1	17.5
Highland, VA 28.6	18.0	41.2	12.2	Westmoreland, VA 12.0	20.8	51.5	15.7	Greenbrier, WV 8.1	11.8	67.3	12.8
Isle of Wight, VA 3.9	43.6	42.3	10.2	York, VA 3.1	11.0	64.0	21.9	Hampshire, WV 13.1	14.3	53.1	19.5
James City, VA 1.3	9.2	72.4	17.0	Alexandria, VA (city) 0.9	5.7	73.8	19.6	Hardy, WV 10.7	47.1	33.8	8.4
King and Queen, VA 12.1	25.7	41.9	20.4	Bedford, VA (city)				Jefferson, WV 5.0	14.8	62.1	18.2
King George, VA 2.5	7.2	53.2	37.0	Buena Vista, VA (city)				Mineral, WV 5.5	18.0	59.3	17.2
King William, VA 8.2	23.9	52.2	15.8	Charlottesville, VA (city)				Monroe, WV 23.4	15.4	41.2	20.1
Lancaster, VA 6.7	12.5	72.3	8.4	Chesapeake, VA (city) 1.8	16.1	67.2	14.9	Morgan, WV 8.8	14.8	56.4	20.0
Loudoun, VA 3.8	13.8	69.4	13.0	Colonial Heights, VA (city)				Pendleton, WV 25.1	8.7	44.6	21.6
Louisa, VA 5.8	25.0	58.5	10.8	Covington, VA (city)				Pocahontas, WV 9.6	14.5	59.7	16.2
Lunenburg, VA 13.5	23.3	43.3	19.8	Fairfax, VA (city)				Preston, WV 14.1	19.1	50.3	16.6
Madison, VA 13.2	16.2	61.3	9.2	Falls Church, VA (city)				Randolph, WV 4.7	18.9	61.8	14.6
Mathews, VA 10.5	18.2	58.2	13.0	Fredericksburg, VA (city)				Tucker, WV 7.4	17.1	56.1	19.3
								United States 3.6	15.3	66.9	14.2

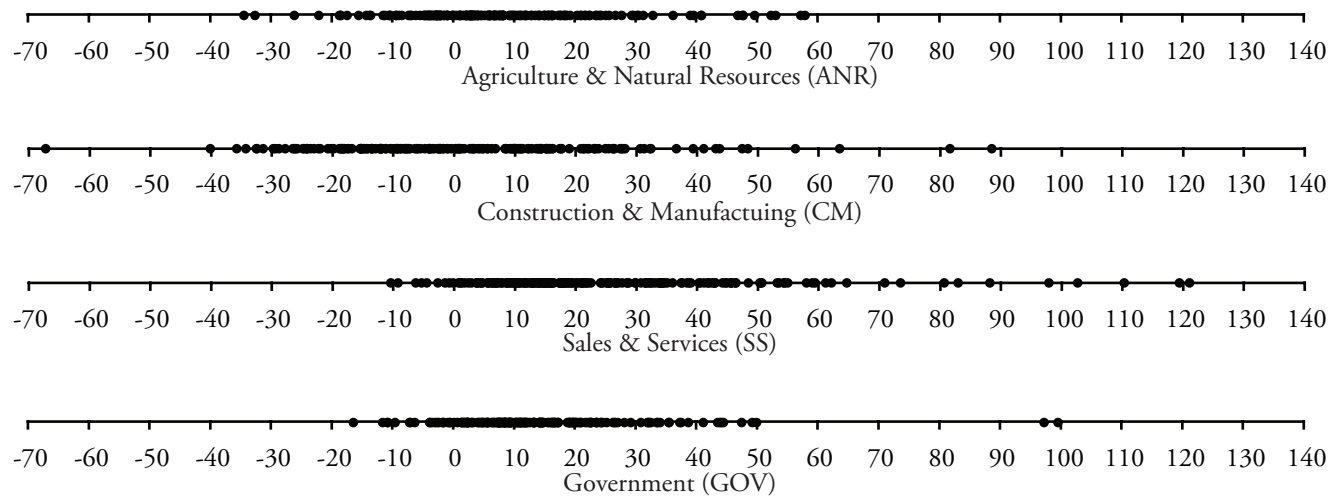
ANR = Agriculture and Natural Resources
CM = Construction and Manufacturing
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Percentages may not add to 100 due to rounding.

Change in Employment by Industry

Jobs are of critical importance to individuals, families, and communities. Change in the proportion of people employed by various industries within an economy can create a cascading set of impacts. A declining industry’s displacement of workers whose skills are in less demand can generate stress within households and communities. A growing industry’s demand for new sets of skills can influence migration patterns and educational priorities. Local and regional political decisions, including those that impact park management goals, often place priority on protecting existing jobs or attracting new employment opportunities.

Within the Chesapeake Bay Watershed region (1995 - 2005), employment decreased in Construction and Manufacturing in 34 counties (biggest change across sectors) while Sales and Services had the greatest number of counties with increases in employment.¹⁰



Variation in Distribution of Data Values

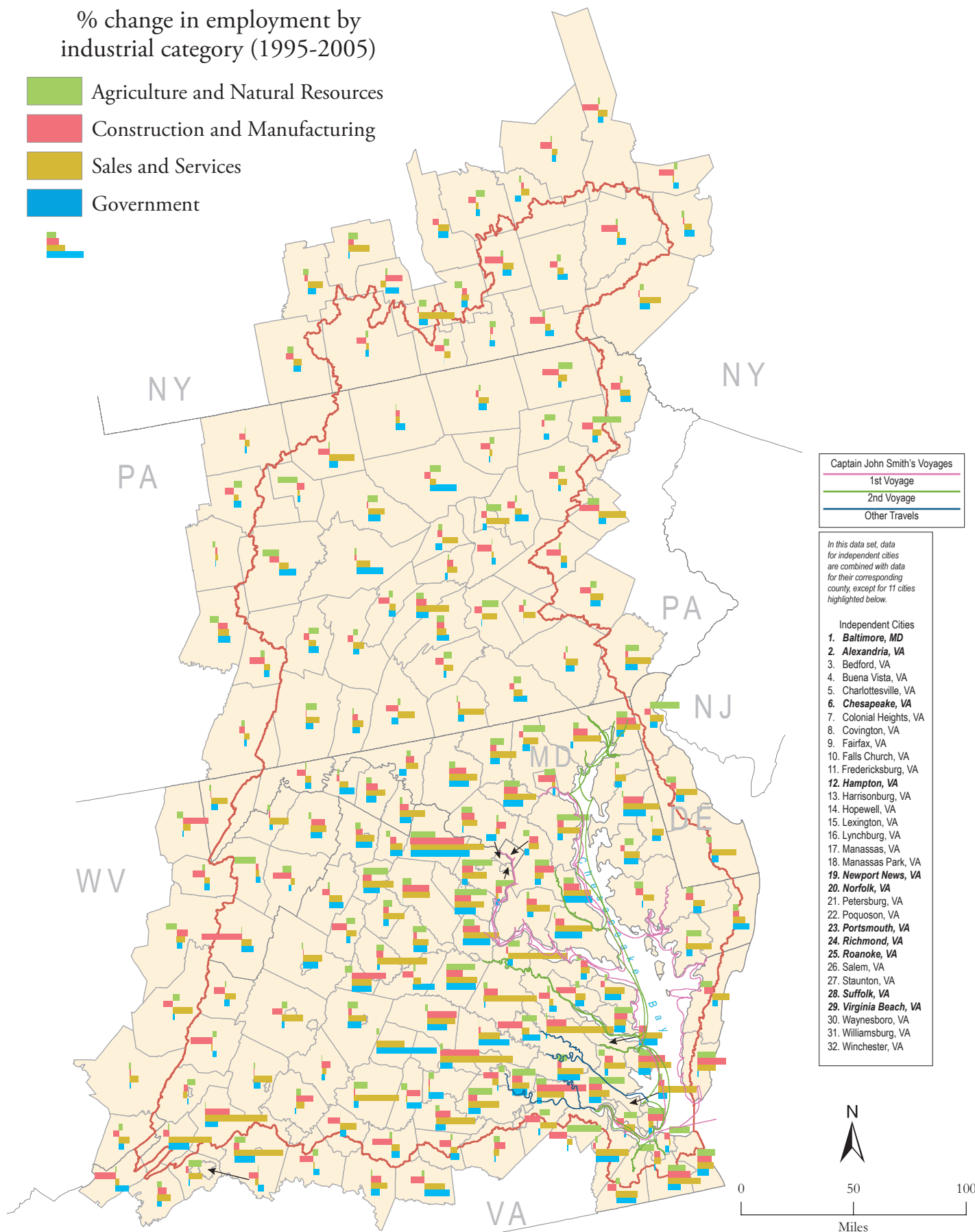
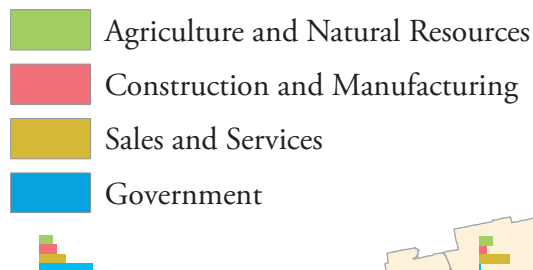
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Change in Employment by Industry

% change in employment by
industrial category (1995-2005)



Change in Employment by Industry

% change in employment by industrial category (1995-2005)					ANR	CM	SS	GOV		ANR	CM	SS	GOV		
					Chenango, NY	5.7	-12.9	10.0	16.6	Huntingdon, PA	7.0	-8.8	17.7	9.4	
					Cortland, NY	-3.4	-29.8	17.5	14.0	Indiana, PA	-13.8	15.6	17.3	19.7	
	ANR	CM	SS	GOV	Delaware, NY	6.7	-1.8	35.1	16.7	Jefferson, PA	-4.1	3.1	3.8	1.2	
	Kent, DE	-15.7	-8.7	34.0	13.1	Herkimer, NY	3.0	-26.6	15.2	8.2	Juniata, PA	11.0	15.4	54.4	18.9
	New Castle, DE	47.6	-9.5	21.6	11.9	Livingston, NY	-7.5	-4.8	24.1	13.3	Lackawanna, PA	46.7	-18.1	13.8	7.5
	Sussex, DE	-8.6	-2.3	40.5	10.9	Madison, NY	-2.8	4.0	12.9	-9.7	Lancaster, PA	2.9	-2.6	19.5	14.7
	District of Columbia, DC	-10.8	14.2	15.6	-7.4	Montgomery, NY	5.0	-24.3	-1.5	8.5	Lebanon, PA	4.0	-7.2	20.1	0.0
	Allegany, MD	1.5	-13.5	10.1	9.2	Oneida, NY	-2.4	-18.7	8.9	6.5	Luzerne, PA	10.9	-14.2	13.2	4.1
	Anne Arundel, MD	52.2	9.9	38.3	8.5	Onondaga, NY	14.9	-12.2	4.7	6.3	Lycoming, PA	17.6	-10.3	9.5	43.7
	Baltimore, MD	36.0	-6.2	24.4	11.0	Ontario, NY	14.7	8.5	34.3	2.0	McKean, PA	-1.1	-10.5	7.0	3.2
	Calvert, MD	16.1	25.4	44.2	47.3	Otsego, NY	-3.0	-26.2	3.7	14.1	Mifflin, PA	5.9	-18.4	9.8	10.9
	Caroline, MD	-2.6	0.1	19.1	14.5	Schoharie, NY	-4.7	-2.3	11.6	16.0	Montour, PA	24.0	-9.1	37.5	-6.5
	Carroll, MD	21.7	10.4	42.9	15.4	Schuyler, NY	11.9	-1.9	58.0	14.4	Northumberland, PA	1.1	-23.1	2.9	7.1
	Cecil, MD	18.2	31.3	38.7	12.5	Steuben, NY	3.7	-14.9	4.5	5.6	Perry, PA	11.8	12.1	15.3	19.6
	Charles, MD	4.4	16.2	37.4	10.1	Tioga, NY	9.8	4.3	0.7	7.8	Potter, PA	-1.5	-18.4	41.8	14.0
	Dorchester, MD	-13.9	-12.1	18.4	-1.8	Tompkins, NY	-11.7	6.8	11.5	9.2	Schuylkill, PA	-3.2	-23.7	10.1	10.4
	Frederick, MD	9.2	27.4	45.6	31.8	Yates, NY	2.7	28.1	-9.2	22.6	Snyder, PA	1.9	9.6	16.0	-4.0
	Garrett, MD	-3.0	-1.0	26.5	10.7	Adams, PA	-2.4	2.9	43.0	8.9	Somerset, PA	-5.0	-7.5	9.3	4.9
	Harford, MD	9.1	23.8	46.3	-4.0	Bedford, PA	17.1	0.7	21.2	11.6	Sullivan, PA	7.4	-15.3	3.7	-1.8
	Howard, MD	25.5	23.1	53.1	32.2	Berks, PA	10.2	-17.6	21.1	15.9	Susquehanna, PA	23.5	-26.3	13.9	5.3
	Kent, MD	6.5	0.3	18.2	10.9	Blair, PA	16.3	-8.1	12.9	17.1	Tioga, PA	0.8	6.1	6.5	15.7
	Montgomery, MD	17.5	21.3	25.3	2.2	Bradford, PA	2.9	-4.0	16.4	13.1	Union, PA	-6.3	-7.8	25.3	-10.9
	Prince George's, MD	23.3	30.7	14.7	9.0	Cambria, PA	-7.2	-24.9	8.8	7.9	Wayne, PA	3.9	-15.3	16.0	16.3
	Queen Anne's, MD	-2.1	32.3	59.4	37.1	Cameron, PA	-32.8	11.3	2.3	3.9	Wyoming, PA	18.6	-4.0	-0.2	8.5
	St. Mary's, MD	-1.2	15.1	61.2	44.3	Carbon, PA	-18.7	-31.4	44.6	11.8	York, PA	11.7	-7.7	13.5	22.0
	Somerset, MD	25.0	2.6	42.5	10.0	Centre, PA	-2.9	-3.3	22.0	43.3	Accomack, VA	-18.9	-13.6	28.7	8.3
	Talbot, MD	14.9	-6.0	25.8	23.4	Chester, PA	22.3	3.4	41.8	19.8	Albemarle, VA	15.4	4.6	28.5	21.6
	Washington, MD	6.5	12.8	19.4	-11.8	Clearfield, PA	-26.3	-15.3	14.9	28.1	Alleghany, VA	13.4	-5.5	-6.3	2.2
	Wicomico, MD	-10.5	-12.1	18.9	13.1	Clinton, PA	15.9	-2.4	26.7	20.3	Amelia, VA	5.6	24.9	64.6	16.3
	Worcester, MD	7.7	10.1	20.3	26.2	Columbia, PA	3.1	-12.2	11.1	22.4	Amherst, VA	7.0	27.8	12.9	-2.5
	Baltimore, MD (city)	-17.6	-27.8	-4.5	-3.6	Cumberland, PA	12.6	-13.5	14.8	4.5	Appomattox, VA	-0.3	-20.8	25.5	9.6
	Allegany, NY	-9.1	-11.3	12.9	11.7	Dauphin, PA	26.5	-12.0	24.2	-0.7	Arlington, VA	2.7	15.2	5.5	-16.6
	Broome, NY	-4.5	-24.3	8.5	14.2	Elk, PA	12.8	-14.4	7.0	11.5	Augusta, VA	7.9	-16.8	34.4	4.2
	Cayuga, NY	-0.1	-9.4	17.4	16.4	Franklin, PA	4.5	-19.8	27.7	-11.0	Bath, VA	6.7	-35.8	-0.8	7.1
	Chemung, NY	8.1	-14.7	10.4	0.6	Fulton, PA	2.2	8.7	17.8	12.1	Bedford, VA	18.0	8.4	80.7	33.9

ANR = Agriculture and Natural Resources
 CM = Construction and Manufacturing
 SS = Sales and Services
 GOV = Government

Change in Employment by Industry

In this data set, data for independent cities are combined with data for their corresponding county, except for 11 cities listed in the table on these two pages.

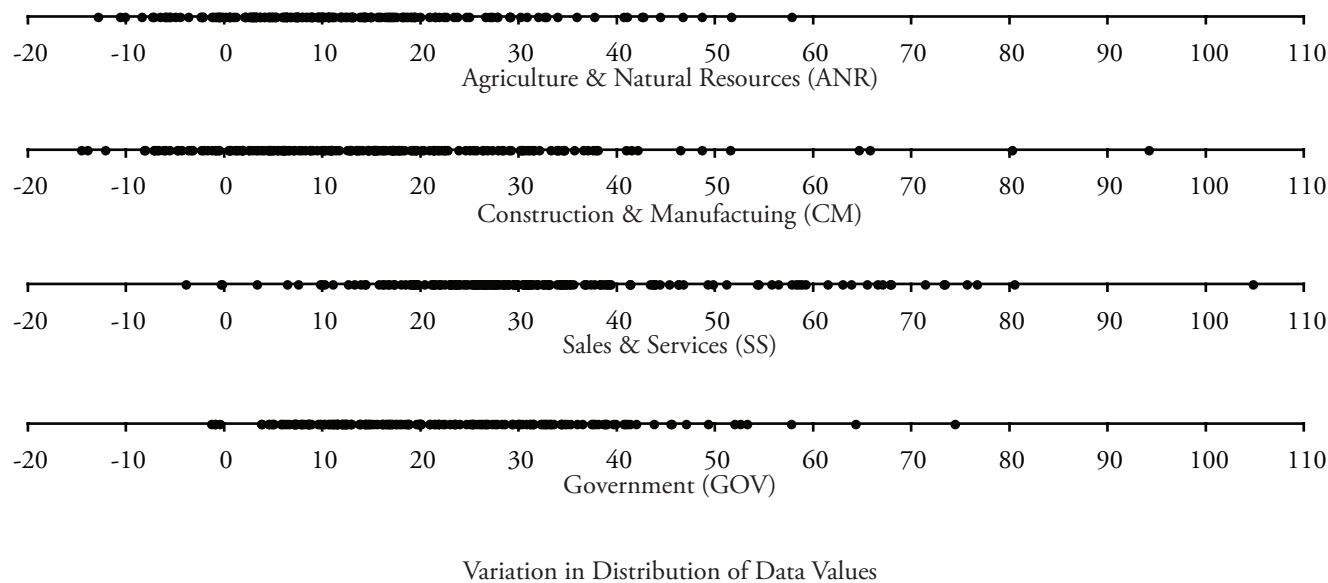
	ANR	CM	SS	GOV		ANR	CM	SS	GOV		ANR	CM	SS	GOV
Botetourt, VA	0.3	39.3	102.6	20.8	Middlesex, VA	1.0	12.3	39.0	30.7	Hampton, VA (city)	27.6	26.4	7.3	5.3
Buckingham, VA	21.5	0.9	73.5	7.3	Montgomery, VA	7.4	15.2	21.8	7.7	Harrisonburg, VA (city)				
Campbell, VA	8.1	-22.0	1.7	10.5	Nelson, VA	0.8	13.8	6.2	4.7	Hopewell, VA (city)				
Caroline, VA	5.9	23.0	88.2	2.3	New Kent, VA	15.5	5.5	42.8	37.4	Lexington, VA (city)				
Charles City, VA	16.1	81.6	45.5	7.2	Northampton, VA	30.1	47.4	29.8	1.6	Lynchburg, VA (city)				
Charlotte, VA	2.0	15.8	26.6	14.6	Northumberland, VA	3.4	-6.5	32.4	26.4	Manassas, VA (city)				
Chesterfield, VA	39.4	14.3	50.3	20.6	Nottoway, VA	2.6	-18.9	10.7	14.3	Manassas Park, VA (city)				
Clarke, VA	-5.6	9.8	20.9	20.0	Orange, VA	2.7	-18.5	12.4	35.4	Newport News, VA (city)	20.8	-12.0	17.9	2.8
Craig, VA	-2.3	-9.4	70.9	33.5	Page, VA	14.1	-24.2	15.8	6.6	Norfolk, VA (city)	32.7	-8.2	1.2	-7.2
Culpeper, VA	22.2	5.5	25.6	22.5	Powhatan, VA	8.1	1.0	1.1	23.5	Petersburg, VA (city)				
Cumberland, VA	-9.6	21.9	-2.7	24.1	Prince Edward, VA	-4.2	-32.5	12.7	13.1	Poquoson, VA (city)				
Dinwiddie, VA	9.4	17.7	8.7	1.7	Prince George, VA	15.6	-25.8	27.0	-2.9	Portsmouth, VA (city)	-22.3	10.0	10.6	1.3
Essex, VA	-3.9	-17.4	5.7	11.2	Prince William, VA	52.9	26.1	48.5	35.3	Richmond, VA (city)	9.9	-24.7	-10.4	-1.9
Fairfax, VA	49.5	17.6	40.3	7.5	Rappahannock, VA	14.0	9.2	34.7	9.3	Roanoke, VA (city)	-1.1	-15.3	-5.4	9.2
Fauquier, VA	13.8	43.1	44.9	-0.6	Richmond, VA	5.9	-32.5	15.7	14.1	Salem, VA (city)				
Fluvanna, VA	3.3	-0.5	46.4	99.4	Roanoke, VA	20.9	-4.2	22.5	2.3	Staunton, VA (city)				
Frederick, VA	7.6	11.1	30.8	26.5	Rockbridge, VA	2.0	0.6	29.9	11.3	Suffolk, VA (city)	6.0	-13.6	35.9	33.3
Giles, VA	2.7	-34.3	6.8	22.3	Rockingham, VA	-2.2	1.2	31.4	25.1	Virginia Beach, VA (city)	29.5	23.3	26.5	19.1
Gloucester, VA	-9.5	13.5	34.2	5.6	Shenandoah, VA	-2.8	-11.2	20.9	23.5	Waynesboro, VA (city)				
Goochland, VA	3.9	63.5	119.4	19.5	Spotsylvania, VA	47.5	26.2	50.6	49.1	Williamsburg, VA (city)				
Greene, VA	-11.4	56.2	32.2	32.4	Stafford, VA	18.4	27.5	59.0	44.0	Winchester, VA (city)				
Hanover, VA	-0.2	3.1	33.8	49.7	Surry, VA	57.0	-28.8	7.9	2.2	Berkeley, WV	8.1	19.0	31.5	17.0
Henrico, VA	38.9	16.2	28.4	24.4	Warren, VA	40.7	14.4	50.5	27.0	Grant, WV	-34.6	4.8	5.5	7.4
Highland, VA	2.1	-18.1	17.9	8.9	Westmoreland, VA	-7.0	10.9	14.7	10.2	Greenbrier, WV	2.4	1.7	14.4	1.8
Isle of Wight, VA	3.5	-4.1	54.9	38.5	York, VA	5.5	9.9	62.1	14.4	Hampshire, WV	-4.9	22.2	25.1	18.9
James City, VA	57.7	20.9	33.1	19.3	Alexandria, VA (city)	31.1	9.3	4.3	6.2	Hardy, WV	-14.5	-29.4	6.3	-3.2
King and Queen, VA	-1.7	32.4	110.3	-1.0	Bedford, VA (city)					Jefferson, WV	3.1	14.0	41.2	18.6
King George, VA	19.1	-2.7	97.9	7.6	Buena Vista, VA (city)					Mineral, WV	-4.0	-1.1	31.7	5.5
King William, VA	24.2	-40.2	11.8	29.1	Charlottesville, VA (city)					Monroe, WV	6.6	-9.8	17.6	8.4
Lancaster, VA	30.3	21.3	18.5	17.1	Chesapeake, VA (city)	29.3	36.6	53.5	21.0	Morgan, WV	-2.8	-3.6	14.1	24.1
Loudoun, VA	40.7	88.5	121.0	97.1	Colonial Heights, VA (city)					Pendleton, WV	-1.2	-67.2	16.2	19.0
Louisa, VA	-3.6	48.4	45.7	32.0	Covington, VA (city)					Pocahontas, WV	10.6	-15.5	32.7	2.9
Lunenburg, VA	-3.8	-22.4	33.6	41.0	Fairfax, VA (city)					Preston, WV	-10.6	41.1	11.9	1.2
Madison, VA	11.5	10.7	83.0	4.6	Falls Church, VA (city)					Randolph, WV	-18.6	17.4	13.9	8.4
Mathews, VA	20.3	43.7	54.3	20.0	Fredericksburg, VA (city)					Tucker, WV	-4.3	-20.2	7.9	8.2
										United States	5.9	-3.2	22.9	11.6

ANR = Agriculture and Natural Resources
CM = Construction and Manufacturing
SS = Sales and Services
GOV = Government

Projected Change in Employment by Industry

Jobs in the four industrial sectors are in a constant state of flux. A projected decline or increase in a certain industrial sector may show which skills could be in demand at a future date. This could lead to a change in migration patterns in the counties around the park as new people arrive to take advantage of the new employment opportunities.

Within the Chesapeake Bay Watershed region (2005-2025), Sales and Services lead with the highest projected increase in employment in 117 of 187 counties. Projected decreases in employment are limited to Agriculture and Natural Resources and Construction and Manufacturing.¹¹



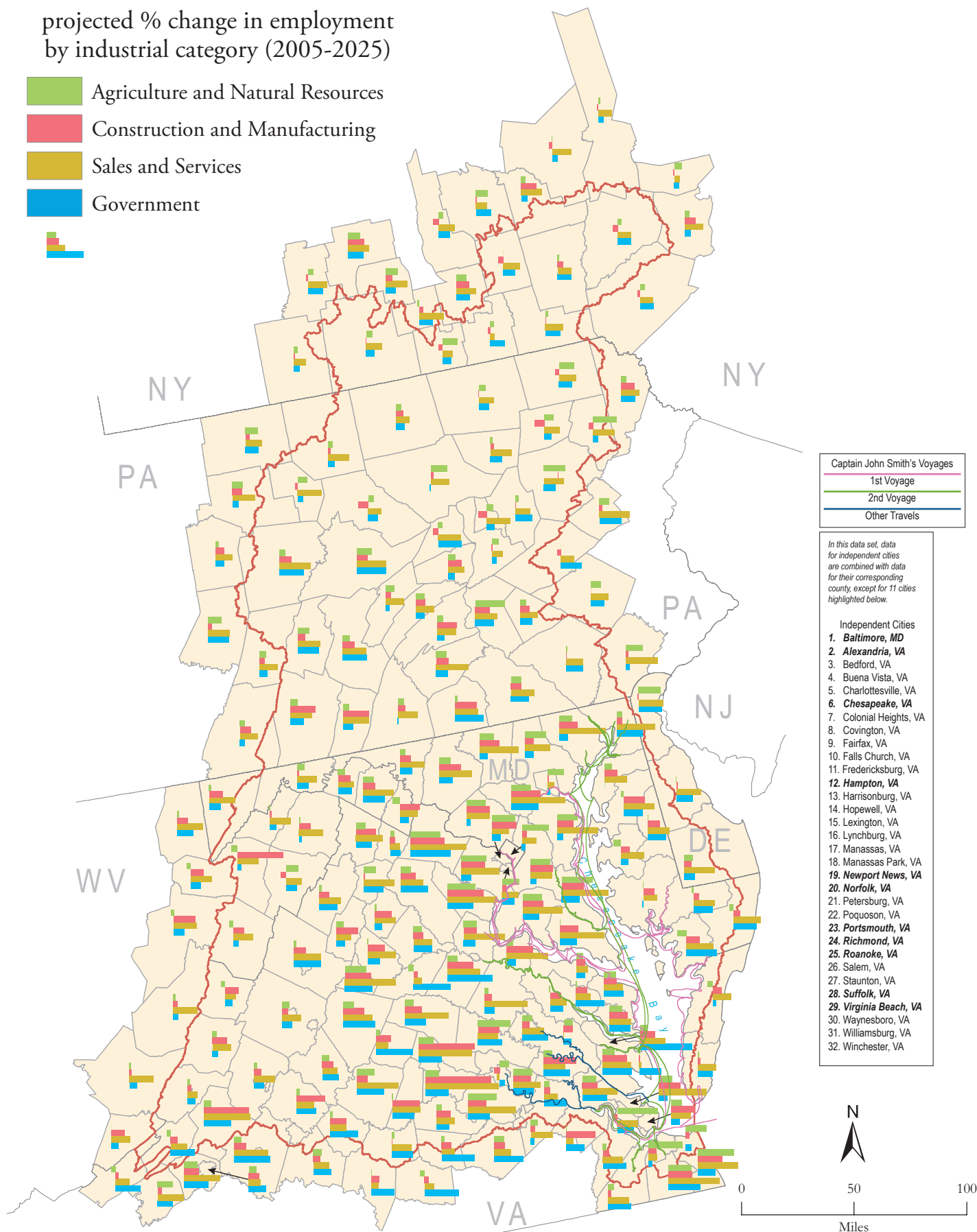
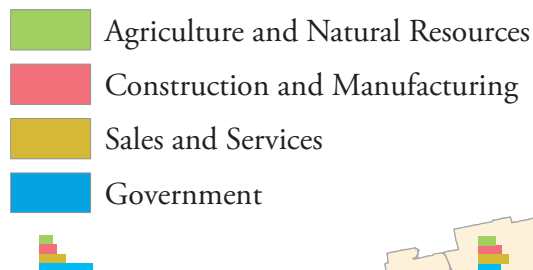
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Projected Change in Employment by Industry

projected % change in employment
by industrial category (2005-2025)



Captain John Smith's Voyages

1st Voyage

2nd Voyage

Other Travels

In this data set, data for independent cities are combined with data for their corresponding county, except for 11 cities highlighted below.

Independent Cities

1. **Baltimore, MD**
2. **Alexandria, VA**
3. Bedford, VA
4. Buena Vista, VA
5. Charlottesville, VA
6. **Chesapeake, VA**
7. Colonial Heights, VA
8. Covington, VA
9. Fairfax, VA
10. Falls Church, VA
11. Fredericksburg, VA
12. **Hampton, VA**
13. Harrisonburg, VA
14. Hopewell, VA
15. Lexington, VA
16. Lynchburg, VA
17. Manassas, VA
18. Manassas Park, VA
19. **Newport News, VA**
20. **Norfolk, VA**
21. Petersburg, VA
22. Poquoson, VA
23. **Portsmouth, VA**
24. **Richmond, VA**
25. **Roanoke, VA**
26. Salem, VA
27. Staunton, VA
28. **Suffolk, VA**
29. **Virginia Beach, VA**
30. Waynesboro, VA
31. Williamsburg, VA
32. Winchester, VA

Projected Change in Employment by Industry

projected % change in employment by industrial category (2005-2025)					ANR	CM	SS	GOV						ANR	CM	SS	GOV
	ANR	CM	SS	GOV													
Kent, DE	-0.9	1.7	34.6	22.9	Chenango, NY	2.5	7.8	19.5	20.0	Huntingdon, PA	10.2	16.8	33.8	35.2			
New Castle, DE	32.0	-1.8	35.2	33.2	Cortland, NY	-0.2	-7.2	23.9	17.5	Indiana, PA	18.9	5.0	30.8	30.0			
Sussex, DE	12.9	10.8	43.7	15.5	Delaware, NY	6.3	-3.4	18.4	19.9	Jefferson, PA	4.8	12.9	24.5	12.3			
District of Columbia, DC	37.7	5.9	19.6	4.9	Herkimer, NY	2.1	-2.1	19.5	7.7	Juniata, PA	11.9	12.8	26.4	11.4			
Allegany, MD	10.6	2.4	28.7	16.1	Livingston, NY	7.9	-2.4	27.5	21.8	Lackawanna, PA	33.9	-6.3	30.7	6.6			
Anne Arundel, MD	29.1	22.4	58.5	8.1	Madison, NY	6.1	22.1	29.9	8.7	Lancaster, PA	2.1	0.4	24.3	23.9			
Baltimore, MD	29.1	11.6	35.5	12.4	Montgomery, NY	11.2	-1.3	7.5	7.2	Lebanon, PA	8.9	13.6	25.6	18.0			
Calvert, MD	44.4	31.4	67.0	26.1	Oneida, NY	-0.8	-4.4	27.3	7.8	Luzerne, PA	30.8	-0.7	27.7	16.5			
Caroline, MD	-0.6	17.2	31.4	26.6	Onondaga, NY	17.2	1.2	16.2	21.3	Lycoming, PA	23.3	3.7	26.6	-1.0			
Carroll, MD	19.9	28.2	55.7	11.1	Ontario, NY	17.1	22.4	29.4	21.8	McKean, PA	18.2	5.7	23.1	18.8			
Cecil, MD	7.3	6.5	54.4	36.4	Otsego, NY	5.3	-7.3	19.2	19.8	Mifflin, PA	11.7	7.1	25.9	5.0			
Charles, MD	26.6	28.9	56.4	22.2	Schoharie, NY	6.3	14.7	25.8	8.4	Montour, PA	9.7	-12.2	34.1	11.5			
Dorchester, MD	-0.6	15.2	19.2	-1.4	Schuyler, NY	-2.4	4.7	34.8	19.7	Northumberland, PA	9.9	-1.0	16.1	6.3			
Frederick, MD	16.3	31.5	46.2	18.6	Steuben, NY	8.9	0.6	22.9	12.1	Perry, PA	8.2	27.8	27.1	10.9			
Garrett, MD	3.0	19.1	36.8	16.2	Tioga, NY	4.9	-3.7	6.4	20.9	Potter, PA	6.7	3.2	29.6	9.7			
Harford, MD	18.1	26.7	66.5	12.0	Tompkins, NY	14.2	17.7	27.7	18.6	Schuylkill, PA	-0.4	-5.6	19.0	29.2			
Howard, MD	27.8	42.1	76.7	38.6	Yates, NY	16.8	9.0	31.1	14.3	Snyder, PA	10.5	19.5	23.6	9.8			
Kent, MD	10.7	17.7	31.9	-0.5	Adams, PA	3.6	30.8	32.9	40.8	Somerset, PA	7.4	15.5	25.6	7.3			
Montgomery, MD	27.0	33.2	32.9	6.1	Bedford, PA	10.6	35.6	30.4	19.5	Sullivan, PA	2.9	4.4	30.5	16.8			
Prince George's, MD	27.7	32.0	30.5	8.4	Berks, PA	14.3	0.4	25.4	19.8	Susquehanna, PA	21.4	-4.8	24.7	18.7			
Queen Anne's, MD	-3.7	30.2	43.9	27.2	Blair, PA	16.7	10.6	32.4	30.7	Tioga, PA	7.5	10.2	19.1	12.8			
St. Mary's, MD	-0.5	26.3	63.8	24.6	Bradford, PA	9.4	-0.6	21.0	14.8	Union, PA	5.9	-6.9	32.5	33.2			
Somerset, MD	-12.9	19.1	38.3	43.7	Cambria, PA	9.5	6.6	26.3	11.4	Wayne, PA	7.5	19.5	26.7	19.9			
Talbot, MD	-10.7	12.5	33.1	11.1	Cameron, PA	12.8	-3.3	34.3	7.1	Wyoming, PA	13.1	-14.0	21.9	10.2			
Washington, MD	7.4	15.8	35.2	16.7	Carbon, PA	13.9	4.6	43.8	31.4	York, PA	14.4	15.1	33.0	25.6			
Wicomico, MD	-2.5	7.6	29.6	26.8	Centre, PA	21.4	14.6	41.3	41.3	Accomack, VA	-7.4	12.7	26.3	4.4			
Worcester, MD	-6.1	9.4	39.1	33.0	Chester, PA	23.7	4.0	45.3	5.8	Albemarle, VA	15.7	29.2	41.3	45.6			
Baltimore, MD (city)	22.6	1.7	9.7	3.8	Clearfield, PA	7.9	17.0	44.3	34.3	Alleghany, VA	2.9	5.3	14.3	11.6			
Allegany, NY	5.0	1.8	17.2	8.5	Clinton, PA	7.1	-14.6	18.8	13.7	Amelia, VA	6.7	20.0	26.0	18.3			
Broome, NY	3.6	0.5	25.4	20.9	Columbia, PA	4.4	1.1	21.3	25.0	Amherst, VA	4.6	40.9	25.4	28.2			
Cayuga, NY	6.3	-8.1	23.0	16.5	Cumberland, PA	14.9	17.1	46.2	16.7	Appomattox, VA	3.1	22.7	22.9	39.8			
Chemung, NY	21.8	-4.8	14.3	12.2	Dauphin, PA	42.6	21.3	32.6	27.6	Arlington, VA	32.8	34.4	23.5	11.9			
					Elk, PA	14.8	13.7	31.8	8.8	Augusta, VA	10.6	8.2	27.5	14.9			
					Franklin, PA	8.6	10.8	28.5	-1.0	Bath, VA	6.3	21.3	26.4	8.6			
					Fulton, PA	8.4	36.6	37.2	14.3	Bedford, VA	10.1	17.4	49.2	52.0			

ANR = Agriculture and Natural Resources
 CM = Construction and Manufacturing
 SS = Sales and Services
 GOV = Government

Projected Change in Employment by Industry

In this data set, data for independent cities are combined with data for their corresponding county, except for 11 cities listed in the table on these two pages.

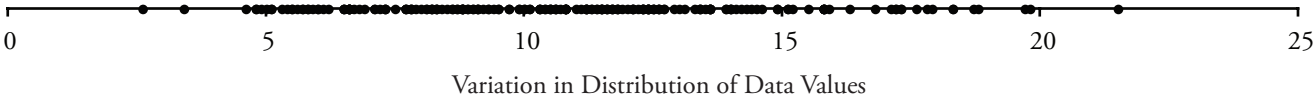
ANR	CM	SS	GOV	ANR	CM	SS	GOV	ANR	CM	SS	GOV
Botetourt, VA 9.7	64.6	65.5	38.8	Middlesex, VA 10.5	21.7	36.8	74.4	Hampton, VA (city) 15.9	33.8	28.4	11.9
Buckingham, VA 24.6	15.2	59.2	38.8	Montgomery, VA 22.3	5.9	37.6	22.4	Harrisonburg, VA (city)			
Campbell, VA 12.3	10.1	22.4	25.3	Nelson, VA 9.6	16.4	21.2	23.3	Hopewell, VA (city)			
Caroline, VA 6.1	10.8	61.4	13.9	New Kent, VA 12.3	46.4	31.0	37.7	Lexington, VA (city)			
Charles City, VA 7.2	8.7	19.7	32.5	Northampton, VA 2.0	3.4	26.2	21.4	Lynchburg, VA (city)			
Charlotte, VA 0.5	11.3	10.2	32.3	Northumberland, VA 16.5	17.9	27.1	27.7	Manassas, VA (city)			
Chesterfield, VA 41.0	26.3	67.9	31.4	Nottoway, VA 4.0	13.4	18.0	47.0	Manassas Park, VA (city)			
Clarke, VA 5.9	6.9	13.9	14.5	Orange, VA -7.2	5.4	11.0	53.2	Newport News, VA (city) 57.8	-6.1	29.7	23.5
Craig, VA -5.0	9.9	23.4	34.6	Page, VA 11.0	31.1	21.5	12.9	Norfolk, VA (city) 29.0	4.5	-0.3	7.9
Culpeper, VA 11.9	14.1	26.8	26.6	Powhatan, VA 19.0	94.2	104.8	32.8	Petersburg, VA (city)			
Cumberland, VA -2.2	38.0	39.2	31.1	Prince Edward, VA 3.3	-0.9	27.9	30.3	Poquoson, VA (city)			
Dinwiddie, VA 13.8	14.6	23.7	41.0	Prince George, VA 9.9	6.2	31.2	4.8	Portsmouth, VA (city) 48.6	10.9	12.5	4.5
Essex, VA -2.3	15.4	23.0	17.8	Prince William, VA 40.6	51.5	71.4	37.5	Richmond, VA (city) 13.0	-8.2	-4.0	7.1
Fairfax, VA 35.8	34.0	54.3	14.3	Rappahannock, VA 2.8	24.9	30.8	10.6	Roanoke, VA (city) 10.9	15.2	16.8	25.2
Fauquier, VA 14.2	20.3	31.8	38.1	Richmond, VA 0.9	16.0	21.3	40.6	Salem, VA (city)			
Fluvanna, VA 4.8	21.2	17.3	52.5	Roanoke, VA 19.3	20.9	51.1	34.3	Staunton, VA (city)			
Frederick, VA 13.1	28.4	38.2	21.8	Rockbridge, VA 4.5	9.8	30.5	14.6	Suffolk, VA (city) 8.7	4.8	30.8	32.7
Giles, VA -5.9	4.5	20.3	35.9	Rockingham, VA 3.1	17.1	38.6	38.9	Virginia Beach, VA (city) 51.6	34.6	57.7	25.3
Gloucester, VA 17.5	34.6	41.3	41.9	Shenandoah, VA 4.1	14.6	31.2	26.3	Waynesboro, VA (city)			
Goochland, VA 20.8	80.2	75.6	32.2	Spotsylvania, VA 14.1	37.5	46.7	64.3	Williamsburg, VA (city)			
Greene, VA 30.1	37.0	73.4	39.6	Stafford, VA 18.6	18.1	58.2	17.0	Winchester, VA (city)			
Hanover, VA 46.7	30.1	28.9	34.2	Surry, VA 0.5	41.4	9.9	25.9	Berkeley, WV 15.6	17.2	43.3	31.1
Henrico, VA 27.2	25.4	38.9	29.3	Warren, VA 18.1	1.9	43.6	28.5	Grant, WV -8.5	65.7	29.4	5.7
Highland, VA -5.6	19.4	15.7	10.5	Westmoreland, VA 9.5	12.7	16.6	12.8	Greenbrier, WV 2.6	2.8	34.5	10.8
Isle of Wight, VA 5.2	8.7	29.0	33.5	York, VA 19.3	30.3	67.8	12.5	Hampshire, WV 1.2	16.2	34.2	3.7
James City, VA 19.4	21.8	49.8	34.9	Alexandria, VA (city) 24.9	6.1	23.9	17.4	Hardy, WV 16.9	-6.7	21.8	16.0
King and Queen, VA 12.6	13.5	-0.4	11.2	Bedford, VA (city)				Jefferson, WV -10.1	27.2	25.1	11.4
King George, VA 9.0	37.8	58.8	12.4	Buena Vista, VA (city)				Mineral, WV -1.3	2.5	29.6	9.5
King William, VA 14.8	10.8	31.1	37.4	Charlottesville, VA (city)				Monroe, WV 0.1	18.9	27.0	10.1
Lancaster, VA 18.4	25.6	30.4	30.0	Chesapeake, VA (city) 32.6	33.9	73.3	45.5	Morgan, WV 9.9	17.6	22.0	19.9
Loudoun, VA 42.5	48.6	80.5	57.7	Colonial Heights, VA (city)				Pendleton, WV -6.1	15.5	28.2	7.1
Louisa, VA 11.8	23.8	63.0	29.8	Covington, VA (city)				Pocahontas, WV 3.2	6.1	34.8	7.3
Lunenburg, VA -6.6	5.9	13.2	49.3	Fairfax, VA (city)				Preston, WV 2.6	15.2	36.7	23.5
Madison, VA -1.2	24.5	39.3	17.1	Falls Church, VA (city)				Randolph, WV -4.5	30.5	33.0	15.1
Mathews, VA 0.5	1.4	3.3	31.5	Fredericksburg, VA (city)				Tucker, WV -5.6	18.3	29.4	13.8
								United States 17.7	16.2	36.7	25.4

ANR = Agriculture and Natural Resources
CM = Construction and Manufacturing
SS = Sales and Services
GOV = Government

Poverty

Poverty is officially defined as the condition of living in a household with income below the federally-determined poverty threshold. Poverty thresholds vary according to the size of the family and number of children. For example, \$19,484 was the poverty threshold in 2004 for a family of four people (no children). The extent of poverty can be measured as the percentage of the total population living below that threshold. Those living in poverty can face such difficulties as finding adequate housing and health care, getting enough food, and reaching job sites and government services, including parks. The level of poverty in the region necessarily becomes significant to management decisions and priorities.

Within the Chesapeake Bay Watershed region, the incidence of poverty (2004) ranges from 2.6% (Falls Church, VA [city]) to 21.5% (Baltimore, MD [city]).¹²



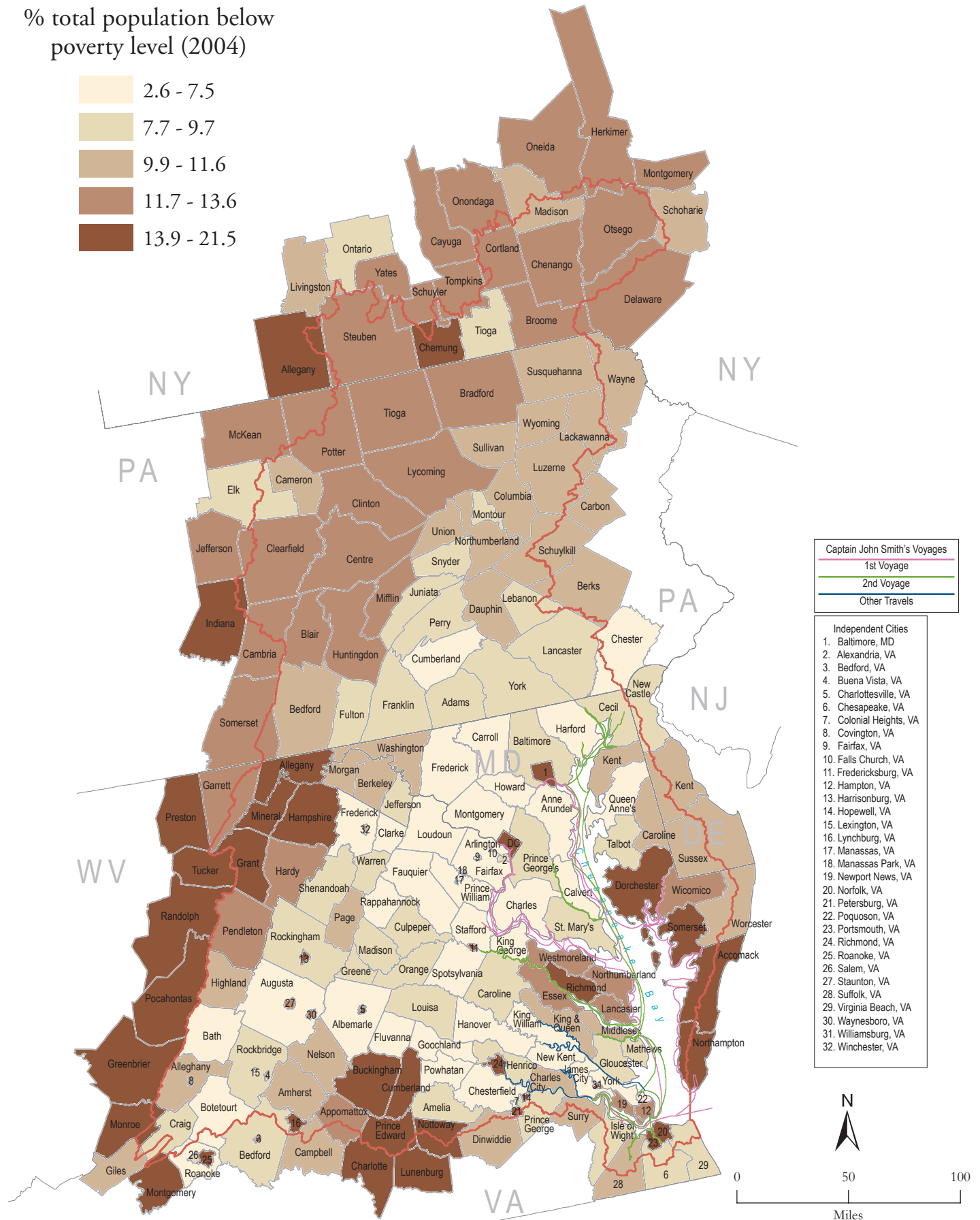
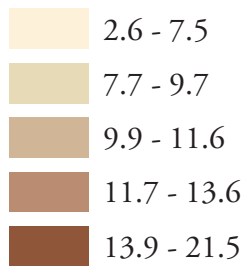
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NOTES

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Poverty

% total population below
poverty level (2004)



Poverty

% total population below poverty level (2004)

Kent, DE	11.4	Chenango, NY	13.4	Huntingdon, PA	12.4
New Castle, DE	8.9	Cortland, NY	13.6	Indiana, PA	14.6
Sussex, DE	10.4	Delaware, NY	12.4	Jefferson, PA	12.1
District of Columbia, DC	18.3	Herkimer, NY	12.6	Juniata, PA	8.8
Allegany, MD	14.2	Livingston, NY	10.8	Lackawanna, PA	11.2
Anne Arundel, MD	6.5	Madison, NY	10.6	Lancaster, PA	8.8
Baltimore, MD	8.2	Montgomery, NY	13.1	Lebanon, PA	9.0
Calvert, MD	5.4	Oneida, NY	13.6	Luzerne, PA	11.5
Caroline, MD	10.5	Onondaga, NY	12.2	Lycoming, PA	12.0
Carroll, MD	5.1	Ontario, NY	8.4	McKean, PA	13.6
Cecil, MD	8.1	Otsego, NY	12.6	Mifflin, PA	12.4
Charles, MD	7.2	Schoharie, NY	11.6	Montour, PA	9.5
Dorchester, MD	13.9	Schuyler, NY	11.7	Northumberland, PA	10.6
Frederick, MD	5.9	Steuben, NY	13.6	Perry, PA	8.2
Garrett, MD	12.7	Tioga, NY	9.4	Potter, PA	11.9
Harford, MD	6.6	Tompkins, NY	13.5	Schuylkill, PA	10.8
Howard, MD	4.8	Yates, NY	12.3	Snyder, PA	8.8
Kent, MD	11.3	Adams, PA	7.7	Somerset, PA	12.6
Montgomery, MD	6.5	Bedford, PA	10.8	Sullivan, PA	11.3
Prince George's, MD	9.3	Berks, PA	10.5	Susquehanna, PA	11.5
Queen Anne's, MD	6.6	Blair, PA	13.4	Tioga, PA	12.3
St. Mary's, MD	7.7	Bradford, PA	11.8	Union, PA	10.0
Somerset, MD	19.7	Cambria, PA	12.4	Wayne, PA	11.0
Talbot, MD	8.3	Cameron, PA	10.5	Wyoming, PA	10.3
Washington, MD	10.1	Carbon, PA	10.0	York, PA	8.1
Wicomico, MD	12.3	Centre, PA	12.1	Accomack, VA	14.9
Worcester, MD	9.9	Chester, PA	5.5	Albemarle, VA	7.3
Baltimore, MD (city)	21.5	Clearfield, PA	13.6	Alleghany, VA	10.8
Allegany, NY	15.1	Clinton, PA	13.0	Amelia, VA	9.1
Broome, NY	12.4	Columbia, PA	11.5	Amherst, VA	11.2
Cayuga, NY	11.7	Cumberland, PA	6.7	Appomattox, VA	11.8
Chemung, NY	14.0	Dauphin, PA	10.3	Arlington, VA	7.1
		Elk, PA	8.8	Augusta, VA	7.1
		Franklin, PA	8.2	Bath, VA	7.3
		Fulton, PA	9.7	Bedford, VA	7.7

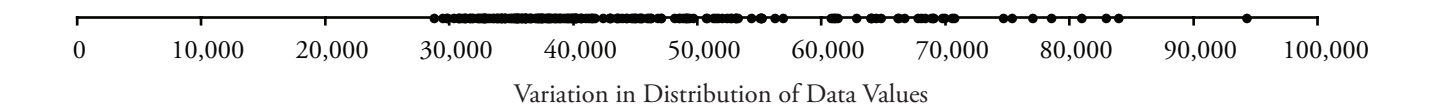
Poverty

Botetourt, VA	6.0	Middlesex, VA	11.6	Hampton, VA (city)	12.5
Buckingham, VA	17.3	Montgomery, VA	14.9	Harrisonburg, VA (city)	17.9
Campbell, VA	11.1	Nelson, VA	10.4	Hopewell, VA (city)	15.5
Caroline, VA	9.5	New Kent, VA	5.5	Lexington, VA (city)	15.8
Charles City, VA	9.9	Northampton, VA	17.6	Lynchburg, VA (city)	17.8
Charlotte, VA	15.2	Northumberland, VA	11.8	Manassas, VA (city)	7.5
Chesterfield, VA	6.5	Nottoway, VA	16.8	Manassas Park, VA (city)	6.0
Clarke, VA	6.1	Orange, VA	8.0	Newport News, VA (city)	13.4
Craig, VA	9.1	Page, VA	11.6	Norfolk, VA (city)	18.8
Culpeper, VA	8.8	Powhatan, VA	5.7	Petersburg, VA (city)	18.3
Cumberland, VA	13.9	Prince Edward, VA	18.7	Poquoson, VA (city)	4.6
Dinwiddie, VA	10.1	Prince George, VA	8.6	Portsmouth, VA (city)	15.9
Essex, VA	11.7	Prince William, VA	5.6	Richmond, VA (city)	19.8
Fairfax, VA	5.3	Rappahannock, VA	6.6	Roanoke, VA (city)	16.3
Fauquier, VA	5.8	Richmond, VA	15.8	Salem, VA (city)	7.9
Fluvanna, VA	6.2	Roanoke, VA	6.6	Staunton, VA (city)	12.5
Frederick, VA	5.8	Rockbridge, VA	9.3	Suffolk, VA (city)	10.8
Giles, VA	10.3	Rockingham, VA	8.5	Virginia Beach, VA (city)	7.8
Gloucester, VA	8.7	Shenandoah, VA	8.6	Waynesboro, VA (city)	12.7
Goochland, VA	6.9	Spotsylvania, VA	5.7	Williamsburg, VA (city)	17.3
Greene, VA	7.8	Stafford, VA	4.9	Winchester, VA (city)	11.5
Hanover, VA	5.1	Surry, VA	10.7	Berkeley, WV	11.2
Henrico, VA	7.8	Warren, VA	8.9	Grant, WV	14.1
Highland, VA	10.8	Westmoreland, VA	13.3	Greenbrier, WV	15.8
Isle of Wight, VA	9.2	York, VA	4.8	Hampshire, WV	14.0
James City, VA	6.6	Alexandria, VA (city)	8.3	Hardy, WV	12.5
King and Queen, VA	11.2	Bedford, VA (city)	15.1	Jefferson, WV	9.0
King George, VA	6.6	Buena Vista, VA (city)	11.4	Mineral, WV	14.0
King William, VA	6.8	Charlottesville, VA (city)	17.2	Monroe, WV	14.3
Lancaster, VA	12.3	Chesapeake, VA (city)	8.7	Morgan, WV	10.6
Loudoun, VA	3.4	Colonial Heights, VA (city)	7.3	Pendleton, WV	12.1
Louisa, VA	9.7	Covington, VA (city)	12.9	Pocahontas, WV	15.8
Lunenburg, VA	17.1	Fairfax, VA (city)	5.0	Preston, WV	15.8
Madison, VA	9.1	Falls Church, VA (city)	2.6	Randolph, WV	17.2
Mathews, VA	8.3	Fredericksburg, VA (city)	14.4	Tucker, WV	14.5
				United States	12.7

Median Household Income

Median household income is indicative of the general level of income among households in a county. The median value is the central value in a ranked dataset, with an equal number of observations both above and below the median. General income measures can provide insights into the opportunities to pursue recreation activities in the region.

Within the Chesapeake Bay Watershed region, median household income (2004) ranges from \$28,733 (Pocahontas, WV) to \$94,225 (Loudoun, VA).



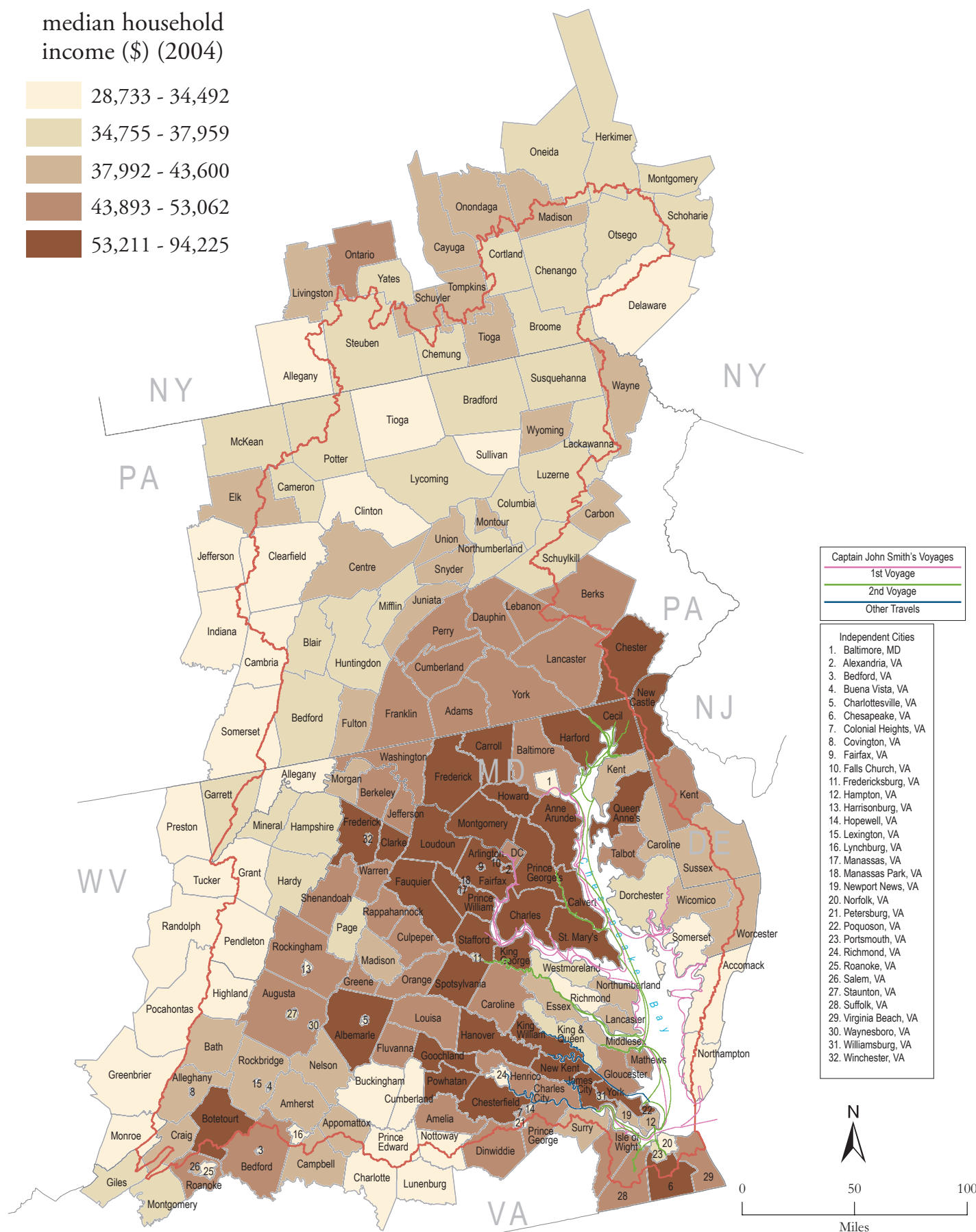
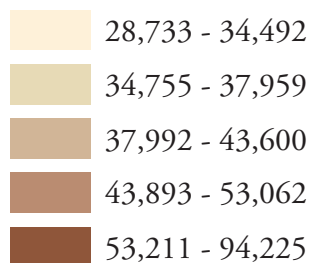
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NOTES

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Median Household Income

median household
income (\$) (2004)



Median Household Income

median household income (\$) (2004)

Kent, DE	44,889	Chenango, NY	36,511	Huntingdon, PA	35,828
New Castle, DE	54,304	Cortland, NY	36,586	Indiana, PA	33,906
Sussex, DE	41,661	Delaware, NY	34,142	Jefferson, PA	34,443
District of Columbia, DC	46,211	Herkimer, NY	35,239	Juniata, PA	40,162
Allegany, MD	33,554	Livingston, NY	43,479	Lackawanna, PA	37,545
Anne Arundel, MD	66,087	Madison, NY	41,358	Lancaster, PA	48,960
Baltimore, MD	52,308	Montgomery, NY	35,806	Lebanon, PA	44,636
Calvert, MD	74,599	Oneida, NY	37,327	Luzerne, PA	36,968
Caroline, MD	41,432	Onondaga, NY	43,474	Lycoming, PA	36,891
Carroll, MD	68,815	Ontario, NY	47,004	McKean, PA	35,144
Cecil, MD	55,088	Otsego, NY	36,439	Mifflin, PA	35,392
Charles, MD	68,938	Schoharie, NY	37,422	Montour, PA	42,883
Dorchester, MD	36,358	Schuyler, NY	37,992	Northumberland, PA	34,901
Frederick, MD	69,005	Steuben, NY	37,959	Perry, PA	45,892
Garrett, MD	36,100	Tioga, NY	42,346	Potter, PA	36,088
Harford, MD	64,025	Tompkins, NY	38,890	Schuylkill, PA	36,115
Howard, MD	80,904	Yates, NY	37,127	Snyder, PA	39,265
Kent, MD	42,883	Adams, PA	48,439	Somerset, PA	33,425
Montgomery, MD	76,957	Bedford, PA	36,059	Sullivan, PA	32,749
Prince George's, MD	55,129	Berks, PA	46,008	Susquehanna, PA	36,104
Queen Anne's, MD	63,938	Blair, PA	35,185	Tioga, PA	34,037
St. Mary's, MD	61,269	Bradford, PA	37,380	Union, PA	40,584
Somerset, MD	30,301	Cambria, PA	32,727	Wayne, PA	38,365
Talbot, MD	49,603	Cameron, PA	34,755	Wyoming, PA	39,883
Washington, MD	45,344	Carbon, PA	39,678	York, PA	49,292
Wicomico, MD	41,185	Centre, PA	38,625	Accomack, VA	31,256
Worcester, MD	43,600	Chester, PA	69,904	Albemarle, VA	55,118
Baltimore, MD (city)	29,792	Clearfield, PA	34,189	Alleghany, VA	38,489
Allegany, NY	33,791	Clinton, PA	34,162	Amelia, VA	45,008
Broome, NY	37,089	Columbia, PA	37,871	Amherst, VA	38,891
Cayuga, NY	39,454	Cumberland, PA	50,733	Appomattox, VA	38,080
Chemung, NY	37,201	Dauphin, PA	46,761	Arlington, VA	66,626
		Elk, PA	40,482	Augusta, VA	47,039
		Franklin, PA	45,454	Bath, VA	38,145
		Fulton, PA	40,198	Bedford, VA	48,518

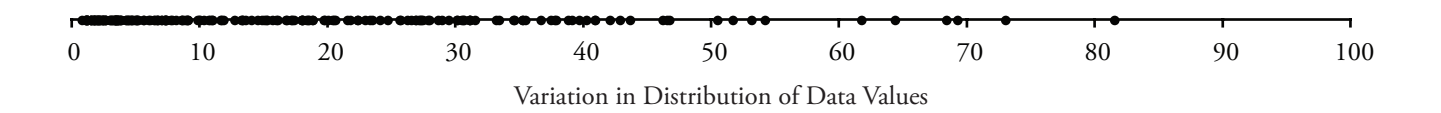
Median Household Income

Botetourt, VA	53,211	Middlesex, VA	40,607	Hampton, VA (city)	40,936
Buckingham, VA	31,606	Montgomery, VA	35,319	Harrisonburg, VA (city)	31,565
Campbell, VA	40,058	Nelson, VA	40,000	Hopewell, VA (city)	34,422
Caroline, VA	44,212	New Kent, VA	61,001	Lexington, VA (city)	33,190
Charles City, VA	44,887	Northampton, VA	31,847	Lynchburg, VA (city)	32,997
Charlotte, VA	30,698	Northumberland, VA	40,139	Manassas, VA (city)	62,753
Chesterfield, VA	63,931	Nottoway, VA	32,179	Manassas Park, VA (city)	64,753
Clarke, VA	56,839	Orange, VA	49,082	Newport News, VA (city)	39,574
Craig, VA	39,826	Page, VA	35,720	Norfolk, VA (city)	33,777
Culpeper, VA	52,707	Powhatan, VA	60,864	Petersburg, VA (city)	29,419
Cumberland, VA	34,492	Prince Edward, VA	30,719	Poquoson, VA (city)	70,476
Dinwiddie, VA	44,269	Prince George, VA	50,649	Portsmouth, VA (city)	35,782
Essex, VA	38,770	Prince William, VA	75,302	Richmond, VA (city)	32,547
Fairfax, VA	83,890	Rappahannock, VA	53,062	Roanoke, VA (city)	32,807
Fauquier, VA	70,652	Richmond, VA	34,347	Salem, VA (city)	41,517
Fluvanna, VA	53,062	Roanoke, VA	52,577	Staunton, VA (city)	35,417
Frederick, VA	55,084	Rockbridge, VA	40,081	Suffolk, VA (city)	49,038
Giles, VA	37,241	Rockingham, VA	45,238	Virginia Beach, VA (city)	51,643
Gloucester, VA	48,760	Shenandoah, VA	43,893	Waynesboro, VA (city)	35,455
Goochland, VA	64,369	Spotsylvania, VA	67,722	Williamsburg, VA (city)	35,559
Greene, VA	51,221	Stafford, VA	78,498	Winchester, VA (city)	39,142
Hanover, VA	67,979	Surry, VA	39,489	Berkeley, WV	45,390
Henrico, VA	53,009	Warren, VA	49,193	Grant, WV	32,346
Highland, VA	32,852	Westmoreland, VA	37,866	Greenbrier, WV	30,694
Isle of Wight, VA	51,424	York, VA	68,310	Hampshire, WV	36,008
James City, VA	66,180	Alexandria, VA (city)	60,715	Hardy, WV	35,361
King and Queen, VA	37,738	Bedford, VA (city)	31,754	Jefferson, WV	51,930
King George, VA	61,066	Buena Vista, VA (city)	34,982	Mineral, WV	35,537
King William, VA	55,004	Charlottesville, VA (city)	31,246	Monroe, WV	31,069
Lancaster, VA	38,464	Chesapeake, VA (city)	56,174	Morgan, WV	39,804
Loudoun, VA	94,225	Colonial Heights, VA (city)	46,164	Pendleton, WV	32,779
Louisa, VA	44,726	Covington, VA (city)	32,622	Pocahontas, WV	28,733
Lunenburg, VA	29,724	Fairfax, VA (city)	69,704	Preston, WV	32,343
Madison, VA	42,948	Falls Church, VA (city)	82,906	Randolph, WV	30,901
Mathews, VA	48,088	Fredericksburg, VA (city)	37,406	Tucker, WV	31,209
				United States	44,334

Racial Diversity

Racial diversity is measured as the percentage of the population who identify themselves as belonging to minority race groups. In the current U.S. context, “minority” races are defined as non-White (Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, Some Other Race, and Two or More Races). Interactions among people can be influenced by racial identity. Hence, it makes sense for institutions ranging from retailers to police to parks to consider regional racial diversity when recruiting and training staff, when designing public information and educational materials, and when soliciting public involvement in decision-making.

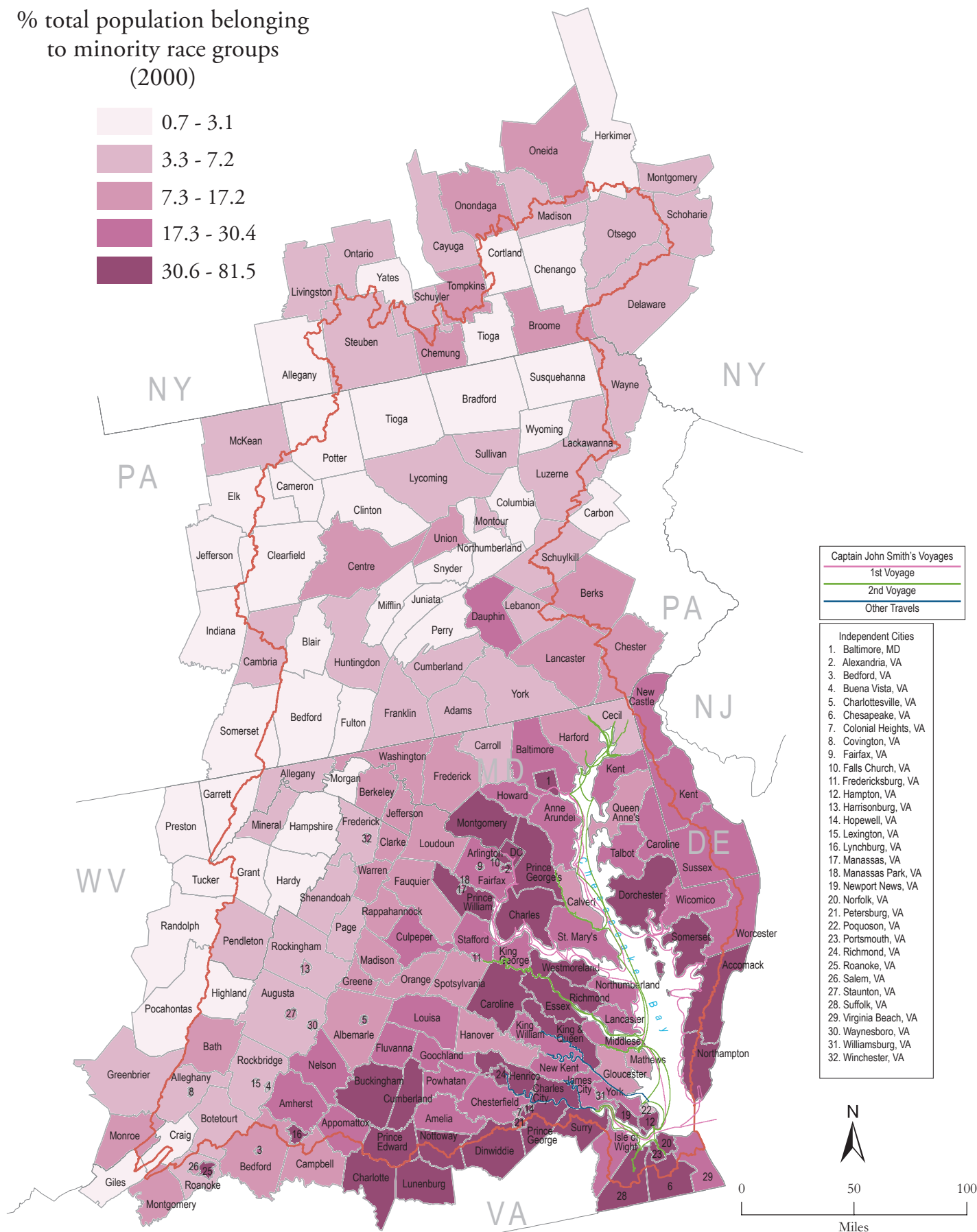
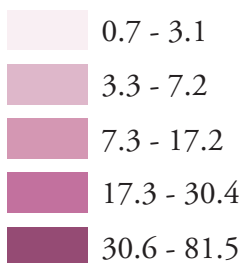
Within the Chesapeake Bay Watershed region, the percentage of racial minorities (2000) ranges from 0.7% (Highland, VA) to 81.5% (Petersburg, VA [city]).¹³



..... NOTES

Racial Diversity

% total population belonging
to minority race groups
(2000)



Racial Diversity

% total population belonging to minority race groups (2000)

Kent, DE	26.5	Chenango, NY	2.4	Huntingdon, PA	6.7
New Castle, DE	26.9	Cortland, NY	3.1	Indiana, PA	3.1
Sussex, DE	19.7	Delaware, NY	3.6	Jefferson, PA	1.0
District of Columbia, DC	69.2	Herkimer, NY	2.2	Juniata, PA	1.9
Allegany, MD	7.0	Livingston, NY	6.0	Lackawanna, PA	3.3
Anne Arundel, MD	18.8	Madison, NY	3.5	Lancaster, PA	8.5
Baltimore, MD	25.6	Montgomery, NY	5.1	Lebanon, PA	5.5
Calvert, MD	16.1	Oneida, NY	9.8	Luzerne, PA	3.4
Caroline, MD	18.3	Onondaga, NY	15.2	Lycoming, PA	6.1
Carroll, MD	4.3	Ontario, NY	5.0	McKean, PA	3.5
Cecil, MD	6.6	Otsego, NY	4.2	Mifflin, PA	1.5
Charles, MD	31.5	Schoharie, NY	3.4	Montour, PA	3.3
Dorchester, MD	30.6	Schuyler, NY	3.5	Northumberland, PA	2.9
Frederick, MD	10.7	Steuben, NY	3.6	Perry, PA	1.5
Garrett, MD	1.2	Tioga, NY	2.5	Potter, PA	1.9
Harford, MD	13.2	Tompkins, NY	14.5	Schuylkill, PA	3.4
Howard, MD	25.7	Yates, NY	2.1	Snyder, PA	2.1
Kent, MD	20.4	Adams, PA	4.6	Somerset, PA	2.6
Montgomery, MD	35.2	Bedford, PA	1.5	Sullivan, PA	4.4
Prince George's, MD	73.0	Berks, PA	11.8	Susquehanna, PA	1.5
Queen Anne's, MD	11.0	Blair, PA	2.4	Tioga, PA	1.9
St. Mary's, MD	18.4	Bradford, PA	2.1	Union, PA	9.9
Somerset, MD	43.6	Cambria, PA	4.2	Wayne, PA	3.3
Talbot, MD	18.0	Cameron, PA	1.2	Wyoming, PA	1.7
Washington, MD	10.3	Carbon, PA	2.2	York, PA	7.2
Wicomico, MD	27.4	Centre, PA	8.6	Accomack, VA	36.6
Worcester, MD	18.8	Chester, PA	10.8	Albemarle, VA	14.8
Baltimore, MD (city)	68.4	Clearfield, PA	2.6	Alleghany, VA	7.0
Allegany, NY	3.0	Clinton, PA	1.7	Amelia, VA	29.4
Broome, NY	8.7	Columbia, PA	2.4	Amherst, VA	22.3
Cayuga, NY	6.7	Cumberland, PA	5.6	Appomattox, VA	24.1
Chemung, NY	9.0	Dauphin, PA	22.9	Arlington, VA	31.1
		Elk, PA	1.0	Augusta, VA	5.0
		Franklin, PA	4.7	Bath, VA	7.7
		Fulton, PA	1.7	Bedford, VA	7.8

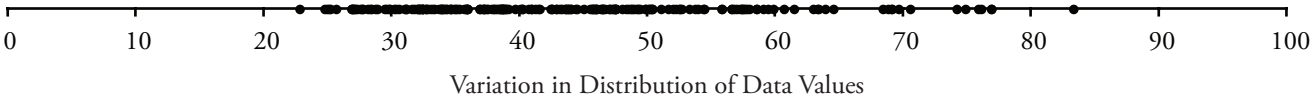
Racial Diversity

Botetourt, VA	5.1	Middlesex, VA	21.5	Hampton, VA (city)	50.5
Buckingham, VA	40.9	Montgomery, VA	10.0	Harrisonburg, VA (city)	15.2
Campbell, VA	16.8	Nelson, VA	17.3	Hopewell, VA (city)	37.7
Caroline, VA	37.4	New Kent, VA	19.7	Lexington, VA (city)	14.0
Charles City, VA	64.3	Northampton, VA	46.7	Lynchburg, VA (city)	33.4
Charlotte, VA	34.5	Northumberland, VA	27.8	Manassas, VA (city)	27.9
Chesterfield, VA	23.3	Nottoway, VA	42.8	Manassas Park, VA (city)	27.2
Clarke, VA	8.9	Orange, VA	15.6	Newport News, VA (city)	46.5
Craig, VA	1.1	Page, VA	3.7	Norfolk, VA (city)	51.6
Culpeper, VA	21.7	Powhatan, VA	18.5	Petersburg, VA (city)	81.5
Cumberland, VA	39.6	Prince Edward, VA	37.8	Poquoson, VA (city)	3.7
Dinwiddie, VA	35.4	Prince George, VA	39.1	Portsmouth, VA (city)	54.2
Essex, VA	42.0	Prince William, VA	31.1	Richmond, VA (city)	61.7
Fairfax, VA	30.1	Rappahannock, VA	7.4	Roanoke, VA (city)	30.6
Fauquier, VA	11.6	Richmond, VA	35.2	Salem, VA (city)	8.1
Fluvanna, VA	20.6	Roanoke, VA	6.4	Staunton, VA (city)	16.7
Frederick, VA	5.0	Rockbridge, VA	4.6	Suffolk, VA (city)	46.2
Giles, VA	2.6	Rockingham, VA	3.4	Virginia Beach, VA (city)	28.6
Gloucester, VA	13.3	Shenandoah, VA	4.4	Waynesboro, VA (city)	13.5
Goochland, VA	27.3	Spotsylvania, VA	17.1	Williamsburg, VA (city)	20.5
Greene, VA	9.0	Stafford, VA	18.0	Winchester, VA (city)	17.9
Hanover, VA	11.7	Surry, VA	53.1	Berkeley, WV	7.3
Henrico, VA	31.1	Warren, VA	7.3	Grant, WV	1.7
Highland, VA	0.7	Westmoreland, VA	34.6	Greenbrier, WV	4.8
Isle of Wight, VA	28.9	York, VA	20.0	Hampshire, WV	2.0
James City, VA	18.0	Alexandria, VA (city)	40.2	Hardy, WV	3.1
King and Queen, VA	38.8	Bedford, VA (city)	24.7	Jefferson, WV	9.0
King George, VA	22.3	Buena Vista, VA (city)	6.4	Mineral, WV	3.8
King William, VA	26.2	Charlottesville, VA (city)	30.4	Monroe, WV	7.3
Lancaster, VA	30.1	Chesapeake, VA (city)	33.1	Morgan, WV	1.7
Loudoun, VA	17.2	Colonial Heights, VA (city)	10.9	Pendleton, WV	3.7
Louisa, VA	23.5	Covington, VA (city)	15.9	Pocahontas, WV	1.6
Lunenburg, VA	40.9	Fairfax, VA (city)	27.1	Preston, WV	1.2
Madison, VA	13.3	Falls Church, VA (city)	15.0	Randolph, WV	2.3
Mathews, VA	12.7	Fredericksburg, VA (city)	26.8	Tucker, WV	1.1
				United States	24.9

Educational Attainment

Educational attainment indicators measure the average amount of formal education that a county’s residents have received. One indicator of educational attainment is the percentage of adults who have attended or graduated from college. Educational attainment can influence many aspects of life, such as how much money people earn, what they do for recreation, where they get their information, and how they participate in civic life. With regard to management, the educational attainment of the general public is an important consideration in activities, such as marketing, public participation processes, and the design of interpretive programs.

Within the Chesapeake Bay Watershed region, the percentage of adults with some college education (2000) ranges from 22.8% (Juniata, PA) to 83.3% (Falls Church, VA [city]).¹⁴



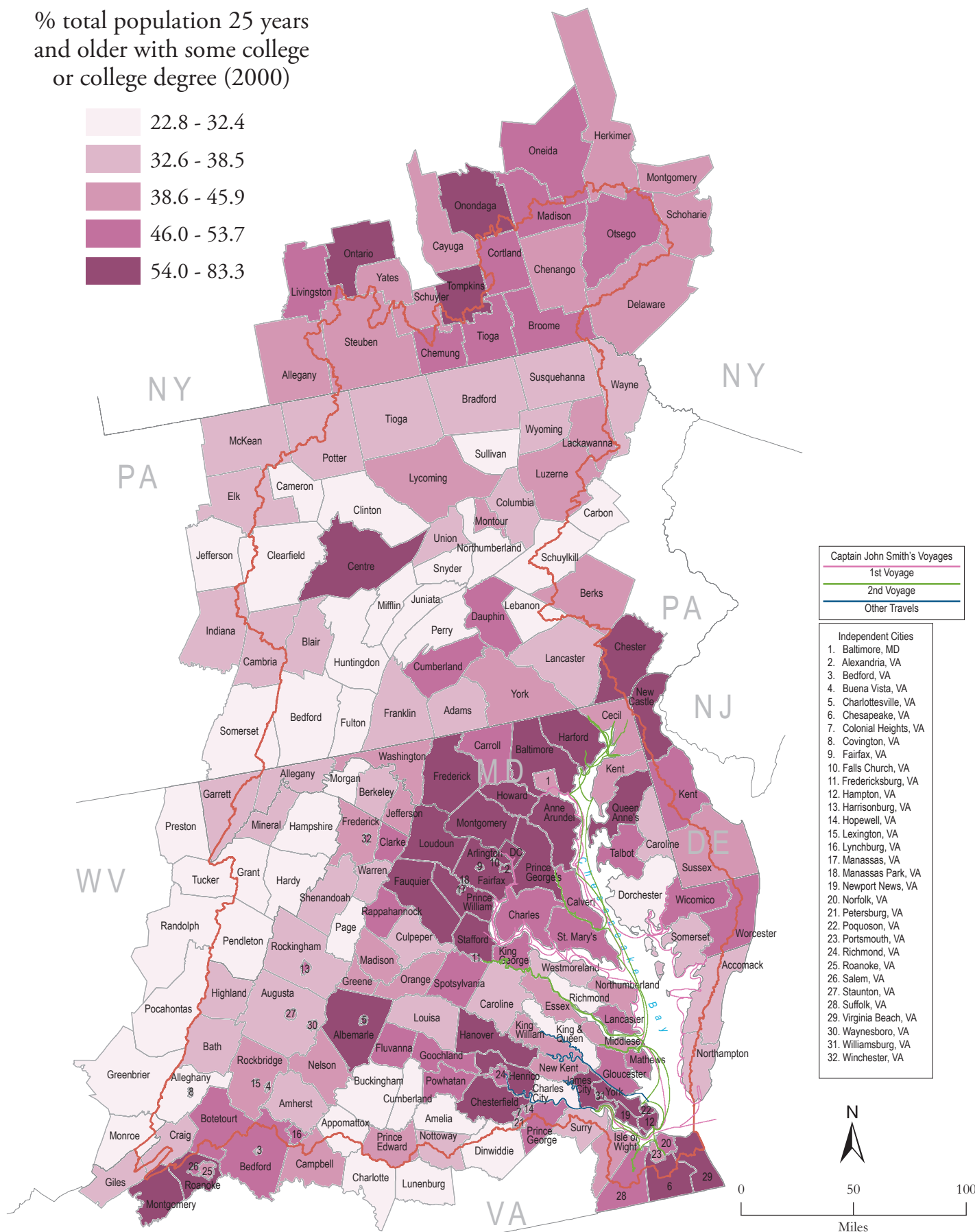
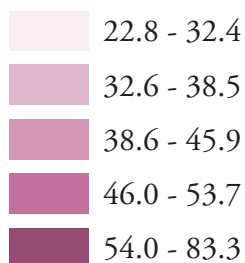
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Educational Attainment

% total population 25 years and older with some college or college degree (2000)



Educational Attainment

% total population 25 years
and older with some college or
college degree (2000)

Kent, DE	46.5	Chenango, NY	40.7	Huntingdon, PA	27.3
New Castle, DE	55.8	Cortland, NY	47.0	Indiana, PA	34.6
Sussex, DE	40.9	Delaware, NY	42.5	Jefferson, PA	29.6
District of Columbia, DC	57.2	Herkimer, NY	44.0	Juniata, PA	22.8
Allegany, MD	37.5	Livingston, NY	48.5	Lackawanna, PA	41.5
Anne Arundel, MD	58.5	Madison, NY	50.2	Lancaster, PA	38.5
Baltimore, MD	56.8	Montgomery, NY	38.9	Lebanon, PA	32.0
Calvert, MD	52.5	Oneida, NY	46.5	Luzerne, PA	39.6
Caroline, MD	33.0	Onondaga, NY	56.6	Lycoming, PA	38.7
Carroll, MD	52.0	Ontario, NY	55.8	McKean, PA	34.3
Cecil, MD	43.3	Otsego, NY	48.3	Mifflin, PA	25.2
Charles, MD	52.5	Schoharie, NY	43.6	Montour, PA	40.2
Dorchester, MD	32.2	Schuyler, NY	42.5	Northumberland, PA	27.7
Frederick, MD	57.0	Steuben, NY	45.5	Perry, PA	30.3
Garrett, MD	35.6	Tioga, NY	47.4	Potter, PA	33.3
Harford, MD	58.5	Tompkins, NY	69.1	Schuylkill, PA	28.9
Howard, MD	76.9	Yates, NY	43.8	Snyder, PA	26.8
Kent, MD	42.9	Adams, PA	35.9	Somerset, PA	27.1
Montgomery, MD	75.8	Bedford, PA	27.6	Sullivan, PA	32.4
Prince George's, MD	57.6	Berks, PA	38.7	Susquehanna, PA	35.3
Queen Anne's, MD	54.0	Blair, PA	33.8	Tioga, PA	35.8
St. Mary's, MD	50.4	Bradford, PA	34.6	Union, PA	34.1
Somerset, MD	32.8	Cambria, PA	32.7	Wayne, PA	37.2
Talbot, MD	53.7	Cameron, PA	29.8	Wyoming, PA	38.4
Washington, MD	38.9	Carbon, PA	31.1	York, PA	39.1
Wicomico, MD	46.3	Centre, PA	54.4	Accomack, VA	33.8
Worcester, MD	47.5	Chester, PA	63.3	Albemarle, VA	69.6
Baltimore, MD (city)	40.2	Clearfield, PA	28.1	Alleghany, VA	32.4
Allegany, NY	43.6	Clinton, PA	32.4	Amelia, VA	32.1
Broome, NY	51.1	Columbia, PA	34.2	Amherst, VA	37.2
Cayuga, NY	43.1	Cumberland, PA	50.3	Appomattox, VA	32.4
Chemung, NY	46.0	Dauphin, PA	46.0	Arlington, VA	76.1
		Elk, PA	33.2	Augusta, VA	37.9
		Franklin, PA	34.0	Bath, VA	34.9
		Fulton, PA	24.9	Bedford, VA	47.4

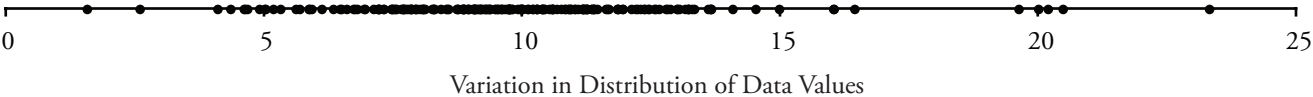
Educational Attainment

Botetourt, VA	47.5	Middlesex, VA	43.8	Hampton, VA (city)	57.5
Buckingham, VA	24.7	Montgomery, VA	59.1	Harrisonburg, VA (city)	53.3
Campbell, VA	40.1	Nelson, VA	42.4	Hopewell, VA (city)	35.9
Caroline, VA	33.7	New Kent, VA	45.9	Lexington, VA (city)	59.8
Charles City, VA	31.1	Northampton, VA	38.2	Lynchburg, VA (city)	50.3
Charlotte, VA	28.4	Northumberland, VA	45.0	Manassas, VA (city)	57.3
Chesterfield, VA	63.3	Nottoway, VA	32.6	Manassas Park, VA (city)	49.0
Clarke, VA	49.2	Orange, VA	41.2	Newport News, VA (city)	54.4
Craig, VA	35.8	Page, VA	25.1	Norfolk, VA (city)	48.8
Culpeper, VA	38.0	Powhatan, VA	46.7	Petersburg, VA (city)	38.3
Cumberland, VA	30.2	Prince Edward, VA	41.5	Poquoson, VA (city)	61.5
Dinwiddie, VA	32.0	Prince George, VA	49.9	Portsmouth, VA (city)	45.8
Essex, VA	38.7	Prince William, VA	63.9	Richmond, VA (city)	51.6
Fairfax, VA	76.9	Rappahannock, VA	45.9	Roanoke, VA (city)	45.6
Fauquier, VA	56.6	Richmond, VA	28.7	Salem, VA (city)	49.8
Fluvanna, VA	47.5	Roanoke, VA	57.9	Staunton, VA (city)	44.5
Frederick, VA	42.9	Rockbridge, VA	38.6	Suffolk, VA (city)	47.2
Giles, VA	35.1	Rockingham, VA	37.1	Virginia Beach, VA (city)	64.5
Gloucester, VA	50.1	Shenandoah, VA	36.9	Waynesboro, VA (city)	44.0
Goochland, VA	49.4	Spotsylvania, VA	52.2	Williamsburg, VA (city)	68.8
Greene, VA	43.7	Stafford, VA	60.7	Winchester, VA (city)	48.7
Hanover, VA	57.8	Surry, VA	37.4	Berkeley, WV	37.2
Henrico, VA	62.9	Warren, VA	37.8	Grant, WV	27.7
Highland, VA	34.6	Westmoreland, VA	35.9	Greenbrier, WV	32.2
Isle of Wight, VA	45.7	York, VA	70.5	Hampshire, WV	27.1
James City, VA	68.4	Alexandria, VA (city)	74.2	Hardy, WV	25.7
King and Queen, VA	31.0	Bedford, VA (city)	38.5	Jefferson, WV	44.4
King George, VA	48.0	Buena Vista, VA (city)	35.0	Mineral, WV	33.9
King William, VA	40.9	Charlottesville, VA (city)	59.4	Monroe, WV	26.9
Lancaster, VA	46.5	Chesapeake, VA (city)	57.4	Morgan, WV	29.8
Loudoun, VA	74.9	Colonial Heights, VA (city)	49.2	Pendleton, WV	29.4
Louisa, VA	36.9	Covington, VA (city)	31.6	Pocahontas, WV	28.3
Lunenburg, VA	31.8	Fairfax, VA (city)	69.1	Preston, WV	26.9
Madison, VA	38.8	Falls Church, VA (city)	83.3	Randolph, WV	30.6
Mathews, VA	47.0	Fredericksburg, VA (city)	52.7	Tucker, WV	27.0
				United States	51.8

Recreation/Tourism Establishments

The recreation and tourism industry is measured using two categories: the arts, entertainment and recreation sector (ranging from museums and concerts, to sporting events and amusement parks) and the accommodation and food services sector (ranging from hotels to campsites). The size of these sectors is a broad indicator of a county’s economic reliance on recreation and tourism relative to the other sectors of the economy. Recreation and tourism establishments can be proponents of actions that enhance their area’s attractiveness as a visitor destination (such as transportation improvements, protection of scenic or cultural landmarks, or marketing campaigns). Recreation and tourism establishments also can be vulnerable to, and thus wary of, actions, policies, or chance events that could affect business, such as visitor use restrictions, fires, or economic downturns.

Within the Chesapeake Bay Watershed region, the percentage of total establishments in arts, entertainment, recreation, accommodation and food services (2005) ranges from 1.6% (King and Queen, VA) to 23.3% (Williamsburg, VA).¹⁵



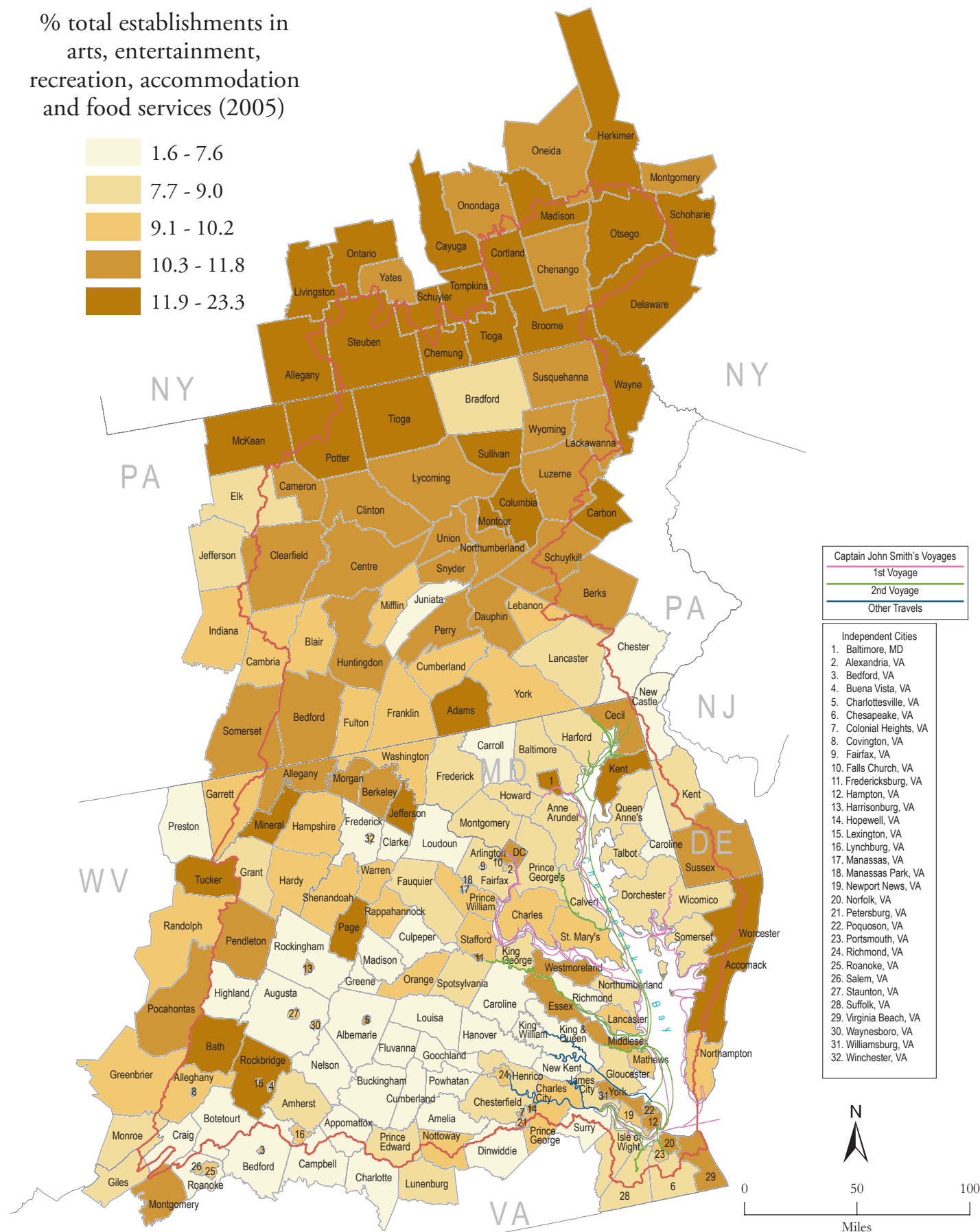
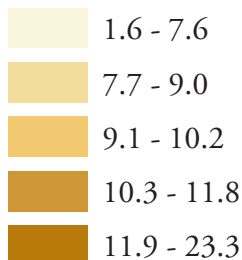
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Recreation/Tourism Establishments

% total establishments in
arts, entertainment,
recreation, accommodation
and food services (2005)



Recreation/Tourism Establishments

% total establishments in arts, entertainment, recreation, accommodation and food services (2005)		Chenango, NY	10.7	Huntingdon, PA	11.2
		Cortland, NY	14.5	Indiana, PA	9.6
		Delaware, NY	13.6	Jefferson, PA	8.8
Kent, DE	8.7	Herkimer, NY	16.0	Juniata, PA	7.5
New Castle, DE	7.3	Livingston, NY	13.7	Lackawanna, PA	11.2
Sussex, DE	11.2	Madison, NY	13.1	Lancaster, PA	8.9
District of Columbia, DC	10.9	Montgomery, NY	11.2	Lebanon, PA	9.7
Allegany, MD	11.3	Oneida, NY	11.8	Luzerne, PA	10.9
Anne Arundel, MD	8.9	Onondaga, NY	10.7	Lycoming, PA	10.6
Baltimore, MD	8.8	Ontario, NY	13.0	McKean, PA	11.9
Calvert, MD	8.3	Otsego, NY	16.4	Mifflin, PA	9.1
Caroline, MD	6.1	Schoharie, NY	12.2	Montour, PA	12.9
Carroll, MD	6.9	Schuyler, NY	20.5	Northumberland, PA	10.4
Cecil, MD	11.4	Steuben, NY	13.2	Perry, PA	10.3
Charles, MD	9.1	Tioga, NY	13.3	Potter, PA	11.9
Dorchester, MD	8.1	Tompkins, NY	16.0	Schuylkill, PA	10.3
Frederick, MD	7.8	Yates, NY	11.8	Snyder, PA	11.6
Garrett, MD	9.5	Adams, PA	13.0	Somerset, PA	10.8
Harford, MD	7.8	Bedford, PA	10.4	Sullivan, PA	12.4
Howard, MD	7.7	Berks, PA	10.3	Susquehanna, PA	11.0
Kent, MD	13.3	Blair, PA	9.4	Tioga, PA	12.8
Montgomery, MD	7.7	Bradford, PA	9.0	Union, PA	10.9
Prince George's, MD	8.9	Cambria, PA	10.0	Wayne, PA	13.2
Queen Anne's, MD	8.0	Cameron, PA	11.3	Wyoming, PA	10.4
St. Mary's, MD	9.2	Carbon, PA	12.5	York, PA	9.7
Somerset, MD	8.7	Centre, PA	10.6	Accomack, VA	13.6
Talbot, MD	8.8	Chester, PA	7.5	Albemarle, VA	7.2
Washington, MD	9.3	Clearfield, PA	10.4	Alleghany, VA	9.7
Wicomico, MD	7.9	Clinton, PA	11.2	Amelia, VA	4.6
Worcester, MD	20.2	Columbia, PA	11.9	Amherst, VA	7.8
Baltimore, MD (city)	12.2	Cumberland, PA	9.5	Appomattox, VA	5.9
Allegany, NY	15.0	Dauphin, PA	11.2	Arlington, VA	11.4
Broome, NY	13.2	Elk, PA	8.9	Augusta, VA	6.9
Cayuga, NY	13.0	Franklin, PA	9.7	Bath, VA	12.8
Chemung, NY	12.6	Fulton, PA	9.3	Bedford, VA	5.9

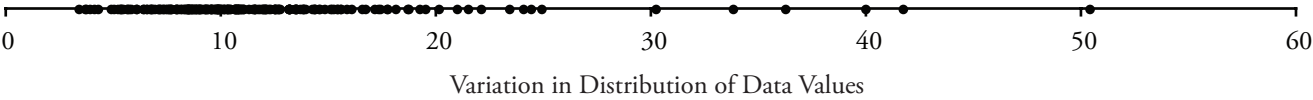
Recreation/Tourism Establishments

Botetourt, VA	7.1	Middlesex, VA	11.7	Hampton, VA (city)	11.0
Buckingham, VA	2.6	Montgomery, VA	10.5	Harrisonburg, VA (city)	10.4
Campbell, VA	5.6	Nelson, VA	6.8	Hopewell, VA (city)	12.6
Caroline, VA	7.5	New Kent, VA	6.8	Lexington, VA (city)	20.0
Charles City, VA	9.3	Northampton, VA	10.2	Lynchburg, VA (city)	9.9
Charlotte, VA	5.0	Northumberland, VA	8.4	Manassas, VA (city)	8.3
Chesterfield, VA	7.8	Nottoway, VA	9.5	Manassas Park, VA (city)	4.1
Clarke, VA	4.9	Orange, VA	9.3	Newport News, VA (city)	10.2
Craig, VA	5.2	Page, VA	12.7	Norfolk, VA (city)	10.8
Culpeper, VA	7.2	Powhatan, VA	4.7	Petersburg, VA (city)	9.6
Cumberland, VA	4.3	Prince Edward, VA	8.6	Poquoson, VA (city)	10.9
Dinwiddie, VA	5.3	Prince George, VA	9.6	Portsmouth, VA (city)	10.0
Essex, VA	11.2	Prince William, VA	9.2	Richmond, VA (city)	9.2
Fairfax, VA	8.1	Rappahannock, VA	9.5	Roanoke, VA (city)	9.1
Fauquier, VA	8.1	Richmond, VA	6.7	Salem, VA (city)	10.1
Fluvanna, VA	5.7	Roanoke, VA	7.5	Staunton, VA (city)	9.7
Frederick, VA	7.2	Rockbridge, VA	13.7	Suffolk, VA (city)	7.7
Giles, VA	8.9	Rockingham, VA	5.9	Virginia Beach, VA (city)	11.4
Gloucester, VA	8.1	Shenandoah, VA	9.8	Waynesboro, VA (city)	9.4
Goochland, VA	6.5	Spotsylvania, VA	7.8	Williamsburg, VA (city)	23.3
Greene, VA	7.2	Stafford, VA	9.1	Winchester, VA (city)	9.8
Hanover, VA	6.5	Surry, VA	6.3	Berkeley, WV	11.3
Henrico, VA	8.3	Warren, VA	9.7	Grant, WV	7.7
Highland, VA	6.6	Westmoreland, VA	11.1	Greenbrier, WV	9.8
Isle of Wight, VA	8.3	York, VA	10.6	Hampshire, WV	10.1
James City, VA	8.6	Alexandria, VA (city)	9.2	Hardy, WV	10.0
King and Queen, VA	1.6	Bedford, VA (city)	9.1	Jefferson, WV	14.1
King George, VA	8.5	Buena Vista, VA (city)	10.0	Mineral, WV	12.4
King William, VA	7.6	Charlottesville, VA (city)	12.3	Monroe, WV	9.0
Lancaster, VA	9.2	Chesapeake, VA (city)	7.9	Morgan, WV	11.6
Loudoun, VA	7.3	Colonial Heights, VA (city)	11.2	Pendleton, WV	10.6
Louisa, VA	4.6	Covington, VA (city)	9.8	Pocahontas, WV	11.5
Lunenburg, VA	7.7	Fairfax, VA (city)	8.0	Preston, WV	7.5
Madison, VA	5.0	Falls Church, VA (city)	12.3	Randolph, WV	9.1
Mathews, VA	10.0	Fredericksburg, VA (city)	12.1	Tucker, WV	19.6
				United States	9.7

Recreation/Tourism Employment

The significance of the recreation/tourism industry to a county economy can be indicated by the percentage of county workers that it employs. Workers counted as recreation and tourism employees include country club managers, blackjack dealers, campground employees, fishing guides, motel attendants, and other providers of recreation services. A high level of recreation/tourism employment may mean that residents have more disposable income or that the area attracts visitors or vacationers.

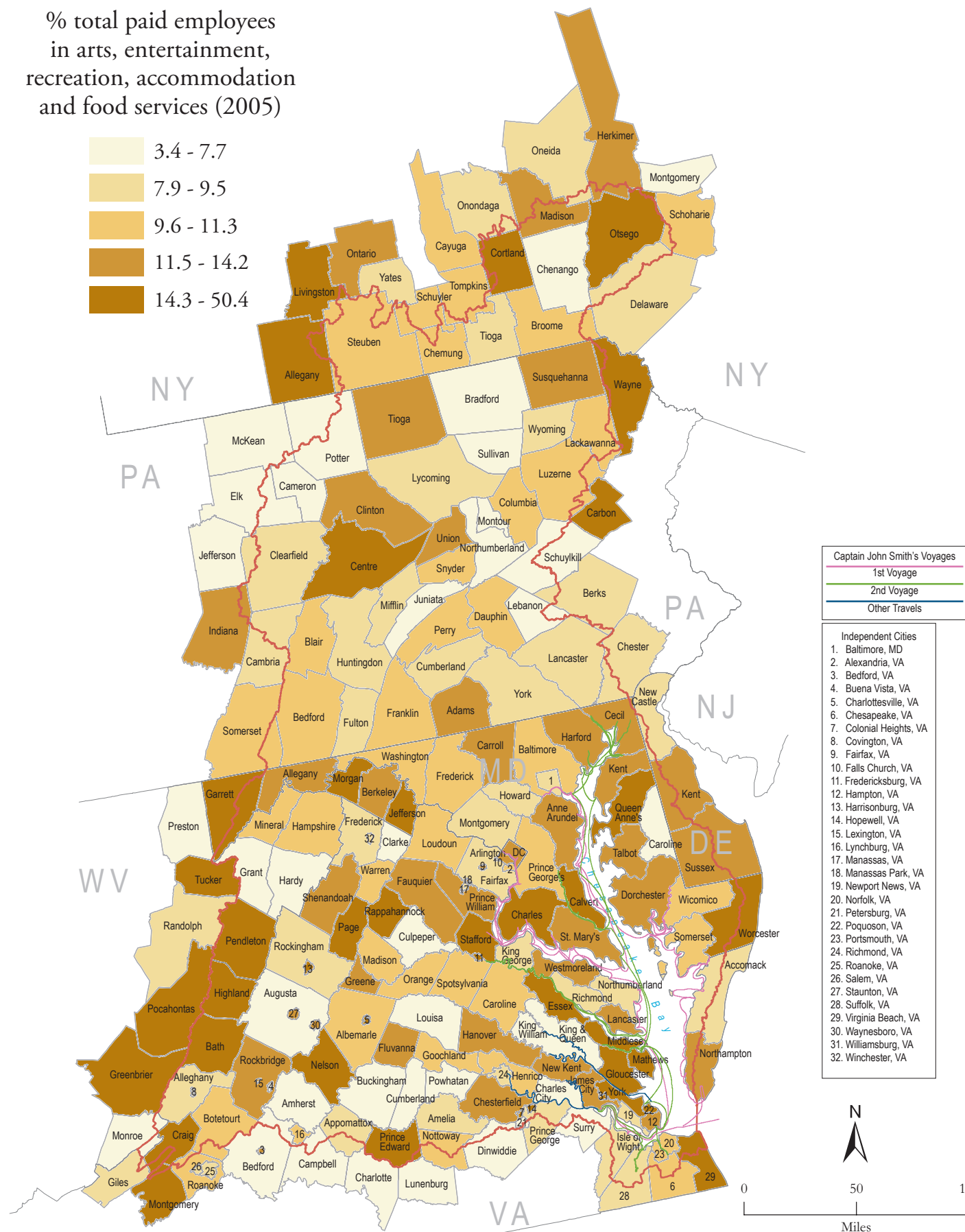
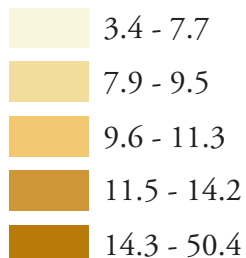
Within the Chesapeake Bay Watershed region, the percentage of total paid employees in arts, entertainment, recreation, accommodation and food services (2005) ranges from 3.4% (Lunenburg, VA) to 50.4% (Williamsburg, VA [city]).¹⁶



..... NOTES

Recreation/Tourism Employment

% total paid employees
in arts, entertainment,
recreation, accommodation
and food services (2005)



Recreation/Tourism Employment

% total paid employees in arts, entertainment, recreation, accommodation and food services (2005)		Chenango, NY	7.1	Huntingdon, PA	9.4
		Cortland, NY	19.5	Indiana, PA	11.5
		Delaware, NY	8.7	Jefferson, PA	7.6
Kent, DE	13.2	Herkimer, NY	12.2	Juniata, PA	6.4
New Castle, DE	8.6	Livingston, NY	16.5	Lackawanna, PA	9.6
Sussex, DE	11.6	Madison, NY	13.7	Lancaster, PA	8.9
District of Columbia, DC	12.6	Montgomery, NY	7.5	Lebanon, PA	7.5
Allegany, MD	12.7	Oneida, NY	8.0	Luzerne, PA	10.0
Anne Arundel, MD	12.0	Onondaga, NY	9.2	Lycoming, PA	9.2
Baltimore, MD	9.8	Ontario, NY	13.2	McKean, PA	7.6
Calvert, MD	15.4	Otsego, NY	14.5	Mifflin, PA	7.9
Caroline, MD	5.8	Schoharie, NY	9.8	Montour, PA	7.1
Carroll, MD	12.1	Schuyler, NY	10.6	Northumberland, PA	6.5
Cecil, MD	13.8	Steuben, NY	9.6	Perry, PA	10.7
Charles, MD	14.3	Tioga, NY	8.4	Potter, PA	5.4
Dorchester, MD	12.0	Tompkins, NY	9.9	Schuylkill, PA	7.2
Frederick, MD	10.6	Yates, NY	8.5	Snyder, PA	9.8
Garrett, MD	17.7	Adams, PA	13.8	Somerset, PA	10.8
Harford, MD	13.5	Bedford, PA	11.0	Sullivan, PA	6.4
Howard, MD	8.5	Berks, PA	8.8	Susquehanna, PA	12.1
Kent, MD	12.5	Blair, PA	10.8	Tioga, PA	11.5
Montgomery, MD	8.7	Bradford, PA	6.7	Union, PA	11.7
Prince George's, MD	9.8	Cambria, PA	9.0	Wayne, PA	20.1
Queen Anne's, MD	18.1	Cameron, PA	3.9	Wyoming, PA	8.1
St. Mary's, MD	11.9	Carbon, PA	21.0	York, PA	9.1
Somerset, MD	10.2	Centre, PA	15.5	Accomack, VA	9.5
Talbot, MD	13.9	Chester, PA	7.9	Albemarle, VA	10.4
Washington, MD	9.7	Clearfield, PA	9.5	Alleghany, VA	9.3
Wicomico, MD	10.1	Clinton, PA	11.5	Amelia, VA	9.0
Worcester, MD	33.8	Columbia, PA	10.3	Amherst, VA	7.7
Baltimore, MD (city)	9.5	Cumberland, PA	8.8	Appomattox, VA	9.4
Allegany, NY	15.4	Dauphin, PA	11.0	Arlington, VA	13.5
Broome, NY	10.9	Elk, PA	5.3	Augusta, VA	6.6
Cayuga, NY	9.8	Franklin, PA	10.7	Bath, VA	41.7
Chemung, NY	10.3	Fulton, PA	8.6	Bedford, VA	6.0

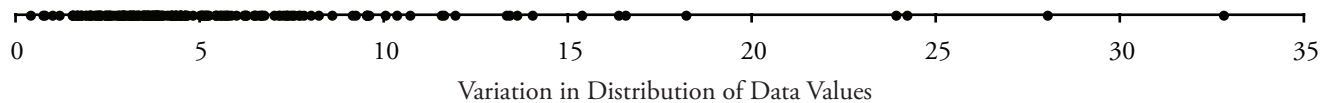
Recreation/Tourism Employment

Botetourt, VA	11.3	Middlesex, VA	17.3	Hampton, VA (city)	13.1
Buckingham, VA	3.7	Montgomery, VA	15.2	Harrisonburg, VA (city)	15.1
Campbell, VA	5.3	Nelson, VA	30.2	Hopewell, VA (city)	17.7
Caroline, VA	10.1	New Kent, VA	12.0	Lexington, VA (city)	24.0
Charles City, VA	5.2	Northampton, VA	12.3	Lynchburg, VA (city)	10.7
Charlotte, VA	4.1	Northumberland, VA	7.9	Manassas, VA (city)	8.4
Chesterfield, VA	12.5	Nottoway, VA	9.7	Manassas Park, VA (city)	3.7
Clarke, VA	5.7	Orange, VA	9.8	Newport News, VA (city)	9.3
Craig, VA	17.4	Page, VA	15.8	Norfolk, VA (city)	10.7
Culpeper, VA	6.8	Powhatan, VA	7.6	Petersburg, VA (city)	7.1
Cumberland, VA	4.3	Prince Edward, VA	14.3	Poquoson, VA (city)	22.1
Dinwiddie, VA	5.3	Prince George, VA	8.2	Portsmouth, VA (city)	10.0
Essex, VA	14.8	Prince William, VA	14.2	Richmond, VA (city)	8.2
Fairfax, VA	8.4	Rappahannock, VA	24.4	Roanoke, VA (city)	8.5
Fauquier, VA	13.1	Richmond, VA	8.7	Salem, VA (city)	8.6
Fluvanna, VA	13.5	Roanoke, VA	10.7	Staunton, VA (city)	12.7
Frederick, VA	8.9	Rockbridge, VA	12.6	Suffolk, VA (city)	9.0
Giles, VA	8.3	Rockingham, VA	8.5	Virginia Beach, VA (city)	15.1
Gloucester, VA	14.3	Shenandoah, VA	12.5	Waynesboro, VA (city)	13.8
Goochland, VA	10.8	Spotsylvania, VA	11.0	Williamsburg, VA (city)	50.4
Greene, VA	13.2	Stafford, VA	15.6	Winchester, VA (city)	8.5
Hanover, VA	13.2	Surry, VA	4.9	Berkeley, WV	11.8
Henrico, VA	10.1	Warren, VA	10.4	Grant, WV	5.7
Highland, VA	17.1	Westmoreland, VA	13.4	Greenbrier, WV	23.4
Isle of Wight, VA	8.9	York, VA	21.5	Hampshire, WV	10.3
James City, VA	13.4	Alexandria, VA (city)	9.9	Hardy, WV	6.1
King and Queen, VA	6.9	Bedford, VA (city)	11.9	Jefferson, WV	24.9
King George, VA	8.4	Buena Vista, VA (city)	5.6	Mineral, WV	10.8
King William, VA	7.3	Charlottesville, VA (city)	16.7	Monroe, WV	5.0
Lancaster, VA	11.6	Chesapeake, VA (city)	10.9	Morgan, WV	18.7
Loudoun, VA	10.6	Colonial Heights, VA (city)	14.6	Pendleton, WV	18.7
Louisa, VA	6.7	Covington, VA (city)	7.3	Pocahontas, WV	39.9
Lunenburg, VA	3.4	Fairfax, VA (city)	12.5	Preston, WV	7.4
Madison, VA	9.9	Falls Church, VA (city)	6.8	Randolph, WV	8.9
Mathews, VA	16.1	Fredericksburg, VA (city)	19.2	Tucker, WV	36.2
				United States	11.1

Recreation/Tourism Revenue

Recreation and tourism revenue is a key indicator of the economic importance of recreation and tourism to a county. Recreation and tourism revenue can be expressed as a percentage of total sales and service receipts. Recreation and tourism establishments can occupy an important position within a county economy because they attract visitor dollars from elsewhere. Secondary economic benefits are realized when these dollars are re-spent within the local economy or deposited in banks, where they provide capital to other businesses.

Within the Chesapeake Bay Watershed region, the percentage of total sales from arts, entertainment, recreation, accommodation and food services (2002) ranges from 0.4% (Covington, VA [city]) to 32.8% (Pocahontas, WV).¹⁷



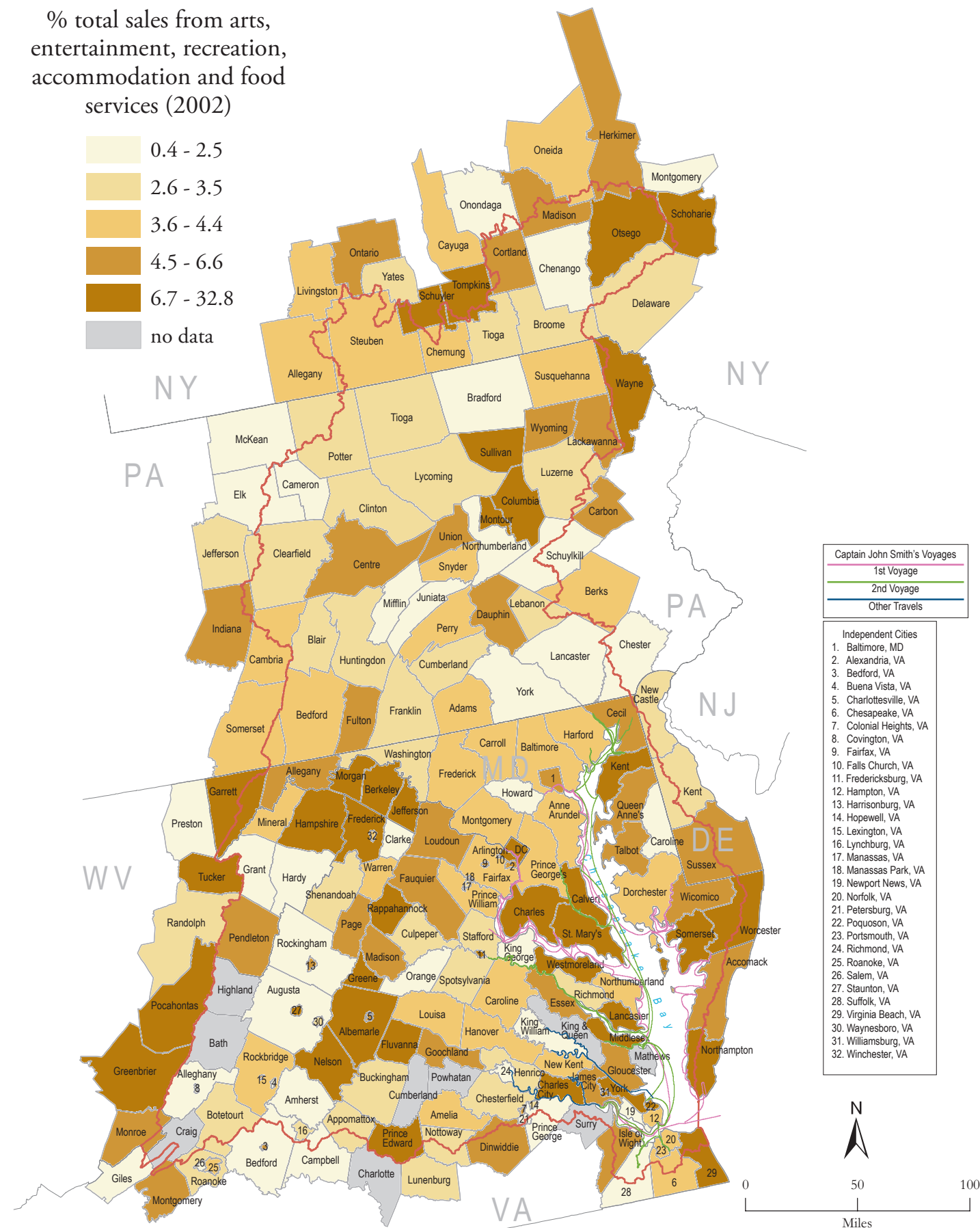
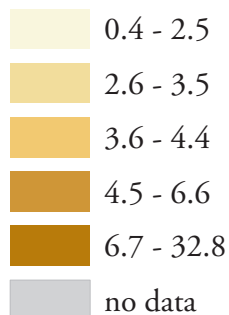
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Recreation/Tourism Revenue

% total sales from arts,
entertainment, recreation,
accommodation and food
services (2002)



Recreation/Tourism Revenue

% total sales from arts, entertainment, recreation, accommodation and food services (2002)		Chenango, NY	2.2	Huntingdon, PA	3.4
		Cortland, NY	4.6	Indiana, PA	4.5
		Delaware, NY	2.9	Jefferson, PA	2.6
Kent, DE	3.3	Herkimer, NY	4.6	Juniata, PA	1.7
New Castle, DE	2.9	Livingston, NY	3.6	Lackawanna, PA	5.2
Sussex, DE	5.8	Madison, NY	5.0	Lancaster, PA	2.2
District of Columbia, DC	7.3	Montgomery, NY	2.5	Lebanon, PA	2.9
Allegany, MD	6.3	Oneida, NY	4.0	Luzerne, PA	3.3
Anne Arundel, MD	3.8	Onondaga, NY	2.3	Lycoming, PA	2.8
Baltimore, MD	3.7	Ontario, NY	4.5	McKean, PA	2.0
Calvert, MD	8.6	Otsego, NY	7.2	Mifflin, PA	1.9
Caroline, MD	1.9	Schoharie, NY	6.7	Montour, PA	11.6
Carroll, MD	3.8	Schuyler, NY	10.3	Northumberland, PA	1.7
Cecil, MD	5.6	Steuben, NY	3.8	Perry, PA	4.2
Charles, MD	7.1	Tioga, NY	3.2	Potter, PA	3.1
Dorchester, MD	3.6	Tompkins, NY	7.7	Schuylkill, PA	2.2
Frederick, MD	4.2	Yates, NY	3.1	Snyder, PA	3.9
Garrett, MD	7.4	Adams, PA	3.8	Somerset, PA	3.6
Harford, MD	4.2	Bedford, PA	4.3	Sullivan, PA	7.0
Howard, MD	2.3	Berks, PA	3.7	Susquehanna, PA	4.2
Kent, MD	8.2	Blair, PA	3.0	Tioga, PA	3.2
Montgomery, MD	3.8	Bradford, PA	1.7	Union, PA	5.2
Prince George's, MD	3.9	Cambria, PA	3.6	Wayne, PA	13.3
Queen Anne's, MD	6.5	Cameron, PA	1.8	Wyoming, PA	4.8
St. Mary's, MD	8.0	Carbon, PA	6.5	York, PA	2.5
Somerset, MD	14.0	Centre, PA	6.5	Accomack, VA	4.6
Talbot, MD	5.6	Chester, PA	2.3	Albemarle, VA	9.5
Washington, MD	2.6	Clearfield, PA	3.4	Alleghany, VA	2.5
Wicomico, MD	5.5	Clinton, PA	2.9	Amelia, VA	4.4
Worcester, MD	24.2	Columbia, PA	9.5	Amherst, VA	2.4
Baltimore, MD (city)	5.5	Cumberland, PA	3.5	Appomattox, VA	3.5
Allegany, NY	3.6	Dauphin, PA	4.6	Arlington, VA	6.7
Broome, NY	3.2	Elk, PA	1.5	Augusta, VA	1.5
Cayuga, NY	4.0	Franklin, PA	2.9	Bath, VA	--
Chemung, NY	3.8	Fulton, PA	5.7	Bedford, VA	1.8

Recreation/Tourism Revenue

Botetourt, VA	2.9	Middlesex, VA	9.5	Hampton, VA (city)	4.1
Buckingham, VA	3.5	Montgomery, VA	5.0	Harrisonburg, VA (city)	5.2
Campbell, VA	1.2	Nelson, VA	28.0	Hopewell, VA (city)	3.1
Caroline, VA	4.3	New Kent, VA	3.6	Lexington, VA (city)	18.2
Charles City, VA	9.1	Northampton, VA	10.0	Lynchburg, VA (city)	2.9
Charlotte, VA	--	Northumberland, VA	4.4	Manassas, VA (city)	2.6
Chesterfield, VA	3.2	Nottoway, VA	3.1	Manassas Park, VA (city)	4.3
Clarke, VA	1.5	Orange, VA	2.3	Newport News, VA (city)	2.4
Craig, VA	--	Page, VA	5.7	Norfolk, VA (city)	3.8
Culpeper, VA	3.5	Powhatan, VA	--	Petersburg, VA (city)	2.2
Cumberland, VA	--	Prince Edward, VA	6.7	Poquoson, VA (city)	11.6
Dinwiddie, VA	5.4	Prince George, VA	2.0	Portsmouth, VA (city)	4.2
Essex, VA	4.5	Prince William, VA	4.4	Richmond, VA (city)	2.0
Fairfax, VA	3.9	Rappahannock, VA	10.7	Roanoke, VA (city)	4.3
Fauquier, VA	6.0	Richmond, VA	3.5	Salem, VA (city)	2.0
Fluvanna, VA	9.6	Roanoke, VA	3.3	Staunton, VA (city)	7.5
Frederick, VA	7.3	Rockbridge, VA	3.7	Suffolk, VA (city)	1.6
Giles, VA	1.6	Rockingham, VA	0.7	Virginia Beach, VA (city)	7.8
Gloucester, VA	5.7	Shenandoah, VA	2.8	Waynesboro, VA (city)	2.7
Goochland, VA	6.2	Spotsylvania, VA	3.3	Williamsburg, VA (city)	23.9
Greene, VA	7.4	Stafford, VA	3.3	Winchester, VA (city)	3.7
Hanover, VA	4.0	Surry, VA	--	Berkeley, WV	7.7
Henrico, VA	2.9	Warren, VA	3.8	Grant, WV	2.1
Highland, VA	--	Westmoreland, VA	13.6	Greenbrier, WV	15.4
Isle of Wight, VA	5.4	York, VA	11.9	Hampshire, WV	16.4
James City, VA	6.2	Alexandria, VA (city)	4.6	Hardy, WV	1.6
King and Queen, VA	--	Bedford, VA (city)	4.5	Jefferson, WV	9.2
King George, VA	2.5	Buena Vista, VA (city)	1.0	Mineral, WV	3.8
King William, VA	0.8	Charlottesville, VA (city)	5.8	Monroe, WV	6.2
Lancaster, VA	7.5	Chesapeake, VA (city)	3.7	Morgan, WV	13.4
Loudoun, VA	6.6	Colonial Heights, VA (city)	5.0	Pendleton, WV	5.1
Louisa, VA	3.7	Covington, VA (city)	0.4	Pocahontas, WV	32.8
Lunenburg, VA	3.0	Fairfax, VA (city)	5.2	Preston, WV	2.0
Madison, VA	5.1	Falls Church, VA (city)	2.8	Randolph, WV	3.1
Mathews, VA	--	Fredericksburg, VA (city)	7.4	Tucker, WV	16.6
				United States	2.8

Congressional Districts

Congressional districts form a key layer in the political structure of a region of interest for a park or watershed. These districts, roughly equivalent in population, are defined by state legislatures based on the national census and redrawn every ten years. Members of Congress are key points of access for citizens and organizations seeking to influence federal-level policies and programs, including those related to federal lands such as national parks and national forests.

Congressional districts in the map on the facing page are coded by numbers and colors in each state. Delaware and the District of Columbia are each represented by an “at-large” district. The congressional districts for the 110th Congress are based on Census 2000. The Chesapeake Bay Watershed region includes parts of 42 Congressional districts.

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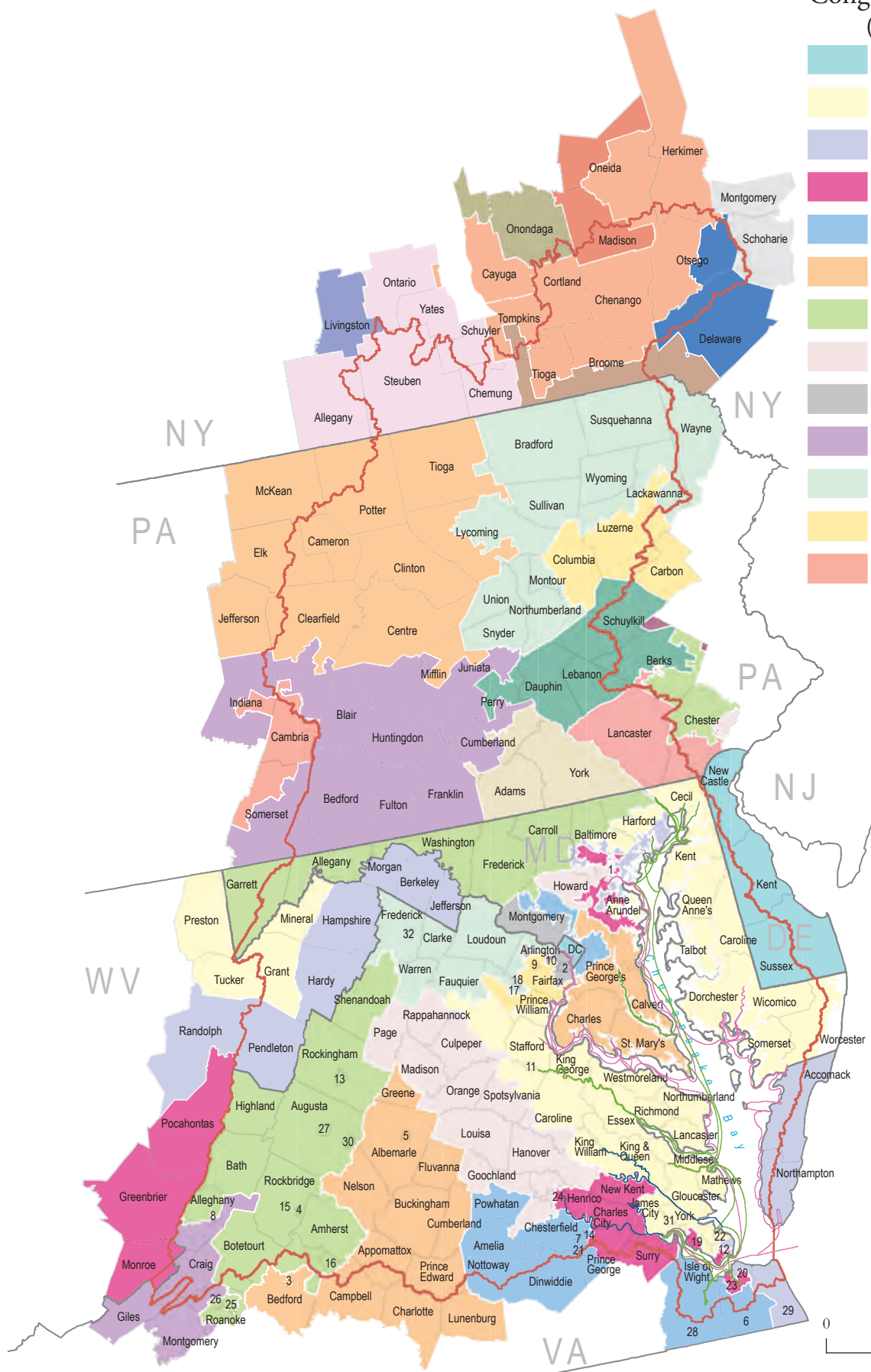
Congressional Districts

Congressional Districts (2007-2008)

at-large	15th
1st	16th
2nd	17th
3rd	18th
4th	19th
5th	20th
6th	21st
7th	22nd
8th	23rd
9th	24th
10th	25th
11th	26th
12th	29th

Captain John Smith's Voyages	
1st Voyage	
2nd Voyage	
Other Travels	

- Independent Cities
1. Baltimore, MD
 2. Alexandria, VA
 3. Bedford, VA
 4. Buena Vista, VA
 5. Charlottesville, VA
 6. Chesapeake, VA
 7. Colonial Heights, VA
 8. Covington, VA
 9. Fairfax, VA
 10. Falls Church, VA
 11. Fredericksburg, VA
 12. Hampton, VA
 13. Harrisonburg, VA
 14. Hopewell, VA
 15. Lexington, VA
 16. Lynchburg, VA
 17. Manassas, VA
 18. Manassas Park, VA
 19. Newport News, VA
 20. Norfolk, VA
 21. Petersburg, VA
 22. Poquoson, VA
 23. Portsmouth, VA
 24. Richmond, VA
 25. Roanoke, VA
 26. Salem, VA
 27. Staunton, VA
 28. Suffolk, VA
 29. Virginia Beach, VA
 30. Waynesboro, VA
 31. Williamsburg, VA
 32. Winchester, VA



Congressional Districts

Congressional Districts (2007-2008)					
		Chenango, NY	24	Huntingdon, PA	9
		Cortland, NY	24	Indiana, PA	9, 12
		Delaware, NY	20, 22	Jefferson, PA	5
Kent, DE	at-large	Herkimer, NY	24	Juniata, PA	5, 9
New Castle, DE	at-large	Livingston, NY	26	Lackawanna, PA	10, 11
Sussex, DE	at-large	Madison, NY	23	Lancaster, PA	16
District of Columbia, DC	at-large	Montgomery, NY	21	Lebanon, PA	17
Allegany, MD	6	Oneida, NY	23, 24	Luzerne, PA	10, 11
Anne Arundel, MD	1, 2, 3, 5	Onondaga, NY	25	Lycoming, PA	5, 10, 11
Baltimore, MD	1, 2, 3, 6, 7	Ontario, NY	24, 29	McKean, PA	5
Calvert, MD	5	Otsego, NY	20, 24	Mifflin, PA	5, 9
Caroline, MD	1	Schoharie, NY	21	Montour, PA	10
Carroll, MD	6	Schuyler, NY	29	Northumberland, PA	10
Cecil, MD	1	Steuben, NY	29	Perry, PA	9, 17
Charles, MD	5	Tioga, NY	22, 24	Potter, PA	5
Dorchester, MD	1	Tompkins, NY	22, 24	Schuylkill, PA	17
Frederick, MD	6	Yates, NY	29	Snyder, PA	10
Garrett, MD	6	Adams, PA	19	Somerset, PA	9, 12
Harford, MD	1, 2, 6	Bedford, PA	9	Sullivan, PA	10
Howard, MD	3, 7	Berks, PA	6, 15-17	Susquehanna, PA	10
Kent, MD	1	Blair, PA	9	Tioga, PA	5, 10
Montgomery, MD	4, 6, 8	Bradford, PA	10	Union, PA	10
Prince George's, MD	4, 5, 8	Cambria, PA	9, 12	Wayne, PA	10
Queen Anne's, MD	1	Cameron, PA	5	Wyoming, PA	10
St. Mary's, MD	5	Carbon, PA	11	York, PA	19
Somerset, MD	1	Centre, PA	5, 10	Accomack, VA	2
Talbot, MD	1	Chester, PA	6, 7, 16	Albemarle, VA	5
Washington, MD	6	Clearfield, PA	5, 9	Alleghany, VA	6, 9
Wicomico, MD	1	Clinton, PA	5	Amelia, VA	4
Worcester, MD	1	Columbia, PA	11	Amherst, VA	6
Baltimore, MD (city)	2, 3, 7	Cumberland, PA	9, 19	Appomattox, VA	5
Allegany, NY	29	Dauphin, PA	17	Arlington, VA	8
Broome, NY	22, 24	Elk, PA	5	Augusta, VA	6
Cayuga, NY	27	Franklin, PA	9, 19	Bath, VA	6
Chemung, NY	29	Fulton, PA	9	Bedford, VA	5, 6

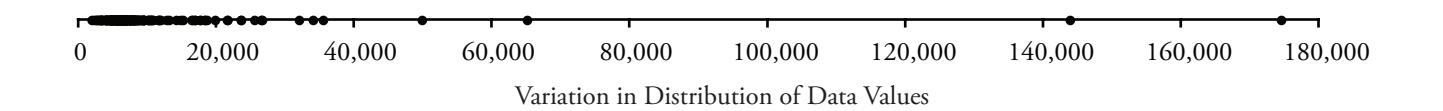
Congressional Districts

Botetourt, VA	6	Middlesex, VA	1	Hampton, VA (city)	1, 2, 3
Buckingham, VA	5	Montgomery, VA	9	Harrisonburg, VA (city)	6
Campbell, VA	5	Nelson, VA	5	Hopewell, VA (city)	4
Caroline, VA	1, 7	New Kent, VA	3	Lexington, VA (city)	6
Charles City, VA	3	Northampton, VA	2	Lynchburg, VA (city)	6
Charlotte, VA	5	Northumberland, VA	1	Manassas, VA (city)	10
Chesterfield, VA	4, 7	Nottoway, VA	4	Manassas Park, VA (city)	10
Clarke, VA	10	Orange, VA	7	Newport News, VA (city)	1, 3
Craig, VA	9	Page, VA	7	Norfolk, VA (city)	2, 3
Culpeper, VA	7	Powhatan, VA	4	Petersburg, VA (city)	4
Cumberland, VA	5	Prince Edward, VA	5	Poquoson, VA (city)	1
Dinwiddie, VA	4	Prince George, VA	3, 4	Portsmouth, VA (city)	3
Essex, VA	1	Prince William, VA	1, 10, 11	Richmond, VA (city)	3, 7
Fairfax, VA	8, 10, 11	Rappahannock, VA	7	Roanoke, VA (city)	6
Fauquier, VA	1, 10	Richmond, VA	1	Salem, VA (city)	6
Fluvanna, VA	5	Roanoke, VA	6, 9	Staunton, VA (city)	6
Frederick, VA	10	Rockbridge, VA	6	Suffolk, VA (city)	4
Giles, VA	9	Rockingham, VA	6	Virginia Beach, VA (city)	2
Gloucester, VA	1	Shenandoah, VA	6	Waynesboro, VA (city)	6
Goochland, VA	7	Spotsylvania, VA	1, 7	Williamsburg, VA (city)	1
Greene, VA	5	Stafford, VA	1	Winchester, VA (city)	10
Hanover, VA	7	Surry, VA	3	Berkeley, WV	2
Henrico, VA	3, 7	Warren, VA	10	Grant, WV	1
Highland, VA	6	Westmoreland, VA	1	Greenbrier, WV	3
Isle of Wight, VA	3, 4	York, VA	1	Hampshire, WV	2
James City, VA	1, 3	Alexandria, VA (city)	8	Hardy, WV	2
King and Queen, VA	1	Bedford, VA (city)	5	Jefferson, WV	2
King George, VA	1	Buena Vista, VA (city)	6	Mineral, WV	1
King William, VA	1	Charlottesville, VA (city)	5	Monroe, WV	3
Lancaster, VA	1	Chesapeake, VA (city)	4	Morgan, WV	2
Loudoun, VA	10	Colonial Heights, VA (city)	4	Pendleton, WV	2
Louisa, VA	7	Covington, VA (city)	6, 9	Pocahontas, WV	3
Lunenburg, VA	5	Fairfax, VA (city)	11	Preston, WV	1
Madison, VA	7	Falls Church, VA (city)	8	Randolph, WV	2
Mathews, VA	1	Fredericksburg, VA (city)	1	Tucker, WV	1

Federal Expenditures

The importance of the federal government to a county economy can be indicated by the amount of federal expenditures per person. These expenditures can be a key source of dollars flowing into the county economy (in contrast, taxes and fees are an outflow of dollars). Federal spending can influence the region through such wide-ranging initiatives as agricultural subsidies, social programs, military bases, and national parks.

Within the Chesapeake Bay Watershed region, federal expenditures per person (2005) range from \$1,915 (Manassas Park, VA [city]) to \$174,500 (Falls Church, VA [city]).¹⁸



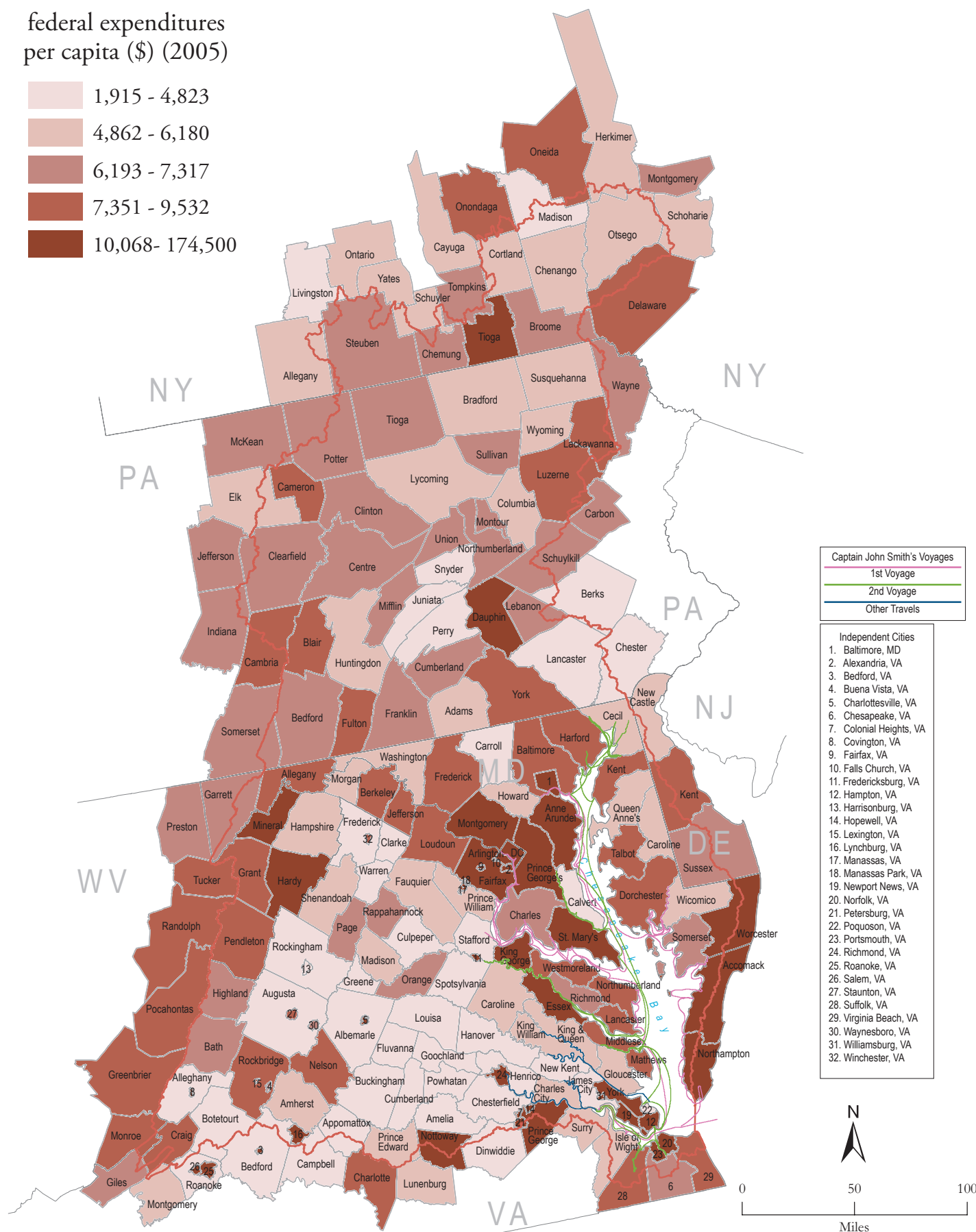
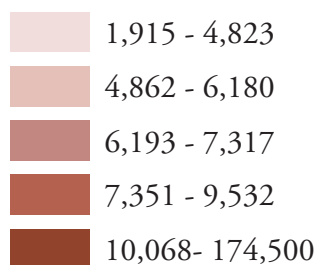
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Federal Expenditures

federal expenditures
per capita (\$) (2005)



Federal Expenditures

federal expenditures per capita (\$) (2005)

Kent, DE	8,339	Chenango, NY	5,643	Huntingdon, PA	6,180
New Castle, DE	5,440	Cortland, NY	5,484	Indiana, PA	6,632
Sussex, DE	6,611	Delaware, NY	7,706	Jefferson, PA	6,977
District of Columbia, DC	65,045	Herkimer, NY	5,818	Juniata, PA	4,695
Allegany, MD	8,219	Livingston, NY	4,698	Lackawanna, PA	8,781
Anne Arundel, MD	10,481	Madison, NY	4,823	Lancaster, PA	4,491
Baltimore, MD	7,463	Montgomery, NY	7,063	Lebanon, PA	7,310
Calvert, MD	4,223	Oneida, NY	7,713	Luzerne, PA	7,909
Caroline, MD	5,991	Onondaga, NY	7,351	Lycoming, PA	6,175
Carroll, MD	4,262	Ontario, NY	5,708	McKean, PA	6,772
Cecil, MD	4,862	Otsego, NY	5,749	Mifflin, PA	6,712
Charles, MD	6,403	Schoharie, NY	5,436	Montour, PA	6,379
Dorchester, MD	8,450	Schuyler, NY	5,622	Northumberland, PA	6,755
Frederick, MD	9,400	Steuben, NY	6,920	Perry, PA	4,760
Garrett, MD	6,499	Tioga, NY	23,561	Potter, PA	6,344
Harford, MD	7,927	Tompkins, NY	6,705	Schuylkill, PA	6,875
Howard, MD	5,072	Yates, NY	5,622	Snyder, PA	4,753
Kent, MD	7,683	Adams, PA	4,965	Somerset, PA	7,017
Montgomery, MD	16,883	Bedford, PA	6,306	Sullivan, PA	6,855
Prince George's, MD	12,749	Berks, PA	4,781	Susquehanna, PA	5,465
Queen Anne's, MD	5,092	Blair, PA	7,386	Tioga, PA	6,635
St. Mary's, MD	26,589	Bradford, PA	6,026	Union, PA	6,982
Somerset, MD	6,798	Cambria, PA	9,532	Wayne, PA	6,710
Talbot, MD	7,474	Cameron, PA	8,090	Wyoming, PA	5,434
Washington, MD	5,213	Carbon, PA	6,252	York, PA	8,974
Wicomico, MD	5,161	Centre, PA	6,392	Accomack, VA	10,522
Worcester, MD	35,429	Chester, PA	4,625	Albemarle, VA	3,176
Baltimore, MD (city)	15,145	Clearfield, PA	6,296	Alleghany, VA	4,493
Allegany, NY	5,895	Clinton, PA	6,417	Amelia, VA	4,681
Broome, NY	6,830	Columbia, PA	5,537	Amherst, VA	5,935
Cayuga, NY	5,702	Cumberland, PA	6,994	Appomattox, VA	4,756
Chemung, NY	7,013	Dauphin, PA	18,225	Arlington, VA	49,777
		Elk, PA	5,951	Augusta, VA	3,464
		Franklin, PA	6,545	Bath, VA	6,974
		Fulton, PA	9,109	Bedford, VA	4,636

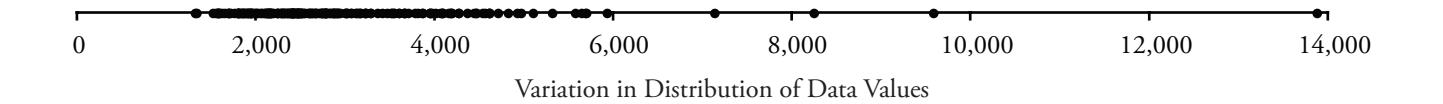
Federal Expenditures

Botetourt, VA	4,100	Middlesex, VA	7,446	Hampton, VA (city)	17,617
Buckingham, VA	4,679	Montgomery, VA	5,431	Harrisonburg, VA (city)	3,919
Campbell, VA	3,977	Nelson, VA	7,419	Hopewell, VA (city)	10,068
Caroline, VA	5,165	New Kent, VA	4,192	Lexington, VA (city)	10,799
Charles City, VA	5,632	Northampton, VA	19,814	Lynchburg, VA (city)	13,077
Charlotte, VA	7,369	Northumberland, VA	7,421	Manassas, VA (city)	23,563
Chesterfield, VA	2,502	Nottoway, VA	11,645	Manassas Park, VA (city)	1,915
Clarke, VA	4,697	Orange, VA	6,253	Newport News, VA (city)	16,476
Craig, VA	7,863	Page, VA	6,339	Norfolk, VA (city)	26,475
Culpeper, VA	4,426	Powhatan, VA	3,089	Petersburg, VA (city)	10,673
Cumberland, VA	4,709	Prince Edward, VA	5,770	Poquoson, VA (city)	3,193
Dinwiddie, VA	4,638	Prince George, VA	18,348	Portsmouth, VA (city)	18,614
Essex, VA	10,406	Prince William, VA	5,094	Richmond, VA (city)	21,595
Fairfax, VA	17,651	Rappahannock, VA	6,829	Roanoke, VA (city)	14,792
Fauquier, VA	6,043	Richmond, VA	6,765	Salem, VA (city)	11,878
Fluvanna, VA	4,026	Roanoke, VA	2,249	Staunton, VA (city)	8,123
Frederick, VA	2,889	Rockbridge, VA	8,588	Suffolk, VA (city)	8,099
Giles, VA	6,418	Rockingham, VA	3,938	Virginia Beach, VA (city)	9,330
Gloucester, VA	5,898	Shenandoah, VA	5,174	Waynesboro, VA (city)	6,366
Goochland, VA	3,805	Spotsylvania, VA	2,577	Williamsburg, VA (city)	21,556
Greene, VA	3,290	Stafford, VA	3,493	Winchester, VA (city)	8,541
Hanover, VA	3,802	Surry, VA	5,895	Berkeley, WV	8,013
Henrico, VA	3,198	Warren, VA	4,565	Grant, WV	7,750
Highland, VA	7,317	Westmoreland, VA	7,981	Greenbrier, WV	7,558
Isle of Wight, VA	6,035	York, VA	11,675	Hampshire, WV	5,152
James City, VA	2,817	Alexandria, VA (city)	33,981	Hardy, WV	10,114
King and Queen, VA	5,454	Bedford, VA (city)	11,510	Jefferson, WV	8,940
King George, VA	32,008	Buena Vista, VA (city)	6,982	Mineral, WV	10,078
King William, VA	5,789	Charlottesville, VA (city)	16,848	Monroe, WV	8,155
Lancaster, VA	9,439	Chesapeake, VA (city)	6,193	Morgan, WV	5,664
Loudoun, VA	9,284	Colonial Heights, VA (city)	25,482	Pendleton, WV	9,419
Louisa, VA	4,717	Covington, VA (city)	14,174	Pocahontas, WV	7,566
Lunenburg, VA	5,339	Fairfax, VA (city)	143,871	Preston, WV	7,277
Madison, VA	5,631	Falls Church, VA (city)	174,500	Randolph, WV	7,725
Mathews, VA	8,450	Fredericksburg, VA (city)	16,390	Tucker, WV	8,690
				United States	7,706

Local Government Expenditures

The level of activity of local government can be indicated by measuring local government expenditures per person. As the principal means of collective decision-making at the local scale, local governments commit resources to state and federally mandated services (such as schools and police protection) as well as other optional or non-essential services (such as garbage collection and recreation). Local governments vary in terms of the range of programs they administer and the amount of resources committed to programs.

Within the Chesapeake Bay Watershed region, local government expenditures per person (2002) range from \$1,315 (Juniata, PA) to \$13,871 (District of Columbia).



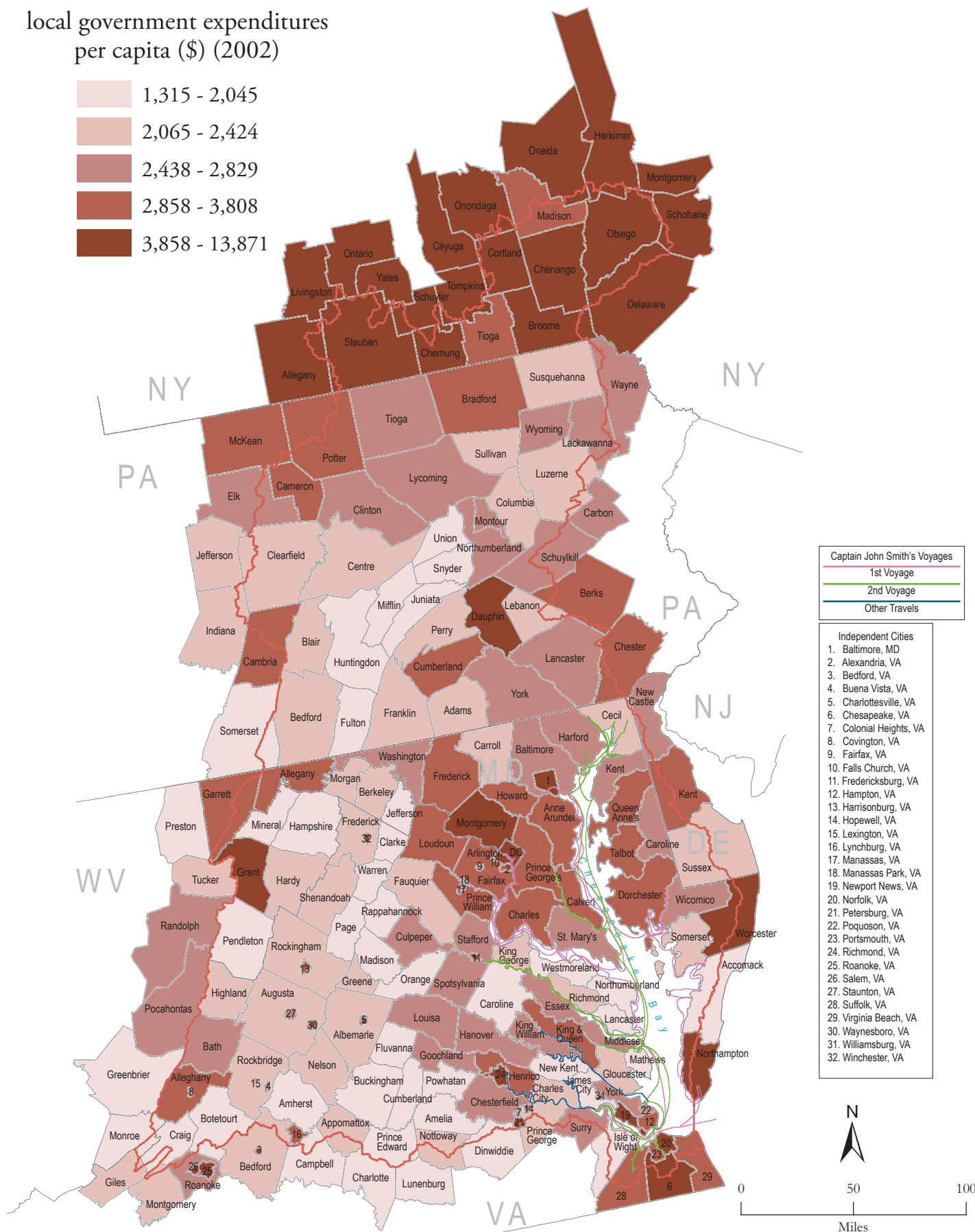
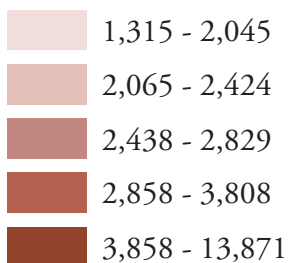
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Local Government Expenditures

local government expenditures
per capita (\$) (2002)



Local Government Expenditures

local government expenditures per capita (\$) (2002)		Chenango, NY	4,821	Huntingdon, PA	1,910
		Cortland, NY	4,061	Indiana, PA	2,158
		Delaware, NY	5,685	Jefferson, PA	2,135
Kent, DE	2,862	Herkimer, NY	5,098	Juniata, PA	1,315
New Castle, DE	2,660	Livingston, NY	4,534	Lackawanna, PA	2,793
Sussex, DE	2,392	Madison, NY	3,657	Lancaster, PA	2,583
District of Columbia, DC	13,871	Montgomery, NY	4,920	Lebanon, PA	2,411
Allegany, MD	2,998	Oneida, NY	4,181	Luzerne, PA	2,422
Anne Arundel, MD	2,941	Onondaga, NY	4,562	Lycoming, PA	2,824
Baltimore, MD	2,780	Ontario, NY	4,610	McKean, PA	2,910
Calvert, MD	2,858	Otsego, NY	3,946	Mifflin, PA	2,017
Caroline, MD	2,775	Schoharie, NY	4,709	Montour, PA	2,764
Carroll, MD	2,393	Schuyler, NY	4,461	Northumberland, PA	2,476
Cecil, MD	2,400	Steuben, NY	5,314	Perry, PA	2,278
Charles, MD	2,894	Tioga, NY	3,601	Potter, PA	3,128
Dorchester, MD	2,861	Tompkins, NY	3,942	Schuylkill, PA	2,459
Frederick, MD	3,282	Yates, NY	4,268	Snyder, PA	1,803
Garrett, MD	2,886	Adams, PA	2,133	Somerset, PA	1,988
Harford, MD	2,627	Bedford, PA	2,066	Sullivan, PA	2,407
Howard, MD	3,510	Berks, PA	3,217	Susquehanna, PA	2,353
Kent, MD	2,640	Blair, PA	2,289	Tioga, PA	2,742
Montgomery, MD	3,968	Bradford, PA	3,534	Union, PA	1,687
Prince George's, MD	3,063	Cambria, PA	3,144	Wayne, PA	2,737
Queen Anne's, MD	3,358	Cameron, PA	3,410	Wyoming, PA	2,610
St. Mary's, MD	2,759	Carbon, PA	2,768	York, PA	2,774
Somerset, MD	2,318	Centre, PA	2,340	Accomack, VA	1,941
Talbot, MD	3,518	Chester, PA	3,163	Albemarle, VA	2,420
Washington, MD	2,445	Clearfield, PA	2,242	Alleghany, VA	3,013
Wicomico, MD	2,725	Clinton, PA	2,607	Amelia, VA	1,617
Worcester, MD	4,609	Columbia, PA	2,190	Amherst, VA	1,693
Baltimore, MD (city)	4,172	Cumberland, PA	2,922	Appomattox, VA	2,158
Allegany, NY	4,966	Dauphin, PA	4,365	Arlington, VA	8,240
Broome, NY	4,466	Elk, PA	2,701	Augusta, VA	2,144
Cayuga, NY	4,091	Franklin, PA	2,236	Bath, VA	2,796
Chemung, NY	4,152	Fulton, PA	2,045	Bedford, VA	2,266

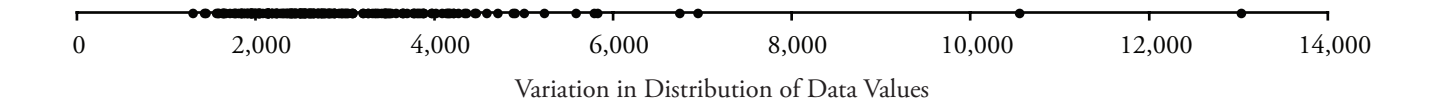
Local Government Expenditures

Botetourt, VA	1,695	Middlesex, VA	2,670	Hampton, VA (city)	2,996
Buckingham, VA	1,934	Montgomery, VA	2,378	Harrisonburg, VA (city)	3,162
Campbell, VA	1,840	Nelson, VA	2,319	Hopewell, VA (city)	3,808
Caroline, VA	1,863	New Kent, VA	1,796	Lexington, VA (city)	3,466
Charles City, VA	2,387	Northampton, VA	4,439	Lynchburg, VA (city)	3,219
Charlotte, VA	1,900	Northumberland, VA	1,581	Manassas, VA (city)	4,189
Chesterfield, VA	2,548	Nottoway, VA	2,112	Manassas Park, VA (city)	3,018
Clarke, VA	1,918	Orange, VA	1,790	Newport News, VA (city)	3,863
Craig, VA	1,847	Page, VA	1,821	Norfolk, VA (city)	5,569
Culpeper, VA	2,468	Powhatan, VA	1,579	Petersburg, VA (city)	7,131
Cumberland, VA	1,883	Prince Edward, VA	1,974	Poquoson, VA (city)	2,438
Dinwiddie, VA	1,948	Prince George, VA	2,420	Portsmouth, VA (city)	3,704
Essex, VA	2,485	Prince William, VA	3,547	Richmond, VA (city)	5,924
Fairfax, VA	3,777	Rappahannock, VA	1,802	Roanoke, VA (city)	4,265
Fauquier, VA	2,355	Richmond, VA	2,292	Salem, VA (city)	3,858
Fluvanna, VA	1,334	Roanoke, VA	2,829	Staunton, VA (city)	2,500
Frederick, VA	2,174	Rockbridge, VA	2,369	Suffolk, VA (city)	2,874
Giles, VA	2,157	Rockingham, VA	2,100	Virginia Beach, VA (city)	3,276
Gloucester, VA	2,131	Shenandoah, VA	2,115	Waynesboro, VA (city)	3,108
Goochland, VA	2,529	Spotsylvania, VA	2,501	Williamsburg, VA (city)	9,577
Greene, VA	2,237	Stafford, VA	2,505	Winchester, VA (city)	4,079
Hanover, VA	2,466	Surry, VA	2,733	Berkeley, WV	2,089
Henrico, VA	2,906	Warren, VA	1,902	Grant, WV	4,603
Highland, VA	2,305	Westmoreland, VA	1,933	Greenbrier, WV	2,006
Isle of Wight, VA	1,947	York, VA	2,460	Hampshire, WV	1,590
James City, VA	1,865	Alexandria, VA (city)	3,657	Hardy, WV	2,147
King and Queen, VA	3,063	Bedford, VA (city)	4,006	Jefferson, WV	1,713
King George, VA	2,402	Buena Vista, VA (city)	3,227	Mineral, WV	1,830
King William, VA	2,591	Charlottesville, VA (city)	4,083	Monroe, WV	1,651
Lancaster, VA	1,799	Chesapeake, VA (city)	3,943	Morgan, WV	2,410
Loudoun, VA	3,659	Colonial Heights, VA (city)	2,453	Pendleton, WV	1,569
Louisa, VA	2,480	Covington, VA (city)	3,592	Pocahontas, WV	2,663
Lunenburg, VA	1,545	Fairfax, VA (city)	2,470	Preston, WV	1,515
Madison, VA	1,564	Falls Church, VA (city)	5,697	Randolph, WV	2,518
Mathews, VA	1,756	Fredericksburg, VA (city)	5,639	Tucker, WV	2,424

Local Government Revenue

Local government revenue in the form of county taxes, state and federal fiscal aid, and other miscellaneous county service charges, may indicate the degree of local government activity that a county’s residents demand or are willing to support. Sources of state or federal fiscal aid, also known as intergovernmental revenue, can include grants-in-aid, reimbursements for established services such as the care of prisoners or contractual research, and payments in lieu of taxes. Residents of a county with high local government revenue may tend to be more accustomed to government taking an active role in a broad range of programs, whereas residents of a county with low local government revenue may be accustomed to government providing only essential services. Such expectations about the role of government can play a role in shaping local and regional responses to resource management challenges.

Within the Chesapeake Bay Watershed region, local government revenue per person (2002) ranges from \$1,290 (Juniata, PA) to \$13,021 (District of Columbia).



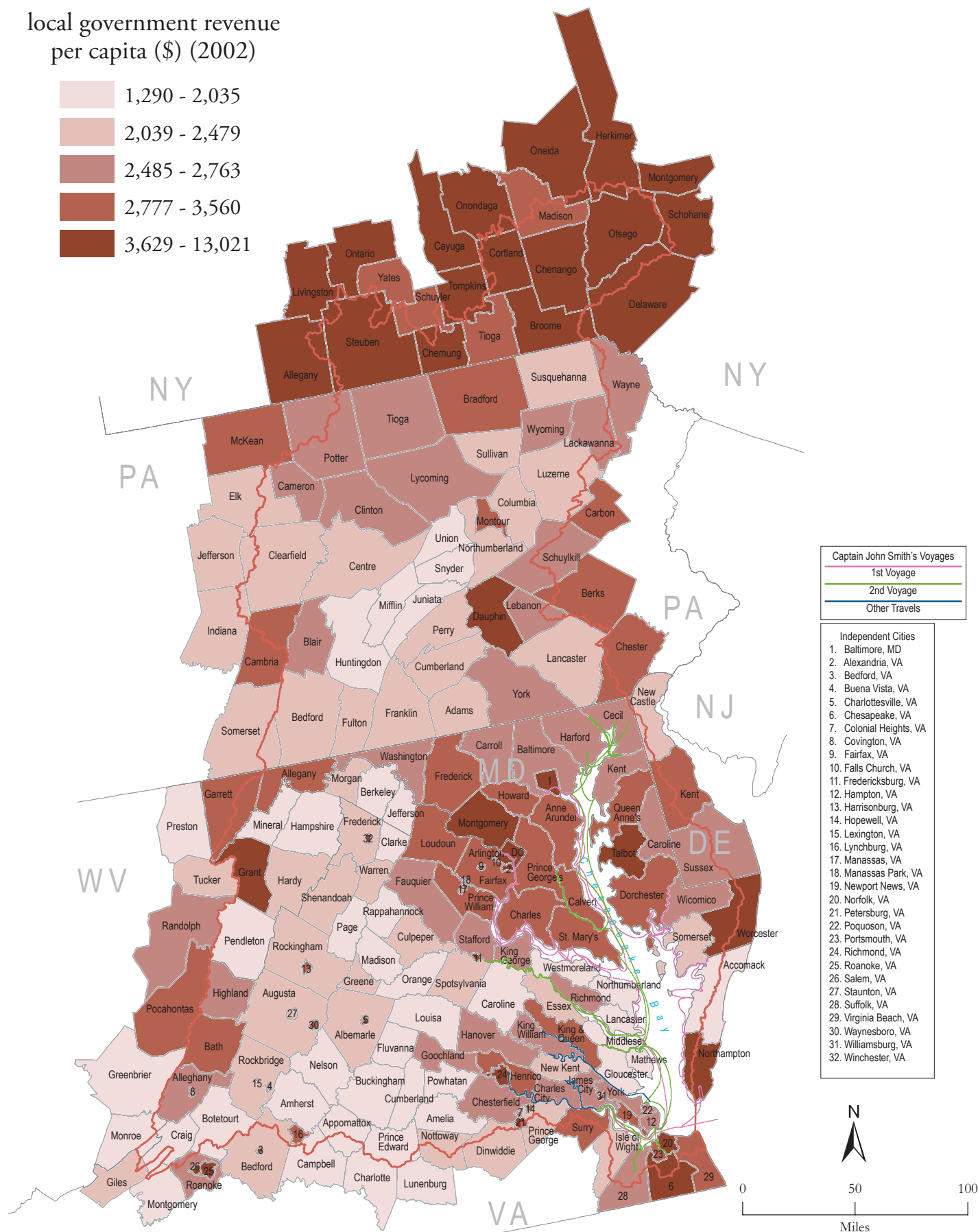
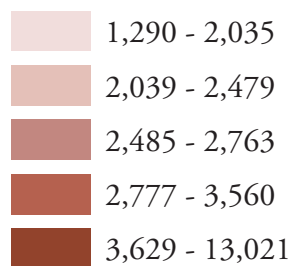
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Local Government Revenue

local government revenue
per capita (\$) (2002)



Local Government Revenue

local government revenue per capita (\$) (2002)

Kent, DE	2,872	Chenango, NY	4,167	Huntingdon, PA	1,861
New Castle, DE	2,449	Cortland, NY	3,871	Indiana, PA	2,268
Sussex, DE	2,587	Delaware, NY	4,872	Jefferson, PA	2,130
District of Columbia, DC	13,021	Herkimer, NY	4,204	Juniata, PA	1,290
Allegany, MD	3,069	Livingston, NY	3,835	Lackawanna, PA	2,546
Anne Arundel, MD	2,985	Madison, NY	3,560	Lancaster, PA	2,396
Baltimore, MD	2,645	Montgomery, NY	4,444	Lebanon, PA	2,498
Calvert, MD	2,960	Oneida, NY	3,865	Luzerne, PA	2,315
Caroline, MD	2,601	Onondaga, NY	4,123	Lycoming, PA	2,721
Carroll, MD	2,643	Ontario, NY	4,461	McKean, PA	2,818
Cecil, MD	2,600	Otsego, NY	3,645	Mifflin, PA	1,959
Charles, MD	3,079	Schoharie, NY	4,262	Montour, PA	2,960
Dorchester, MD	2,998	Schuyler, NY	3,485	Northumberland, PA	2,382
Frederick, MD	3,437	Steuben, NY	4,701	Perry, PA	2,069
Garrett, MD	2,876	Tioga, NY	3,298	Potter, PA	2,643
Harford, MD	2,689	Tompkins, NY	3,629	Schuylkill, PA	2,497
Howard, MD	3,466	Yates, NY	3,448	Snyder, PA	1,934
Kent, MD	2,684	Adams, PA	2,140	Somerset, PA	2,104
Montgomery, MD	4,352	Bedford, PA	2,169	Sullivan, PA	2,417
Prince George's, MD	3,013	Berks, PA	3,078	Susquehanna, PA	2,372
Queen Anne's, MD	3,362	Blair, PA	2,495	Tioga, PA	2,517
St. Mary's, MD	2,809	Bradford, PA	3,193	Union, PA	1,906
Somerset, MD	2,437	Cambria, PA	3,026	Wayne, PA	2,735
Talbot, MD	3,862	Cameron, PA	2,578	Wyoming, PA	2,515
Washington, MD	2,628	Carbon, PA	2,777	York, PA	2,613
Wicomico, MD	2,630	Centre, PA	2,136	Accomack, VA	1,939
Worcester, MD	4,331	Chester, PA	2,841	Albemarle, VA	2,398
Baltimore, MD (city)	3,962	Clearfield, PA	2,344	Alleghany, VA	2,737
Allegany, NY	4,151	Clinton, PA	2,488	Amelia, VA	1,631
Broome, NY	4,140	Columbia, PA	2,174	Amherst, VA	1,830
Cayuga, NY	3,772	Cumberland, PA	2,377	Appomattox, VA	1,956
Chemung, NY	3,763	Dauphin, PA	3,962	Arlington, VA	6,737
		Elk, PA	2,432	Augusta, VA	2,206
		Franklin, PA	2,229	Bath, VA	3,199
		Fulton, PA	2,335	Bedford, VA	2,230

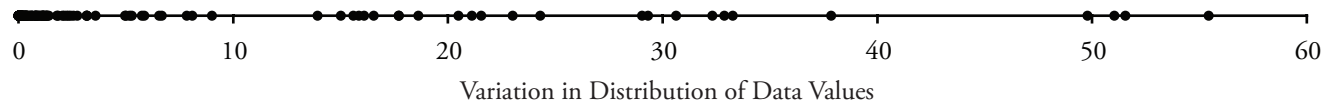
Local Government Revenue

Botetourt, VA	1,746	Middlesex, VA	1,837	Hampton, VA (city)	2,585
Buckingham, VA	1,833	Montgomery, VA	1,982	Harrisonburg, VA (city)	3,251
Campbell, VA	1,898	Nelson, VA	1,986	Hopewell, VA (city)	3,399
Caroline, VA	1,987	New Kent, VA	2,120	Lexington, VA (city)	2,864
Charles City, VA	2,537	Northampton, VA	5,821	Lynchburg, VA (city)	3,325
Charlotte, VA	2,021	Northumberland, VA	1,770	Manassas, VA (city)	4,209
Chesterfield, VA	2,518	Nottoway, VA	2,229	Manassas Park, VA (city)	2,725
Clarke, VA	2,035	Orange, VA	1,825	Newport News, VA (city)	3,343
Craig, VA	1,958	Page, VA	1,940	Norfolk, VA (city)	4,895
Culpeper, VA	2,431	Powhatan, VA	1,434	Petersburg, VA (city)	6,939
Cumberland, VA	1,942	Prince Edward, VA	1,895	Poquoson, VA (city)	2,489
Dinwiddie, VA	2,132	Prince George, VA	2,287	Portsmouth, VA (city)	3,487
Essex, VA	2,177	Prince William, VA	3,455	Richmond, VA (city)	5,578
Fairfax, VA	3,431	Rappahannock, VA	1,869	Roanoke, VA (city)	3,686
Fauquier, VA	2,754	Richmond, VA	2,485	Salem, VA (city)	4,006
Fluvanna, VA	1,421	Roanoke, VA	2,696	Staunton, VA (city)	2,391
Frederick, VA	2,356	Rockbridge, VA	2,217	Suffolk, VA (city)	2,755
Giles, VA	2,132	Rockingham, VA	2,039	Virginia Beach, VA (city)	2,923
Gloucester, VA	2,034	Shenandoah, VA	2,126	Waynesboro, VA (city)	2,827
Goochland, VA	2,544	Spotsylvania, VA	2,393	Williamsburg, VA (city)	10,539
Greene, VA	2,301	Stafford, VA	2,486	Winchester, VA (city)	4,077
Hanover, VA	2,523	Surry, VA	3,249	Berkeley, WV	1,936
Henrico, VA	2,803	Warren, VA	2,116	Grant, WV	4,996
Highland, VA	2,540	Westmoreland, VA	1,937	Greenbrier, WV	2,027
Isle of Wight, VA	2,134	York, VA	2,612	Hampshire, WV	1,553
James City, VA	2,763	Alexandria, VA (city)	3,642	Hardy, WV	2,134
King and Queen, VA	2,942	Bedford, VA (city)	4,575	Jefferson, WV	1,619
King George, VA	2,548	Buena Vista, VA (city)	2,733	Mineral, WV	1,801
King William, VA	2,679	Charlottesville, VA (city)	3,798	Monroe, WV	1,628
Lancaster, VA	1,705	Chesapeake, VA (city)	3,816	Morgan, WV	2,479
Loudoun, VA	3,506	Colonial Heights, VA (city)	2,875	Pendleton, WV	1,577
Louisa, VA	2,015	Covington, VA (city)	3,432	Pocahontas, WV	2,807
Lunenburg, VA	1,639	Fairfax, VA (city)	3,755	Preston, WV	1,570
Madison, VA	1,657	Falls Church, VA (city)	5,783	Randolph, WV	2,548
Mathews, VA	1,762	Fredericksburg, VA (city)	5,221	Tucker, WV	2,420

Federal Land Management

One indicator of the federal government’s role in regional resource management is the amount of land under federal management. This amount can be measured as a percentage of the total land area in each county. Stewardship of private land is carried out through a combination of regulation, market forces, and voluntary action. In contrast, stewardship of public land is carried out through direct implementation of agency policies. Thus the variation in public versus private land ownership across the park region can significantly influence the design and implementation of resource protection strategies.

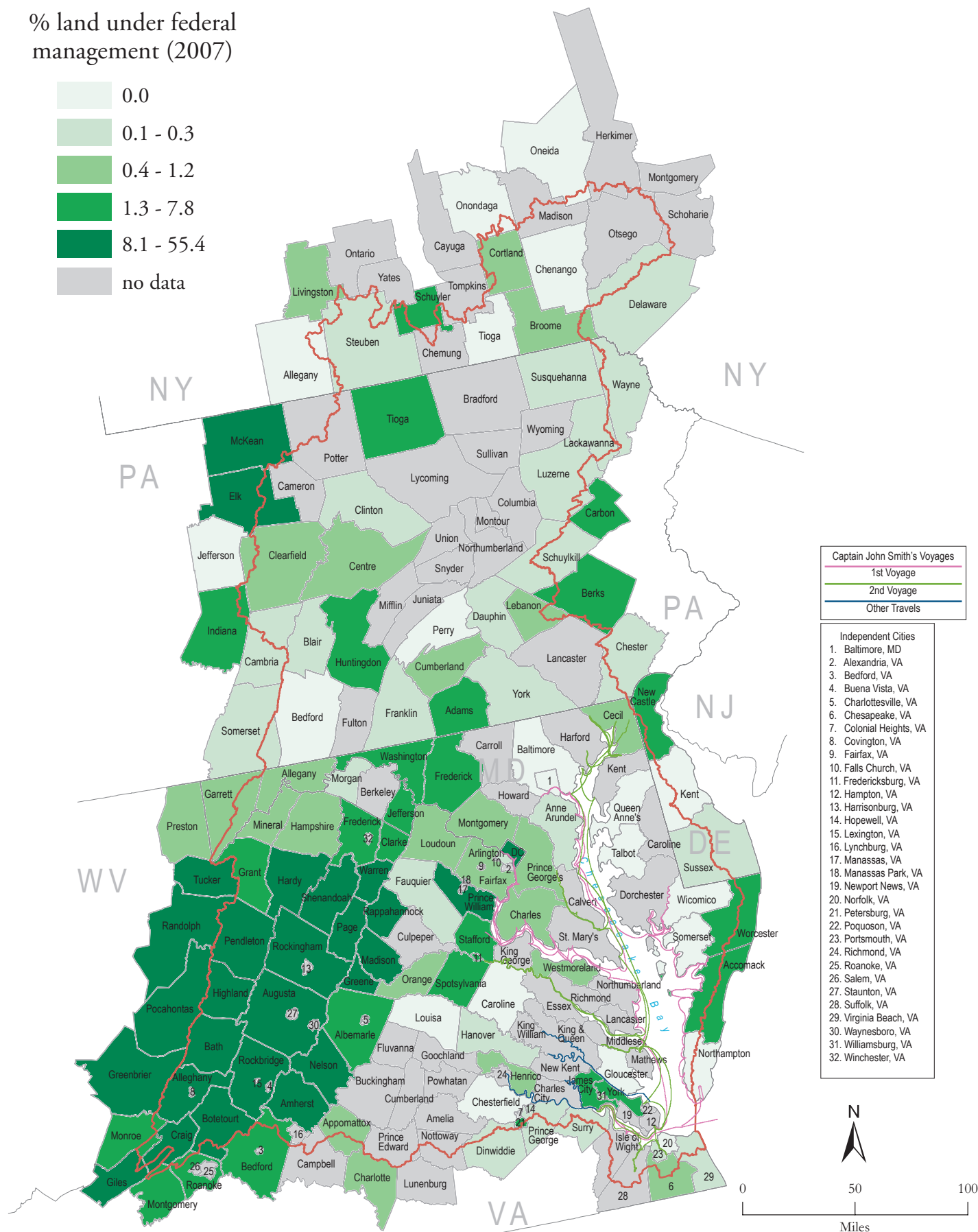
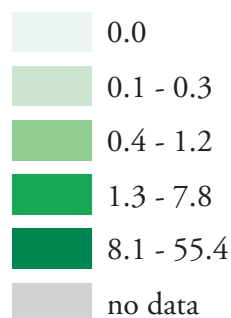
Within the Chesapeake Bay Watershed region, land under federal management (2007) ranges from 0% (21 counties in the region) to 55.4% (Craig, VA).¹⁹



..... NOTES

Federal Land Management

% land under federal management (2007)



Federal Land Management

% land under federal management (2007)		Chenango, NY	0.0	Huntingdon, PA	5.0
		Cortland, NY	0.5	Indiana, PA	1.3
		Delaware, NY	0.1	Jefferson, PA	0.0
Kent, DE	0.0	Herkimer, NY	--	Juniata, PA	--
New Castle, DE	2.6	Livingston, NY	0.6	Lackawanna, PA	0.1
Sussex, DE	0.1	Madison, NY	--	Lancaster, PA	--
District of Columbia, DC	17.7	Montgomery, NY	--	Lebanon, PA	0.4
Allegany, MD	1.1	Oneida, NY	0.0	Luzerne, PA	0.2
Anne Arundel, MD	0.2	Onondaga, NY	0.0	Lycoming, PA	--
Baltimore, MD	0.0	Ontario, NY	--	McKean, PA	21.5
Calvert, MD	--	Otsego, NY	--	Mifflin, PA	--
Caroline, MD	--	Schoharie, NY	--	Montour, PA	--
Carroll, MD	--	Schuyler, NY	5.2	Northumberland, PA	--
Cecil, MD	1.1	Steuben, NY	0.1	Perry, PA	0.0
Charles, MD	0.5	Tioga, NY	0.0	Potter, PA	--
Dorchester, MD	--	Tompkins, NY	--	Schuylkill, PA	0.1
Frederick, MD	2.2	Yates, NY	--	Snyder, PA	--
Garrett, MD	0.8	Adams, PA	1.4	Somerset, PA	0.2
Harford, MD	--	Bedford, PA	0.0	Sullivan, PA	--
Howard, MD	--	Berks, PA	1.4	Susquehanna, PA	0.1
Kent, MD	--	Blair, PA	0.2	Tioga, PA	1.3
Montgomery, MD	0.8	Bradford, PA	--	Union, PA	--
Prince George's, MD	1.2	Cambria, PA	0.2	Wayne, PA	0.2
Queen Anne's, MD	0.0	Cameron, PA	--	Wyoming, PA	--
St. Mary's, MD	--	Carbon, PA	2.1	York, PA	0.3
Somerset, MD	0.0	Centre, PA	1.1	Accomack, VA	3.6
Talbot, MD	0.0	Chester, PA	0.1	Albemarle, VA	3.2
Washington, MD	2.7	Clearfield, PA	0.4	Alleghany, VA	49.8
Wicomico, MD	0.0	Clinton, PA	0.2	Amelia, VA	--
Worcester, MD	2.4	Columbia, PA	--	Amherst, VA	15.9
Baltimore, MD (city)	0.0	Cumberland, PA	0.8	Appomattox, VA	0.8
Allegany, NY	0.0	Dauphin, PA	0.3	Arlington, VA	0.2
Broome, NY	0.6	Elk, PA	21.1	Augusta, VA	33.3
Cayuga, NY	--	Franklin, PA	0.1	Bath, VA	51.0
Chemung, NY	--	Fulton, PA	--	Bedford, VA	5.3

Federal Land Management

Botetourt, VA	24.3	Middlesex, VA	--	Hampton, VA (city)	--
Buckingham, VA	--	Montgomery, VA	7.8	Harrisonburg, VA (city)	--
Campbell, VA	--	Nelson, VA	8.1	Hopewell, VA (city)	0.3
Caroline, VA	0.0	New Kent, VA	--	Lexington, VA (city)	--
Charles City, VA	--	Northampton, VA	0.0	Lynchburg, VA (city)	--
Charlotte, VA	1.1	Northumberland, VA	--	Manassas, VA (city)	--
Chesterfield, VA	0.0	Nottoway, VA	--	Manassas Park, VA (city)	--
Clarke, VA	2.0	Orange, VA	0.4	Newport News, VA (city)	--
Craig, VA	55.4	Page, VA	32.9	Norfolk, VA (city)	0.0
Culpeper, VA	--	Powhatan, VA	--	Petersburg, VA (city)	5.8
Cumberland, VA	--	Prince Edward, VA	--	Poquoson, VA (city)	--
Dinwiddie, VA	0.1	Prince George, VA	0.3	Portsmouth, VA (city)	0.1
Essex, VA	--	Prince William, VA	9.0	Richmond, VA (city)	--
Fairfax, VA	0.9	Rappahannock, VA	18.6	Roanoke, VA (city)	--
Fauquier, VA	0.2	Richmond, VA	--	Salem, VA (city)	--
Fluvanna, VA	--	Roanoke, VA	5.0	Staunton, VA (city)	--
Frederick, VA	1.8	Rockbridge, VA	17.7	Suffolk, VA (city)	--
Giles, VA	29.0	Rockingham, VA	32.3	Virginia Beach, VA (city)	0.2
Gloucester, VA	0.0	Shenandoah, VA	23.0	Waynesboro, VA (city)	--
Goochland, VA	--	Spotsylvania, VA	2.3	Williamsburg, VA (city)	1.2
Greene, VA	15.6	Stafford, VA	1.3	Winchester, VA (city)	--
Hanover, VA	0.1	Surry, VA	0.1	Berkeley, WV	--
Henrico, VA	0.6	Warren, VA	15.0	Grant, WV	6.5
Highland, VA	20.5	Westmoreland, VA	0.4	Greenbrier, WV	16.5
Isle of Wight, VA	--	York, VA	5.9	Hampshire, WV	0.9
James City, VA	3.2	Alexandria, VA (city)	--	Hardy, WV	13.9
King and Queen, VA	--	Bedford, VA (city)	--	Jefferson, WV	1.8
King George, VA	--	Buena Vista, VA (city)	--	Mineral, WV	0.8
King William, VA	--	Charlottesville, VA (city)	--	Monroe, WV	6.7
Lancaster, VA	--	Chesapeake, VA (city)	1.2	Morgan, WV	0.1
Loudoun, VA	0.4	Colonial Heights, VA (city)	--	Pendleton, WV	29.3
Louisa, VA	0.0	Covington, VA (city)	--	Pocahontas, WV	51.5
Lunenburg, VA	--	Fairfax, VA (city)	--	Preston, WV	0.9
Madison, VA	16.1	Falls Church, VA (city)	--	Randolph, WV	30.6
Mathews, VA	--	Fredericksburg, VA (city)	3.2	Tucker, WV	37.8
				United States	27.1

Federal Lands and Indian Reservations

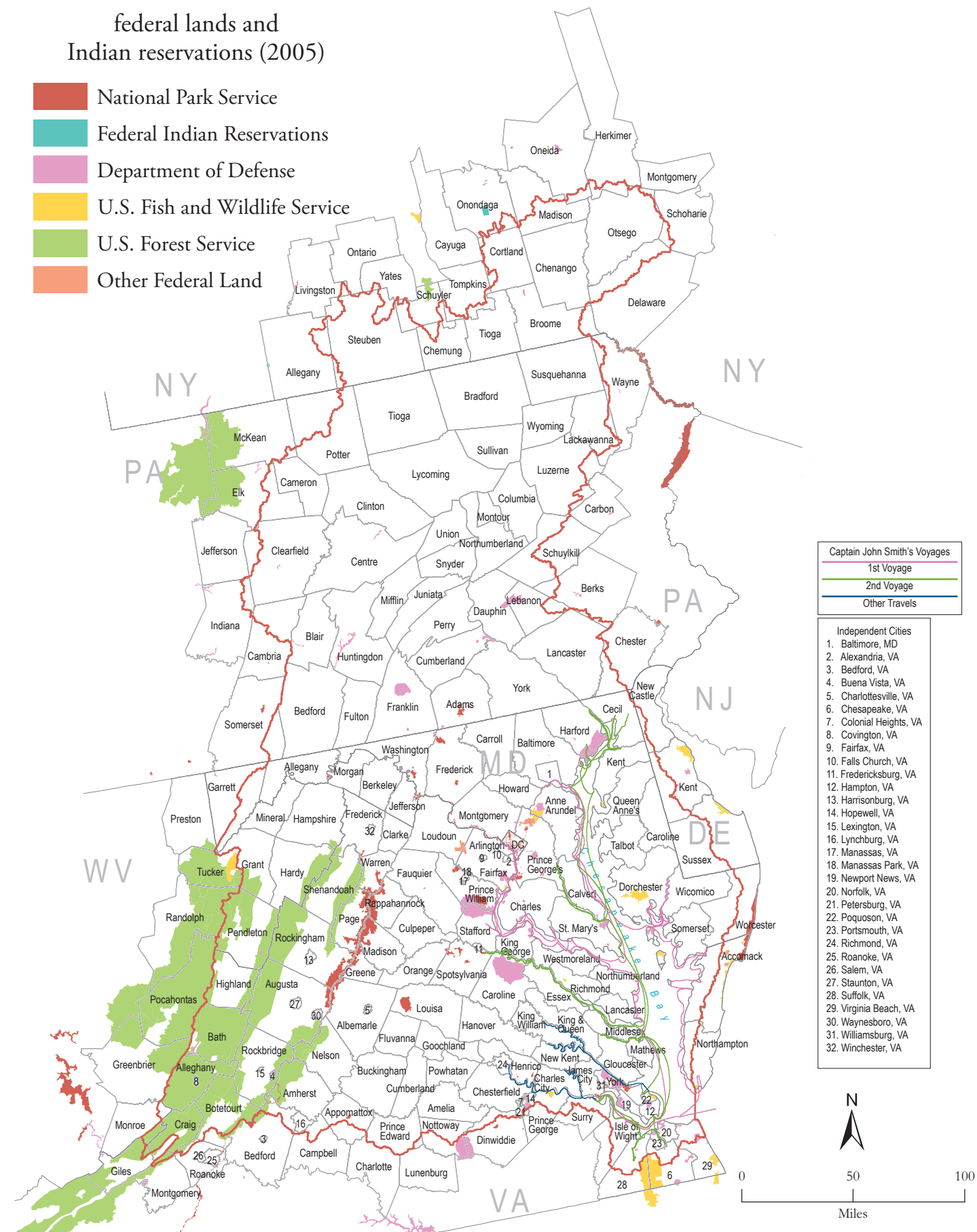
National park units, administered by the National Park Service, are part of a larger system of public lands. Other federal agencies that administer public lands include the Bureau of Land Management, Bureau of Reclamation, Department of Defense, U.S. Fish and Wildlife Service, and U.S. Forest Service. Indian reservations are also an important part of the landscape. Public land managed by one federal agency may share boundaries with land managed by a different federal agency or with an Indian reservation. Or, federal land management units may be isolated or distant from other federal lands. Understanding the location and pattern of federal lands (by agency) and Indian reservations can help park managers and others in the region cooperate on resource protection and planning issues.

Within the Chesapeake Bay Watershed region, most federal land management units are small in size, surrounded by a mix of land in private, state, or county ownership.²⁰

NOTES

Federal Lands and Indian Reservations

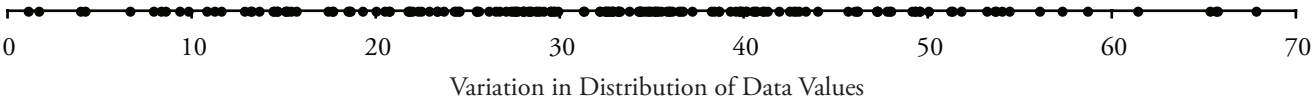
federal lands and
Indian reservations (2005)



Farmland

The relative importance of farming within a county can be indicated by the percentage of the county’s total land area that is classified as farmland. Farming includes crop cultivation as well as pasturing and grazing of livestock. Because damaged or degraded natural resources present a long-term threat to the health and profitability of farming, farm operators are potentially key partners in local and regional resource protection issues. Resource management can require close coordination with area farmers on many issues, such as control of non-native species, species reintroduction, preservation of scenic values, allocation of scarce water supplies, or management of agricultural runoff.

Within the Chesapeake Bay Watershed region, the percentage of total county land area classified as farmland (2002) ranges from 1.1% (York, VA) to 67.8% (Lancaster, PA).²¹



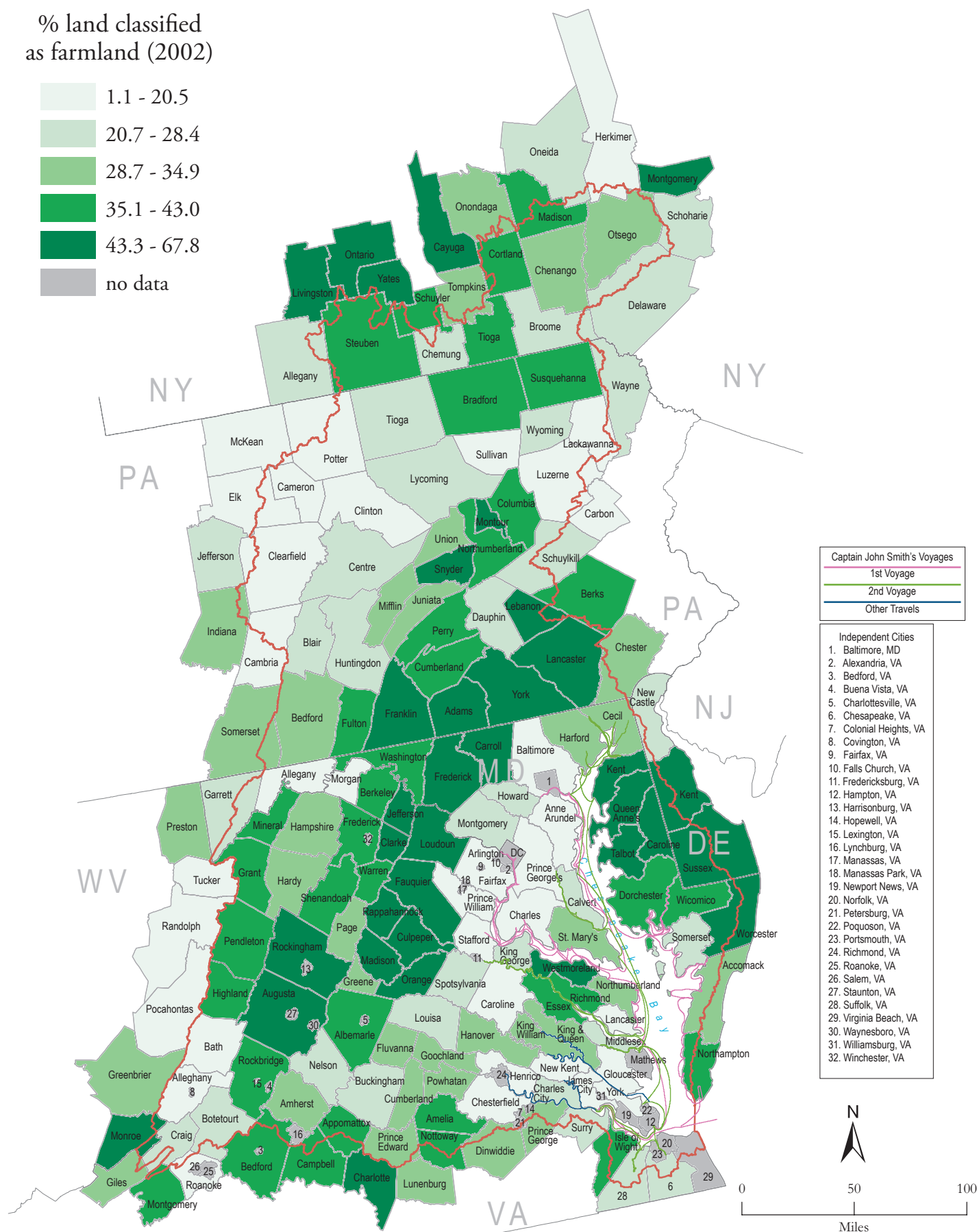
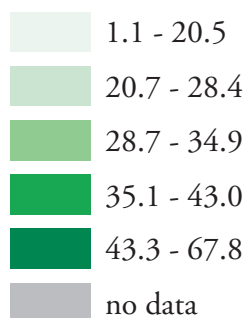
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NOTES

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Farmland

% land classified
as farmland (2002)



Farmland

% land classified as farmland (2002)

Kent, DE	49.1	Chenango, NY	33.2	Huntingdon, PA	25.6
New Castle, DE	26.1	Cortland, NY	39.7	Indiana, PA	29.6
Sussex, DE	47.2	Delaware, NY	20.7	Jefferson, PA	20.7
District of Columbia, DC	--	Herkimer, NY	17.6	Juniata, PA	34.4
Allegany, MD	14.5	Livingston, NY	51.8	Lackawanna, PA	11.2
Anne Arundel, MD	13.2	Madison, NY	40.1	Lancaster, PA	67.8
Baltimore, MD	18.6	Montgomery, NY	58.7	Lebanon, PA	54.0
Calvert, MD	21.8	Oneida, NY	28.4	Luzerne, PA	12.8
Caroline, MD	56.1	Onondaga, NY	31.3	Lycoming, PA	22.4
Carroll, MD	51.2	Ontario, NY	47.2	McKean, PA	6.6
Cecil, MD	34.6	Otsego, NY	32.1	Mifflin, PA	34.3
Charles, MD	17.6	Schoharie, NY	28.3	Montour, PA	47.8
Dorchester, MD	35.1	Schuyler, NY	35.1	Northumberland, PA	40.5
Frederick, MD	46.2	Steuben, NY	41.9	Perry, PA	36.4
Garrett, MD	24.5	Tioga, NY	38.6	Potter, PA	13.6
Harford, MD	28.9	Tompkins, NY	33.1	Schuylkill, PA	22.3
Howard, MD	23.3	Yates, NY	53.2	Snyder, PA	47.2
Kent, MD	65.6	Adams, PA	54.4	Somerset, PA	32.5
Montgomery, MD	23.7	Bedford, PA	29.7	Sullivan, PA	10.8
Prince George's, MD	14.6	Berks, PA	39.2	Susquehanna, PA	35.9
Queen Anne's, MD	65.3	Blair, PA	25.5	Tioga, PA	27.6
St. Mary's, MD	29.5	Bradford, PA	41.1	Union, PA	34.2
Somerset, MD	27.1	Cambria, PA	20.0	Wayne, PA	24.2
Talbot, MD	61.4	Cameron, PA	1.7	Wyoming, PA	24.3
Washington, MD	42.7	Carbon, PA	7.9	York, PA	49.3
Wicomico, MD	36.7	Centre, PA	23.3	Accomack, VA	31.3
Worcester, MD	43.3	Chester, PA	34.8	Albemarle, VA	38.4
Baltimore, MD (city)	--	Clearfield, PA	8.3	Alleghany, VA	11.6
Allegany, NY	27.3	Clinton, PA	9.3	Amelia, VA	39.9
Broome, NY	21.7	Columbia, PA	39.7	Amherst, VA	32.8
Cayuga, NY	53.7	Cumberland, PA	40.7	Appomattox, VA	39.8
Chemung, NY	26.5	Dauphin, PA	28.3	Arlington, VA	--
		Elk, PA	4.2	Augusta, VA	49.3
		Franklin, PA	49.5	Bath, VA	15.4
		Fulton, PA	35.9	Bedford, VA	41.3

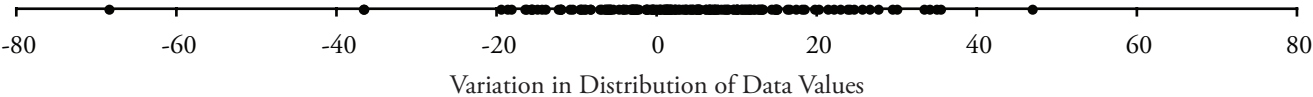
Farmland

Botetourt, VA	28.0	Middlesex, VA	25.4	Hampton, VA (city)	--
Buckingham, VA	21.8	Montgomery, VA	40.1	Harrisonburg, VA (city)	--
Campbell, VA	43.0	Nelson, VA	28.0	Hopewell, VA (city)	--
Caroline, VA	17.4	New Kent, VA	14.4	Lexington, VA (city)	--
Charles City, VA	24.5	Northampton, VA	39.5	Lynchburg, VA (city)	--
Charlotte, VA	44.0	Northumberland, VA	32.6	Manassas, VA (city)	--
Chesterfield, VA	8.6	Nottoway, VA	35.5	Manassas Park, VA (city)	--
Clarke, VA	65.7	Orange, VA	48.0	Newport News, VA (city)	--
Craig, VA	22.9	Page, VA	32.2	Norfolk, VA (city)	--
Culpeper, VA	51.3	Powhatan, VA	32.7	Petersburg, VA (city)	--
Cumberland, VA	32.8	Prince Edward, VA	34.9	Poquoson, VA (city)	--
Dinwiddie, VA	28.7	Prince George, VA	32.4	Portsmouth, VA (city)	--
Essex, VA	35.3	Prince William, VA	15.1	Richmond, VA (city)	--
Fairfax, VA	3.9	Rappahannock, VA	46.0	Roanoke, VA (city)	--
Fauquier, VA	57.3	Richmond, VA	36.5	Salem, VA (city)	--
Fluvanna, VA	32.9	Roanoke, VA	19.3	Staunton, VA (city)	--
Frederick, VA	42.5	Rockbridge, VA	41.0	Suffolk, VA (city)	27.6
Giles, VA	29.9	Rockingham, VA	45.6	Virginia Beach, VA (city)	--
Gloucester, VA	18.5	Shenandoah, VA	40.6	Waynesboro, VA (city)	--
Goochland, VA	28.7	Spotsylvania, VA	22.0	Williamsburg, VA (city)	--
Greene, VA	32.5	Stafford, VA	15.1	Winchester, VA (city)	--
Hanover, VA	33.2	Surry, VA	26.7	Berkeley, WV	37.2
Henrico, VA	18.5	Warren, VA	35.8	Grant, WV	35.2
Highland, VA	36.1	Westmoreland, VA	46.1	Greenbrier, WV	29.5
Isle of Wight, VA	42.8	York, VA	1.1	Hampshire, WV	33.8
James City, VA	9.8	Alexandria, VA (city)	--	Hardy, WV	34.4
King and Queen, VA	29.1	Bedford, VA (city)	--	Jefferson, WV	53.6
King George, VA	27.7	Buena Vista, VA (city)	--	Mineral, WV	38.6
King William, VA	34.8	Charlottesville, VA (city)	--	Monroe, WV	47.9
Lancaster, VA	14.6	Chesapeake, VA (city)	28.0	Morgan, WV	15.7
Loudoun, VA	49.5	Colonial Heights, VA (city)	--	Pendleton, WV	38.2
Louisa, VA	27.4	Covington, VA (city)	--	Pocahontas, WV	20.5
Lunenburg, VA	33.1	Fairfax, VA (city)	--	Preston, WV	34.3
Madison, VA	50.0	Falls Church, VA (city)	--	Randolph, WV	15.2
Mathews, VA	--	Fredericksburg, VA (city)	--	Tucker, WV	13.2
				United States	41.4

Change in Farmland

Changes in the amount of farmland provide an indication of economic and land use trends among counties in the park region. Land can be converted to farming because of increased demand for agricultural products or because new technology, business practices, or government programs make farming profitable. Land can be taken out of farming due to soil depletion, competition from growers elsewhere, loss of labor, or conversion of land to other (often urban) uses.

Within the Chesapeake Bay Watershed region (1992-2002), the change in farmland ranged from a net decrease of 68.5% (York, VA) to a net increase of 46.9% (Luzerne, PA).²²



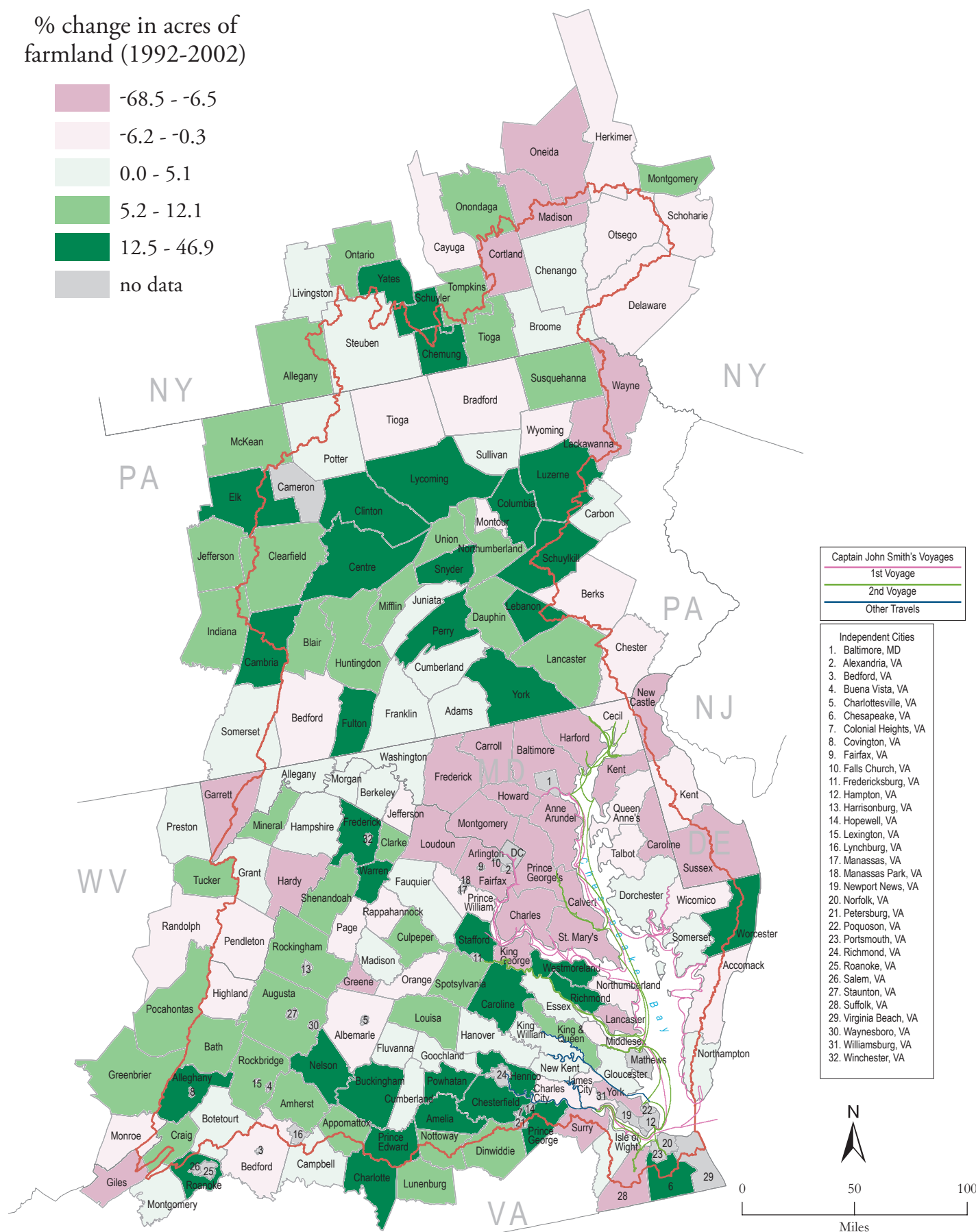
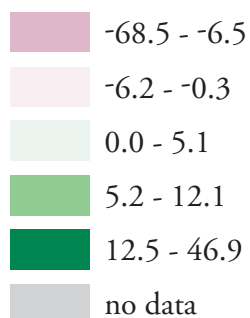
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Change in Farmland

% change in acres of
farmland (1992-2002)



Change in Farmland

% change in acres of farmland (1992-2002)

Kent, DE	-6.1	Chenango, NY	1.1	Huntingdon, PA	10.5
New Castle, DE	-18.2	Cortland, NY	-8.3	Indiana, PA	10.0
Sussex, DE	-7.0	Delaware, NY	-0.3	Jefferson, PA	9.6
District of Columbia, DC	--	Herkimer, NY	-2.3	Juniata, PA	1.3
Allegany, MD	4.2	Livingston, NY	2.1	Lackawanna, PA	-10.9
Anne Arundel, MD	-18.7	Madison, NY	-14.0	Lancaster, PA	6.1
Baltimore, MD	-14.4	Montgomery, NY	9.5	Lebanon, PA	19.7
Calvert, MD	-19.5	Oneida, NY	-9.1	Luzerne, PA	46.9
Caroline, MD	-9.6	Onondaga, NY	7.5	Lycoming, PA	33.3
Carroll, MD	-6.5	Ontario, NY	7.2	McKean, PA	5.2
Cecil, MD	-3.9	Otsego, NY	-5.5	Mifflin, PA	11.1
Charles, MD	-12.3	Schoharie, NY	-4.3	Montour, PA	-3.3
Dorchester, MD	1.3	Schuyler, NY	13.1	Northumberland, PA	8.9
Frederick, MD	-12.1	Steuben, NY	2.8	Perry, PA	23.8
Garrett, MD	-8.4	Tioga, NY	11.6	Potter, PA	4.8
Harford, MD	-16.3	Tompkins, NY	9.9	Schuylkill, PA	24.6
Howard, MD	-15.8	Yates, NY	12.8	Snyder, PA	14.6
Kent, MD	-10.6	Adams, PA	5.1	Somerset, PA	1.5
Montgomery, MD	-9.0	Bedford, PA	-3.1	Sullivan, PA	1.6
Prince George's, MD	-16.5	Berks, PA	-2.8	Susquehanna, PA	6.8
Queen Anne's, MD	-5.9	Blair, PA	12.1	Tioga, PA	-5.9
St. Mary's, MD	-12.1	Bradford, PA	-2.6	Union, PA	9.9
Somerset, MD	1.8	Cambria, PA	14.3	Wayne, PA	-7.2
Talbot, MD	-3.1	Cameron, PA	--	Wyoming, PA	-1.4
Washington, MD	1.0	Carbon, PA	1.2	York, PA	13.2
Wicomico, MD	-3.1	Centre, PA	18.1	Accomack, VA	-0.6
Worcester, MD	22.1	Chester, PA	-4.8	Albemarle, VA	-5.9
Baltimore, MD (city)	--	Clearfield, PA	10.8	Alleghany, VA	27.6
Allegany, NY	11.5	Clinton, PA	34.9	Amelia, VA	29.4
Broome, NY	0.4	Columbia, PA	21.3	Amherst, VA	10.6
Cayuga, NY	-6.2	Cumberland, PA	0.9	Appomattox, VA	8.0
Chemung, NY	17.3	Dauphin, PA	5.2	Arlington, VA	--
		Elk, PA	35.4	Augusta, VA	6.5
		Franklin, PA	4.4	Bath, VA	11.3
		Fulton, PA	13.0	Bedford, VA	-0.6

Change in Farmland

Botetourt, VA	0.3	Middlesex, VA	-1.4	Hampton, VA (city)	--
Buckingham, VA	22.9	Montgomery, VA	0.8	Harrisonburg, VA (city)	--
Campbell, VA	3.2	Nelson, VA	16.5	Hopewell, VA (city)	--
Caroline, VA	14.8	New Kent, VA	5.1	Lexington, VA (city)	--
Charles City, VA	-0.5	Northampton, VA	-0.0	Lynchburg, VA (city)	--
Charlotte, VA	18.4	Northumberland, VA	-2.8	Manassas, VA (city)	--
Chesterfield, VA	34.0	Nottoway, VA	11.6	Manassas Park, VA (city)	--
Clarke, VA	8.7	Orange, VA	-2.6	Newport News, VA (city)	--
Craig, VA	6.5	Page, VA	-1.3	Norfolk, VA (city)	--
Culpeper, VA	8.5	Powhatan, VA	26.5	Petersburg, VA (city)	--
Cumberland, VA	1.6	Prince Edward, VA	15.0	Poquoson, VA (city)	--
Dinwiddie, VA	7.5	Prince George, VA	12.7	Portsmouth, VA (city)	--
Essex, VA	3.5	Prince William, VA	-1.3	Richmond, VA (city)	--
Fairfax, VA	-36.7	Rappahannock, VA	-0.6	Roanoke, VA (city)	--
Fauquier, VA	1.1	Richmond, VA	15.0	Salem, VA (city)	--
Fluvanna, VA	3.7	Roanoke, VA	24.0	Staunton, VA (city)	--
Frederick, VA	14.8	Rockbridge, VA	11.0	Suffolk, VA (city)	-15.0
Giles, VA	-6.5	Rockingham, VA	5.3	Virginia Beach, VA (city)	--
Gloucester, VA	5.0	Shenandoah, VA	6.1	Waynesboro, VA (city)	--
Goochland, VA	1.7	Spotsylvania, VA	6.5	Williamsburg, VA (city)	--
Greene, VA	-12.0	Stafford, VA	29.9	Winchester, VA (city)	--
Hanover, VA	4.4	Surry, VA	-9.7	Berkeley, WV	4.0
Henrico, VA	16.3	Warren, VA	25.6	Grant, WV	1.2
Highland, VA	-0.9	Westmoreland, VA	20.2	Greenbrier, WV	7.2
Isle of Wight, VA	0.3	York, VA	-68.5	Hampshire, WV	2.2
James City, VA	-6.2	Alexandria, VA (city)	--	Hardy, WV	-9.4
King and Queen, VA	12.1	Bedford, VA (city)	--	Jefferson, WV	-3.2
King George, VA	-15.6	Buena Vista, VA (city)	--	Mineral, WV	8.3
King William, VA	3.4	Charlottesville, VA (city)	--	Monroe, WV	-2.5
Lancaster, VA	-36.6	Chesapeake, VA (city)	12.5	Morgan, WV	4.9
Loudoun, VA	-15.7	Colonial Heights, VA (city)	--	Pendleton, WV	-4.2
Louisa, VA	7.2	Covington, VA (city)	--	Pocahontas, WV	6.6
Lunenburg, VA	6.9	Fairfax, VA (city)	--	Preston, WV	2.6
Madison, VA	2.3	Falls Church, VA (city)	--	Randolph, WV	-3.0
Mathews, VA	--	Fredericksburg, VA (city)	--	Tucker, WV	10.0
				United States	-0.8

Metropolitan Areas

Maps of metropolitan statistical areas show managers densely populated urban areas that are near national park units and other important areas. The federal Office of Management and Budget (OMB) defines a metropolitan statistical area (MSA) as at least one population center of 50,000 people or more, combined with adjacent areas that have close economic and social integration with the population center(s). Most counties in MSAs include both urban and rural land uses.

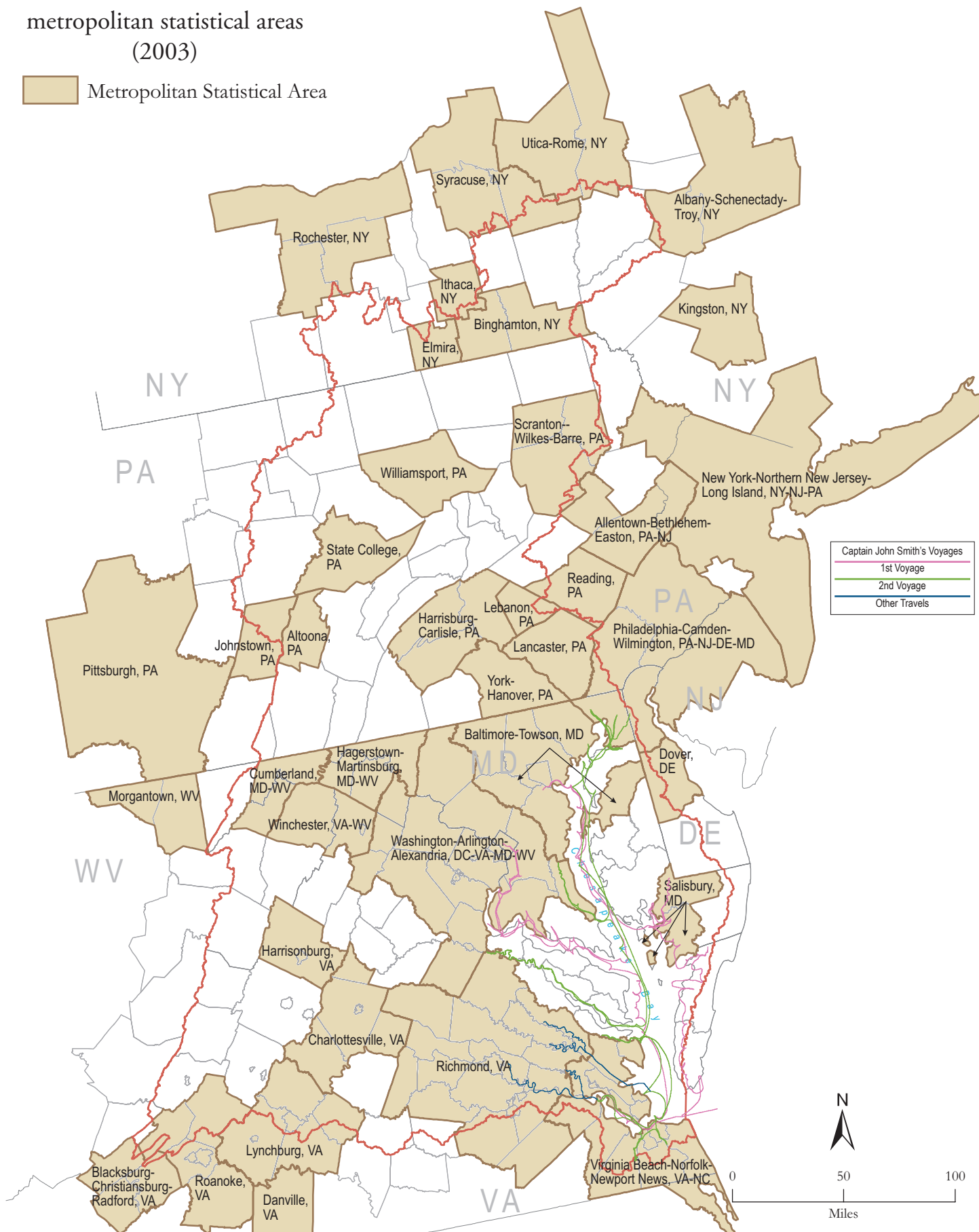
The Chesapeake Bay Watershed region includes all or portions of 34 metropolitan statistical areas and is adjacent to an additional four metropolitan statistical areas.²³

NOTES

Metropolitan Areas

metropolitan statistical areas
(2003)

 Metropolitan Statistical Area

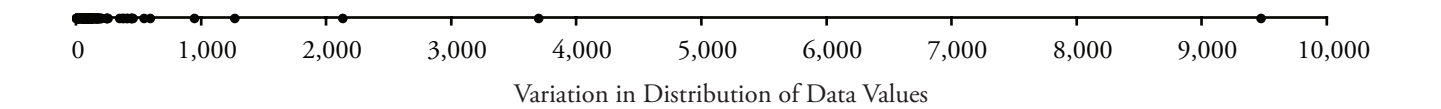


Domestic Water Use

Domestic water use can be measured in gallons per day per person. The level of domestic water consumption can be indicative of local consumption patterns, attitudes toward conservation, the cost of water, or the amount of regulatory control over water use. Higher levels of domestic water use may be associated with water-intensive landscaping, swimming pools, and so forth. Relatively low levels of domestic water use may indicate the presence of higher water costs or stricter water conservation guidelines.

Among the counties of the Chesapeake Bay Watershed region, domestic water use per person (2000) ranges from 0 gallons/day (15 independent cities and DC) to 9,467.5 gallons/day (Delaware, NY).²⁴

[Note: A county or independent city reporting 0 as the data value has a population that is served by a water supply outside its boundaries.]



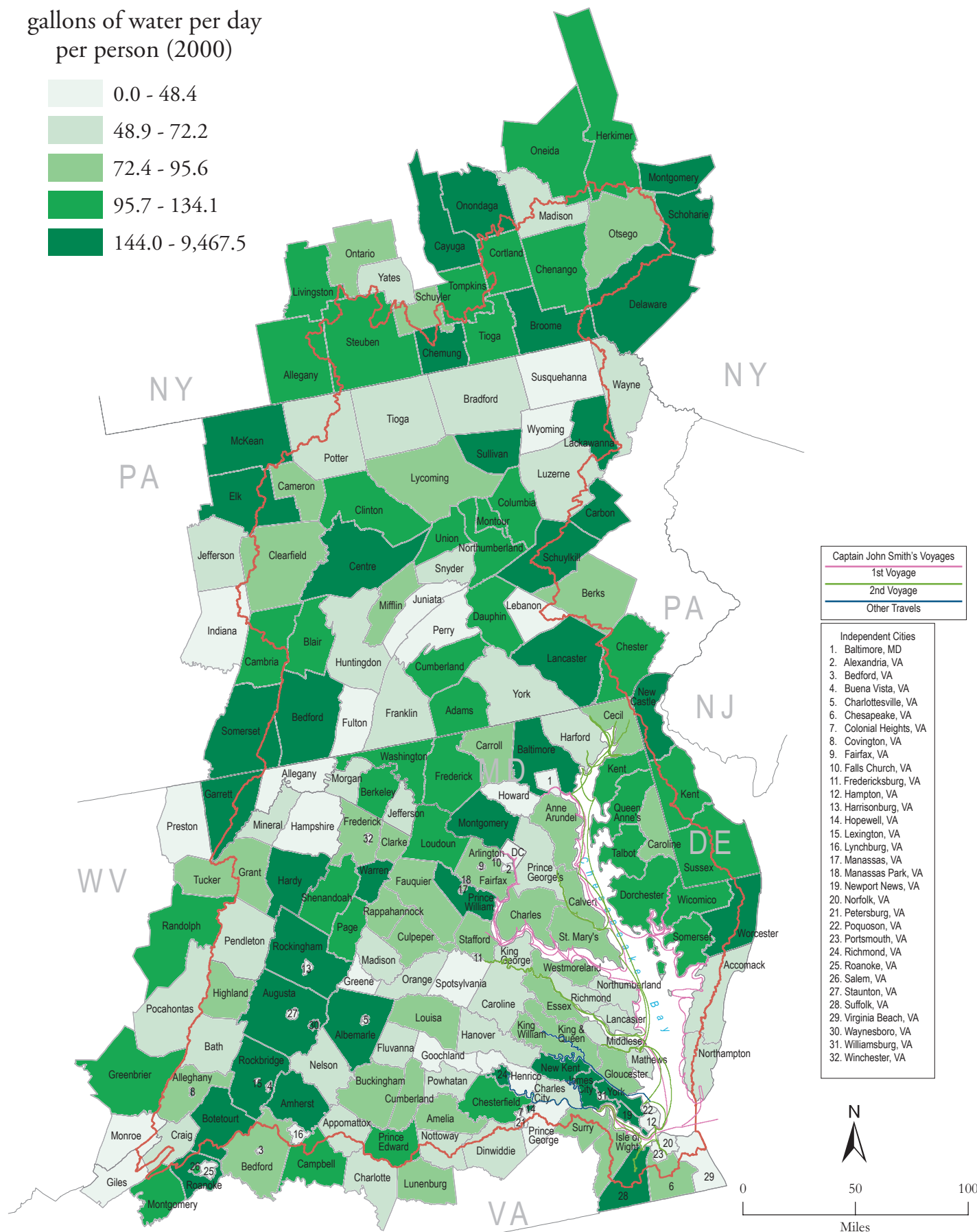
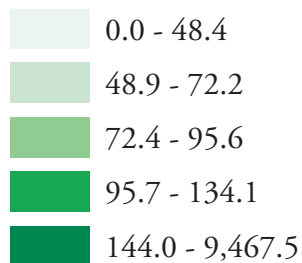
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Domestic Water Use

gallons of water per day
per person (2000)



Domestic Water Use

gallons of water per day
per person (2000)

Kent, DE	118.2	Chenango, NY	100.0	Huntingdon, PA	62.7
New Castle, DE	148.7	Cortland, NY	125.7	Indiana, PA	47.8
Sussex, DE	120.4	Delaware, NY	9,467.5	Jefferson, PA	50.7
District of Columbia, DC	0.0	Herkimer, NY	128.8	Juniata, PA	38.1
Allegany, MD	22.2	Livingston, NY	100.3	Lackawanna, PA	168.0
Anne Arundel, MD	86.1	Madison, NY	63.7	Lancaster, PA	151.6
Baltimore, MD	364.8	Montgomery, NY	194.1	Lebanon, PA	17.0
Calvert, MD	80.3	Oneida, NY	125.4	Luzerne, PA	65.8
Caroline, MD	87.7	Onondaga, NY	173.9	Lycoming, PA	92.6
Carroll, MD	87.8	Ontario, NY	73.3	McKean, PA	154.3
Cecil, MD	86.7	Otsego, NY	85.3	Mifflin, PA	80.7
Charles, MD	89.3	Schoharie, NY	3,691.3	Montour, PA	108.6
Dorchester, MD	111.2	Schuyler, NY	86.9	Northumberland, PA	119.4
Frederick, MD	113.5	Steuben, NY	114.5	Perry, PA	20.4
Garrett, MD	159.5	Tioga, NY	108.9	Potter, PA	62.5
Harford, MD	68.6	Tompkins, NY	110.1	Schuylkill, PA	172.9
Howard, MD	11.3	Yates, NY	65.0	Snyder, PA	56.2
Kent, MD	103.6	Adams, PA	109.8	Somerset, PA	405.4
Montgomery, MD	439.0	Bedford, PA	159.5	Sullivan, PA	440.5
Prince George's, MD	66.6	Berks, PA	84.9	Susquehanna, PA	24.1
Queen Anne's, MD	100.8	Blair, PA	118.9	Tioga, PA	57.3
St. Mary's, MD	93.7	Bradford, PA	56.6	Union, PA	104.5
Somerset, MD	116.0	Cambria, PA	99.1	Wayne, PA	50.9
Talbot, MD	115.4	Cameron, PA	80.4	Wyoming, PA	26.0
Washington, MD	132.7	Carbon, PA	399.8	York, PA	70.8
Wicomico, MD	122.1	Centre, PA	170.5	Accomack, VA	58.5
Worcester, MD	185.4	Chester, PA	95.8	Albemarle, VA	187.5
Baltimore, MD (city)	0.0	Clearfield, PA	75.8	Alleghany, VA	82.5
Allegany, NY	95.7	Clinton, PA	126.6	Amelia, VA	74.6
Broome, NY	168.8	Columbia, PA	98.4	Amherst, VA	433.7
Cayuga, NY	144.0	Cumberland, PA	114.5	Appomattox, VA	67.2
Chemung, NY	147.0	Dauphin, PA	124.6	Arlington, VA	1.7
		Elk, PA	158.9	Augusta, VA	172.5
		Franklin, PA	64.3	Bath, VA	51.5
		Fulton, PA	5.6	Bedford, VA	80.7

Domestic Water Use

Botetourt, VA	536.7	Middlesex, VA	71.5	Hampton, VA (city)	7.8
Buckingham, VA	78.1	Montgomery, VA	113.7	Harrisonburg, VA (city)	10.1
Campbell, VA	107.5	Nelson, VA	59.6	Hopewell, VA (city)	940.0
Caroline, VA	60.1	New Kent, VA	2,126.3	Lexington, VA (city)	0.0
Charles City, VA	72.2	Northampton, VA	68.8	Lynchburg, VA (city)	7.2
Charlotte, VA	70.6	Northumberland, VA	59.5	Manassas, VA (city)	75.1
Chesterfield, VA	134.0	Nottoway, VA	63.0	Manassas Park, VA (city)	43.7
Clarke, VA	83.8	Orange, VA	52.2	Newport News, VA (city)	158.3
Craig, VA	57.0	Page, VA	107.9	Norfolk, VA (city)	9.9
Culpeper, VA	95.4	Powhatan, VA	69.3	Petersburg, VA (city)	0.0
Cumberland, VA	74.3	Prince Edward, VA	97.4	Poquoson, VA (city)	0.0
Dinwiddie, VA	55.4	Prince George, VA	36.0	Portsmouth, VA (city)	0.0
Essex, VA	92.1	Prince William, VA	250.9	Richmond, VA (city)	450.1
Fairfax, VA	81.2	Rappahannock, VA	78.8	Roanoke, VA (city)	0.0
Fauquier, VA	78.5	Richmond, VA	49.9	Salem, VA (city)	109.1
Fluvanna, VA	71.3	Roanoke, VA	163.8	Staunton, VA (city)	0.0
Frederick, VA	76.3	Rockbridge, VA	190.3	Suffolk, VA (city)	1,261.6
Giles, VA	39.0	Rockingham, VA	240.3	Virginia Beach, VA (city)	7.3
Gloucester, VA	87.1	Shenandoah, VA	112.6	Waynesboro, VA (city)	155.7
Goochland, VA	30.8	Spotsylvania, VA	42.9	Williamsburg, VA (city)	0.0
Greene, VA	40.0	Stafford, VA	87.7	Winchester, VA (city)	0.0
Hanover, VA	65.9	Surry, VA	74.7	Berkeley, WV	118.0
Henrico, VA	16.6	Warren, VA	340.4	Grant, WV	95.6
Highland, VA	94.5	Westmoreland, VA	86.1	Greenbrier, WV	110.6
Isle of Wight, VA	88.5	York, VA	588.8	Hampshire, WV	28.2
James City, VA	237.8	Alexandria, VA (city)	9.5	Hardy, WV	237.6
King and Queen, VA	72.4	Bedford, VA (city)	0.0	Jefferson, WV	52.4
King George, VA	60.7	Buena Vista, VA (city)	0.0	Mineral, WV	63.9
King William, VA	92.8	Charlottesville, VA (city)	0.0	Monroe, WV	33.6
Lancaster, VA	70.9	Chesapeake, VA (city)	74.2	Morgan, WV	48.9
Loudoun, VA	134.1	Colonial Heights, VA (city)	2.4	Pendleton, WV	54.9
Louisa, VA	74.9	Covington, VA (city)	377.8	Pocahontas, WV	70.1
Lunenburg, VA	74.5	Fairfax, VA (city)	0.0	Preston, WV	48.4
Madison, VA	64.7	Falls Church, VA (city)	0.0	Randolph, WV	97.0
Mathews, VA	70.6	Fredericksburg, VA (city)	50.8	Tucker, WV	95.6
				United States	164.5

Urbanization

Urbanization is a measurement of the degree to which land has been developed as towns and cities. The political and economic priorities of more urbanized counties tend to differ from those of less urbanized counties. The concentration of people in towns, cities, and large metropolitan areas creates opportunities for cooperative efforts (such as municipal water systems, public transportation, and a host of non-governmental organizations) but also can increase the incidence of problems such as congestion, air pollution, and habitat fragmentation.

The Economic Research Service classifies counties' degree of urbanization along a continuum ranging from completely rural (not near metro area and small population size) to large metropolitan. The classification consists of twelve mutually-exclusive codes:

METROPOLITAN COUNTIES

- 1) Large-in a metro area with at least 1 million residents or more
- 2) Small-in a metro area with fewer than 1 million residents

NONMETROPOLITAN COUNTIES

- 3) Micropolitan adjacent to a large metro area
- 4) Noncore adjacent to a large metro area
- 5) Micropolitan area adjacent to a small metro area
- 6) Noncore adjacent to a small metro with town of at least 2,500 residents
- 7) Noncore adjacent to a small metro and does not contain a town of at least 2,500 residents
- 8) Micropolitan not adjacent to a metro area
- 9) Noncore adjacent to micro area and contains a town of at least 2,500 residents
- 10) Noncore adjacent to micro area and does not contain a town of at least 2,500 residents
- 11) Noncore not adjacent to a metro/micro area and contains a town of 2,500 or more residents
- 12) Noncore not adjacent to a metro/micro area and does not contain a town of at least 2,500 residents

Within the Chesapeake Bay Watershed region (2003), 125 of the 207 counties/independent cities are coded as either "2" (small metropolitan) or "1" (large metropolitan).

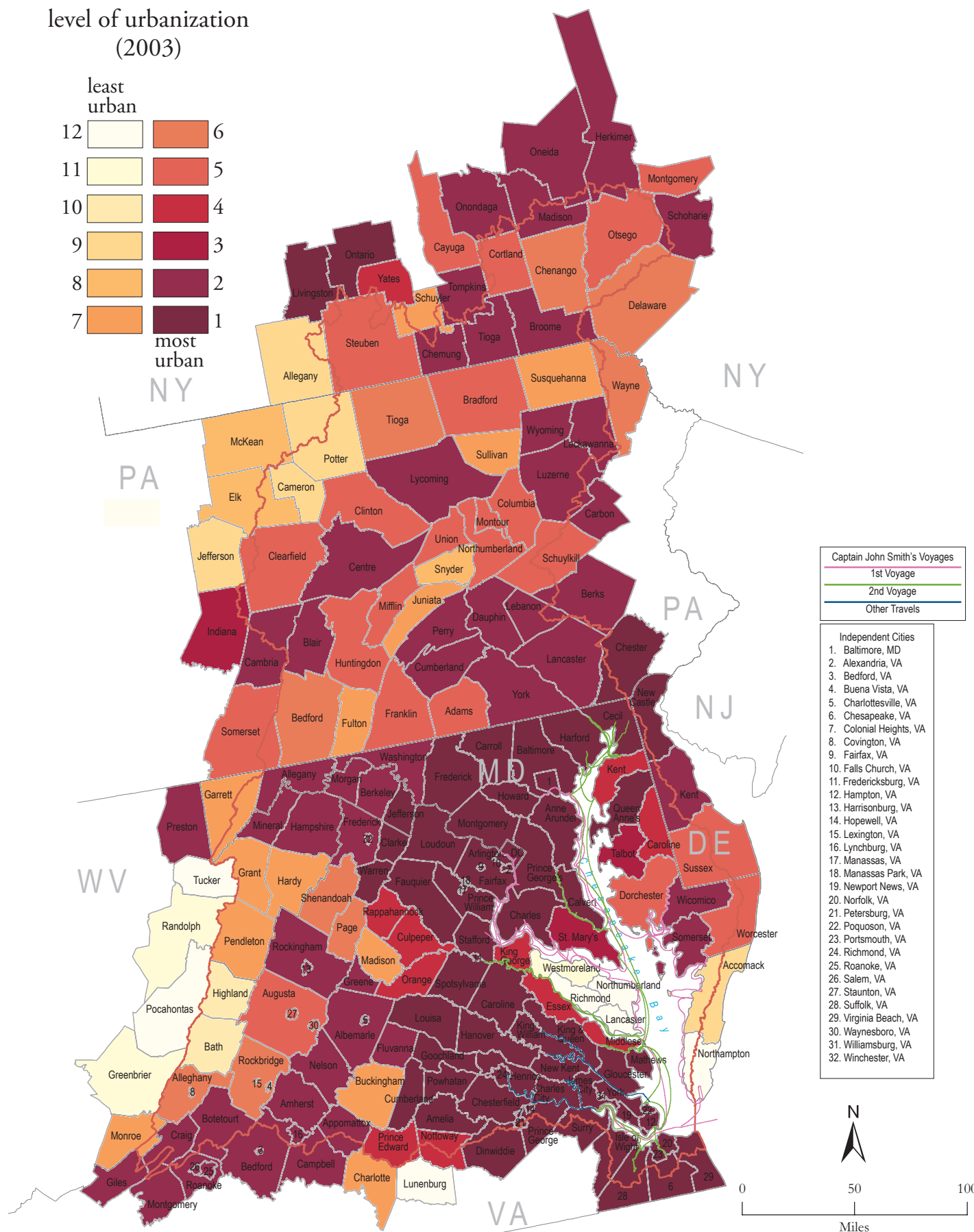
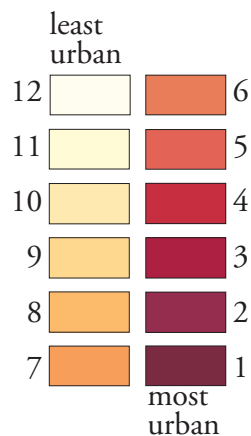
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Urbanization

level of urbanization
(2003)



Urbanization

level of urbanization (2003)					
		Chenango, NY	6	Huntingdon, PA	5
		Cortland, NY	5	Indiana, PA	3
		Delaware, NY	6	Jefferson, PA	9
Kent, DE	2	Herkimer, NY	2	Juniata, PA	7
New Castle, DE	1	Livingston, NY	1	Lackawanna, PA	2
Sussex, DE	5	Madison, NY	2	Lancaster, PA	2
District of Columbia, DC	1	Montgomery, NY	5	Lebanon, PA	2
Allegany, MD	2	Oneida, NY	2	Luzerne, PA	2
Anne Arundel, MD	1	Onondaga, NY	2	Lycoming, PA	2
Baltimore, MD	1	Ontario, NY	1	McKean, PA	8
Calvert, MD	1	Otsego, NY	5	Mifflin, PA	5
Caroline, MD	4	Schoharie, NY	2	Montour, PA	5
Carroll, MD	1	Schuyler, NY	7	Northumberland, PA	5
Cecil, MD	1	Steuben, NY	5	Perry, PA	2
Charles, MD	1	Tioga, NY	2	Potter, PA	9
Dorchester, MD	5	Tompkins, NY	2	Schuylkill, PA	5
Frederick, MD	1	Yates, NY	4	Snyder, PA	8
Garrett, MD	7	Adams, PA	5	Somerset, PA	5
Harford, MD	1	Bedford, PA	6	Sullivan, PA	7
Howard, MD	1	Berks, PA	2	Susquehanna, PA	7
Kent, MD	4	Blair, PA	2	Tioga, PA	6
Montgomery, MD	1	Bradford, PA	5	Union, PA	5
Prince George's, MD	1	Cambria, PA	2	Wayne, PA	6
Queen Anne's, MD	1	Cameron, PA	9	Wyoming, PA	2
St. Mary's, MD	3	Carbon, PA	2	York, PA	2
Somerset, MD	2	Centre, PA	2	Accomack, VA	9
Talbot, MD	3	Chester, PA	1	Albemarle, VA	2
Washington, MD	2	Clearfield, PA	5	Alleghany, VA	6
Wicomico, MD	2	Clinton, PA	5	Amelia, VA	1
Worcester, MD	5	Columbia, PA	5	Amherst, VA	2
Baltimore, MD (city)	1	Cumberland, PA	2	Appomattox, VA	2
Allegany, NY	9	Dauphin, PA	2	Arlington, VA	1
Broome, NY	2	Elk, PA	8	Augusta, VA	5
Cayuga, NY	5	Franklin, PA	5	Bath, VA	10
Chemung, NY	2	Fulton, PA	7	Bedford, VA	2

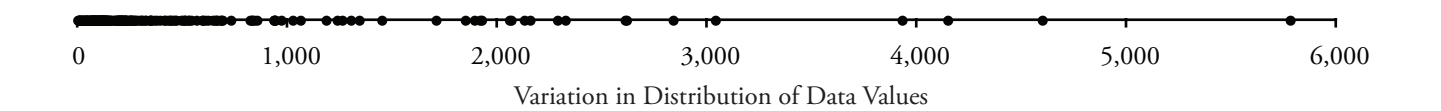
Urbanization

Botetourt, VA	2	Middlesex, VA	4	Hampton, VA (city)	1
Buckingham, VA	7	Montgomery, VA	2	Harrisonburg, VA (city)	2
Campbell, VA	2	Nelson, VA	2	Hopewell, VA (city)	1
Caroline, VA	1	New Kent, VA	1	Lexington, VA (city)	6
Charles City, VA	1	Northampton, VA	12	Lynchburg, VA (city)	2
Charlotte, VA	7	Northumberland, VA	12	Manassas, VA (city)	1
Chesterfield, VA	1	Nottoway, VA	4	Manassas Park, VA (city)	1
Clarke, VA	1	Orange, VA	4	Newport News, VA (city)	1
Craig, VA	2	Page, VA	6	Norfolk, VA (city)	1
Culpeper, VA	4	Powhatan, VA	1	Petersburg, VA (city)	1
Cumberland, VA	1	Prince Edward, VA	4	Poquoson, VA (city)	1
Dinwiddie, VA	1	Prince George, VA	1	Portsmouth, VA (city)	1
Essex, VA	4	Prince William, VA	1	Richmond, VA (city)	1
Fairfax, VA	1	Rappahannock, VA	4	Roanoke, VA (city)	2
Fauquier, VA	1	Richmond, VA	12	Salem, VA (city)	2
Fluvanna, VA	2	Roanoke, VA	2	Staunton, VA (city)	5
Frederick, VA	2	Rockbridge, VA	6	Suffolk, VA (city)	1
Giles, VA	2	Rockingham, VA	2	Virginia Beach, VA (city)	1
Gloucester, VA	1	Shenandoah, VA	6	Waynesboro, VA (city)	5
Goochland, VA	1	Spotsylvania, VA	1	Williamsburg, VA (city)	1
Greene, VA	2	Stafford, VA	1	Winchester, VA (city)	2
Hanover, VA	1	Surry, VA	1	Berkeley, WV	2
Henrico, VA	1	Warren, VA	1	Grant, WV	7
Highland, VA	10	Westmoreland, VA	11	Greenbrier, WV	11
Isle of Wight, VA	1	York, VA	1	Hampshire, WV	2
James City, VA	1	Alexandria, VA (city)	1	Hardy, WV	7
King and Queen, VA	1	Bedford, VA (city)	2	Jefferson, WV	1
King George, VA	4	Buena Vista, VA (city)	6	Mineral, WV	2
King William, VA	1	Charlottesville, VA (city)	2	Monroe, WV	7
Lancaster, VA	12	Chesapeake, VA (city)	1	Morgan, WV	2
Loudoun, VA	1	Colonial Heights, VA (city)	1	Pendleton, WV	7
Louisa, VA	1	Covington, VA (city)	6	Pocahontas, WV	12
Lunenburg, VA	12	Fairfax, VA (city)	1	Preston, WV	2
Madison, VA	7	Falls Church, VA (city)	1	Randolph, WV	11
Mathews, VA	1	Fredericksburg, VA (city)	1	Tucker, WV	12

Building Permits

One indicator of growth in a local economy is the number of building permits issued for new privately-owned housing units. A large number of building permits indicates demand for construction labor, supplies, and services. It indirectly implies that families are growing, retirees are moving to an area, or industries are moving and expanding economic output. Growth can generate new political priorities (such as greater demand for roads and schools) and can increase land values. Growth also alters the human impact within the ecosystem through effects such as increased water consumption, loss of cropland or habitat, or greater valuation of open space.

Within the Chesapeake Bay Watershed region the average number of building permits issued annually (1995-2005) ranges from 0.5 (Monroe, WV) to 5,780.7 (Fairfax, VA).²⁵



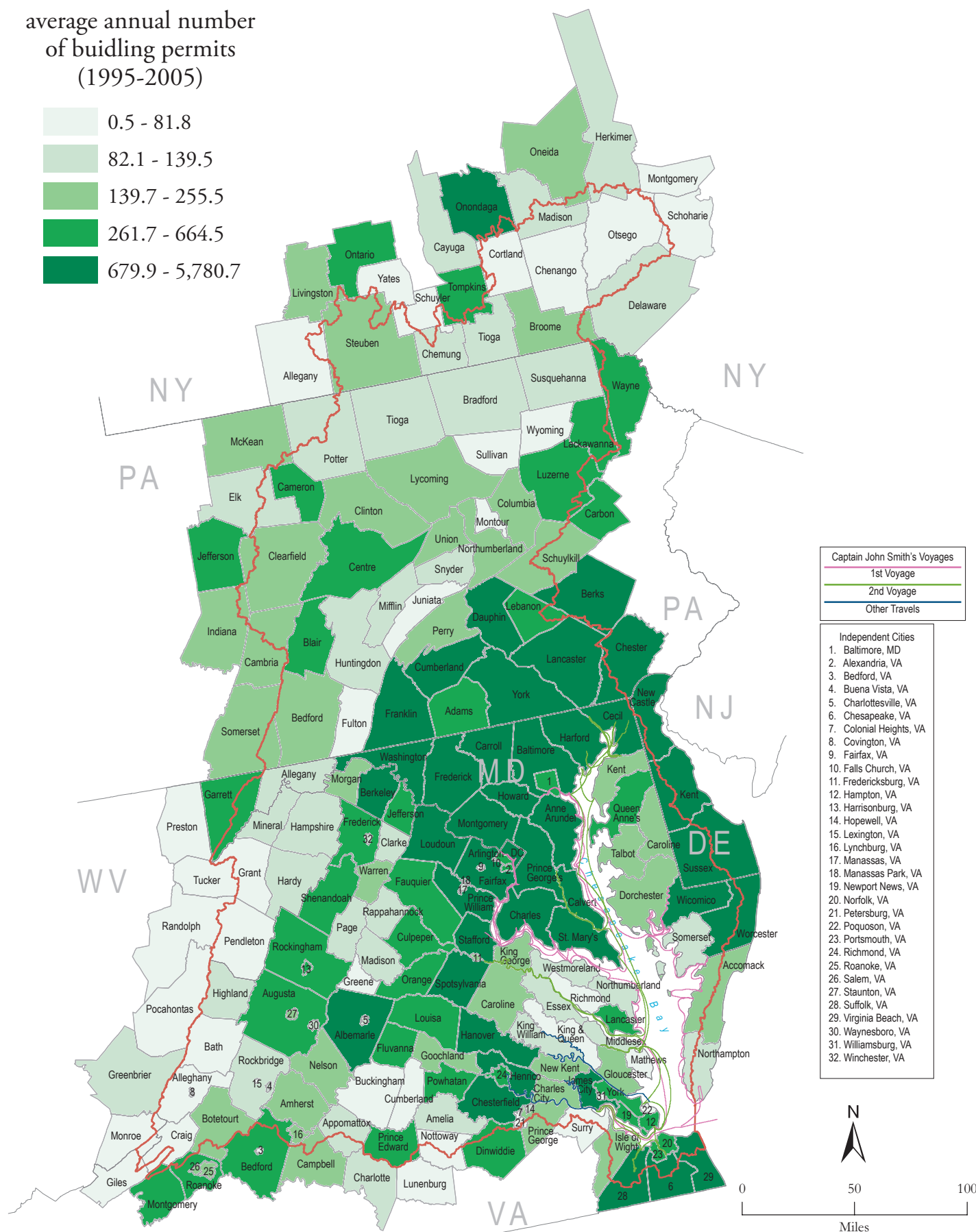
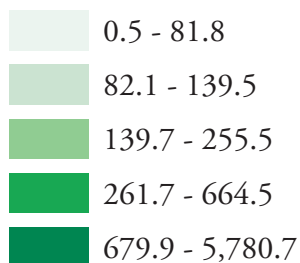
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Building Permits

average annual number
of buidling permits
(1995-2005)



Building Permits

average annual number
of building permits (1995-2005)

Kent, DE	1,236.7	Chenango, NY	17.5	Huntingdon, PA	133.2
New Castle, DE	2,128.8	Cortland, NY	69.0	Indiana, PA	213.7
Sussex, DE	2,287.4	Delaware, NY	100.5	Jefferson, PA	297.3
District of Columbia, DC	970.7	Herkimer, NY	98.3	Juniata, PA	77.0
Allegany, MD	109.5	Livingston, NY	182.9	Lackawanna, PA	412.4
Anne Arundel, MD	2,838.3	Madison, NY	128.5	Lancaster, PA	2,058.9
Baltimore, MD	2,616.9	Montgomery, NY	39.5	Lebanon, PA	566.0
Calvert, MD	831.9	Oneida, NY	248.7	Luzerne, PA	594.7
Caroline, MD	207.5	Onondaga, NY	939.6	Lycoming, PA	236.1
Carroll, MD	1,184.4	Ontario, NY	430.6	McKean, PA	206.5
Cecil, MD	854.2	Otsego, NY	68.2	Mifflin, PA	115.2
Charles, MD	1,261.2	Schoharie, NY	60.8	Montour, PA	64.5
Dorchester, MD	193.5	Schuyler, NY	27.5	Northumberland, PA	191.5
Frederick, MD	1,925.6	Steuben, NY	181.5	Perry, PA	141.0
Garrett, MD	285.2	Tioga, NY	83.0	Potter, PA	89.5
Harford, MD	1,891.1	Tompkins, NY	264.5	Schuylkill, PA	230.2
Howard, MD	1,848.3	Yates, NY	50.7	Snyder, PA	114.4
Kent, MD	195.5	Adams, PA	593.5	Somerset, PA	196.1
Montgomery, MD	4,147.2	Bedford, PA	150.6	Sullivan, PA	40.5
Prince George's, MD	3,040.1	Berks, PA	1,708.0	Susquehanna, PA	113.7
Queen Anne's, MD	416.7	Blair, PA	342.9	Tioga, PA	126.5
St. Mary's, MD	935.6	Bradford, PA	125.8	Union, PA	199.5
Somerset, MD	98.7	Cambria, PA	210.3	Wayne, PA	441.5
Talbot, MD	250.1	Cameron, PA	270.8	Wyoming, PA	81.8
Washington, MD	934.4	Carbon, PA	261.7	York, PA	2,157.0
Wicomico, MD	684.8	Centre, PA	652.9	Accomack, VA	194.5
Worcester, MD	821.0	Chester, PA	2,610.0	Albemarle, VA	689.4
Baltimore, MD (city)	376.0	Clearfield, PA	208.6	Alleghany, VA	43.8
Allegany, NY	81.6	Clinton, PA	158.7	Amelia, VA	95.9
Broome, NY	187.8	Columbia, PA	220.0	Amherst, VA	223.2
Cayuga, NY	91.6	Cumberland, PA	1,061.5	Appomattox, VA	109.2
Chemung, NY	128.2	Dauphin, PA	1,025.0	Arlington, VA	621.4
		Elk, PA	84.7	Augusta, VA	512.0
		Franklin, PA	729.5	Bath, VA	26.7
		Fulton, PA	80.5	Bedford, VA	540.9

Building Permits

Botetourt, VA	222.8	Middlesex, VA	106.5	Hampton, VA (city)	441.6
Buckingham, VA	62.7	Montgomery, VA	470.3	Harrisonburg, VA (city)	308.7
Campbell, VA	255.5	Nelson, VA	139.7	Hopewell, VA (city)	90.4
Caroline, VA	250.6	New Kent, VA	169.5	Lexington, VA (city)	17.5
Charles City, VA	216.5	Northampton, VA	105.5	Lynchburg, VA (city)	224.8
Charlotte, VA	82.1	Northumberland, VA	95.3	Manassas, VA (city)	93.9
Chesterfield, VA	2,324.5	Nottoway, VA	56.8	Manassas Park, VA (city)	123.6
Clarke, VA	112.6	Orange, VA	321.5	Newport News, VA (city)	607.8
Craig, VA	33.1	Page, VA	110.2	Norfolk, VA (city)	461.8
Culpeper, VA	392.0	Powhatan, VA	302.9	Petersburg, VA (city)	39.6
Cumberland, VA	69.5	Prince Edward, VA	527.5	Poquoson, VA (city)	50.0
Dinwiddie, VA	660.7	Prince George, VA	209.6	Portsmouth, VA (city)	276.1
Essex, VA	118.2	Prince William, VA	3,930.0	Richmond, VA (city)	350.5
Fairfax, VA	5,780.7	Rappahannock, VA	85.5	Roanoke, VA (city)	175.5
Fauquier, VA	529.8	Richmond, VA	53.2	Salem, VA (city)	142.8
Fluvanna, VA	348.8	Roanoke, VA	492.9	Staunton, VA (city)	224.0
Frederick, VA	664.5	Rockbridge, VA	124.5	Suffolk, VA (city)	679.9
Giles, VA	76.6	Rockingham, VA	454.5	Virginia Beach, VA (city)	1,917.9
Gloucester, VA	204.7	Shenandoah, VA	325.4	Waynesboro, VA (city)	100.6
Goochland, VA	230.4	Spotsylvania, VA	1,302.2	Williamsburg, VA (city)	77.8
Greene, VA	72.9	Stafford, VA	1,342.4	Winchester, VA (city)	139.5
Hanover, VA	840.5	Surry, VA	57.3	Berkeley, WV	941.5
Henrico, VA	2,066.6	Warren, VA	253.5	Grant, WV	30.8
Highland, VA	114.4	Westmoreland, VA	122.5	Greenbrier, WV	137.5
Isle of Wight, VA	207.3	York, VA	502.5	Hampshire, WV	120.0
James City, VA	829.0	Alexandria, VA (city)	511.6	Hardy, WV	109.3
King and Queen, VA	40.8	Bedford, VA (city)	16.3	Jefferson, WV	344.7
King George, VA	240.6	Buena Vista, VA (city)	112.8	Mineral, WV	125.0
King William, VA	134.7	Charlottesville, VA (city)	116.4	Monroe, WV	0.5
Lancaster, VA	642.9	Chesapeake, VA (city)	1,450.1	Morgan, WV	155.4
Loudoun, VA	4,598.5	Colonial Heights, VA (city)	67.3	Pendleton, WV	44.6
Louisa, VA	364.5	Covington, VA (city)	9.5	Pocahontas, WV	8.3
Lunenburg, VA	23.6	Fairfax, VA (city)	68.1	Preston, WV	4.4
Madison, VA	110.8	Falls Church, VA (city)	7.1	Randolph, WV	20.9
Mathews, VA	64.4	Fredericksburg, VA (city)	148.7	Tucker, WV	6.3
				United States	1,609,936.7

Conclusion: Using this Atlas for Management

National park units and nearby lands and waters function as part of a regional human ecosystem. A natural ecosystem can be understood in terms of factors such as flora, fauna, rainfall, temperature, elevation, and soil. Similarly, a human ecosystem can be understood in terms of factors such as population changes, commercial activities, social and cultural practices, recreational activities, politics, and land-use patterns. Knowledge of natural and human conditions is essential to resource management.

This atlas focuses on human activities and features in the region surrounding the Captain John Smith Chesapeake National Historic Trail and broader Chesapeake Bay Watershed. Five primary applications of this atlas as a tool for management are:

- monitoring activities and analyzing trends that could have short- or long-term impacts in the region;
- making comparative studies, both within the Chesapeake Bay Watershed region and between regions;
- assessing potential social impacts of management decisions;
- supporting collaborative decision-making and public participation; and
- educating NPS staff, their management partners, and other stakeholders about regional socioeconomic trends.

Monitoring activities and analyzing trends. The standardized data sources and presentation format of this atlas allow it to serve as a baseline for long-term monitoring of human conditions and trends that impact the region, such as population or economic shifts. These human conditions and trends can have significant implications for planning and management. For example, the atlas can be consulted to determine trends in educational attainment among regional residents. This information could be helpful in designing interpretive and public participation

programs and materials that can increase access to and understanding of the role of the bay and importance of the watershed. The atlas can be used to gain knowledge about the overall structure of and local variations in the regional economy. This information could be important to developing a strong collaborative working relationship with regional business leaders. The atlas can be examined to complement other efforts to understand trends in land use. This information could support proactive planning to mitigate potential impacts of development such as habitat fragmentation, degradation of air or water quality, or intrusions upon historic settings and/or scenic values.

Comparative studies. This atlas can support comparative studies of two kinds. First, the atlas can be used to compare counties within the region. By displaying the range of values for a particular indicator or a set of indicators, the atlas can help guide or prioritize location-specific management planning and/or outreach activities within the watershed. Second, the atlas can be used to make comparisons with the regions surrounding other national park units.

Social impact assessment. The socioeconomic indicators displayed in this atlas can help managers and their partners evaluate the social impacts of potential management actions. For example, the information provided in this atlas could be used to provide context for a range of collaborative management plans, from regional to more local scales.

Collaborative decision making. Distribution of this atlas to citizens, elected officials, educators, business and service groups, resource managers, and others can strengthen their ability to effectively and collaboratively participate in management activities and decision-making. Maps that present facts in a standardized format can be particularly helpful for establishing common ground on which to decide upon management priorities.

Education and orientation. The atlas can be used to orient new NPS staff and their management partners working throughout the watershed, as well as other NPS

staff, to some of the basic facts about human activities in the region. It can also serve as a tool for sharing information about socioeconomic trends with the public, gateway communities, media, and Congress.

In conclusion, effective management requires a clear understanding of human activities in the region that encompasses the Captain John Smith Chesapeake National Historic Trail and Chesapeake Bay Watershed. By providing the “basic facts” about such activities, this atlas can help managers, citizens, and others better provide for the preservation and enjoyment of such a unique and important region.

Appendices

Appendix 1: Data Sources for Indicators

The data sources used to obtain the measures for the socioeconomic indicators are listed below. The indicators on the left correspond to the titles of the maps in the atlas. The measure corresponds to the legends used in the maps and the ranked data tables.

INDICATOR	MEASURE	DATA SOURCE
General Population		
*Total Population	total number of people (2006)	U.S. Department of Commerce, Census Bureau http://www.census.gov/popest/archives/2000s/
Historical Population Change	% change in total number of people (1986-1996)	U.S. Department of Commerce, Census Bureau http://www.census.gov/popest/archives/EST90INTERCENSAL/US-EST90INT-datasets.html http://www.census.gov/popest/archives/1980s/
*Recent Population Change	% change in total number of people (1996-2006)	U.S. Department of Commerce, Census Bureau http://www.census.gov/popest/archives/2000s/ http://www.census.gov/popest/archives/EST90INTERCENSAL/US-EST90INT-datasets.html
*Projected Population Change	projected % change in total number of people (2005-2025)	Woods & Poole Economics, Inc. © 2006 Complete Economic and Demographic Data Source (CEDDS) on CD-Rom. Washington, DC. Woods & Poole Economics, Inc. provides long-term socioeconomic data projections: http://www.woodsandpoole.com/ . Woods and Poole does not guarantee the accuracy of this data. The use of this data and the conclusion drawn from it are solely the responsibility of the user.
Population Density	average number of people per square mile (2006)	U.S. Department of Commerce, Census Bureau http://www.census.gov/popest/archives/2000s/ http://www.census.gov/population/www/censusdata/density.html

Appendix 1: Data Sources for Indicators (cont.)

INDICATOR	MEASURE	DATA SOURCE
Population Density Change	% change in average number of people per square mile (1986-2006)	U.S. Department of Commerce, Census Bureau http://www.census.gov/popest/archives/2000s http://www.census.gov/popest/archives/1980s/ http://www.census.gov/population/www/censusdata/density.html
Projected Population Density	projected average number of people per square mile (2025)	Woods & Poole Economics, Inc. © 2006 Complete Economic and Demographic Data Source (CEDDS) on CD-Rom. Washington, DC. Woods & Poole Economics, Inc. provides long-term socioeconomic data projections in both hardcopy and electronic format: http://www.woodsandpoole.com/ . Woods and Poole does not guarantee the accuracy of this data. The use of this data and the conclusion drawn from it are solely the responsibility of the user.
Urban Population	% total population in urban areas (2000)	U.S. Department of Commerce, Census Bureau http://factfinder.census.gov/ -- Census 2000 Summary File 1 (SF1) 100% Data, Table P2
Rural Population	% total population in rural areas (2000)	U.S. Department of Commerce, Census Bureau http://factfinder.census.gov/ -- Census 2000 Summary File 1 (SF1) 100% Data, Table P2
Economy and Commerce		
*Earnings by Industry	% total earnings by industrial category (2003)	Woods & Poole Economics, Inc. © 2006 Complete Economic and Demographic Data Source (CEDDS) on CD-Rom. Washington, DC. Woods & Poole Economics, Inc. provides long-term socioeconomic data projections: http://www.woodsandpoole.com/ . Woods and Poole does not guarantee the accuracy of this data. The use of this data and the conclusion drawn from it are solely the responsibility of the user.

Appendix 1: Data Sources for Indicators (cont.)

INDICATOR	MEASURE	DATA SOURCE
*Employment by Industry	% employment by industrial category (2003)	Woods & Poole Economics, Inc. © 2006 Complete Economic and Demographic Data Source (CEDDS) on CD-Rom. Washington, DC. Woods & Poole Economics, Inc. provides long-term socioeconomic data projections: http://www.woodsandpoole.com/. Woods and Poole does not guarantee the accuracy of this data. The use of this data and the conclusion drawn from it are solely the responsibility of the user.
Change in Employment by Industry	% change in employment by industrial category (1995-2005)	Woods & Poole Economics, Inc. © 2006 Complete Economic and Demographic Data Source (CEDDS) on CD-Rom. Washington, DC. Woods & Poole Economics, Inc. provides long-term socioeconomic data projections: http://www.woodsandpoole.com/. Woods and Poole does not guarantee the accuracy of this data. The use of this data and the conclusion drawn from it are solely the responsibility of the user.
Projected Change in Employment by Industry	projected % change in employment by industrial category (2005-2025)	Woods & Poole Economics, Inc. © 2006 Complete Economic and Demographic Data Source (CEDDS) on CD-Rom. Washington, DC. Woods & Poole Economics, Inc. provides long-term socioeconomic data projections: http://www.woodsandpoole.com/. Woods and Poole does not guarantee the accuracy of this data. The use of this data and the conclusion drawn from it are solely the responsibility of the user.
*Poverty	% total population below poverty level (2004)	U.S. Department of Commerce, Census Bureau http://www.census.gov/hhes/www/saipe/
Median Household Income	median household income (\$) (2004)	U.S. Department of Commerce, Census Bureau http://www.census.gov/hhes/www/saipe/

Appendix 1: Data Sources for Indicators (cont.)

INDICATOR	MEASURE	DATA SOURCE
Social and Cultural Characteristics		
*Racial Diversity	% total population belonging to minority race groups (2000)	U.S. Department of Commerce, Census Bureau http://factfinder.census.gov/ -- Census 2000 Summary File 1 (SF1) 100% Data, Table P3
*Educational Attainment	% total population 25 years and older with some college or college degree (2000)	U.S. Department of Commerce, Census Bureau http://factfinder.census.gov/ -- Census 2000 Summary File 3 (SF3), Sample Data, Table P37
Recreation and Tourism		
Recreation and Tourism Establishments	% total establishments in arts, entertainment, recreation, accommodation and food services (2005)	U.S. Department of Commerce, Census Bureau http://censtats.census.gov/cbpnaic/cbpnaic.shtml http://www.census.gov/epcd/cbp/view/cbpview.html
*Recreation and Tourism Employment	% total paid employees in arts, entertainment, recreation, accommodation and food services (2005)	U.S. Department of Commerce, Census Bureau http://censtats.census.gov/cbpnaic/cbpnaic.shtml http://www.census.gov/epcd/cbp/view/cbpview.html
*Recreation and Tourism Revenue	% total sales from arts, entertainment, recreation, accommodation and food services (2002)	U.S. Department of Commerce, Census Bureau http://censtats.census.gov/cbpnaic/cbpnaic.shtml http://www.census.gov/econ/census02/data/us/US000.HTM
Administration and Government		
*Congressional Districts	Congressional Districts (2007-2008)	U.S. Department of Commerce, Census Bureau http://www.census.gov/geo/www/cob/cd110.html http://www.census.gov/geo/www/cd110th/tables110.html

Appendix 1: Data Sources for Indicators (cont.)

INDICATOR	MEASURE	DATA SOURCE
*Federal Expenditures	federal expenditures per capita (\$) (2005)	U.S. Department of Commerce, Census Bureau http://www.census.gov/prod/2007pubs/cffr-05.pdf , Table 15
Local Government Expenditures	local government expenditures per capita (\$) (2002)	U.S. Department of Commerce, Census Bureau http://www.census.gov/prod/2005pubs/gc024x5.pdf , Table 51 http://www.census.gov/govs/www/index.html
Local Government Revenue	local government revenue per capita (\$) (2002)	U.S. Department of Commerce, Census Bureau http://www.census.gov/prod/2005pubs/gc024x5.pdf , Table 51 http://www.census.gov/govs/www/index.html
Land Use		
*Federal Land Management	% land under federal management (2007)	U.S. Department of the Interior http://www.nbc.gov/pilt/pilt/_search.cfm
*Federal Lands and Indian Reservations	federal lands and Indian reservations (2005)	U.S. Department of the Interior http://nationalatlas.gov/atlasftp.html
Farmland	% land classified as farmland (2002)	U.S. Department of Agriculture, National Agriculture Statistics Service http://www.agcensus.usda.gov/Publications/2002/index.asp
*Change in Farmland	% change in acres of farmland (1992-2002)	U.S. Department of Agriculture, National Agriculture Statistics Service http://www.agcensus.usda.gov/
*Metropolitan Areas	metropolitan statistical areas (2003)	U.S. Department of Commerce, Census Bureau http://www.census.gov/geo/www/cob/mmsa2003.html
Domestic Water Use	gallons of water per day per person (2000)	U.S. Department of the Interior, US Geological Survey http://water.usgs.gov/watuse/

Appendix 1: Data Sources for Indicators (cont.)

INDICATOR	MEASURE	DATA SOURCE
*Urbanization	level of urbanization (2003)	U.S. Department of Agriculture, Economic Research Service http://www.ers.usda.gov/Data/UrbanInfluenceCodes/
Building Permits	average annual number of building permits (1995-2005)	U.S. Department of Commerce, Census Bureau http://censtats.census.gov/bldg/bldgprmt.shtml http://www.census.gov/const/www/permitsindex.html

* Denotes a core indicator, common to all atlases in this series. Additional indicators were selected by NPS Chesapeake Bay Program managers to include information specific to their particular management needs.

Appendix 2: Technical Notes on Map Design

Selection of Base Map Data – The regional base map used to map socioeconomic indicators in this atlas includes state and county boundaries. Notes that this is not a general purpose atlas of the region, for it focuses on socioeconomic indicators.

Choropleth Mapping – For most maps, data are grouped by quintiles (five classes) which vary in shading from light to dark (for low to high values). This shading technique, known as choropleth mapping, is usually applied to ratio data. Population density, infant deaths per 1,000 live births, and median income are examples. Maps that display total amounts (such as total population) often use other approaches, such as proportional symbols. For clarity, ease of use, and consistent design, choropleth mapping is used for most of the social indicator data.

Quintile Classification – The quintile classification means that for most maps, counties were divided into five equal classes. This approach emphasizes the rankings of data values among counties. The legend accompanying the map allows the reader to see the range of values among counties within a class. Quintiles make it easy for the reader to make intuitive comparisons among counties; the darkest shaded counties are in the “top quintile,” the lightest shaded counties are in the “bottom quintile,” and so forth. Quintiles also facilitate comparisons between maps in the atlas (“this county ranks in the bottom quintile on all three of these indicators”).

Two notes: (1) Whenever the number of counties cannot be evenly divided by five, the convention for this atlas series is to reduce the size of the highest quintile first, then the next quintile if needed, then the third and fourth quintile if needed. Hence 207 counties would be divided into groups of 42, 42, 41, 41, and 41, with the last groups of 41 having the highest data values/darkest shading. (2) Counties with identical data values are grouped in the same quintile, even if this results in quintiles of unequal size.

Political Boundaries – The regional base map depicts the formally defined political boundaries of states and counties.

Woods and Poole Data – Montgomery County, VA includes data for Radford City. Radford City is not in the region of interest otherwise.

Map Sources – The regional map on the cover was purchased from Map Resources (<http://www.mapresources.com>) and edited. Terrain maps can also be generated from public domain sources, e.g. the Global 30 Arc Second Elevation Data (GTOPO30) dataset (<http://seamless.usgs.gov/website/Seamless/> or <http://eros.usgs.gov/products/elevation/gtopo30.php>) developed at the U.S. Geological Survey's EROS Data Center. The standard region of interest map used throughout the atlas was generated from U.S. Geological Survey shapefiles. Contextual information (state capitals, lakes and rivers) can be obtained from the U.S. Department of the Interior (<http://www.nationalatlas.gov>) and Environmental Systems Research Institute, Inc (ESRI) (<http://www.esri.com>).

Production – Indicator data for the atlas were compiled in Microsoft Excel. These were linked to shapefiles using ESRI ArcMap GIS. The GIS files were imported into Adobe Illustrator for final map design. The final atlas layout (text, maps, graphics) was compiled using Adobe InDesign.

Text Sources – Additional web resources used to prepare watershed and regional descriptions are:

- Chesapeake Bay Program
<http://www.chesapeakebay.net/>
- Bay Journal (Alliance for the Chesapeake Bay)
<http://www.bayjournal.com/article.cfm?article=400>
- National Park Service and U.S. Geological Survey
<http://www.nps.gov/plants/pubs/chesapeake/purpose.htm>
<http://www.nps.gov/phso/sp/jcbintr4.htm>
<http://www.nps.gov/cajo/>
<http://pubs.usgs.gov/fs/2006/3046/>
- University of Maryland, Center for Environmental Science
http://ian.umces.edu/pdfs/chesapeake_futures.pdf
- Maryland Public Television: Bayville
<http://bayville.thinkport.org/resource/library/faq.aspx#a2>

Appendix 3: Technical Notes on Measurement of Selected Indicators

¹ Persons enumerated in the census were counted as inhabitants of their usual place of residence, which generally means the place where a person lives and sleeps most of the time. This place is not necessarily the same as the legal residence, voting residence, or domicile. In the vast majority of cases, the use of these different bases of classification would produce substantially the same statistics, although appreciable differences may exist for a few areas. Population data reported during intercensal years (e.g., after 2000) are estimates.

² An explanation of Woods & Poole's projection methods is available in the Woods and Poole Technical Documentation manual (page 11).

³ **Population density** is measured as the average number of people per square mile of land. This number is calculated by dividing the total number of people in 2005 by the total land area per county. In counties with federal lands, excluding these areas from the calculation of population density would result in a higher population density.

⁴ See note above on **Population Density**.

⁵ See note above on **Population Density**.

⁶ **Urban population** is measured as the percentage of the total population living in urban areas. An urban area includes all territory, population, and housing units in urbanized areas and in places of 2,500 or more persons outside urbanized areas. An urbanized area has a population concentration of at least 50,000 inhabitants, and generally consists of a central city and the surrounding, closely settled, contiguous territory having a density of at least 1,000 persons per square mile. The complete criteria are available from the U.S. Census website at http://factfinder.census.gov/servlet/MetadataBrowserServlet?type=subject&id=URSF1&dss_pName=DEC_2000_SF1&back=update&_lang=en.

⁷ **Rural population** is measured as the percentage of the total population living in rural areas. All territory,

population, and housing units not classified as urban (see above) are classified as rural.

⁸ Economic activity is categorized as belonging to one of four **industrial categories**: agriculture and natural resources, construction and manufacturing, sales and services, and government. Individual workers, regardless of their specific job responsibilities, are classified according to the category their overall company or organization belongs to. Thus, while accounting is considered a "service" activity, an accountant for a mining company would be counted as working in "agriculture/natural resources." "Government" includes all federal government workers and all state/local employees, such as teachers, police, firefighters, etc. Even though government jobs may involve construction, natural resource management, or provision of services, they are still counted as belonging to the "government" category.

⁹ See note above on **industrial categories**.

¹⁰ See note above on **industrial categories**.

¹¹ See note above on **industrial categories**.

¹² **Poverty** is measured as the percentage of the total population living below the poverty level. Poverty thresholds vary according to the size of the family and number of children. For example, in 2004 an income of \$19,484 was the poverty threshold for a family of four people (no children). Poverty thresholds are applied on a national basis and are not adjusted for regional, state, or local variations in the cost of living.

¹³ **Racial diversity** is defined for this measure as the percentage of the population classified as being non-White. Diversity by this definition does not necessarily measure the degree of "variety" in the population. For example, a hypothetical county with a 90% Asian population would be considered more "diverse" than a county in which each of the six major race groups constituted 10% of the population (in the latter case, diversity would be measured as 60%). The Hispanic or

Appendix 3: Technical Notes on Measurement of Selected Indicators

Latino origin category was not included in this measure because persons of Hispanic or Latino origin may be of any race (including White).

¹⁴ For Census 2000, persons are classified according to the highest level of school completed or the highest degree received.

¹⁵ **Recreation and tourism** is composed of the arts, entertainment, and recreation sector and the accommodation and food services sector, both a part of the North American Industry Classification System (NAICS). The arts, entertainment, and recreation sector includes museums, historical sites, gambling and recreation industries, golf courses and country clubs, fitness and recreational sports centers, and all other amusement industries. The accommodation and food services sector is composed of establishments including hotels, motels, bed and breakfasts, RV parks, recreational camps, and vacation camps. For a complete definition of these NAICS categories please consult <http://www.census.gov/epcd/www/naics.html>.

¹⁶ See note above on **recreation and tourism**. Additionally, the number of employees was reported as a range for some counties. For these cases, the midpoint value was used for calculations.

¹⁷ See note above on **recreation and tourism**. Additionally, specific values were not reported for seven industries at the county level. The “total” for calculations could not include these categories. Counties with partial information were included with calculations based on available data.

¹⁸ **Federal expenditures** include expenditures, or obligation for, direct payments for individuals, procurement, grants, salaries and wages, direct loans, and guaranteed loans and insurance. Grant awards are reported by county of the initial recipient; thus if the initial recipient is the state government, the county in which the state capital is located is reported as having “received” that “pass-through” grant, even though the

monies are subsequently distributed to other local governments.

¹⁹ **Federal lands** include all tax-exempt federal lands administered by the Bureau of Land Management, the National Park Service, the U.S. Fish and Wildlife Service, the U.S. Forest Service, federal water projects, and some military installations (tribal lands are not included). The U.S. Department of the Interior calculates the amount of federal land within counties in order to administer the federal government’s payments-in-lieu-of-taxes (PILT) program.

²⁰ The U.S. Department of the Interior produces the **federal lands and Indian reservations** map layer. This map layer does not include any federal land or federal Indian reservation land that has an areal extent smaller than 640 acres. More information and metadata are available from the National Atlas: <http://www.nationalatlas.gov/mld/indlanp.html> <http://www.nationalatlas.gov/mld/fedlanp.html>.

²¹ **Farmland** consists primarily of agricultural land used for crops, pasture, or grazing. Also included is woodland and wasteland not actually under cultivation or used for pasture or grazing, provided it was part of the farm operator’s total operation. Farmland includes acres in the Conservation Reserve, Wetlands Reserve Programs, or other governmental programs. Farmland includes land owned and operated as well as land rented from others. Land used rent-free is included as land rented from others. All grazing land, except land used under government permits on a per-head basis, is included as farmland provided it was part of a farm or ranch. Land under the exclusive use of a grazing association is reported by the grazing association and included as farmland. All land in American Indian reservations used for growing crops or grazing livestock is included as farmland. Land in reservations not reported by individual American Indians or non-Native Americans is reported in the name of the cooperative group that used the land.

Appendix 3: Technical Notes on Measurement of Selected Indicators

²² See note above on **farmland**.

²³ **Metropolitan Statistical Areas** are defined by the federal Office of Management and Budget. They comprise at least one population center of 50,000 people or more, combined with adjacent areas that have close economic and social integration with the population center(s). For a complete description of Metropolitan Statistical Areas, please consult: http://www.census.gov/geo/www/cob/mmsa_meta.html.

²⁴ The U.S. Geological Survey reports **water use** in six categories, including “domestic” and “public supply”. “Domestic water use” is water used for indoor and outdoor household purposes and comes from self-supplied sources only (e.g., well). “Public supply” is water withdrawn by public and private water suppliers. While it is used for domestic purposes, its uses also can include commercial, industrial, thermoelectric power, and public services.

²⁵ The issuing of **building permits** for privately-owned housing units in a single year does not necessarily imply that a community is growing, since any community will experience an ongoing replacement of aging houses and buildings. Also, a catastrophic event such as a major storm or fire can generate a short-term surge in the number of building permits issued. Thus a better indicator of growth is an average of annual numbers of building permits issued over a ten-year period. Changes in local codes or enforcement can also affect the number of building permits issued. This measure includes data about new housing units intended for occupancy and maintained by the occupants. It excludes hotels, motels, and group residential structures such as nursing homes and college dormitories. All public housing and nonresidential buildings are also excluded. For a complete definition see: <http://www.census.gov/ftp/pub/const/www/newresconstdoc.html>.

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