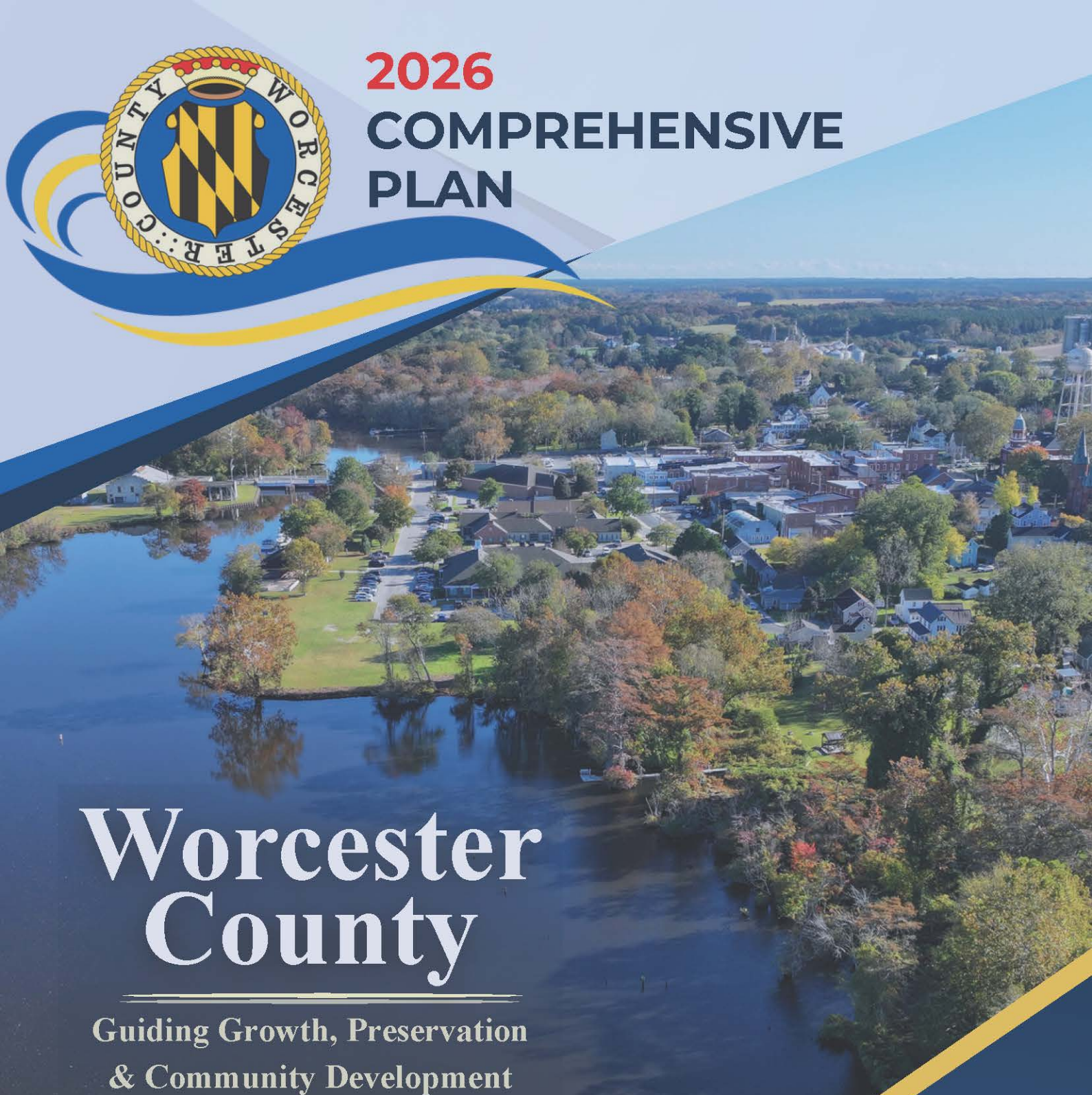
2026 COMPREHENSIVE PLAN



Worcester County

Guiding Growth, Preservation & Community Development

DRAFT

Prepared By:
Dept. of Development, Review & Planning
Worcester County

1. INTRODUCTION

The 2026 Comprehensive Plan is an update to Worcester County's 2006 Comprehensive Development Plan.

Worcester County is located on the Eastern Shore of Maryland and is the only Maryland county that borders the Atlantic Ocean. The northern side of the county is adjacent to Delaware and the southern is adjacent to Virginia. **Map 1-1, the Regional Location Map**, shows Worcester County within the geographic context of the region.

Map 1-1: Regional Location Map

Planning Vision

During a public engagement process in 2023 that preceded the creation of this plan, the Worcester County community helped the County identify the issues and priorities that are most important for the County to address through this plan. A vision statement was developed using this input and refined through work sessions with the Planning Commission.

Worcester County is committed to our diverse rural and coastal heritage and historical roots, as we strive to create an inclusive and secure community that offers ample opportunities for residents and visitors alike. We seek sustainable economic growth by supporting and recognizing the important role of agriculture and tourism in our local economy, while we work to preserve and protect our vital natural resources.

This Vision Statement is carried through this plan and was used to guide the individual chapters.

Comprehensive Plan Role

This Comprehensive Plan is a guide for the County to make future land use decisions. It addresses environmental resources, demographics and population trends, transportation, water resources,

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wastewater infrastructure, community facilities, housing, economic development, historic resources, and the impacts of growth and change over the next decade.

This Plan establishes priorities to help the County achieve its desired future land use goals. It identifies goals and recommendations to implement this vision and is intended to guide future County decisions about land use, infrastructure, capital projects and other measures that will help make this vision a reality.

Policy and Legal Context

The Maryland General Assembly has delegated planning and land use authority to the State of Maryland to oversee all non-charter counties and incorporated municipalities through the Local Government and *Land Use Articles of the Annotated Code of Maryland*. This requires that local jurisdictions prepare comprehensive plans, zoning ordinances, and subdivision regulations to help guide growth and development in keeping with the legislation outlined below.

The Worcester County Planning Commission reviews the Comprehensive Plan at least once every ten (10) years to make necessary updates and to follow the intent of this legislation.

Economic Growth, Resource Protection and Planning Act

In 1992, the Maryland General Assembly adopted the Economic Growth, Resource Protection and Planning Act. This law established the State's smart growth approach through seven visions that sought to reduce sprawl, concentrate development in suitable areas, and protect sensitive natural areas. It also required that comprehensive plans include specific vision statements as part of the Plan's general goals. The visions were amended to eight in 2000, 12 in 2009 and then reframed as eight sustainable planning principles in 2025 (see section below on the Planning Visions/Principles).

Priority Funding Areas Act

In 1997, the Priority Funding Areas Act was enacted to require that State funding for growth-related infrastructure be directed into designated Priority Funding Areas (PFAs). PFAs are established and amended through the comprehensive planning process based on established criteria for permitted residential densities and water and sewer availability. PFAs are established through Growth Areas designated in the comprehensive plan and can be updated based on changes to these Growth Areas in comprehensive plan updates.

Smart, Green and Growing

In 2009, the Maryland General Assembly approved three planning bills as part of *Smart, Green and Growing* legislation to protect environmental resources and promote sustainable growth. This act sought to advance the State's shared vision of a healthy environment and natural resources to support a strong economy and quality of life.

Maryland's Twelve Visions/Eight Sustainable Policy and Planning Principles

Smart Growth principles have guided comprehensive plans in Maryland for more than a generation. This plan was developed as the State of Maryland's framework for comprehensive plans was changing from an emphasis on Smart Growth to one of Sustainable Growth.

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This plan has been developed in light of these ongoing actions. Maryland's 12 Planning Visions, outlined in the *Land Use Articles of the Annotated Code of Maryland*, include:

1. **Quality of Life and Sustainability**: A high quality of life is achieved through universal stewardship of the land, water, air, and protection of the environment.
2. **Public Participation**: Citizens are active partners in the planning and implementation of community initiatives.
3. **Growth Areas**: Growth is concentrated in existing population and business centers.
4. **Community Design**: Compact, mixed-use, walkable design, consistent with existing community character and located near available or planned transit options, is encouraged to ensure efficient use of land and transportation resources.
5. **Infrastructure**: Growth areas have the water resources and infrastructure to accommodate population and business expansion in an orderly, efficient, and environmentally sustainable manner.
6. **Transportation**: A well-maintained, multimodal transportation system facilitates the safe, convenient, affordable, and efficient movement of people, goods, and services within and between population and business centers.
7. **Housing**: A range of housing densities, types, and sizes provides residential options for citizens of all ages and incomes.
8. **Economic Development**: Promoting job growth, business vitality, and employment opportunities is essential to continue our prosperity.
9. **Environmental Protection**: Land and water resources, including the Chesapeake and coastal bays, are carefully managed to restore and maintain healthy air and water, natural systems, and living resources.
10. **Resource Conservation**: Waterways, forests, agricultural areas, open space, natural systems, and scenic areas are conserved.
11. **Stewardship**: Government, business entities, and residents create sustainable communities by balancing efficient growth with resource protection.
12. **Implementation**: Strategies, policies, programs, and funding for growth and development, resource conservation, infrastructure and transportation are integrated across local, regional, state, and interstate levels.

In April 2025, Governor Moore signed legislation creating the Sustainable Growth Planning Principles. Sustainable Growth focuses on policies that address economic, social, and environmental factors for current and future generations.

The eight Planning Principles aim to make sustainable growth policies simpler, clearer, and easier for everyone involved in planning and development to use effectively. They will be used to guide Worcester County in implementing this comprehensive plan. The County also recognizes that the State of Maryland will provide additional guidance on these principles as this Comprehensive Plan is implemented in future years.

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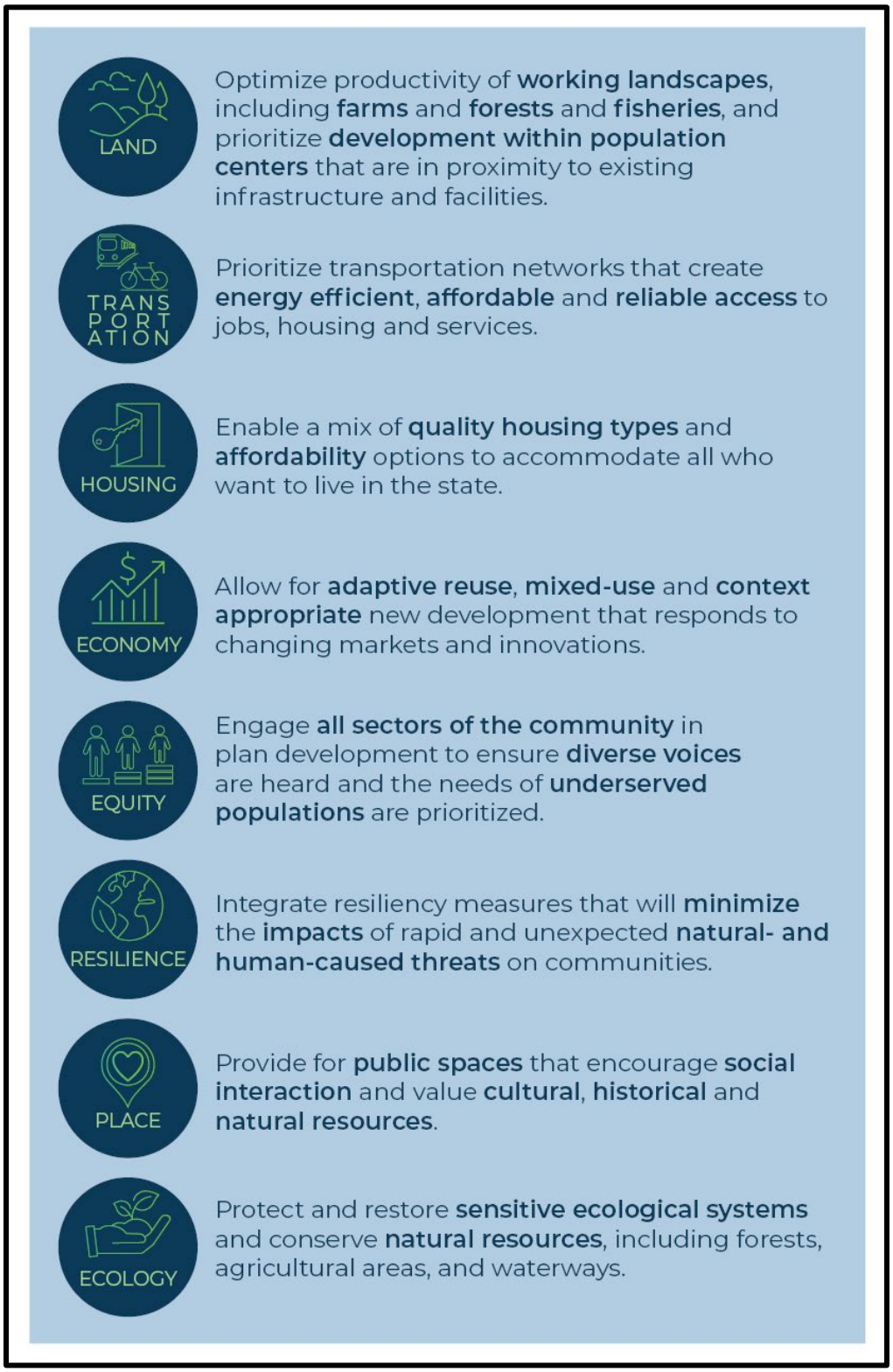

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Comprehensive Planning History

Worcester County adopted its first comprehensive plan in 1965. This plan was in place until the mid-1970s, when a new plan was adopted. A third comprehensive plan was approved in 1989 and updated in 1997. In 2001, the Planning Commission determined that the 1989/97 plan should be updated, leading to the 2006 Plan.

Each successive plan has been crafted to address the County's changing growth and needs. The County's planning philosophy has evolved from a focus on development to resource conservation as the need to protect the County's rural and coastal character has become more pronounced.

Community Outreach for This Plan

In January 2023, the County initiated a Public Engagement process. This effort served as the first phase of the comprehensive planning process, by serving as the first effort to identify the community's needs, desires, priorities, and expectations for future development and to help to guide the update to the Comprehensive Plan.

Several types of outreach tools and platforms were used for this engagement process, including an community survey and promotion of the process at community events. The full results of this engagement campaign are summarized in the *Comprehensive Plan Update Public Engagement Report (2023)*. The following key issues were identified from the outreach:

Preserving Community Character – Focus on enhancing what already exists within Towns (infill) as well as building community through the support for small businesses.

Loss of Natural Features – Encourage the preservation of farmland, waterways, and open space, benefiting residents as well as the environment overall.

Retention of Local Businesses – There is a need for pedestrian walkways and bikeways for accessibility – encouraging walkable communities and downtown areas would allow for smaller businesses to successfully remain open. More businesses would encourage more full-time residents.

Seasonal Traffic/Congestion – Adequate infrastructure would allow for the potential for more full-time residents, as well, as current infrastructure was not designed to handle the current loads.

Too Much Growth/Growth Pressure – The pressure to allow for sprawl is something that residents would like to see handled responsibly and with an organized plan.

School Facilities/Education – Communication between local governments and the schools is a concern. Necessary funding for materials and support staff will need to be supported at a government level.

Loss of Farmland – There is a need for a focused approach to sprawl and development through a Comprehensive Plan.

Affordability of Housing – Concern is growing for those who may not be able to afford to continue to stay within the County after graduation, etc. because of the lack of housing available to them.

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Sea Level Rise – Concern for the next 10-20 years and the significant issues this could cause if it is not addressed now.

Plan Elements

The 2026 Comprehensive Plan outlines the goals, objectives, and recommendations needed to achieve the County's vision and guide future growth and development for the next decade and beyond. The elements of the Plan were prepared following all Comprehensive Plan legal guidance and requirements and contain the following chapters:

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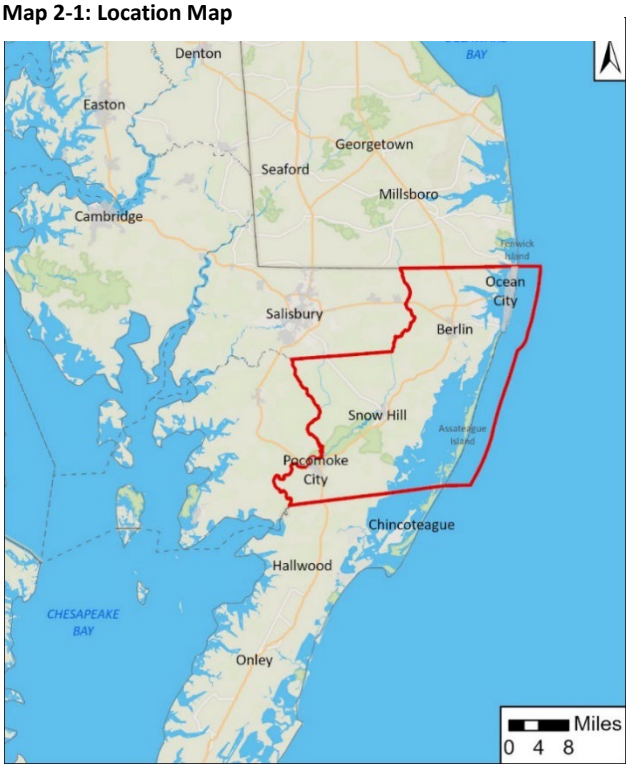
Chapter 1 – Introduction	• Planning Background • County Vision • Legal Context • Public Outreach
Chapter 2 – County Profile	• Geography • History • Demographic Characteristics
Chapter 3 – Community Facilities	• Community Facilities & Services • Open Space, Parks, & Recreation
Chapter 4 – Land Use	• Existing Land Use • Future Land Use
Chapter 5 – Housing	• Housing Stock & Market • Work Force Housing
Chapter 6 – Economic Development & Tourism	• Workforce & Employment • Economic Centers • Development Regulations
Chapter 7 – Fisheries	• Commerical Fishing • Promoting and Protecting the Seafood Industry
Chapter 8 – Natural Resources & Sensitive Areas	• Natural Resources • Sensitive Areas • Areas of Critical Concern • Mineral Resources
Chapter 9 – Agriculture	• Agricultural Zoning • Priority Preservation Areas
Chapter 10 – Transportation	• Transportation System • Multimodal Facilities • Related Projects
Chapter 11 – Water Resources	• Water & Wastewater Resources
Chapter 12 – Implementation	• Goals, objectives, and strategies

2. COUNTY PROFILE

Geography

Worcester County is the easternmost county in the State of Maryland and includes the entire length of the State's coast along the Atlantic Ocean. The County contains approximately 490 square miles (plus approximately 227 square miles of water) and most of the land area is agricultural. The Towns of Berlin, Ocean City, Snow Hill, and Pocomoke City are all located within Worcester County (**Map 2-1)**.

Map 2-1: Location Map



Much of Worcester County's terrain is considered coastal. The lowest elevation is sea level along the Atlantic Ocean, and the highest, at 49 feet, is along Maryland Route 12, just south of the Wicomico County Line.

County History

The Native American tribes of the area that later became Worcester County were part of the Algonquin Nations. In 1524, Giovanni de Verrazano was one of the first Europeans to explore the area. He was followed in the early 1600s by Captain John Smith and others who explored the Atlantic Coast of Maryland and created detailed maps of the area. Henry Norwood of England and other explorers shipwrecked off the shore of Worcester County in 1650 on their way to the Virginia Colony and years later, Norwood published a well-read journal of his experiences.

In 1669, the Maryland Council established Worcester County, naming it after Henry Somerset, the Earl of Worcester. In 1742, Worcester County was officially established. Several border disputes flared in the following years. Some Virginia residents wanted Somerset and Worcester counties to be a part of Virginia, but Virginia Governor William Berkeley rejected them. Charles Calvert and William Penn argued over Worcester's northern boundary for many years, a dispute that was not resolved until the Mason Dixon Line was surveyed and accepted by Maryland and Pennsylvania in 1764.

The first courthouse for the County was built in Snow Hill in 1743 and Snow Hill has been the county seat ever since. Two historic fires destroyed courthouse in 1834 and 1893, and the current Victorian historic courthouse has essentially remained the same since it was rebuilt in 1894.

Of the municipalities in Worcester County, Snow Hill was officially incorporated in 1812, Berlin in 1868, Pocomoke City in 1878, and Ocean City in 1880.

Historic Properties

There is one protected barrier island area within the County, the Assateague Island National Seashore. This area is a historical and cultural piece of the County that is protected from development. There are

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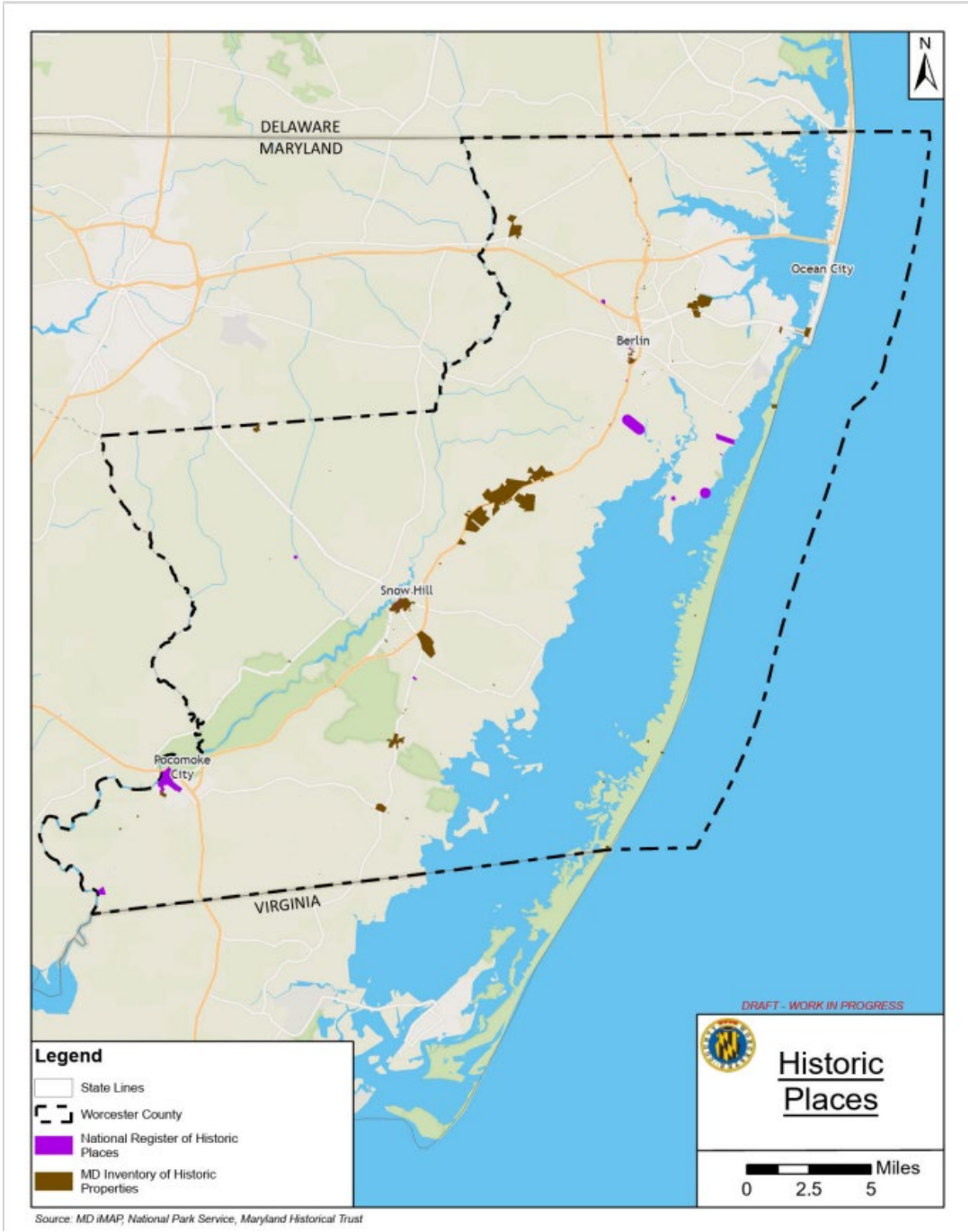
also several properties listed on the National Register of Historic Places, as noted on **Map 2-2: Historic Places**. Full descriptions and histories of each of the properties identified can be found on Maryland Historical Trust's website (mht.maryland.gov) as well as on the National Register of Historic Places (www.nps.gov).

Map 2-2: Historic Places



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Demographic Characteristics

Demographics are important to understand the growth of the County. Demographic information can help to identify and understand trending population growth and dynamics and can be utilized to identify future housing, employment, community services, and public infrastructure needs to support the changing community.

Worcester County's demographics were collected from available U.S. Census data. It is important to note that, due to sampling and surveying error, the data collected and presented cannot be construed as an indisputable measure of the County's existing conditions.

In 2010, the U.S. Census Bureau changed the methodology they use to collect and present information. They stopped distributing the traditional 'long form' survey that provided enhanced data, published as Summary File 3 and Summary File 4 in the decennial census. These files included social statistics (including educational attainment, household relationships, veteran status, disability status, ancestry, language spoken) and economic data (such as employment, occupation, poverty status).

These summary files were replaced by the American Community Survey (ACS) data, which are available in five-year estimates. For this plan, all references to ACS data are from the 2016-2022 ACS data, unless otherwise noted. All references to the Census are taken from the decennial U.S. Census and the applicable year(s) are noted.

Population

Worcester County is comprised of Berlin, Ocean City, Snow Hill, and Pocomoke City. Based on the 2022 American Community Survey Demographic and Housing Data, the total population of Worcester County is 52,827, with 48.9 percent being male, and 51.1 percent being female. The breakdown of the population by town is displayed in **Table 2-1.**

Table 2-1: Population Comparisons

Town	Male	Female	Total
Berlin	2,242	2,814	5,056
Ocean City	3,123	3,756	6,879
Snow Hill	1,215	1,144	2,359
Pocomoke	2,149	2,169	4,318
County	25,841	26,986	52,827

Source: 2022 American Community Survey; note that these numbers do not include unincorporated areas

Ocean Pines is an unincorporated area west of Ocean City that has grown into the largest residential community within the County. Ocean Pines' population grew 3.7 percent between 2010 and 2020 to 12,145, according to the U.S. Census. Although it is not an incorporated municipality, it is a Census Designated Place and shares a zip code with Berlin. Ocean Pines has the largest concentration of retirees on the Eastern Shore, and its population more than doubles during the summer months.

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Race and Ethnicity

Table 2-2 compares the County's racial composition to that of the State of Maryland. The change in racial composition between 2010 and 2020 for Worcester County is shown in **Table 2.3**. As the data show, there have been slight variations in the County since 2010, particularly in the group of people who identify as two or more races.

Table 2-2: Racial Composition Comparisons

	County		State	
Race	**#**	**%**	**#**	**%**
One Race	49,818	95%	5,661,424	92%
White	41,845	80%	2,983,674	48%
Black or African American	6,236	12%	1,823,687	30%
American Indian & Alaska Native	136	0%	26,649	0.4%
Asian	753	1.4%	404,207	7%
Native Hawaiian & Pacific Islander	8	0%	3,088	0.1%
Some Other Race	840	2%	420,119	7%
Two or More Races	2,642	0.05	503,236	8%
Total Population	52,460		6,164,660	

Source: 2020 U.S. Decennial Census; note that these numbers do not include unincorporated areas

Table 2-3: Change in County Racial Composition

	2010		2020		
Race	**#**	**%**	**#**	**%**	**% Change**
One Race	50,616	99%	49,818	95%	-2%
White	42,690	83%	41,845	80%	-2%
Black or African American	7,194	14%	6,236	12%	-13%
American Indian & Alaska Native	127	0.2%	136	0.3%	7%
Asian	440	1%	753	1%	71%
Native Hawaiian & Pacific Islander	133	0%	8	0%	-94%
Some Other Race	127	0.2%	840	2%	561%
Two or More Races	426	1%	2,642	5%	520%
Total Population	51,133		52,460		-

Source: 2010-2020 U.S. Decennial Census; note that these numbers do not include unincorporated areas

The U.S. Office of Management and Budget (US OMB) defines the race and ethnicity categories that federal agencies must use to collect data—including the Census Bureau. Local, state, tribal, and federal programs use these data, and they are critical factors that inform numerous policies, particularly for civil rights.

In the 1970s, Latino advocacy groups lobbied the federal government to create a separate category for Hispanics and Latinos. Before this time, both categories were grouped under the "White" race. When

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surveys were distributed, they often did not reach Hispanic and Latino households; those that did were not in Spanish, so results were far from accurate.

Once the US OMB provided for the distinct categories, government and other agencies began using these data to evaluate programs and policies to ensure that they fairly and equitably serve the needs of the Hispanic population and to monitor compliance with antidiscrimination laws, regulations, and policies. While some may expect to see the Hispanic or Latino category as part of the race question, it is currently asked separately because people of Hispanic origin may be of any race(s). Each decade, prior to the decennial census, questions on race, ethnicity, and ancestry are reviewed to determine if the categories and wording continue to reflect the country's diverse and rapidly changing population.

Table 2-4, Change in Hispanic and Latino Population provides a summary of the County's population self-reporting as Hispanic or Latino origin. The absolute number of people reporting Hispanic or Latino origin increased by 550 from 2010-2022, representing a 37 percent increase.

Table 2-4: Change in Hispanic and Latino Population

	2010		2022		
Ethnicity	**#**	**%**	**#**	**%**	**% Change**
Hispanic or Latino (Any Race)	1,473	3%	2,023	4%	37%
Not Hispanic or Latino	49,660	97%	50,804	96%	2%
Total Population	51,133		52,827		-

Source: 2010 U.S. Decennial Census, 2022 American Community Survey; Note that these numbers do not include unincorporated areas.

Age

In terms of age, the County has grown slightly older, overall, in the past decade. The County's population has historically been older than that of the State.

Table 2-5: Age Distribution Comparison

	County		State	
Age	**#**	**%**	**#**	**%**
Under 5 Years	2,102	4%	349,193	6%
5 to 19 Years	7,837	15%	1,149,449	19%
20 to 64 Years	28,088	53%	3,623,239	59%
65 Years & Over	14,800	28%	1,042,779	17%
Median Age	50.6	0.1%	39.7	0.001%
Total Population	52,827		6,164,660	

Source: 2022 American Community Survey; note that these numbers do not include unincorporated areas

Table 2-6, County Age Distribution shows that the County has experienced slight changes in the distribution of its population's age groups during the past decade. During the 2010-2022 period, the 20 to 64 age range decreased about four percent while the 65 and Older category increased by five percent, illustrating an aging population.

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Table 2-6: County Age Distribution

	2010		2022		
Age	**#**	**%**	**#**	**%**	**% Change**
Under 5 Years	2,326	5%	2,102	4%	-10%
5 to 19 Years	8,246	16%	7,837	15%	-5%
20 to 64 Years	29,032	57%	28,088	53%	-3%
65 Years & Over	11,529	23%	14,800	28%	28%
Median Age	47.5	0.1%	50.6	0.1%	7%
Total Population	51,133		52,827		-

Source: 2010 U.S. Decennial Census, 2022 American Community Survey

Education Attainment

Educational attainment is a metric used to identify the level of education completed by the population. This information can help identify the needs for maintaining or improving various institutions, as well as a metric to identify the types of employment or other services required to serve the local population.

Table 2-7 compares the County's educational attainment for the population 25 years or older with that of the State. As the table shows, Worcester County has a smaller percentage of residents who have not graduated from high school or received their graduate equivalency (GED) than the State, while the percentage of the population who have some college or an associate's degree is slightly higher than the State. The percentage of County residents who have completed a bachelor's degree or graduate degree is slightly lower than the State as a whole.

Table 2-7: Education Attainment

	County		State	
Education Level for 25 Years & Older	**#**	**%**	**#**	**%**
Not High School Graduates	2,610	6%	367,917	9%
High School Graduate	12,135	30%	1,009,588	24%
Some College, No Degree	9,510	24%	735,131	17%
Associates Degree	3,085	8%	294,875	7%
Bachelor's Degree	8,043	20%	996,167	23%
Graduate Degree or Higher	4,875	12%	882,538	21%
Population 25 Years & Over	40,258		4,286,216	

Source: 2022 American Community Survey

3. COMMUNITY FACILITIES

Community facilities and services support the health, safety, and welfare of Worcester County residents and visitors. This chapter seeks to guide facility and service establishment and programming in future years to ensure that the County is served as efficiently as possible.

Goals and Objectives

The following goals and objectives have been identified to provide, maintain and improve the availability of community facilities and resources in Worcester County. These goals seek to align with the State's Sustainable Growth Planning Principles.

1. Work with the State of Maryland to plan for future needs as the County grows, including emergency services, schools, and community facilities.
2. Partner with Worcester County Public Schools for essential services and schools with sufficient services requested by the County's communities.
3. Look for opportunities to preserve and enhance the small-town character of the County through an increase in community and cultural activities.
4. Provide adequate public services, including health, safety, social, recreational, and waste disposal services to facilitate the County's desired amount and pattern of growth.

Government

The State of Maryland allows three different government structures that counties may adopt: Code Home Rule, Commissioner, and Charter. Worcester County is a Code Home Rule County. The County follows the following structure:

Structure of Government - Commissioners determine structure through local enactments.

Public Local Laws - Commissioners can enact, amend, or repeal local laws on a wide array of matters. Most powers granted Charter counties are also granted to Code counties. The General Assembly may still enact public local laws covering an entire class of Code counties, but not for one single Code county.

Bonding Authority - Commissioners authorize. No statutory maximum, but the General Assembly may establish a limit. Subject to local referendum if petitioned by 10% of voters.

Taxes (Caps, Credits) - General Assembly authorization required.

Impact Fees - Commissioners may establish.

Civil Infractions/Fines - Commissioners may enact subject to limitations.

Commissioner/Council Members - Determined through enactment of public local laws.

Police and Corrections Departments - The Corrections Department may be enacted by local Commissioners. Local Police Departments are approved by the General Assembly.

Government Structure

Worcester County is governed by a Board of County Commissioners elected from seven districts. Commissioners are elected by voters during the general election that's held every four years.

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Departments

The County has the following local Government Departments:

- Administration
- Animal Control
- Board of Elections
- Boards and Committees
- Development Review & Permitting
- Economic Development
- Emergency Services
- Environmental Programs
- Fire Marshal's Office
- Human Resources
- Information Technology
- Jail
- Public Works
- Recreation and Parks
- Sheriff's Office
- State's Attorney
- Tourism
- Treasurer's Office

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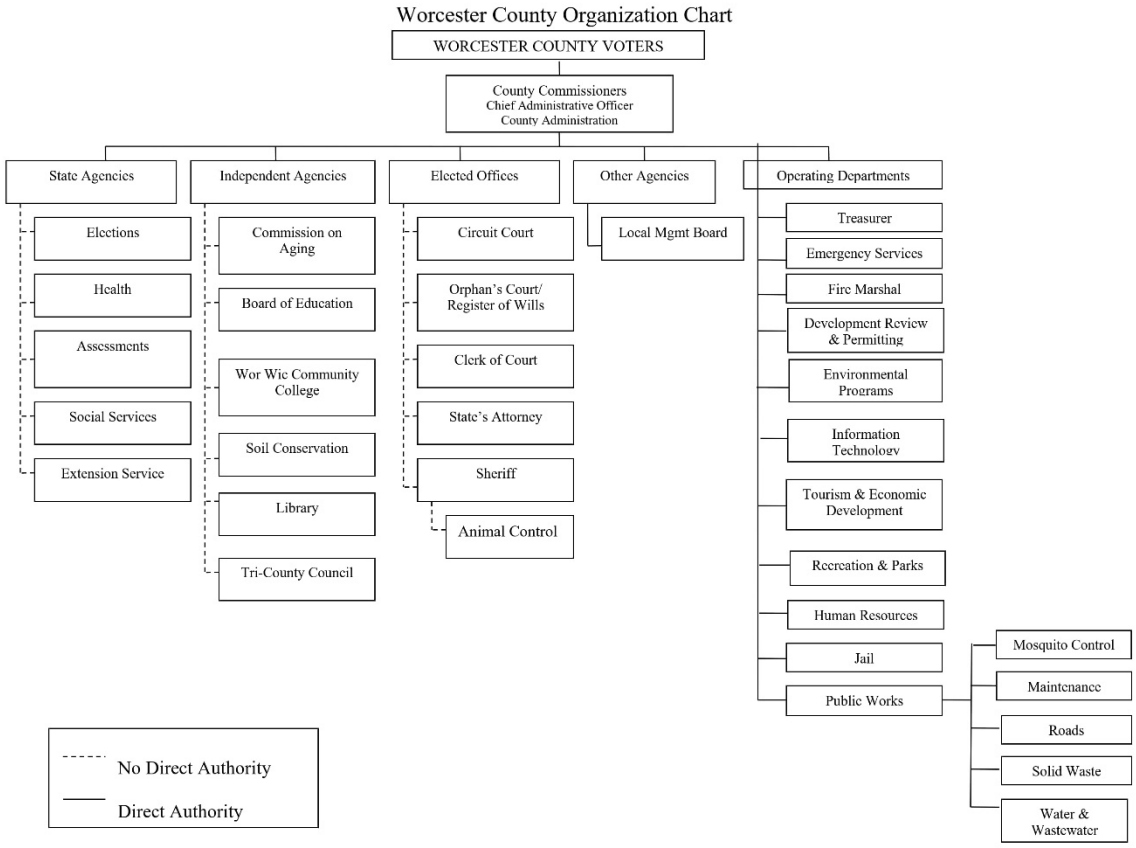
Figure 3-1: County Organization Chart



Public Safety

A variety of police protection and emergency services are provided by County, State, and municipal agencies and volunteer organizations. This section provides key information for these services.

Map 3-1, Public Safety Facilities, shows the locations of the facilities listed below.

Law Enforcement

Worcester County is committed to continuing to provide a safe environment for its residents. The Sheriff's office, located in Snow Hill, provides judicial, field and investigative services and supports the Worcester County School District through their School Resource Division.

Office of the Fire Marshal

The Worcester County Fire Marshal's Office is responsible for investigating all fires in the County where arson is suspected, the fire is undetermined by the Fire Department, and/or an injury or death has occurred. The Worcester County Fire Marshal's Office is the local enforcing agency for three municipalities and the County, including all provisions of the Maryland and Worcester County laws

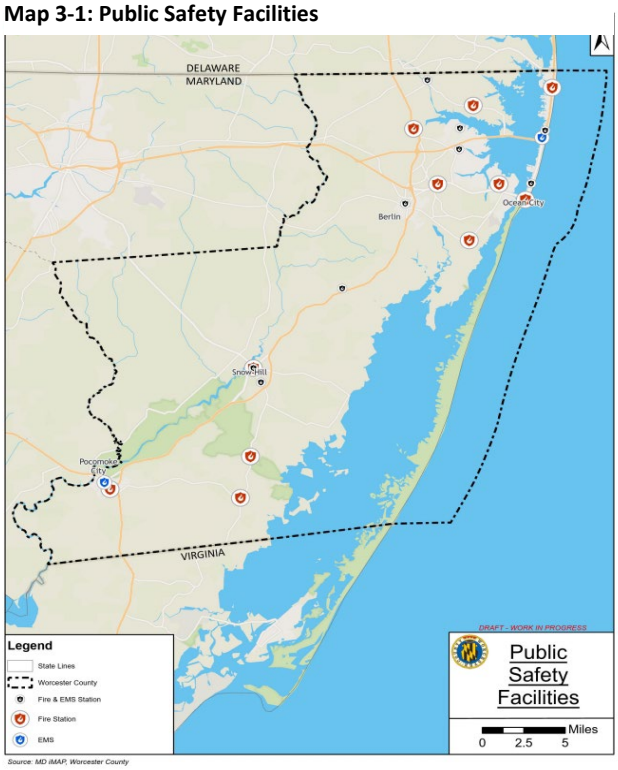
3. COMMUNITY FACILITIES

insofar as such powers and duties relate to fires, fire prevention, fire protection, fire inspections, fire investigations and explosive incidents.

The County Fire Marshal's Office is active in fire prevention, designing programs in fire education that are geared towards all ages of County citizens. The Worcester County Fire Marshal's Office is also responsible for the response and mitigation of all bio terrorism incidents in Worcester County.

The County Fire Marshal, Chief Deputy Fire Marshal, Deputy Fire Marshals, and Fire Investigators/Inspectors have the authority to enforce and perform the duties required under COMAR 29.06.01 (Maryland State Fire Prevention Code) and Code of Public Local Laws for Worcester County PS 1-201 & PS 1-401 (Worcester County Fire Prevention Code).

Map 3-1: Public Safety Facilities



The County Fire Marshal's are deputized by the Maryland State Fire Marshal under the Annotated Code of Maryland, Public Safety Article 6, §6-304 and have the authority of Title 6, §6-305, §6-307, §6,309, §6-310, §6-312, §6-317, §6,318, §6-319 and §6-320 and the authority of a police officer when investigating fire related crimes under the Code of Public Local Laws for Worcester County PS 1-301(d), (**) the Annotated Code of Maryland, Public Safety Article, Title 3, Subtitle 1, § 3-101, & Title 3, Subtitle 2, § 3-201, Criminal Procedures Article, Title 2, Subtitle 2 § 2-208.4 and the Criminal Law Article, Title 4, Subtitle 2, § 4-201

Worcester County is served by multiple paid and volunteer fire companies, each operating independently but responding to countywide 911 dispatches. These departments primarily provide fire suppression and rescue services. Most fire departments also provide Advanced Life Support (ALS) with Ambulance Service. Two volunteer fire stations in the County are designated as “Medic Assist” units, meaning they send EMTs/first responders to stabilize patients until an ambulance arrives. Most EMS professionals are career paid staff.

Worcester County Fire and Emergency Medical Services departments include:

- Berlin Fire Company (ALS)
- Bishopville Volunteer Fire Department (ALS)
- Girdletree Volunteer Fire Company (Medic Assist)
- Newark Volunteer Fire Department (ALS)
- Ocean City Fire Department (ALS)
- Ocean City Volunteer Fire Company
- Ocean Pines Fire Department (ALS)

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- Pocomoke City Emergency Medical Services
- Pocomoke City Volunteer Fire Company
- Showell Volunteer Fire Department (ALS)
- Snow Hill Fire Department (ALS)
- Stockton Volunteer Fire Company (Medic Assist)

(ALS) - Advanced Life Sup Provides Ambulance Service (Medic Assist) – EMTs/first responders

Parks and Recreation

Parks and recreation are critical to the quality of life in the County. Natural resources, open space, and recreational facilities add to the community's quality of life and make a positive contribution to the County's sustainability.

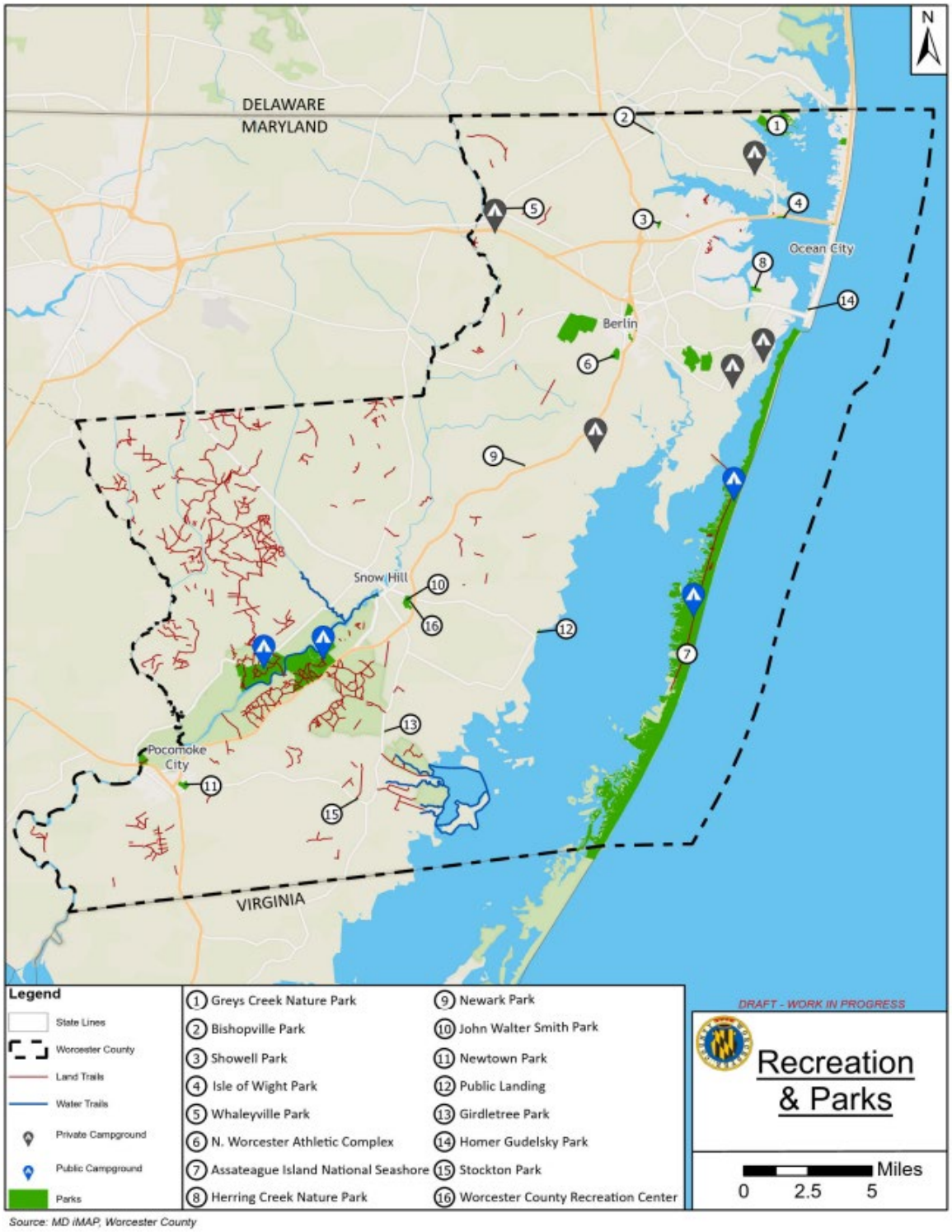
In 2023, the County approved a Land Preservation, Parks and Recreation Plan (LPPRP), a five-year plan that identifies the location and recreational opportunities available across the County, how these parks and facilities are used, the proximity of these parks to the County's population, as well as the need for additional parks and facilities and where these facilities could be located to fill any gaps. The LPPRP serves as the basis for the County's participation in the State's Program Open Space (POS) program.

In addition to the Parks and Recreational facilities identified in this Plan, the LPPRP identifies other open space, parks and recreational facilities that are not owned by the County but contribute to the inventory of parks, open space and recreational facilities that County residents may use. The LPPRP is incorporated into the Comprehensive Plan by reference as a functional plan that provides more information and guidance to County officials about these facilities.

The County has numerous park and recreation facilities for the public to utilize. These facilities offer a variety of amenities and serve various areas of the County and its shore. The Couty will continue to maintain these facilities as well as identify needs and opportunities to update or expand the facilities as needed. **Map 3-2, Parks & Recreation** shows the locations of some of the main facilities listed below.

3. COMMUNITY FACILITIES

Map 3-2: Parks & Recreation



3. COMMUNITY FACILITIES

Table 3-1: Recreation & Parks

Park Name	Location	Acreage	Designation
Assateague Island National Seashore	6850 Gatehouse Rd, Berlin, MD 00152	8,476*	Nature/Beach
Bishopville Park	10602 Bishopville Rd, Bishopville, MD 21813	5.02	Neighborhood
Girdletree Park	5901 Boxiron Rd, Girdletree, MD 21829	3	Neighborhood
Greys Creek Nature Park	13240 Rollie Rd E, Bishopville, MD 21813	574	Nature
Herring Creek Nature Park	12500 Nature Park Dr, Ocean City, MD 21842	43.55	Nature
Homer Gudelsky Park	13055 Old Bridge Rd, Ocean City, MD 21842	0.97	Nature
Isle of Wight Park	13070 St Martins Neck Rd, Bishopville, MD 21813	12	Nature
John Walter Smith Park	6030 Public Landing Rd, Snow Hill, MD 21863	80	Regional
Newark Park	8332 Newark Rd, Newark, MD 21841	4.2	Neighborhood
Newtown Park	2001 Groton Rd, Pocomoke City, MD 21851	58	Regional
Northern Worcester Athletic Complex	9906 Buckingham Ln, Berlin, MD 21811	76	Regional
Public Landing	8303 Public Landing Rd, Snow Hill, MD 21863	8.7*	Beach
Showell Park	11281 Racetrack Rd, Berlin, MD 21811	21	Regional
Stockton Park	5520 Hursley Rd, Stockton, MD 21864	4	Neighborhood
Whaleyville Park	11723 Sheppards Crossing Rd, Whaleyville, MD 21872	1	Neighborhood
Worcester County Recreation Center	6030 Public Landing Rd, Snow Hill, MD 21863	1	Multipurpose Fitness Center

*Source: Worcester County Park GIS layer; * denotes that acreage values are calculated from this source using GIS analysis.*

Assateague Island National Seashore

Assateague Island National Seashore is a 37-mile-long island along the Atlantic coast of Maryland and Virginia. Activities available to visitors include beaches, swimming, surfing, wildlife viewing, birding, crabbing, fishing and kayaking. Annually, the seashore hosts more than a million visitors.

Assateague Island includes both state and federal park lands and is not managed by Worcester County, although it serves as a recreational asset for County residents and functions as a major recreational asset drawing visitors from throughout the region, as well as nationally.

3. COMMUNITY FACILITIES

Bishopville Park

Bishopville Park is a 5-acre neighborhood park located just outside of the community of Bishopville. Amenities include a grassy open area that can be used for both informal activities and organized recreation functions, a playground, and free Wi-Fi.

Girdletree Park

Girdletree Park is a neighborhood park in the Village of Girdletree (30 miles southwest of Ocean City). This 3-acre park includes a playground with two adjoining sections and a pavilion with grills and picnic tables.

Greys Creek Nature Park

Greys Creeks Nature Park is a 574-acre nature area located at the northeast tip of Worcester County and offers views of Assawoman Bay, Ocean City, and Fenwick Island, Delaware. The property conserves the natural habitat and contains upland coastal forest, non-tidal wetlands, and tidal saltwater wetlands. The park is currently not open to the public.

Herring Creek Nature Park

Herring Creek Nature Park is a 44-acre park located in western Ocean City. The park features a pavilion that is available for picnics and gatherings, as well as walking/jogging paths and bird watching stations.

Homer Gudelsky Park

Homer Gudelsky Park is located at the end of Maryland 707 in western Ocean City. This location offers access to Sinepuxent Bay and provides shore access for fishing.

Isle of Wight Park

Isle of Wight Park is a 12-acre nature park located south of Maryland 90 in Bishopville. Offered amenities include a canoe and kayak launch site, two piers, and picnic tables.

John Walter Smith Park

John Walter Smith Park is an 80-acre park that's located on Public Landing Road in Snow Hill. The park includes pavilions, a frisbee golf course, trails, courts, and an athletic field. This location is also where Worcester County Department of Recreation and Parks programming and maintenance operations are located.

Newark Park

Newark Neighborhood Park is a 4-acre park located in the community of Newark, between the towns of Snow Hill and Berlin. The park offers a pavilion, playground, and volleyball pit.

Newton Park

Newtown Park is a 58-acre park located in Pocomoke, serving as an athletic complex for the southern end of the County. Amenities include sport fields, a pavilion, a walking and biking trail, a fishing pond, and a playground.

Northern Worcester Athletic Complex

The Northern Worcester Athletic Complex is a 76-acre park in Berlin. Amenities include sport fields, a pavilion, walking trails, and a playground.

3. COMMUNITY FACILITIES

Public Landing

Public Landing is located at the end of Public Landing Wharf Road in Snow Hill. The park offers a beach area, a pier to go crabbing or fishing, and 30 boat slips that are leased yearly through the Worcester County Recreation and Parks Department.

Showell Park

Showell Park is a 21-acre park located in Showell. This park hosts the County's softball leagues and serves as an overflow facility during large softball tournaments. Showell Park offers two playgrounds, one for two- to five-year-olds and one for five- to 12-year-olds. Pavilions, a walking trail, and courts are also available.

Stockton Neighborhood Park

Stockton Park is a 4-acre neighborhood park located along Maryland 366, about nine miles east of Maryland 113. The park offers a pavilion equipped with picnic tables and a barbeque grill. The park also has a playground unit, benches, and a baseball/softball backstop for the community to use.

Whaleyville Park

Whaleyville Park is located near the intersection of Maryland 610 and Sheppards Crossing Road in Whaleyville. The park includes a playground and picnic tables under a shaded area for the community to use.

Worcester County Recreation Center

The Worcester County Recreation Center is in Snow Hill. The facility includes a climate-controlled 47,000 square-foot multi-purpose fitness arena, along with the offices of the Recreation and Parks staff. The center includes a 520-seat arena, a four-lane track, courts, meeting spaces, a childcare room, and a fitness room.

Educational Facilities

The purpose of reviewing educational facilities within the comprehensive plan is not to supersede the role of the Worcester County Public Schools (WCPS) in planning for school facilities, but rather to highlight the need to coordinate school facilities planning with the comprehensive plan, and account for school planning in the County's open space and recreation planning, planning for broadband access, and the implications of school sites on transportation planning.

The type and quality of educational opportunities are directly linked to the economic vitality of a community. Building new school facilities within a new or established community benefits from forethought, and considerations of the student experience and surrounding built environment. Site selection requires careful consideration of the existing land uses, street capacity, and public services such as water availability, wastewater treatment capacity, emergency services, and library facilities.

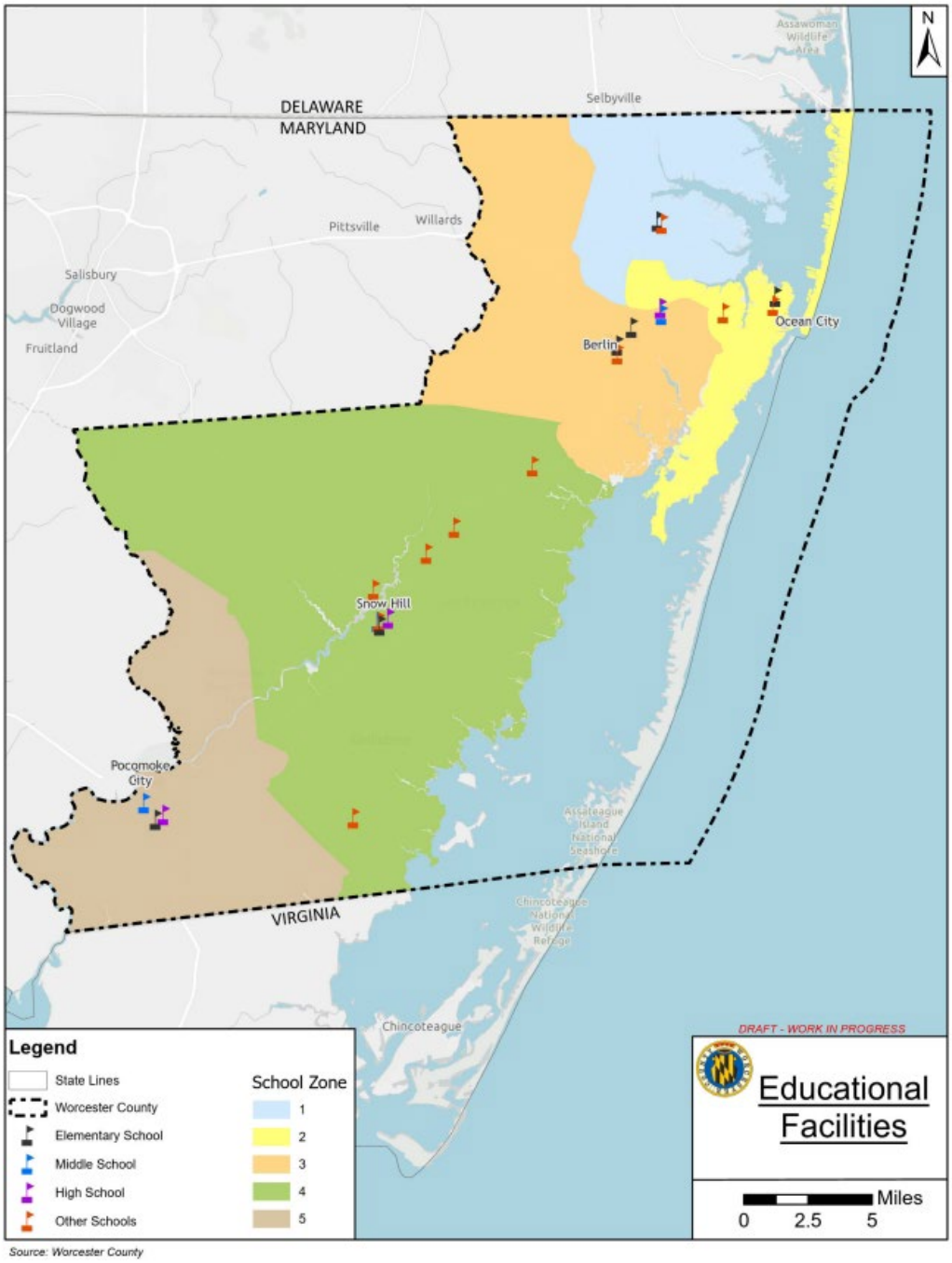
Worcester County Public Schools enroll approximately 6,800 students, between Pre-K and twelfth grade, in the 14 schools. WCPS, like the other Local Education Agencies (LEAs) across Maryland, plan for capital facilities through their annual Educational Facilities Master Plans (EFMP). These plans are submitted to the Worcester County Department of Development Review and Permitting, as well as to the Maryland

3. COMMUNITY FACILITIES

Department of Planning, to review for consistency with the Comprehensive Plan. School enrollment data was obtained from the FY25-26 EFMP.

Map 3-3, Educational Facilities, shows the locations of the schools listed below.

Map 3-3: Educational Facilities



Source: Worcester County

3. COMMUNITY FACILITIES

Elementary Schools

Buckingham Elementary School: located in Berlin; serves grades Pre-K through 4 and currently houses approximately 520 students.

Ocean City Elementary School: located in West Ocean City; serves grades Pre-K through fourth grade and enrolls approximately 570 students.

Showell Elementary School: located between Showell and Ocean Pines, the original school opened in 1976 and was rebuilt in 2020; serves grades Pre-K through fourth and enrolls approximately 640 students.

Pocomoke Elementary School: located in Pocomoke; serves grades Pre-K through fourth and enrolls approximately 490 students.

Snow Hill Elementary School: located in Snow Hill; serves grades Pre-K through third and enrolls approximately 390 students.

Berlin Intermediate School: located in Berlin; serves fifth and sixth grades; and enrolls approximately 610 students. Feeder schools to Berlin Intermediate include Buckingham, Ocean City, and Showell Elementary Schools.

Middle Schools

Pocomoke Middle School: located in Pocomoke City; serves fourth through eighth grades and enrolls approximately 465 students.

Snow Hill Middle School: located in Snow Hill; serves grades fourth through eighth grades and enrolls approximately 400 students.

Stephen Decatur Middle School: located in Berlin; serves seventh and eighth grades and enrolls approximately 665 students.

High Schools

Pocomoke High School: located in Pocomoke; enrolls approximately 375 students.

Snow Hill High School: located in Snow Hill; enrolls approximately 370 students.

Stephen Decatur High School: located in Ocean City; is the largest of Worcester County's three high schools; enrolls over 1,460 students.

Other Facilities

Cedar Chapel Special School: located in Snow Hill; Cedar Chapel Special School serves students with special needs, ages 3 through 21. Currently the school serves 50 students.

The Nest Early Learning Center: located in Newark; opened in 2023 with five teachers, as well as a dozen high school students serving as apprentices. The building serves children ages 2 through 4.

3. COMMUNITY FACILITIES

Worcester Technical High School: A public vocational school, located in Newark, offering 20 career technical education programs, such as automotive, culinary arts, robotics, and IT alongside traditional academics. The school enrolls approximately 598 students.

Library Facilities

Public libraries provide free access to information and resources to support literacy and learning. The Worcester County Library system includes five library branches in Berlin, Ocean City, Ocean Pines, Pocomoke, and Snow Hill.

In addition to collections of books, CDs, and DVDs, patrons can check out internet hot spots, laptops, and specialty learning kits. Each branch provides access to computers and printing services. All branches have local history sections, and the Snow Hill branch houses the Worcester Room containing special collections and genealogy resources. A "Books by Mail" program helps those unable to leave their homes due to a temporary or permanent disability. The Library also operates the "Pop-Up Library," a mobile outreach vehicle.

Programs are offered for all ages and range from story times that support kindergarten readiness to personal enrichment classes. Job seekers can use the library to search and apply for employment opportunities. Libraries also support digital literacy with one-on-one assistance and have taken on a greater technological role through the provision of eBooks, databases, and remote access to library materials.

Libraries serve as community gathering places and provide space for studying, small group gatherings, and as a meeting place for community organizations. This is an important service, particularly in rural areas.

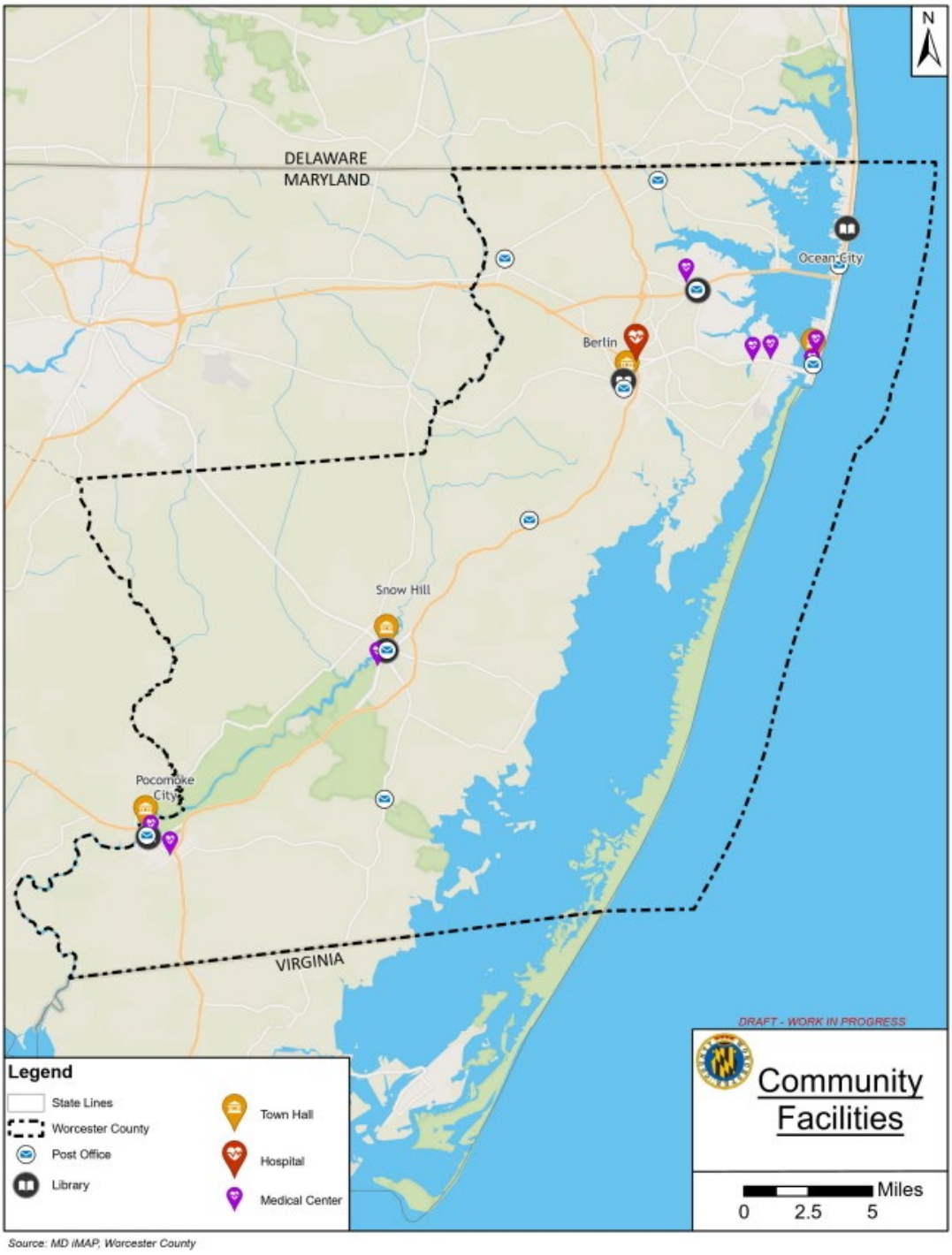
The Library Board of Trustees advise the Library Director, approve budgets, adopt policies, and ensure the library meets the needs of the community through its collection, services, and programs. Trustees are comprised of seven members of the public from various parts of the County. Public libraries are a resource that must be supported to encourage vibrant and sustainable communities.

Health Services

There are many dental, medical, physical therapy, and mental health practitioners within the County to serve the community. There are some medical centers and urgent care clinics within the County but the main health care facility is Atlantic General Hospital, located in Berlin. The location of this hospital can be found on **Map 3-4, Community Facilities**.

3. COMMUNITY FACILITIES

Map 3-4: Community Facilities



4. LAND USE

Introduction

Land use refers to the uses or activities that occur on a parcel of land. For planning purposes, these are commonly designated as agricultural, residential, commercial, industrial, recreational, and other uses. Land use is not permanent and often evolves as the County develops.

It is important to note that land use differs from zoning. Zoning is a tool that local governments use to implement the Comprehensive Plan by regulating what can be built on a parcel and how these structures may be developed and redeveloped.

Land uses can be nonconforming, if they do not conform with zoning, most often because the use existed before the land was classified into a category. These nonconforming uses are often referred to as "grandfathered" and are generally allowed to remain in use. Like land use, zoning can change over time. For example, parcels that are zoned to allow only commercial uses may be changed in the future to allow for a mix of uses, including residential, commercial, and other types.

Land in Worcester County is dominated by agricultural uses. The County retains a rural and coastal character that it has successfully maintained so that development is concentrated primarily in municipalities and designated growth areas. Worcester County opposes offshore wind projects and needs to balance the needs of agricultural uses with solar energy development, including prohibiting solar in future growth areas.

This chapter provides information on land use categories and their distribution as per existing land use within the County, followed by details of zoning and future land use.

Goals and Objectives

Worcester County land use goals are to maintain and improve the County's rural and coastal character, protect its natural resources and ecological functions, accommodate a planned amount of growth served by adequate public facilities, improve the compatibility of new development with the County's existing built environment, continue to support the County's thriving economy, provide for residents' safety and health, and coordinate land use-based infrastructure decisions with the State of Delaware and Sussex County to the extent possible.

Specific goals and recommended actions to achieve those goals include:

1. **Continue to limit rural development to uses compatible with the County's agriculture and forestry industries.**
    - *Action Item 4.1.1:* Continue to support agriculture and forestry uses throughout the county's less developed regions.
    - *Action Item 4.1.2:* Limit rural development to uses compatible with agriculture and forestry.
2. **Plan for new development by encouraging infill within existing population centers and planned growth centers while maintaining the character of the community.**
    - *Action Item 4.2.1:* Maintain the character of the County's existing population centers.

- *Action Item 4.2.2:* Locate new development in or near existing population centers and within planned growth centers.
- *Action Item 4.2.3:* Plan for infill within existing population centers without overwhelming their existing character.

3. **Foster a cooperative relationship among the municipalities and the County to plan for future growth via annexations that logically expand existing neighborhoods and communities.**
    - *Action Item 4.3.1:* Work with municipalities to develop annexation policies that encourage infill within their boundaries and expand existing neighborhoods and communities.
4. **Provide appropriate residential, commercial, institutional and industrial uses that balance the available land supply while minimizing the consumption of vacant land to preserve the County's rural and coastal character.**
    - *Action Item 4.4.1:* Provide for appropriate residential, commercial, institutional, and industrial uses.
    - *Action Item 4.4.2:* Regulate development to minimize the consumption of land and preserve the County's rural and coastal character.
    - *Action Item 4.4.3:* Balance the supply of commercially zoned land with anticipated demand of year-round residents and seasonal visitors.
    - *Action Item 4.4.4:* Eliminate the E-1 Estate District zoning classification.
5. **Locate major commercial and all industrial development in areas having adequate arterial road access, while discouraging highway strip development to maintain roadway capacity, safety, and character.**
    - *Action Item 4.5.1:* Locate major commercial and all industrial development in areas having adequate arterial road access or near such roads.
    - *Action Item 4.5.2:* Discourage highway strip development to maintain roadway capacity, safety, and character.
6. **Encourage new developments to visually improve their surroundings by including appropriate landscaping and design elements that reflect the County's established architectural types and traditions.**
    - *Action Item 4.6.1:* Design new development's architecture and landscaping to visually improve its surroundings.
7. **Explore policies and actions that encourage redevelopment of existing residential and commercial properties.**

Existing Land Use

Maryland's land use policies seek to promote sustainable growth that fosters vibrant, livable communities, preserves and protects the environment, and uses resources efficiently. The state legislation affecting land use planning and resource preservation is described in **Chapter 1, Introduction.**

Land Use Categories

The Plan classifies the county into nine land use categories:

1. **Municipality**: Although outside the County's land use jurisdiction, the County's four incorporated towns (Berlin, Ocean City, Pocomoke and Snow Hill) play a vital role in the County's land use strategy. The towns are projected to absorb much of the County's projected

growth through infill development and annexations. To minimize unnecessary land consumption, the County supports strategies that direct most of the towns' projected growth into infill development. Appropriate public service expansions that result from this growth should be planned carefully and coordinated between the County and the municipalities.

2. **Residential**: This category maps existing residential development within the County's unincorporated areas. This category includes the residential areas of the Existing Developed Centers (EDC) land use category that was included in the County's 2006 Comprehensive Plan. This change was made to differentiate between Residential and Commercial developed areas within the County's unincorporated areas, and to plan for each category separately. Existing Commercial areas within the former EDC are included in the Commercial Center land use category.

   The County seeks for the current development character within these areas to be maintained. Appropriate zoning providing densities and uses consistent with this character should continue to be implemented and instituted.

   Not designated as growth areas, these areas should be limited to infill development. Density, height, bulk, and site design standards should also be consistent with existing character. Examples include Ocean Pines, West Ocean City, South Point and Germantown. Other small crossroad clusters are included in this category as appropriate.

3. **Village**: This category includes traditional villages that serve as rural centers within the County. Their character should be retained, so they are planned for infill. Villages are not growth areas; therefore, any additional growth within these areas should be very limited in scope. Villages include Bishopville, Whaleyville, Public Landing, Girdletree, and Stockton.

4. **Growth Area**: This category designates areas outside incorporated municipalities that are suitable and desirable for planned future growth. These areas include new and existing locations, which meet the following criteria:

   - Contain limited wetlands, hydric soils, floodplains and contiguous forest
   - Comprised of generally larger parcels (100 or more acres)
   - Located outside of aquifer recharge, source water protection, and other critical areas
   - Situated to be cost-effectively served with adequate public sanitary and other services
   - Located near employment, retailing and other services
   - Served, or can be readily served, by adequate existing roadways (Level of Service C or better)

   Growth areas identify generalized locations for planned new development. These areas are intended to accommodate most new growth. Densities of up to 10 dwelling units per acre should be provided for to reduce consumption of "greenfields" (currently undeveloped sites). Such density will require public water and sewer service. Location, layout, and densities should facilitate transit. Adequate transportation and other public facilities must be in place at the time of development or constructed as part of a development project.

Designation as a Growth Area does not in and of itself require that such areas be rezoned from a less intense to more intense zone. Instead, the growth area designation should be considered a necessary condition for growth-oriented zoning, akin to individual rezoning cases that require an applicant to demonstrate a substantial change in the character of the neighborhood or strong evidence of a mistake in the original zoning as a condition of approval.

To promote orderly growth and foster a cooperative relationship between the towns and the County, development in growth areas (located adjacent to or in close proximity to the corporate limits of a municipality) shall be contingent upon all of the following conditions:

- Annexation by the municipality
- Water, sewer, and other services to the development shall be provided by the municipality
- The developer shall be responsible for all impact fees, excise taxes, adequate public facilities fees, and other impositions, including those payable to the County
- The annexation shall be subject to an annexation agreement to which the County shall be a party

It is the intent of the County Commissioners and this plan that development in such growth areas only occur if the four conditions are satisfied, but the Commissioners recognize that in some cases the conditions may not be applicable, rational, or in the interest of good planning. In such cases, the Commissioners may permit development in such growth areas without the conditions being met. Therefore, in the event a municipality refuses to annex the property under terms satisfactory to the County Commissioners, then development in the growth area may proceed in the county outside of the town's corporate limits if approved by the County Commissioners in accordance with and governed by all legal requirements and procedures without satisfying the contingencies in this provision.

5. **Commercial Center**: This category includes sufficient area to provide for anticipated needs for business, light industry, and other compatible uses. Retail, offices, cultural/entertainment, services, mixed uses, warehouses, civic, light manufacturing and wholesaling would locate in commercial centers.

   Commercial centers are located on prominent sites and can visually dominate a community. For this reason, special attention must be given to the volume, location and design of these uses. The first step is to balance supply with demand.

   Strip commercial centers are discouraged. These centers are characterized by:

   - A linear series of stores strung together by a one-story, curtain walled building of little or incompatible character
   - Expanse of unscreened parking between the building and the roadway
   - Minimal landscaping
   - Incongruous and incompatible architecture and signage

   Strip centers combined with "franchise" architecture can negate local sense of place, be visually destructive, and adversely affect property values.

Commercial centers provide important services, but they should be developed to enhance community character.

Commercial centers are planned to occur at three scales, which will be reflected in their zoning and site plan requirements: neighborhood, community and regional/highway.

- **Neighborhood commercial** provides convenient food, gas and other day-to-day products. Neighborhood commercial should take a central place within growth node developments. They may contain mixed uses and they should be provided with sidewalks, landscaping, and other amenities. Local institutional uses such as schools, libraries, post offices and community buildings are also desired uses. It is especially important that neighborhood commercial uses blend visually into the surrounding community.

  Incorporating ancillary residential uses above the street level is encouraged. Such areas may also be appropriate additions to existing underserved population centers. These centers serve populations of 1,000 or more within a five-to-ten-minute travel time.

- **Community commercial centers** provide for larger scale commercial uses with higher volume parking demand. Groceries, pharmacies, and support services are located at these centers. Careful attention to signage, landscaping, perimeter buffers, site layout and architectural design is necessary for these uses to be compatible with the community's and the county's character. Community commercial centers serve populations of 3,000 or more within about a 10- to 20-minute travel time.

- **Regional/highway commercial centers** are designed for the most intense commercial uses, including "big box" retailers. Such uses will be restricted to sites with access to Routes 50, 113 and 13.

  Specific zones prescribing appropriate setbacks, landscaping, lighting, signage, screening and other site and architectural standards should guide the location and development of these centers. Use of service roads and/or inter-parcel connectors will help to mitigate transportation impacts. Regional centers serve populations of 25,000 or more within a 30-minute travel time.

6. **Agriculture**: The importance of agriculture to the county cannot be overstated. Its significance is economic, cultural, environmental, and aesthetic. Agriculture is the bedrock of the County's way of life. Agriculture faces challenges from international commodity prices, local development pressure, and the aging farm population, among other challenges. The County must do all it can to preserve farming as a viable industry.

   This category is reserved for farming, forestry and related industries with minimal residential and related uses permitted. Large contiguous areas of productive farms and forest shall be maintained for agricultural uses. Dust, odor, chemical applications, noise, and extended hours of operation create conflicts with incompatible uses.

Residential and other conflicting land uses -- although permitted -- are discouraged in these areas. Only minor subdivisions of five lots or fewer are permitted. This restriction has been the strongest component of the county's agricultural preservation strategy, and it should be maintained as is. Also, as a general policy, the practice of not rezoning agricultural land for other uses should continue.

The County's strong "right-to-farm" law should remain in force. Compatible uses providing additional farm income (e.g., tourism and development of "value added" products/processing facilities) should be explored. The implementation of a transfer of development rights (TDR) program could help maintain farming and direct growth away from productive farming areas.

Agricultural land preservation should be pursued to maintain a critical mass of farms.

7. **Industry**: Traditionally a limited land consumer in Worcester County, light industry is an important component of the County's land use mix. Heavy industry, with its environmental and transportation impacts, may be compatible in selected locations. Pocomoke City has and will continue to be the focus for the County's most intense industrial uses.

   Industrial uses need good road access, large sites, sufficient electricity and public water and sewer services. Rail, port facilities, and natural gas are also desired. Selective economic development efforts focused on high-wage, low-impact industries and their supporting infrastructure will benefit the county. Industrial uses should be in the County's designated industrial zones/parks and within appropriate areas in the municipalities.

8. **Green Infrastructure**: This category includes state- and locally-designated natural and open spaces. These areas are designated to preserve environmentally significant areas and to maintain the environmental functionality of the county's landscape. Greenways improve water quality, provide flood control and maintain the county's rural and coastal character.

   This category includes conservation zones, which are highly restricted due to their special sensitivity. Conservation areas are defined by their soils (muck), state owned natural areas, existing conservation zoning, tidal wetlands, selected riparian corridors. Greenway and conservation areas have distinct physical characteristics, which make them special habitat areas or place extreme limitations on development.

   Such areas are "place dependent," that is, they only occur at specific locations. Their identification and preservation must be proactively addressed. After-the-fact mitigation and restoration is expensive and often of limited effect.

   Open space uses include:

   - Environmental processing (e.g., hydrology, aquifer recharge areas, larger contiguous forests)
   - Hazard areas (floodplains)
   - Environmental resources (wetlands, threatened and endangered species habitat)

- Cultural resources
- Outdoor recreation sites
- Areas defining edge between urban and rural uses

The green infrastructure system is designed to maintain existing resource areas and where absent, create sufficient natural "corridors" linking larger green "hubs." Parks, other public and dedicated private open spaces should be included. This network provides essential wildlife food, shelter, and cover. It also provides a rural tone to developed areas and works with conservation site planning to minimize development's cumulative impact. Green infrastructure is addressed in more detail in the natural resources chapter.

9. **Institutional**: Institutional land uses are major public properties and facilities. County parks emphasizing active recreation are identified in this category; county passive recreation facilities are identified as green infrastructure.

Existing Land Use

The County calculated an inventory of available land in the comprehensive planning process. **Table 4-1** summarizes Worcester County's Existing Land Use by category and number of parcels, and compares it to Future Land Use, as a comparison.[1] **Map 4-1** shows the County's Existing Land Use.

Table 4-1: Land Use Summary

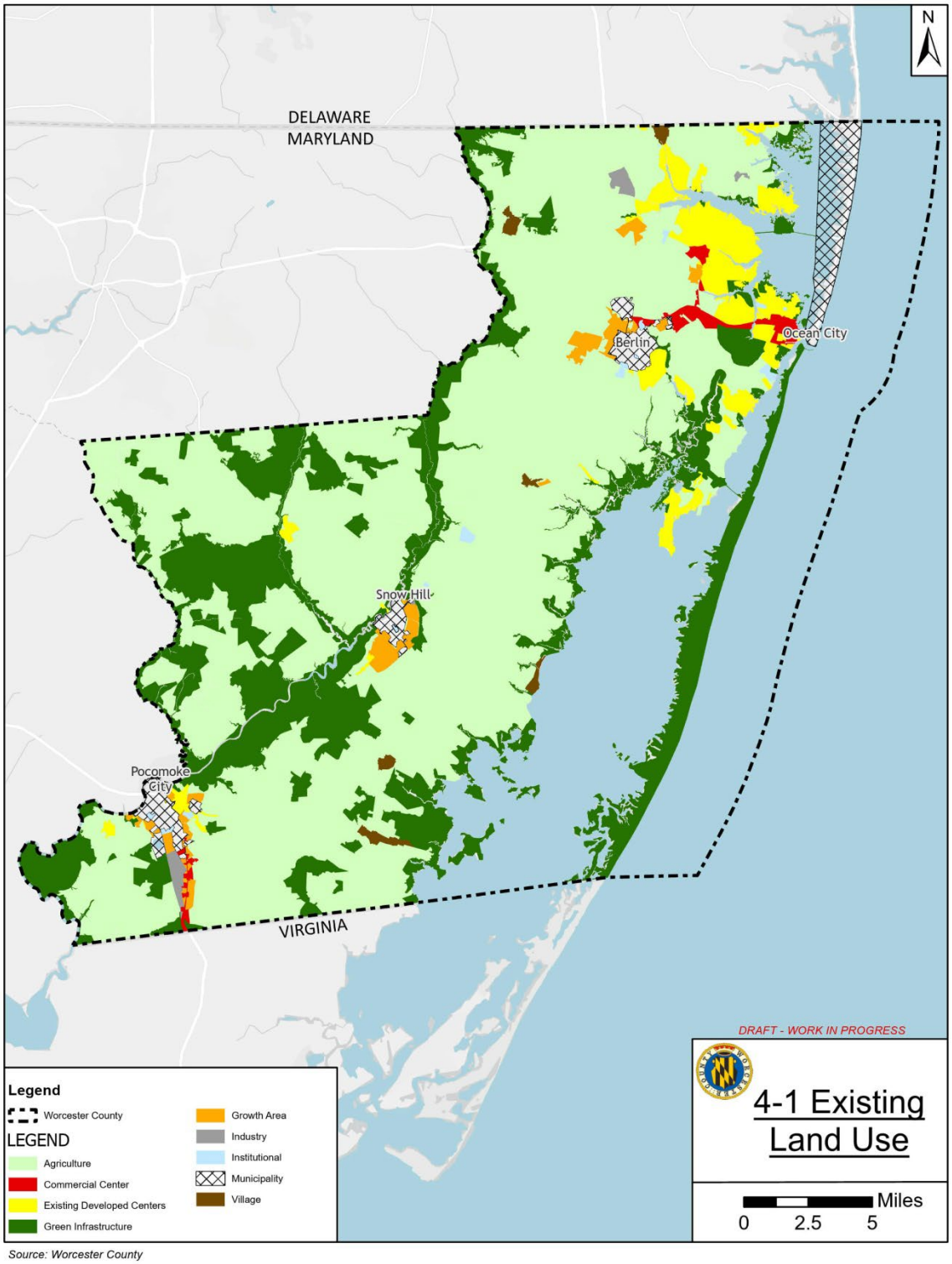
Land Use Category	Existing Land Use Total Acres	Future Land Use Total Acres	% Change
Agriculture	196,703	167,580	-17%
Commercial Center	2,433	1,948	-25%
Existing Developed Centers	14,657	N/A	N/A
Green Infrastructure	75,217	97,166	23%
Growth Area	2,860	2,841	-1%
Industry	1,329	1,066	-25%
Institutional	979	2,197	55%
Municipality	11,052	7,089	-56%
Village	1,520	1,786	15%
Residential	N/A	12,799	N/A
Total	**306,751**	**294,051**	-

Source: Worcester County, Wallace Montgomery

[1] The totals for Existing and Future Land Use are different because of mapping changes from the recategorization of the Existing Developed Centers (EDC) category and are being reconciled for the final plan. Additionally, road rights-of-way were removed to improve the accuracy of land use acreage calculations.

4. LAND USE

Map 4-1: Existing Land Use



Source: Worcester County

4. LAND USE

Zoning

Zoning is one of the primary tools to implement Worcester County Comprehensive Plan. Zoning is represented on maps and detailed in the County's Zoning Ordinance. The maps show several districts or zones into which the County is divided to regulate the use of land. The document specifies the types of activities (uses) that can occur in each district either as a matter of right or under certain conditions. It also regulates building height, lot sizes, setbacks, yards and green space, the number and size of signs, and space for off-street parking.

For additional information on zoning and zoning districts, please refer to the Code of Public Local Laws of Worcester County, Maryland, Zoning and Subdivision Control Article and the official Zoning Map illustrating the location and boundaries of these zoning districts.

Table 4-2: Zoning

Zoning District	Acres	
	No.	%
A-1 Agricultural District	170,093	57.9%
A-2 Agricultural District	7,457	2.5%
E-1 Estate District	4,683	1.6%
V-1 Village District	1,080	0.4%
R-1 Rural Residential District	4,872	1.7%
R-2 Suburban Residential District	4,629	1.6%
R-3 Multi-Family Residential District	1,539	0.5%
R-4 General Residential District	1,214	0.4%
C-1 Neighborhood Commercial District	128	0.0%
C-2 General Commercial District	2,082	0.7%
C-3 Highway Commercial District	350	0.1%
I-1 Light Commercial District	1,164	0.4%
I-2 Heavy Industrial District	326	0.1%
CM Commercial Marine District	12	0.0%
RP Resource Protection District	86,756	29.5%
CA Commercial Airport District	419	0.1%
Municipalities	7,179	2.4%
Total		**293,983**

Source: Worcester County, Wallace Montgomery

4. LAND USE

Zoning Categories

Each zoning designation is described below and is detailed in the Code of Public Local Laws of Worcester County, Maryland.

Consistent with the 2006 Comprehensive Plan, this plan continues to recommend the removal of the E-1 Estate District as a future action when zoning changes are considered in the implementation of this plan. Originally designed as a transition zone between urban and suburban development and the rural landscape, this category has consumed excessive amounts of land per housing unit and failed to achieve truly clustered open space development as envisioned. The 2009 Zoning Code states in the E-1 District purpose and intent statement that "[f]or lands zoned E-1 Estate District on the effective date of these regulations it is the intent of these regulations to allow for their orderly development until these regulations are amended to reflect changes in the Comprehensive Plan resulting from its next state-mandated periodic review."

A-1 Agricultural District

This district is intended to preserve, encourage and protect the County's farms and forestry operations and their economic productivity and to ensure that agricultural and forestry enterprises will continue to have the necessary flexibility to adjust their production as economic conditions change. Furthermore, it is the intent that in this district there shall be no basis for recourse against the effects of any normal farming or forestry operation as permitted in this district, including but not limited to noise, odor, vibration, fumes, dust or glare. This district is also intended to protect the land base resources for the County's agricultural and forestry industries from the disruptive effects of major subdivision or non-agricultural commercialization.

A-2 Agricultural District

This district is intended to foster the County's agricultural heritage and uses while also accommodating compatible uses of a more commercial nature that require large tracts of land. The A-2 District may also be used for limited residential development through consolidated development rights and as a place marker for future annexations only where adjacent to existing municipalities. Furthermore, it is the intent that in this district there shall be no basis for recourse against the effects of any normal farming or forestry operation as permitted in this district, including but not limited to noise, odor, vibration, fumes, dust or glare.

V-1 Village District

This district is intended to protect and preserve the unique mixed-use character and historical charm of the existing crossroads villages of the County. New development within this district should be of an appropriate scale and use to be compatible with the existing pattern of development. In addition, new development is intended to be channeled into effective service areas to permit the efficient provision of public services.

R-1 Rural Residential District

This district is intended to protect and preserve the low-density rural residential areas of the County which are not generally planned for substantial population growth and for which limited public services are available or planned. Low-density residential development is permitted in this district while relatively low intensity uses necessary to serve the needs of the local population may also be compatible. Cluster development and residential planned communities are encouraged in this district to preserve and maintain the open space and natural environment currently present in these areas.

R-2 Suburban Residential District

This district is primarily intended to protect and preserve existing residential subdivisions throughout the County and to provide for compatible infill development in those areas. Furthermore, as contemplated by the Comprehensive Plan, this district can serve as an intermediate band of traditional neighborhood development as it transitions from a higher-density core to a much lower-density edge.

The Comprehensive Plan recommends that designated growth areas be developed as traditional neighborhoods. Projects of greater than 20 dwelling units that are proposed after November 3, 2009 are required to be developed as residential planned communities to encourage traditional neighborhood development and utilization of conservation design principles. Therefore, new development in this district may be at densities higher than that cited below as the maximum density, provided adequate sewer service is available, while infill development in existing developed areas shall be at densities consistent with those allowed by the primary district regulations.

R-3 Multi-family Residential District

This district is intended to protect and preserve existing residential subdivisions throughout the County and to provide for compatible infill development in those areas. Furthermore, as contemplated by the Comprehensive Plan, this district can serve as the core of a traditional neighborhood development, where the highest densities are desired.

The Comprehensive Plan recommends that designated growth areas be developed as traditional neighborhoods. Projects of more than 20 dwelling units that are proposed after November 3, 2009 are required to be developed as residential planned communities to encourage traditional neighborhood development and utilization of conservation design principles. Therefore, new development in this district may be at densities higher than that cited below as the maximum density, provided adequate sewer service is available, while infill development in existing developed areas shall be at densities consistent with those allowed by the primary district regulations.

R-4 General Residential District

This district is intended to protect the existing residential subdivisions throughout the County that are currently developed in accordance with its provisions while also providing for compatible infill development. Additionally, this district is meant to accommodate the most diverse housing types and range of affordability. Projects of greater than twenty dwelling units which are proposed after November 3, 2009 are required to be developed as residential planned communities to encourage traditional neighborhood development and utilization of conservation design principles. While this

district can serve as the core of a traditional neighborhood development, it is not limited to usage only in areas designated for growth by the Comprehensive Plan.

C-1 Neighborhood Commercial District

This district is intended to provide convenient commercial areas strategically based to serve the day-to-day shopping and service needs of the local neighborhood. Designed to serve populations of one thousand or more within an approximate five- to ten-minute travel time, this district shall be limited to small-scale commercial operations of far less intensity than those provided for in the C-2 General Commercial District and C-3 Highway Commercial District. The scale and design of these neighborhood commercial uses should complement the scale and design of the existing neighborhood in which they are located and blend visually into the surrounding community.

C-2 General Commercial District

This district is intended to provide for more intense commercial development serving populations of 3,000 or more within an approximate ten- to twenty-minute travel time. These commercial centers generally have higher parking demand and greater visibility. Consequently, design standards and careful attention to signage, landscaping, perimeter buffers, site layout and architectural design are imperative. Commercial structures and uses must be compatible with the community and the County's character. Strip commercial forms of development are strongly discouraged.

C-3 Highway Commercial District

This district is intended to provide for the largest and most intense commercial development and thus function as regional centers serving populations of twenty-five thousand or more within an approximate thirty-minute travel time. Such uses shall be limited to sites with appropriate access to arterial highways. Because of the extreme visibility of the sites, appropriate setbacks, landscaping, lighting, signage, screening and other site and architectural standards shall guide the location and development of these centers. Use of service roads and interparcel connectors are necessary to mitigate transportation impacts.

I-1 Light Industrial District

This district is intended to provide for certain types of business and industry, characterized by light manufacturing, fabricating, warehousing and wholesale distribution, which are relatively free from offense and which, with proper landscaping and buffering, will not detract from the residential or commercial desirability of adjacent properties. It is intended that such districts be located with access to major thoroughfares or other major modes of transportation, depending upon the specific demands of the industry being served. Industrial parks are encouraged in this district to provide for industrial uses with common access and infrastructure, as well as the provision of open space and adequate buffering to adjacent noncompatible uses.

I-2 Heavy Industrial District

This district is intended to provide for a variety of heavy-industrial-type uses which may not be compatible with residential or commercial development due to some potential nuisance or hazard. It is

intended that such districts be located with access to major thoroughfares or other major modes of transportation, depending upon the specific demands of the industry being served. Industrial parks are encouraged in this district to provide industrial uses with common access and infrastructure, as well as the provision of open space and adequate screening between adjacent incompatible uses.

CM Commercial Marine District

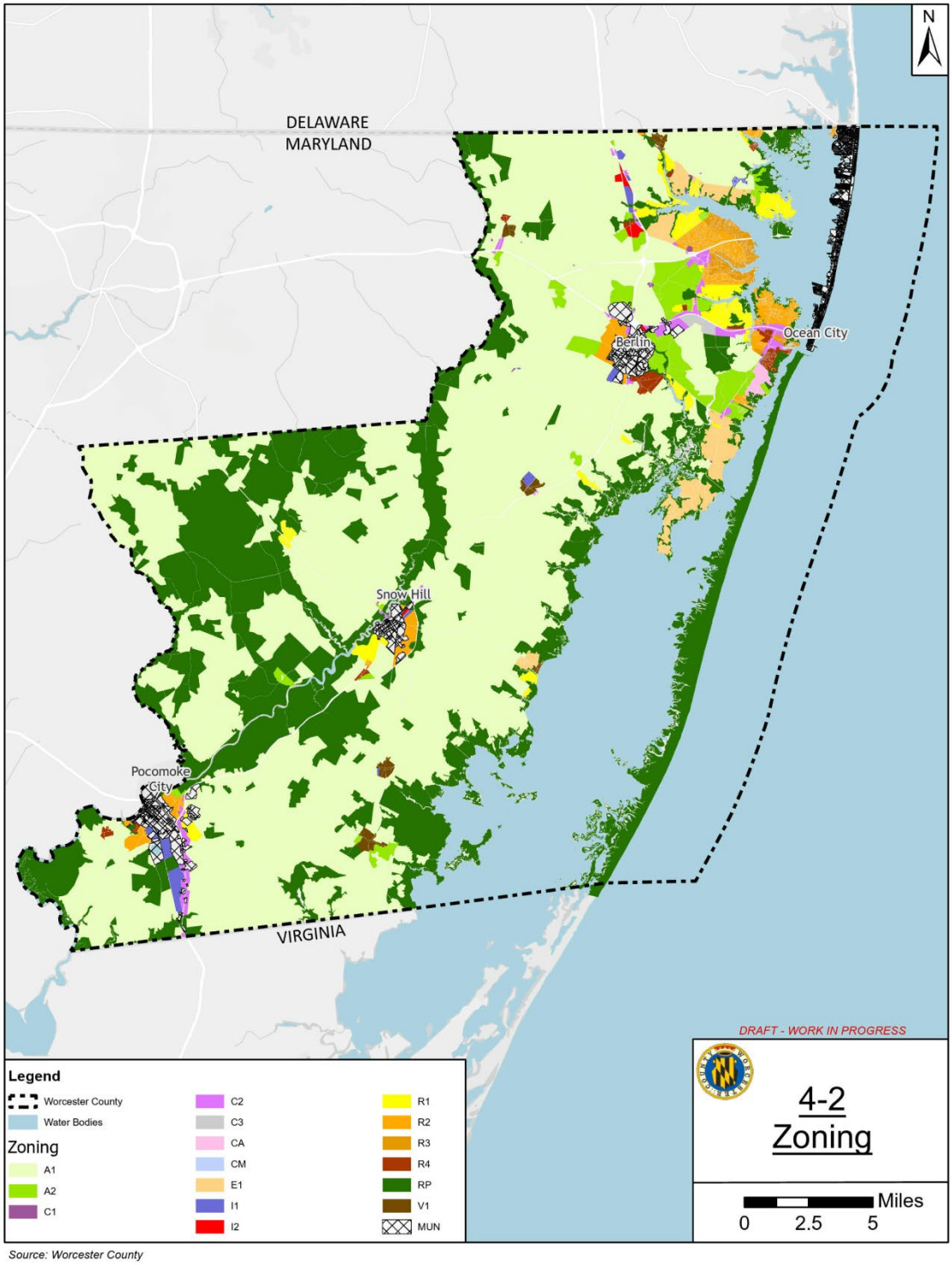
This district is intended to preserve and protect Worcester County's commercial fishing industry while allowing for commercial, industrial and recreational uses which of necessity must be in proximity to waterfront areas. Additionally, it provides for other compatible uses which may find a waterfront location desirable. Furthermore, it is the intent of this district that there shall be no basis for recourse against the effects of any normal commercial fishing or other commercial marine activity or operation as permitted in this district, including but not limited to noise, odor, vibration, fumes, dust or glare.

RP Resource Protection District

This district is intended to preserve the environmentally significant areas of the County and to protect its natural resources in all areas. The district includes those areas of the County which pose constraints for development or where development could have a substantially adverse environmental effect. This district serves to maintain the environmental functionality of the landscape by avoiding or minimizing disturbance of sensitive areas which generally include tidal and nontidal wetlands, state-owned natural areas, selected riparian corridors, conservation areas, and muck and alluvial soils. Development potential within this district is severely limited; however, some minor development may be carried out, provided it is done in a manner sufficiently sensitive to the existing natural environment and visual character of the site.

4. LAND USE

Map 4-2: Zoning



Source: Worcester County

4. LAND USE

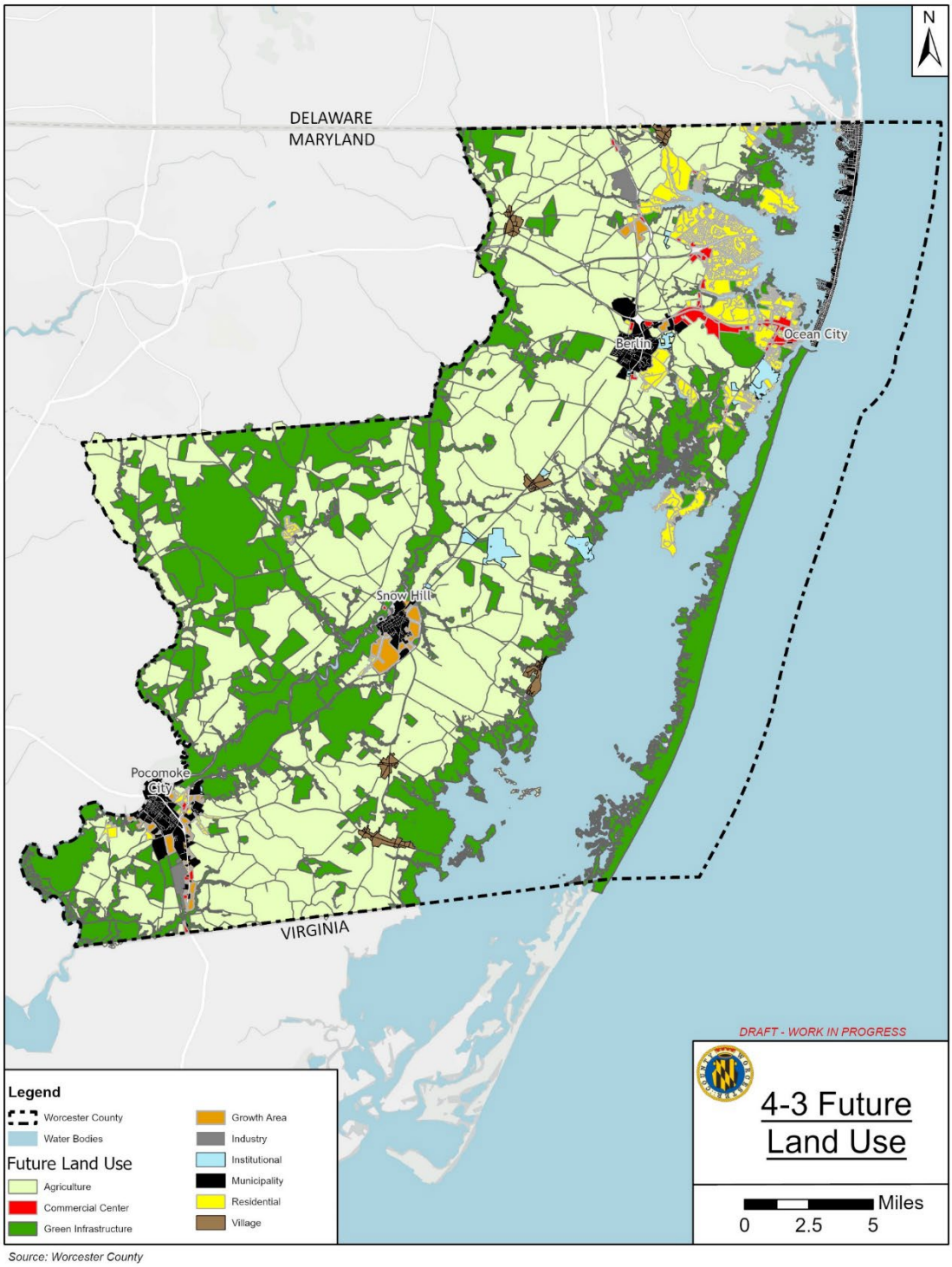
Future Land Use

Worcester County has developed a vision for future land use. Future land use information will serve as a roadmap to guide the development of the County. **Table 4-1** summarizes Worcester County's proposed Future Land Use by category. **Map 4-3** shows the County's **Future Land Use**.

The Future Land Use Map recognizes recent and proposed residential development in the County since the 2006 Comprehensive Plan and a limited buildout of additional parcels zoned for residential development. It is in keeping with the infrastructure constraints identified in the Water Resources Element and the goals and objectives of this Plan.

4. LAND USE

Map 4-3: Future Land Use



Source: Worcester County

4. LAND USE

Development Capacity Analysis

To evaluate the future land use needs of the County and to define and refine the growth areas, a development capacity analysis was completed. The following sections describe this process, and the outputs, in detail. One important output generated from this analysis was the projected number of "Equivalent Dwelling Units" that resulted from this analysis and were used as an input in the Water Resources Element (see Chapter 11). The data tables for this analysis are included in **Appendix A**.

Overview

A development capacity analysis ("capacity analysis" or the analysis) is a study conducted during the Comprehensive Plan process to provide a local government with insight into its development pipeline and what could eventually be developed in the jurisdiction. This analysis is generally based on the current and future land use categories designated in the Comprehensive Plan, the existing or proposed zoning districts, and the average development yields or lot creation parameters defined in the Zoning Ordinance that pertain to creation of new lots.

This analysis is primarily used to evaluate the growth capacity of the County based on current or future conditions; determine future demand for public water and sewer systems and other public facilities; identify if development caps or moratoriums are required to slow residential growth down so that public infrastructure can be expanded to accommodate the potential influx of residents; and to determine compliance with development constraints pertaining to generation of additional water quality pollutants of concerns (Total Maximum Daily Loads – part of the NPDES programs administered at the local level).

Methodology

The principal set of tools used for this analysis are Geographic Information Systems, or GIS. GIS is a suite of software and processes that enable the representation of land use, zoning, parcel ownership, and similar datasets on a two-dimensional computer screen. GIS enables planners to perform spatial analyses, or to solve problems and answer questions about facilities, properties and other elements that have a geographic component.

There are several principal datasets generally used in a capacity analysis: parcel boundaries and ownership data, existing land use, future land use, zoning boundaries, and a vacant land inventory are the most common datasets used.

To identify the specific data that are to be used for any capacity analysis, planners consider the geographic extent of the area to be examined and what GIS data is available at the level of detail required. Worcester County covers a large geographic area and typically a jurisdiction of this size would rely primarily on Land Use data for the analysis.

In reviewing the Land Use data available at the time of this Plan Update, it was noted that, in addition to the standard areas denoted as agricultural, commercial, and high, medium and low density residential, there were specific areas that were identified as Growth Areas. Discussing these areas with County planners, it was determined that these Growth Areas were where the last Comprehensive Plan determined that development, of all types, would be targeted towards.

4. LAND USE

These existing Growth Areas were reviewed by the County as well as the municipalities that bordered the Growth Areas to determine if any additional areas should be added, removed or modified. The planning team developed a web mapping application in conjunction with Worcester County that allowed stakeholders to view and explore each of these existing Growth Areas and to provide comments to us regarding any changes. A meeting was held with these stakeholders to delve into the comments and to identify any changes needed. Following this meeting, the Growth Areas were revised and resubmitted for review to ensure all requests had been addressed.

Setting these Growth Areas was an important step, as these boundaries defined the limits of the capacity analysis. Since the growth areas are significantly smaller than the County as a whole, the most precise method of analysis would require the use of existing Zoning data to complete the next step in the analysis. The County's most recent Zoning GIS dataset was used for this analysis.

Typically, a GIS analysis would begin with these datasets. However, a significant concern for Worcester County are the TMDL requirements that essentially set a threshold on the amount of water quality pollution permitted within each watershed. Because each new home or development has a measurable impact on water quality for the receiving water body, one other GIS layer was added to the GIS-based analysis. Watershed boundary data were extracted from Maryland's master watershed dataset (developed and hosted by the Maryland Department of the Environment) and integrated in Worcester's capacity analysis.

Using a processing model within GIS called 'Intersect,' the Growth Area boundaries were overlaid with the watershed data. The results of this process split the Growth Areas apart by the watershed boundaries, creating a Growth Area for each watershed.

The next step involved taking the Zoning District GIS layer and 'Intersect' the Zoning Districts with the previously created Growth Areas per watershed. The results of this process were integrated into a GIS layer showing a unique feature for each individual Zoning District, split apart by Growth Area Boundaries. The next GIS step incorporated the Parcel Boundaries layer and resulted in a single dataset that split all the areas apart by Growth Area, watershed, zoning district, and parcel. However, each individual layer's attributes, the information associated with that layers data about the location, were retained and transferred to the next composite layer. In this way, the GIS data generated in this process represented each discrete unit along with all attribute information from the original datasets.

Following this concatenation of datasets, the results were manually reviewed to make sure that only those parcels or features that have the capacity to be developed further were included in the analysis. This included vacant lands, lands in agricultural use, and parcels that are of a larger size with only a portion currently developed. All features that appeared to be developed to capacity were removed from the dataset for further analysis. The remaining features were then used for the last analysis step.

The next step involved exporting the datasets attribute table into an Excel workbook. All the individual records were summarized using Excel's Pivot Table function. Summary tables were then created that aggregated the amount of land in each Growth Area, by watershed and by Zoning District. The total aggregated amount of developable land area for each distinct category were then summarized in these Pivot Tables.

4. LAND USE

The combined land area of each distinct category was used to provide the starting point for the actual capacity analysis. Each Zoning District includes a minimum lot size and the residential districts often include an anticipated development density, expressed in terms of dwelling units per acre. The summarized area values are input into a table that contains multiple formulas used to derive the number of dwelling units that could be created in each area.

Two methods are used for this analysis; the first uses the minimum lot size for rough calculations of the number of lots that could be created based on the summarized areas; the second uses the permitted residential density to determine the number of lots that could be created. However, before this step is performed, the total developable area is reduced by 30 percent to reflect site constraints that would prohibit disturbing sensitive areas within each feature.

The 30 percent value is based on previous Maryland Department of Planning capacity analysis models and validated by visual review of the areas within the study boundaries. After this reduction, the number of potential lots that could be created using the remaining land area and factoring in the minimum lot sizes for each zoning district was determined. This process was repeated for each zoning district and the results reflect the development standards of each district.

Because minimum lot size constraints only provide one data point to establish a build-out analysis, the development density controls established for residential parcels was used and integrated into the model. This results in two potential numbers for development capacity.

To calculate a total number of dwelling units, and to minimize the potential for variation between lot size and density and reality, the lot size projection was averaged with the density projection. Taking this average, another 30 percent reduction was applied to the number of possible dwelling units to reflect the impact of developer's findings that not all land within the total acreage of a parcel can be developed with housing units.

The lands required for roads, stormwater management, forest retention, and utility infrastructure are generally projected to be about 30 percent. This final value represents the number of potential dwelling units that can be created within our target study area. On the tables in Appendix X, the column labeled EDUs displays that final approximate number of new dwellings.

However, this approach does not quite work to estimate non-residential lands capacity. For other zoning districts that are not typically used for residential structures, non-residentially zoned lands use a slightly different approach to allow us to arrive at a comparable metric of the number of Equivalent Dwelling Units (EDUs).

EDUs are a method that can be used to convert non-residential areas to dwelling units. The conversion relies on data the planning team has gathered over the past decade or more and primarily stems from comparing residential and commercial water demand and comparing it to lot coverage restrictions in the Zoning Code and a wide range of commercial and industrial land uses. While this ratio has been generated from locations across Maryland and across multiple municipalities, it has been found to be relatively accurate for the purpose of developing buildout analyses. Our current average number of EDUs per acre of land cover is 19 units per acre of land cover.

4. LAND USE

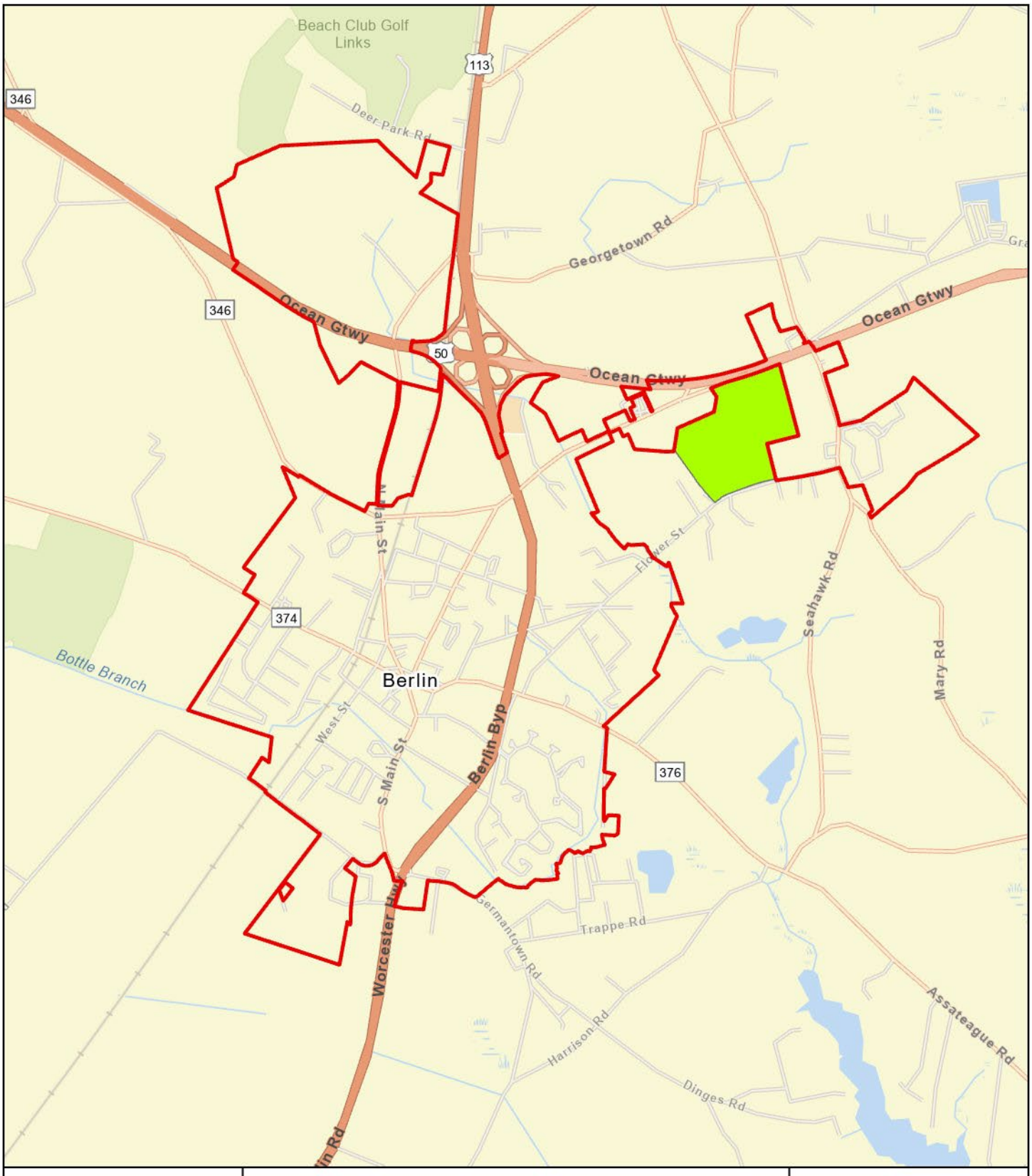
For non-residential land uses or zoning districts, we run through similar models as detailed above. However, instead of calculating units based on lot size or density, we take the aggregate land area and apply restrictions on the amount of land cover for each zoning district. This results in the total amount of land that can be covered by structures, parking areas, or impervious surfaces in general. This area is then converted to ERU's using the ratio described above and finally results in an estimated number of ERU's for the total area.

As a last step, the ERU's are added to the EDU's, each multiplied by Worcester County's current Census-based number of people per household to arrive at the number of people that can be supported by the existing developable capacity of lands zoned and approved for future growth. It is this population value, and the number of households, that are compared to future population growth and demand, as well as to the availability of water and sewer infrastructure, school capacity, road service, and much more.

Application to Worcester County

While the review of the Growth Areas and much of the discussion surrounding their development and medication was addressed by local municipalities, the capacity analysis output provided below summarizes the analysis across the entire County. The detailed tables calculating each Growth Area's acreage and results can be found in **Appendix A** along with maps displaying the location of each Growth Area and watershed boundary.

For all Growth Areas combined, across all watersheds, we estimate that 7,343 dwelling units can be built based on the assumptions detailed above and in **Appendix A.** Of these units, 5,286 are located within non-residentially zoned lands and the remaining 2,057 units are located within residentially zoned lands.



Legend

- Corp Limits
- Growth Areas Draft

Berlin
Proposed Growth Areas

Produced by Worcester County DRP
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

2026

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

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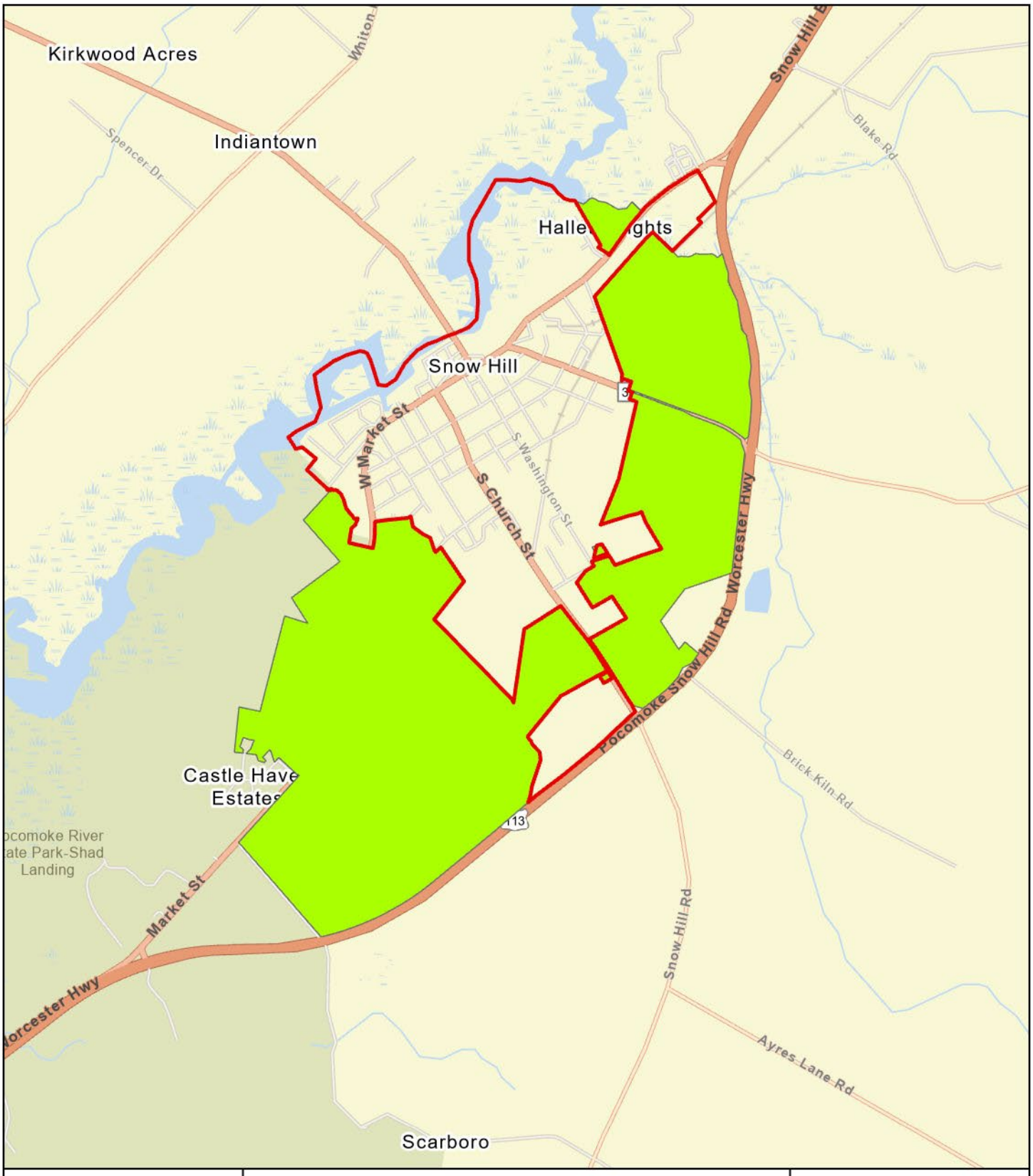

Legend

- Corp Limits
- Growth Areas Draft

Snow Hill
Proposed Growth Areas

Produced by Worcester County DRP
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

2026

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

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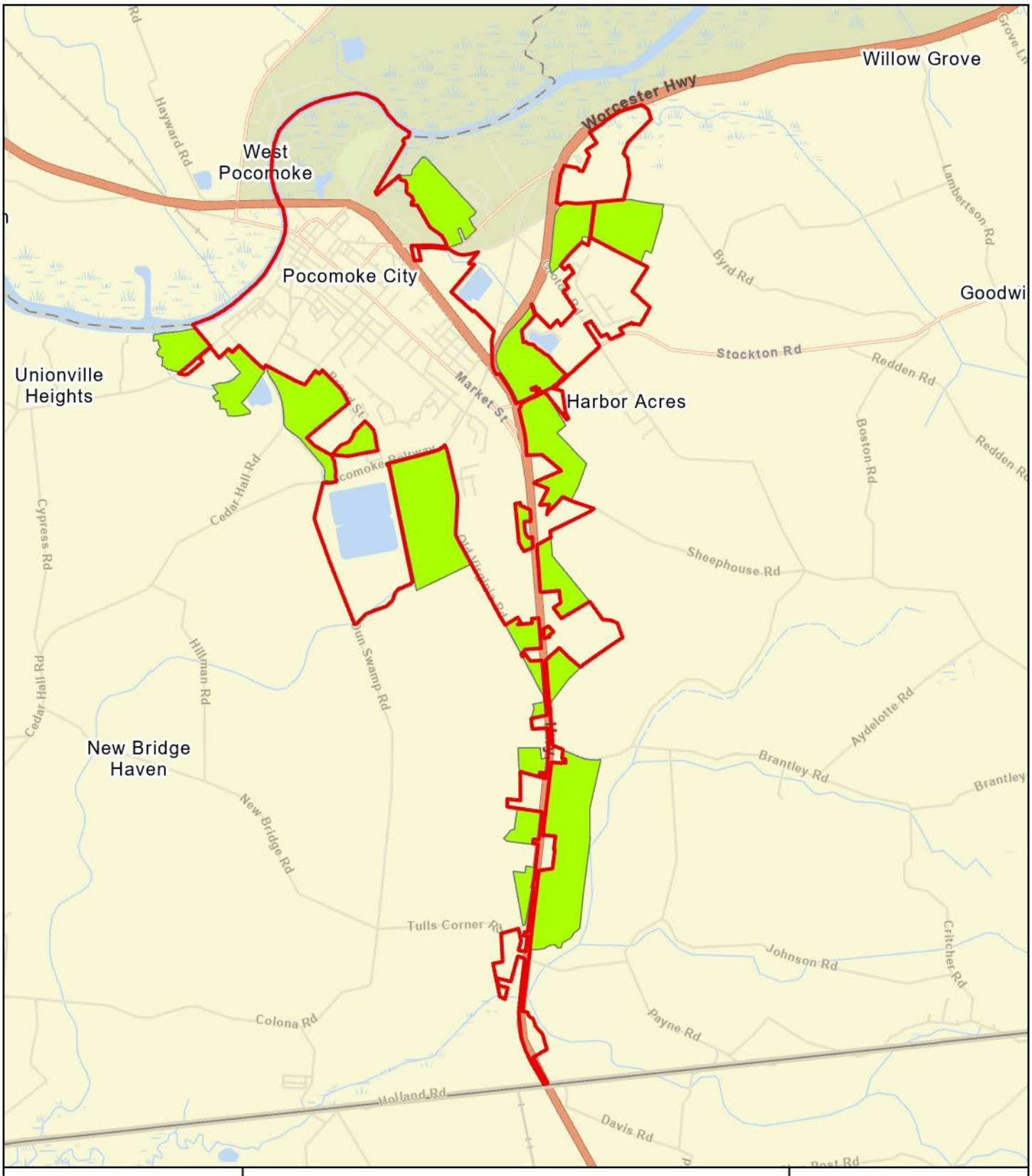

Legend

- Corp Limits
- Growth Areas Draft

Pocomoke City
Proposed Growth Areas

Produced by Worcester County DRP
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

2026

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

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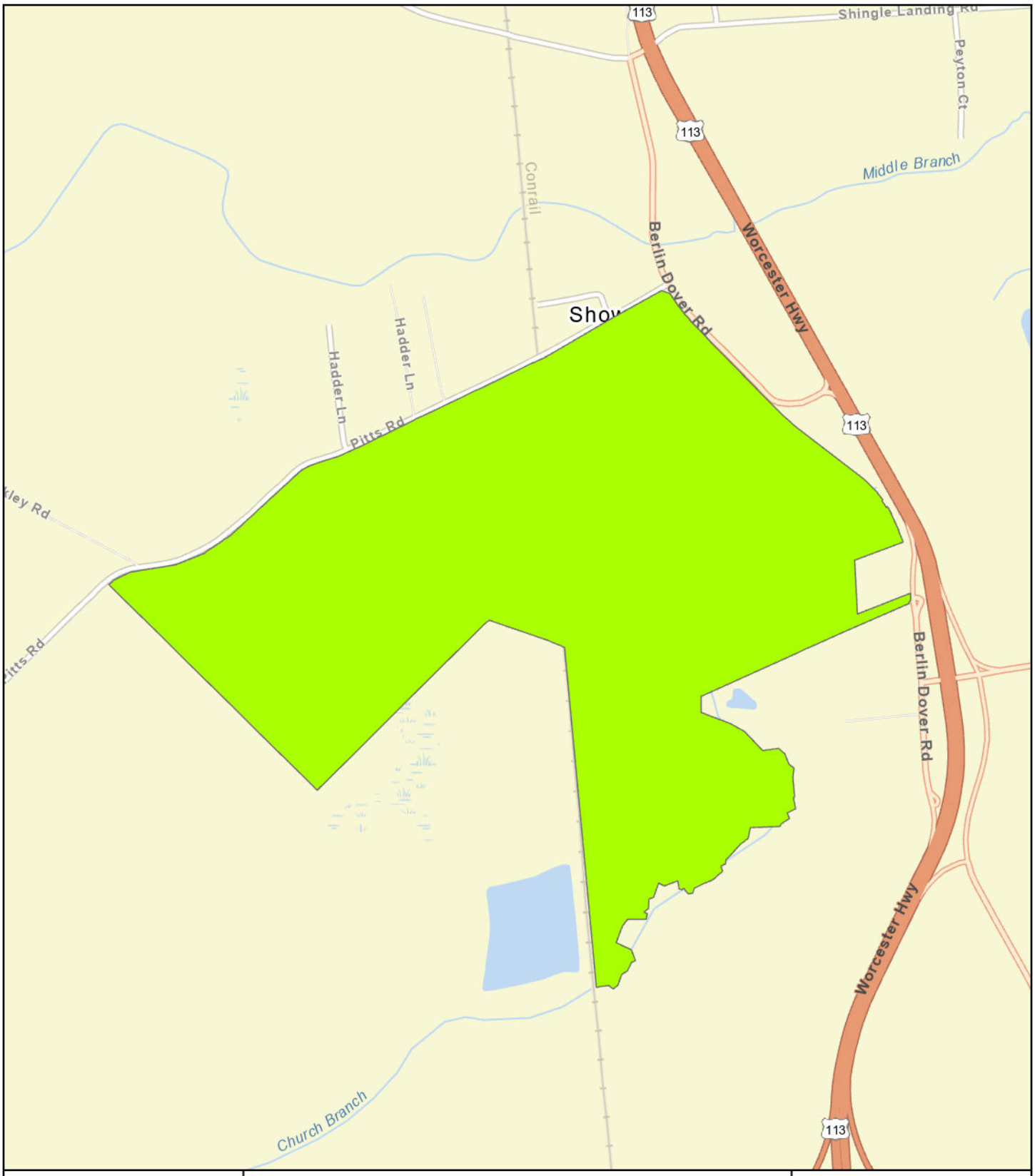

Legend

- Corp Limits
- Growth Areas Draft

Showell

Proposed Growth Areas

Produced by Worcester County DRP
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

2026

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

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5. HOUSING

Introduction

Housing is a basic human need that plays an important role in developing and maintaining sustainable communities. Thus, the availability of high-quality and affordable housing is important to Worcester County's long-term economic and community/neighborhood vitality.

Worcester County presents a diverse and evolving housing landscape shaped by its unique coastal geography, seasonal tourism economy, and demographic composition. The county encompasses both densely developed resort communities along the Atlantic coast and more rural inland areas characterized by agricultural land use and small towns. Housing demand is influenced by a combination of year-round residents, seasonal workers, retirees, and second-home owners, producing notable variations in affordability, availability, and housing type. As a result, the local housing market must balance the pressures of tourism-driven demand with the needs of permanent residents, particularly in terms of workforce and affordable housing options.

The northern/coastal part of Worcester County is marked by higher home values, a large share of second-homes or vacation properties, and strong seasonal rental pressures. By contrast, the southern/inland part has a more stable resident-housing orientation, somewhat better relative affordability, and fewer of the short-term/vacation dynamics. These differences shape everything from occupancy rates and housing type mix to affordability and local housing policy needs.

By encouraging residents to take pride of ownership in the wellbeing of their homes and neighborhood communities, Worcester County can create and reinforce a strong sense of place by providing for a variety of housing choices that support and enhance community character, identity, and civic pride.

Housing opportunities for owner- and renter-occupied units can be expanded through the implementation of effective planning policies that provide for a variety of housing opportunities for people of all ages, races, incomes, and abilities. Because housing is one of the most important expenditures for American households, the availability of affordable housing is a major factor in the sustainability of the local economy and the quality of life of residents.

For these reasons, planning for housing is one of the County's most important tasks. This importance is reinforced by recent State of Maryland requirements for a Housing Element that addresses affordable and workforce housing through House Bill (HB) 1045, adopted in 2019, and through HB 90 on Affirmatively Furthering Fair Housing, adopted in 2021 and which took effect as of January 1, 2023.

Much of the data included in this chapter was collected from the U.S. Census Bureau. Beginning with the 2010 Decennial Census, the Census Bureau stopped distributing the traditional "long form" survey that historically provided enhanced data. These included detailed housing statistics (unit makeup, year built, value), social statistics (educational attainment, veteran status, disability status), and economic data (e.g., employment, occupation, income, poverty status). These summary files were replaced by American Community Survey (ACS) data, which are available in five-year estimates. Data was also

5. HOUSING

included from the 2025 Worcester County Housing Study, which provides a comprehensive evaluation of current housing conditions, affordability, and future needs across the County.[2]

Through this chapter, Worcester County affirms its responsibilities to plan for affordable and workforce housing. The County also affirms its commitment to further fair housing through the goals, objectives, implementation strategies and actions of this Housing Element and Comprehensive Plan.

Goals and Objectives

All Worcester County residents should be able to live in comfortable, safe, and affordable housing. The following goals, objectives, and action items have been identified to help advance the housing policy for the County:

1. **Support a variety of safe, quality housing choices that are affordable and accessible to households of all ages and abilities, including multi-family and mixed-use housing.**
    - *Action Item 5.1.1:* Support various housing options for individuals and families of different socioeconomic levels, life stages, and physical needs.
    - *Action Item 5.1.2:* Support opportunities to increase the housing supply for the senior population, including developments that support aging in place.
2. **Support the ability of residents to remain in Worcester County by maintaining a range of housing options, including affordable and workforce housing.**
3. **Identify, evaluate, and analyze current and future housing needs and trends.**
    - *Action Item 5.3.1:* Create a housing inventory of existing conditions that includes, but is not limited to, housing condition, age, cost, size, type, tenure, and vacancy rate.
    - *Action Item 5.3.2:* Continue to track and monitor building permits issued for new residential projects and housing renovations.
    - *Action Item 5.3.3:* Continue coordinating with the Maryland Department of Planning on the development of MDP's ongoing Statewide Building Permit Reporting System so that local building permit data are compatible with the new MDP tool(s) and the output from the tool(s) can be used for local analysis.
    - *Action item 5.3.4*: Reduce the cost of constructing new homes by streamlining infrastructure delivery, modernizing compliance requirements, and improving regulatory efficiency, while introducing targeted incentives to accelerate housing development and increase overall supply.
4. **Identify incentives for the improvement or redevelopment of housing.**
    - *Action Item 5.4.1:* Utilize programs offered by the Maryland Department of Housing and Community Development to help homeowners maintain and improve their housing conditions.

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2 https://www.co.worcester.md.us/sites/default/files/departments/drp/Worcester%20County%20Housing%20Study%20Final%202025%2011%2013.pdf

- *Action Item 5.4.2:* Explore applying for State Community Legacy funds to fund a residential renovation and/or façade improvement program.
- *Action Item 5.4.3:* Identify grants and other funding opportunities to assist low to moderate income residents to support improvements in their homes.
- *Action Item 5.4.4:* Engage nonprofit organizations to assist in the rehabilitation of dilapidated or older housing stock.

5. **Identify substandard dwellings and develop a plan of action to improve them.**
    - *Action Item 5.5.1:* Prioritize targeted rehabilitation in southern communities, where aging, lower-quality housing is most concentrated as identified by the Worcester County Housing Study 2025.
    - *Action Item 5.5.2:* Review the Property Maintenance Standards for rental housing, also known as the Worcester County Rental Housing Code, and amend the minimum standards if warranted.
    - *Action Item 5.5.3:* Explore establishing a rental inspection component to the existing rental licensing program to ensure rental housing units meet Property Maintenance Standards.
    - *Action Item 5.5.4:* Consider adopting the International Property Maintenance Code to address blighted and vacant housing and property and building maintenance issues.
    - *Action Item 5.5.5:* Encourage efforts to maintain the quality and appearance of residential neighborhoods to improve the quality of life and retain property values.
6. **Identify opportunities to provide equity in housing and affordable housing opportunities in the County.**
    - *Action Item 5.6.1:* Work to ensure that a diversity of housing types, both rental and ownership opportunities, are available to serve all ages and income levels.
    - *Action Item 5.6.2:* Provide information on Maryland's Department of Housing and Community Development homebuyer programs to first-time home buyers to attract homeowners of all ages.
    - *Action Item 5.6.3:* Explore opportunities to preserve historical and architectural character and promote the rehabilitation and re-use of existing structures, where feasible.
    - *Action Item 5.6.4:* Support affordable housing opportunities that are accessible to the entire population, without compromising the quality of residential neighborhoods.
    - *Action Item 5.6.5:* Support housing projects that provide a mix of housing to serve a mix of income levels and integrating traditional market housing with affordable housing opportunities.
7. **Continue to identify opportunities to provide housing to support County workforce needs.**
    - *Action Item 5.7.1:* Work closely with existing employers and new commercial and industrial developments to identify the workforce needs and housing available for employees.
    - *Action Item 5.7.2:* Share information with local businesses about the types of housing available in the County.
8. **Take steps to affirmatively further fair housing throughout the County.**

- *Action Item 5.8.1:* Coordinate with the Maryland Department of Planning and the Maryland Department of Housing and Community Development to complete the required Fair Housing Assessment upon the issuance of guidance from State agencies.
- *Action Item 5.8.2:* Implement the action items from this assessment upon its completion.

9. **Collaborate with local agencies to address homelessness and under-housing in the County.**

Guiding Principles and Legislation

The housing vision found in Maryland's Land Use Article §3-114 recommends providing a range of housing densities, types, and sizes for citizens of all ages and incomes. This vision sets the baseline for the County to provide sufficient, affordable workforce housing along with a full range of housing options that meet the needs of all citizens. This vision is supplemented by requirements identified in HB 1045, which emphasizes adequately providing local, affordable workforce housing. These guidelines are the basis for the housing information and analysis presented in this chapter.

Fair Housing Act

The *Fair Housing Act* is a federal law that protects people from discrimination when they are renting, buying, securing financing for housing, or engaging in other housing related activities. The prohibitions specifically cover discrimination because of race, color, national origin, religion, sex, disability, and the presence of children. The Act covers most housing. In very rare circumstances, the Act exempts owner-occupied buildings with no more than four units, single-family houses sold or rented by the owner without the use of an agent, and housing operated by religious organizations and private clubs that limit occupancy to members.

Land Use Article

The *Maryland Land Use Article §3-114* describes the requirements for a comprehensive plan's housing element. It requires that, among other components, the element addresses the need for affordable housing, including workforce housing and low-income housing. In this context, low-income housing is housing that is affordable for a household with an annual income that is below 60 percent of Area Median Income (AMI). Workforce housing includes rental housing that is affordable for a household with an annual income that is 50-100 percent of AMI, homeownership housing that is affordable to a household with annual income that is 60-120 percent of AMI, or in recognized Maryland Mortgage Program target areas, affordable to a household with an annual income that is 60-150 percent of AMI.

Recent Legislative Changes

Recent legislative changes have addressed housing in Maryland, especially House Bill 1045, enacted in 2019 to require Housing Elements in comprehensive plans, and House Bill 90, enacted in 2021, regarding Fair Housing.

HB 90 required that the Maryland Department of Housing and Community Development (DHCD) submit a report on fair housing to the Governor and General Assembly by December 1, 2023, and every five years thereafter. The house bill mandates that DHCD complete this report in consultation with local

5. HOUSING

governments and housing authorities in Maryland and develop a template that these partners can use to gather and present data on fair housing within their own jurisdictions.

HB 90 defines affirmatively furthering fair housing as, "taking meaningful actions to:

- Overcome patterns of segregation;
- Foster inclusive communities free from barriers that restrict access to housing and opportunity based on protected characteristics;
- Address significant disparities in housing needs and access to opportunity;
- Replace segregated living patterns with truly integrated and balanced living patterns; and
- Foster and maintain compliance with civil rights and fair housing laws."

This Housing Element has been developed considering these legislative changes and requirements.

Housing Inventory

This section presents data analysis related to housing in Worcester County. The primarily source of information was the US Census Bureau and some information has also been included from the Worcester County Housing Study 2025.

Housing Units

According to the 2020 Census, there are 56,263 housing units in the County. Compared to the 2010 Census, which listed 55,749 housing units, the County added only 514 units, or about one percent. This was below Maryland's growth rate of 6 percent. Some of the common reasons for the lack of new construction of new houses are reported as over-regulation and infrastructure costs. According to the 2025 Worcester County Housing Study, the County faces an estimated shortage of 1,518 owner units and 558 rental units and this need is likely to increase in accordance with anticipated population growth. **Table 5-1, Housing Units** shows the number of housing units and percent change from 2000 through 2023. It should be noted that the County's housing inventory did increase by 18 percent in the 2010s, outpacing the State as a whole (at 11 percent).

Table 5-1: Housing Units

Year	Worcester County		Maryland	
	Total Housing Units	% change	Total Housing Units	% change
2000	47,360		2,145,283	
2010	55,749	18%	2,378,814	11%
2020	56,263	1%	2,530,844	6%
2023	56,585	1%	2,588,337	2%

Source: U.S. Decennial Census (2000-2020) and 2023 ACS 5-year estimates

Housing Types

Worcester County offers a variety of housing unit types, including mobile homes, detached single-family dwellings, attached single-family dwellings, apartments, duplexes, townhouses, and multi-family

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dwellings. Most of the housing units have their own unique architectural style and range in age from newly constructed to more than 100 years old.

Table 5-2, Housing Types provides the types of occupied housing within the County in the years 2000, 2010, and 2020. The breakdown of units shown in this table may vary based on the respondent's knowledge of housing types. Detached single-family housing units continue to be the predominant housing type within Worcester County, at 71.3 percent of the County's total occupied housing units.

Table 5-2: Housing Types

Housing Type	2000		2010		2020		Change	
	#	%	#	%	#	%	2000-2010	2010-2020
Single Family, detached	14,160	71.9	15,896	72.2	16,146	71.3	12%	2%
Single Family, attached	681	3.5	1,497	6.8	1,450	6.4	120%	-3%
2 units	477	2.4	264	1.2	405	1.8	-45%	53%
3 or 4 units	543	2.8	440	2	691	3	-19%	57%
5 to 9 units	835	4.2	903	4.1	929	4.1	8%	3%
10 or more units	1,536	7.8	1,717	7.8	1,634	7.2	12%	-5%
Mobile home or other type of housing	1,462	7.4	1,299	5.9	1,406	6.2	-11%	8%
Total Occupied housing units	19,694		22,016		22,661			

Source: 2020 & 2010 ACS 5-year estimates, 2000 Decennial Census

Occupancy and Tenure

One of the fundamental choices people make about their living situation is whether to rent or buy a home. Homeownership is valued as a long-term investment strategy, while renting affords more flexibility and can appeal to those who do not want to be tied to a specific location. Sometimes, the desire to own a home is constrained by personal finances or life situations, and so renting may be the only choice available at that time.

National trends have demonstrated changes in home buying patterns, as young adults wait longer to purchase their first homes, sometimes as a function of affordability and price. There is also a national trend toward increased mobility and a desire for flexibility in housing options that favors renting among certain populations. A recent period of very low interest rates during the COVID-19 pandemic enabled many homeowners to refinance their homes. A subsequent rise in interest rates has resulted in many of these homeowners remaining in their residences, which in turn has diminished the housing supply in some areas, and especially for younger families looking for larger homes to start or expand their families.

Figure 5-1, Occupancy Rates in Eastern Shore counties and **Table 5-3, Comparison of Occupancy Rates in Eastern Shore Counties** compares the proportion of owner-occupied units, renter-occupied units, and vacant units in the County with those of the State, and other counties on the Eastern Shore. Worcester County exhibits a comparatively high rate of vacant housing largely due to its strong reliance on seasonal

and tourism-based economies. The County's coastal communities, particularly Ocean City and Ocean Pines, serve as major vacation and second-home destinations, leading to a substantial share of dwellings that remain unoccupied for much of the year. Many of these properties are owned by non-residents who use them only seasonally or as investment rentals, contributing to elevated vacancy rates in off-peak months. Additionally, the County's housing stock has expanded in response to tourism and retirement migration, outpacing year-round population growth and further amplifying seasonal vacancy. Unlike neighboring inland counties where the housing market is driven primarily by permanent residents and commuting populations, Worcester's market is more cyclical, reflecting the rhythms of tourism and recreation rather than stable residential occupancy patterns.

Table 5-3: Comparison of Occupancy Rates in Eastern Shore Counties

County Name		Occupied housing units	*Owner-occupied*	*Renter-occupied*	Vacant housing units	Total housing units
Worcester County	#	22,871	*17,241*	*5,630*	33,392	56,263
	%	41	*75*	*25*	59	
Cecil County	#	39,398	*28,076*	*11,322*	4,543	43,941
	%	90	*71*	*29*	10	
Caroline County	#	12,327	*8,933*	*3,394*	1,107	13,434
	%	92	*73*	*28*	8	
Dorchester County	#	13,721	*9,033*	*4,688*	2,662	16,383
	%	84	*66*	*34*	16	
Kent County	#	8,075	*5,694*	*2,381*	2,211	10,286
	%	79	*71*	*30*	22	
Queen Anne's County	#	19,240	*15,885*	*3,355*	2,034	21,274
	%	90	*83*	*17*	10	
Somerset County	#	8,334	*5,412*	*2,922*	2,561	10,895
	%	77	*65*	*35*	24	
Talbot County	#	16,296	*11,598*	*4,698*	3,242	19,538
	%	83	*71*	*29*	17	
Wicomico County	#	40,018	*23,705*	*16,313*	3,664	43,682
	%	92	*59*	*41*	8	
Maryland	#	2,321,208	*1,509,586*	*811,622*	209,636	2,530,844
	%	92	65	35	8	

Source: 2020 Decennial Census

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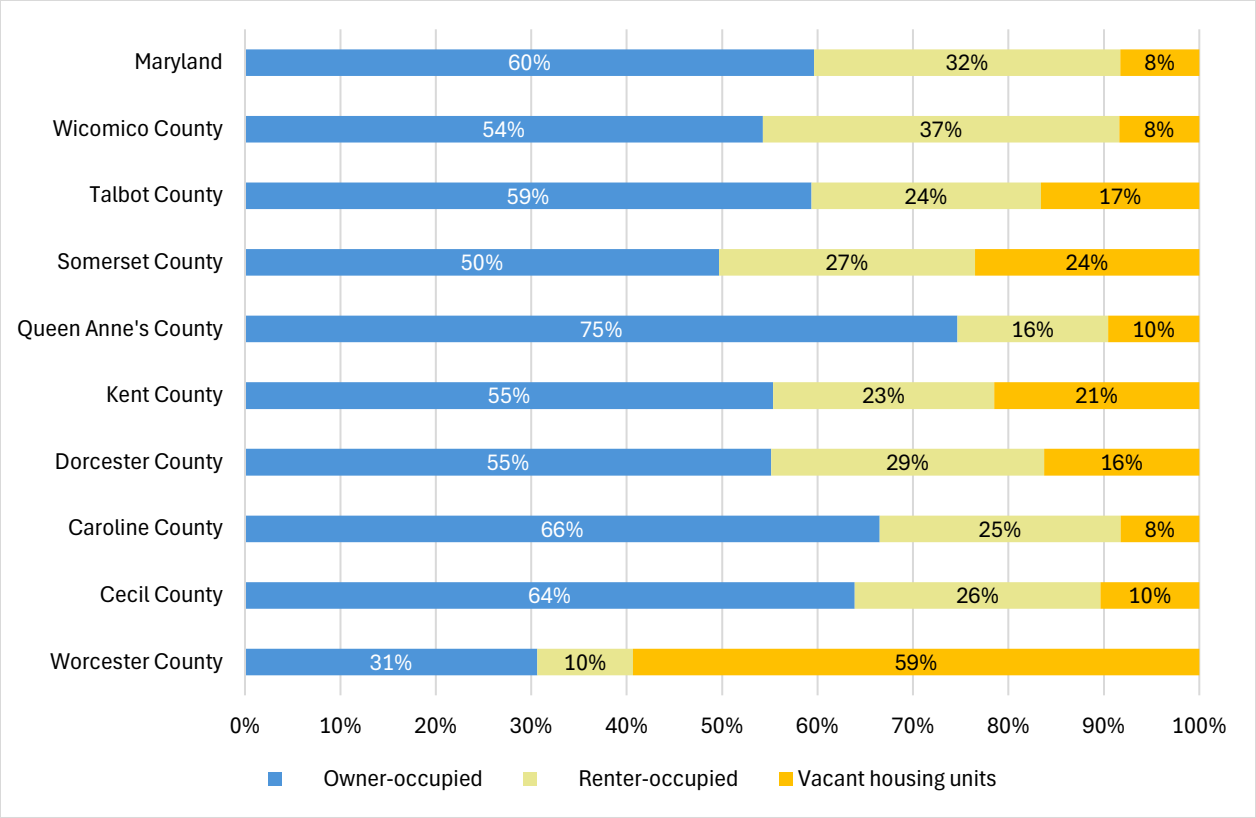
Figure 5-1: Comparison of Occupancy Rates in Eastern Shore counties



Source: 2020 Decennial Census

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Housing Features

The most common housing unit size in the County (**See Table 5-4, Number of Rooms**) is four-room housing units (11,536 units or 20.5%), whereas the most common size in Maryland is nine or more rooms (537,777 units or 21.2 percent, respectively). While these figures do not directly address square footage, it can be inferred that housing units in Worcester County are, on average, smaller than those found within the State as a whole.

Table 5-4: Number of Rooms (2022)

Rooms	Worcester County		Maryland	
	#	%	#	%
1 room	1,287	2.3	45,860	1.8
2 rooms	3,461	6.1	59,065	2.3
3 rooms	9,365	16.6	194,941	7.7
4 rooms	11,536	20.5	320,051	12.6
5 rooms	9,525	16.9	342,112	13.5
6 rooms	8,299	14.7	413,488	16.3
7 rooms	5,116	9.1	328,089	13
8 rooms	3,850	6.8	289,692	11.4
9 rooms or more	3,960	7	537,777	21.2
Median rooms	4.8		6.2	
Total housing units	56,399		2,531,075	

Source: 2022 ACS 5-year estimates

Table 5-5, Number of Bedrooms shows the number of bedroom housing units in Worcester County in 2020. The County has mostly two- and three-bedroom housing units (17,357 units or 30.8 percent and 23,397 units or 41.5 percent, respectively), while one-bedroom and studio (or no bedroom) units are limited (5,642 units or 10.0 percent and 1,287 units or 2.3 percent, respectively).

People wishing to downsize or those just starting out in the housing market have some opportunities, but larger homes (or those with a greater number of bedrooms) predominate. This is one factor that may affect the long-term ability of individuals and families to age in place, among other housing considerations, and points to the need for the County to encourage a variety of housing choices as the County continues to develop and the housing stock expands.

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Table 5-5: Number of Bedrooms

Bedrooms	Worcester County		Maryland	
	#	%	#	%
No bedroom	1,287	2.3	50,741	2
1 bedroom	5,642	10	258,561	10.2
2 bedrooms	17,357	30.8	538,014	21.3
3 bedrooms	23,397	41.5	918,751	36.3
4 bedrooms	7,318	13	560,103	22.1
5 or more bedrooms	1,398	2.5	204,905	8.1
Total housing units	56,399		2,531,075	

Source: 2022 ACS 5-year estimates

Households

According to the U.S. Census Bureau, "A family is a group of two people or more (one of whom is the householder) related by birth, marriage, or adoption and residing together; all such people (including related subfamily members) are considered as members of one family." A non-family household, by contrast, is either a person living alone or with one or more other householders unrelated to any of the other persons in the home.

Table 5-6, Average Household and Family Size, shows that households in Worcester County are smaller, generally, than those of Maryland as a whole. This may reflect the number of retirees and the fewer number of family-occupied homes in the County, and the older average age of the County's population.

Table 5-6: Average Household and Family Size

Jurisdiction	Worcester County	Maryland
Average household size of owner-occupied unit	2.24	2.72
Average household size of renter-occupied unit	2.17	2.36
Average household size	2.22	2.6
Average family size	2.76	3.21

Source: 2022 ACS 5-year estimates

The number of single person households has increased over time with the highest proportion of households having a householder over the age of 65 years **(See Figure 5-2, Single Person Households**). The total number of nonfamily households has remained higher than total households with householder living alone. The data suggests that alternative housing types are likely to be in demand as people age and household sizes decrease (**See Figure 5-3, Household Size**). There are also potential public health implications of older residents living alone. There are specific housing factors that the County may need to consider given the high number of older residents:

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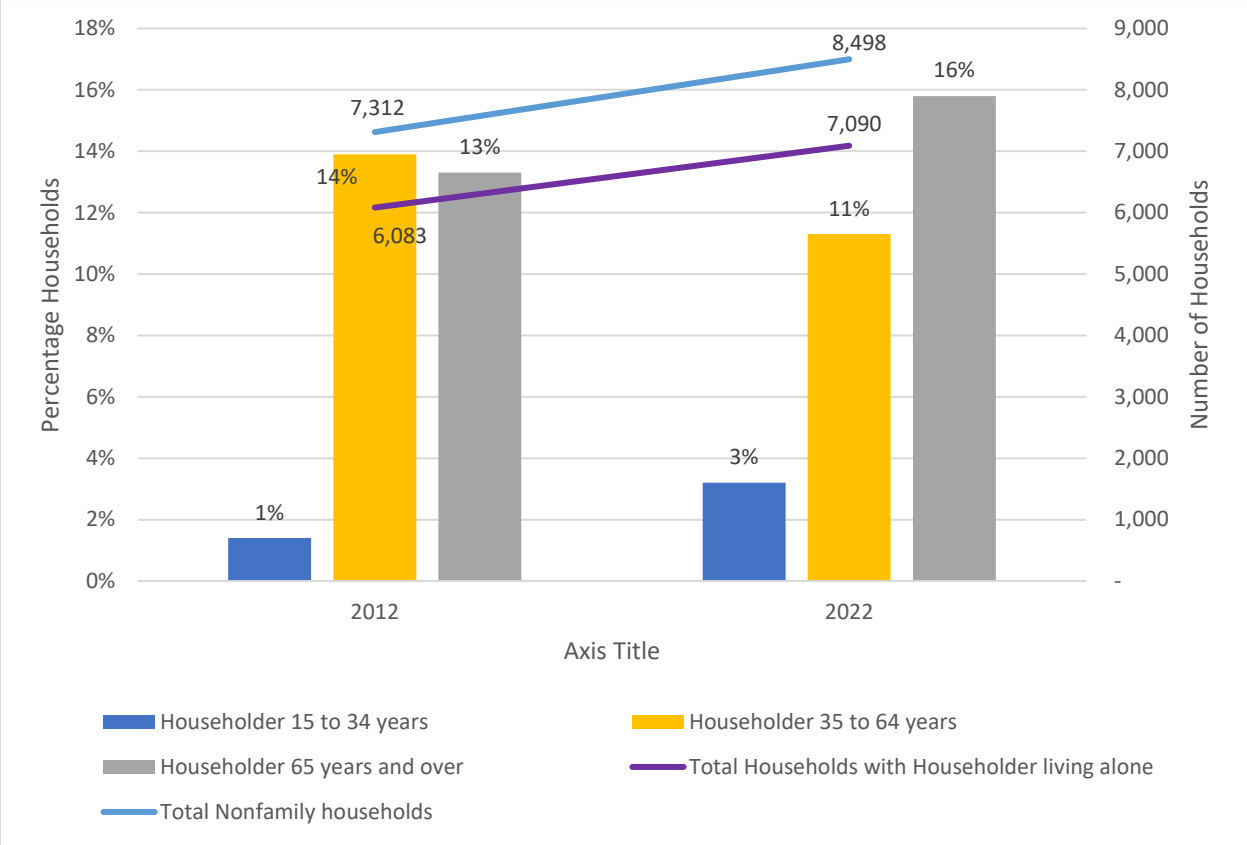
- The members of this age cohort are more likely to be homeowners, but they may struggle with upkeep of their homes and may be looking to downsize in the future.
- Senior housing options should include smaller independent living units, 'granny pods' or mother-in-law suites, residential care homes, respite services, assisted living and memory care facilities, and retirement communities.
- Due to a strong desire among this group to age-in-place as people become physically limited, they may need housing modifications (e.g., bathroom grab-bars, roll-in showers, ramps) to support the ability to live in existing housing units.

Figure 5-2: Single Person Households



Source: ACS 5-year estimates

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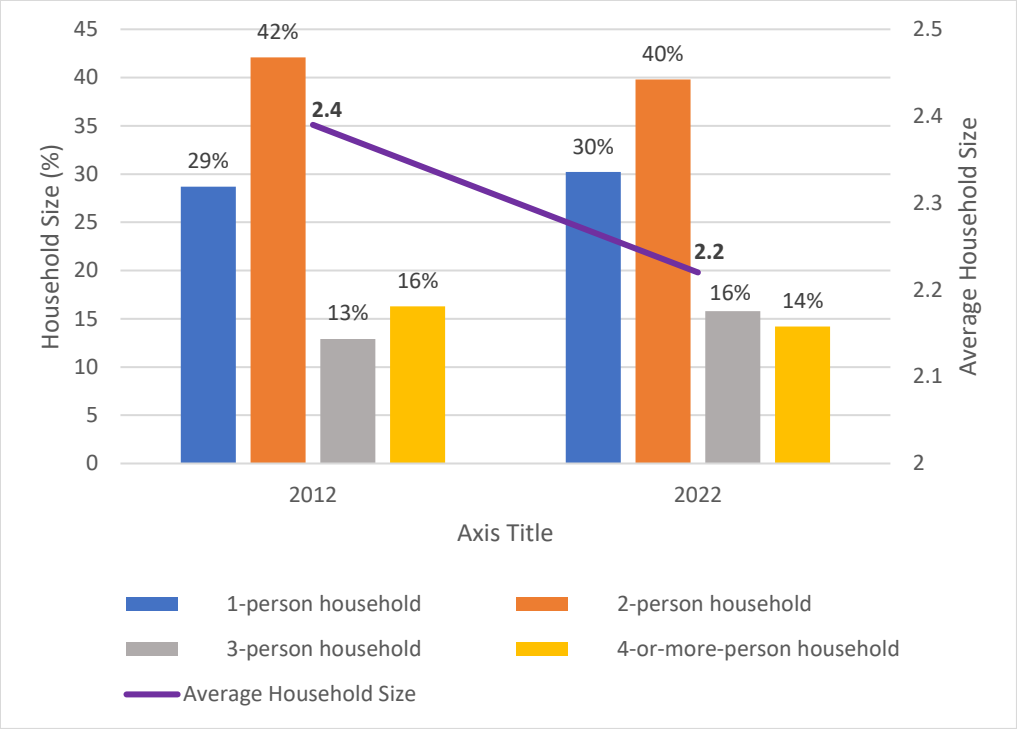
Figure 5-3: Household Size



Source: ACS 5-year estimates

Housing Age and Conditions

The median year housing structures were built can be an indicator of the condition and livability of the housing stock. Older buildings typically require a greater degree of upkeep and maintenance. While numerous factors influence the cost to maintain homes, older structures typically cost more to rehabilitate than new construction and have a greater chance of deteriorating and being neglected or even abandoned.

Figure 5-4, Housing Age shows the age of housing in Worcester County. It shows that the County experienced a large housing boom between 1980 and 1999, with slightly smaller, but still significant, numbers of houses built between 1960 and 1979, and between 2000 and 2009, but much less housing unit growth since 2009.

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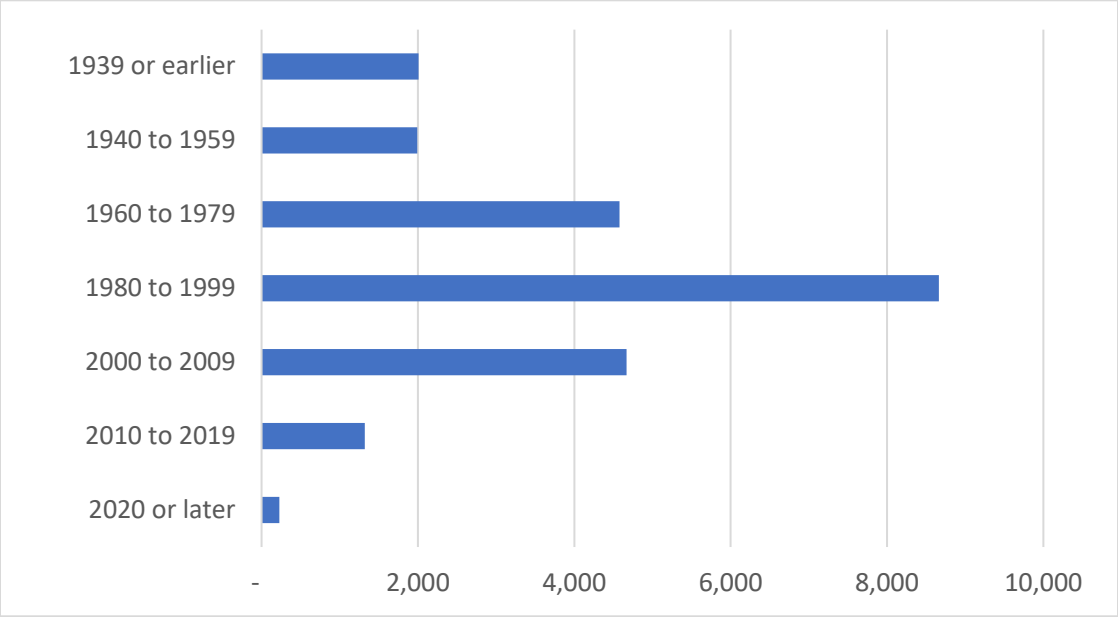
Figure 5-4: Housing Age



Source: 2022 ACS 5-year Estimates

Table 5-7, Housing Age, compares these numbers to the State as a whole. As in Worcester County, the largest numbers of units, within these timeframes, were also built in Maryland between 1980 and 1999, representing two decades of robust growth in the State.

Table 5-7: Housing Age

Year Structure Built	Worcester County	Maryland
2020 or later	229	9,304
2010 to 2019	1,320	172,622
2000 to 2009	4,667	266,892
1980 to 1999	8,664	680,507
1960 to 1979	4,578	581,466
1940 to 1959	1,990	375,039
1939 or earlier	2,009	232,294

Source: 2022 ACS 5-year Estimates

Value and Affordability

Housing costs often account for a significant portion of a household budget and can affect the lives of residents in a variety of ways. Homeowners who want to build equity would like to see the value of their investment increase to maximize their financial outcomes. Renters, on the other hand, may see their expenses rise over time as rents increase. Whether homeowner or renter, households that struggle to

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afford housing costs find themselves in unstable positions that can affect their quality of life. Municipalities and counties also have a stake in the cost and value of housing within their borders as it can affect the community's overall economic health.

Over the years, the County has encountered an increasing gap between household incomes and housing costs/values. This is a regional and national trend that most jurisdictions are experiencing. Between 2000 and 2010, the median house value in Worcester County increased sharply from $121,500 to $289,100 but then decreased slightly in 2020 to $267,400. A similar pattern can be seen for the State with overall higher values than the County **(See Figure 5-5, Median Housing Values)**.

In contrast, the median rental values have seen a steady increase from 2000 to 2020 in both the County and the State, with the values in the state being higher **(See Figure 5-6, Median Rental Values)**. The rise in these housing values overtime has created affordability issues since the incomes have not increased proportionally. The median household income increased from $40,650 in 2000 to $65,396 in 2020 which is an increase of 61 percent in 20 years, however, the median housing values have increase by 120 percent ($121,500 to $267,400) during the same period (**See Figure 5-7, Median Household Income and Home Value**). The County's median household income is $24,667 less than the median household income for the State ($87,063). The major push that leads to increase in prices is the lack of affordable housing options since realtors and developers are more focused on seasonal homes instead of creating diverse housing availability for people with different income levels.

Data from the 2025 Housing Study corroborates these findings. The report states that rents across Worcester County have climbed in real terms over the past year. The Zillow Observed Rent Index (ZORI), a measure that tracks trends in listed rents for available rental units, was $1,966 in May 2024 and rose steadily to $2,273 by April 2025, an inflation-adjusted increase of more than 15 percent. Although the index declined slightly to $2,228 in May 2025, rents remain significantly higher than one year earlier. Consistent with the HUD guidelines, a household would need to earn at least $99,960 annually to keep combined rent and utilities below 30 percent of income – given the average monthly utility costs of $271.[3]

However, the most recent data indicate that the median renter household in Worcester County earns about $46,000, which is why rents are increasingly unaffordable. The report also indicates that affordability is an issue for mortgaged homeowners, where 31 percent of mortgaged homeowners spent 30% or more of their household income on total ownership costs, including mortgage payments, property taxes, insurance, and HOA fees. Cost burdens were much less for homeowners without a mortgage.

[3] Utility costs were estimated using Five-Year 2023 Public Use Microdata Sample (PUMS) data from the U.S. Census Bureau. Matrix filtered the data to include only renter households in the region and calculated average monthly utility expenditures, including electricity, gas, water, and other fuels. These estimates were then adjusted to 2025 dollars using the Consumer Price Index (CPI) for Fuels and Utilities for U.S. Cities, published by the U.S. Bureau of Labor Statistics.

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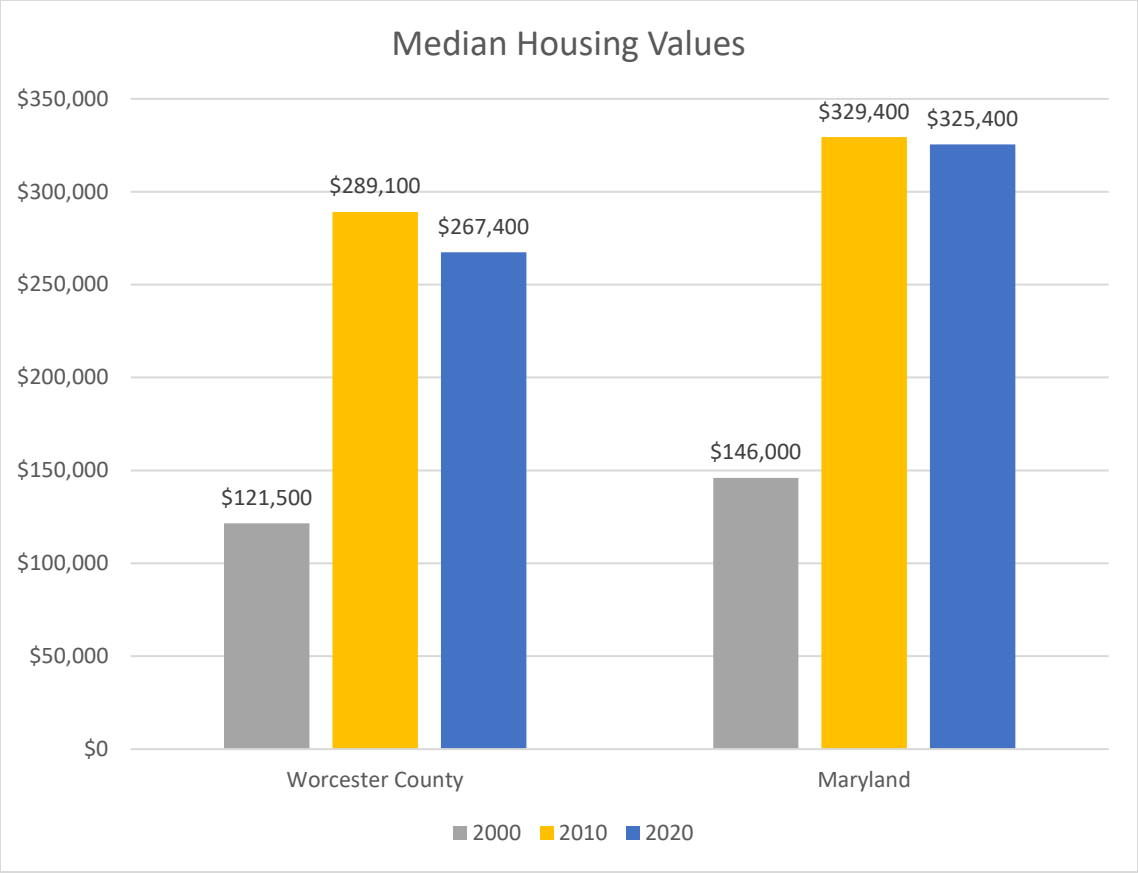
Figure 5-5: Median Housing Values



Source: 2020 and 2010 ACS 5-year estimates, 2000 Decennial Census

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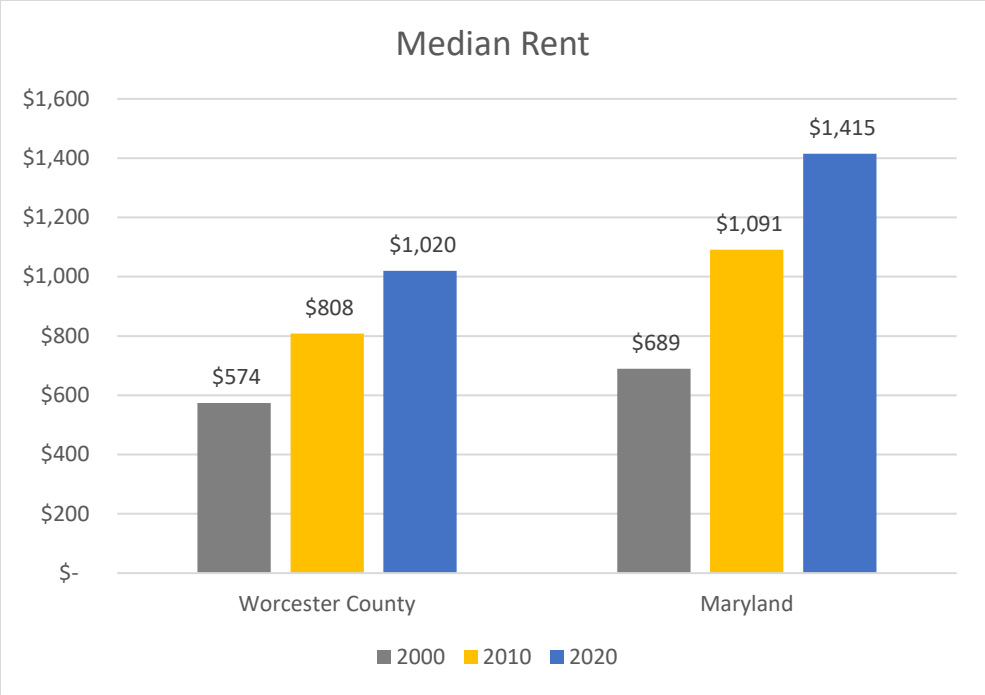
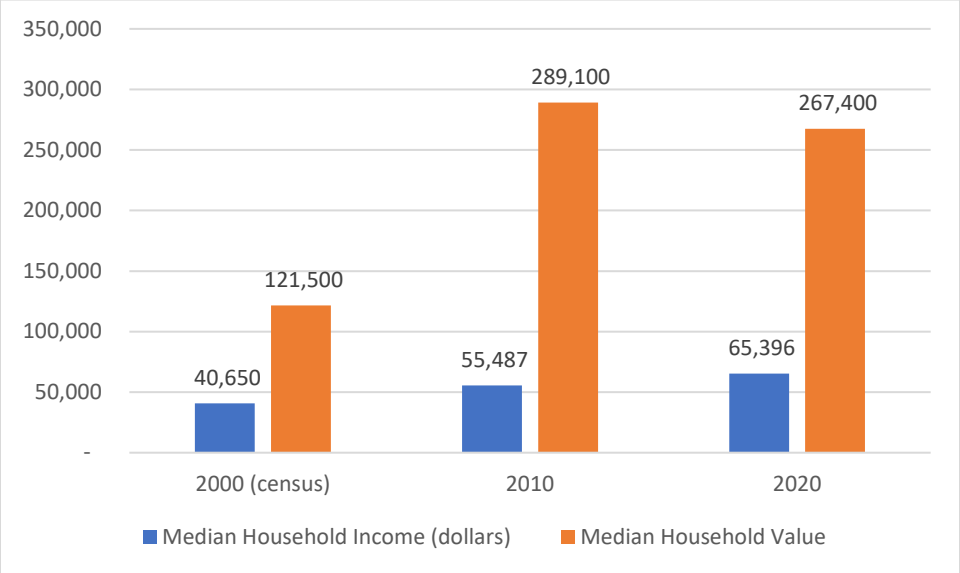
Figure 5-6: Median Rental Values



Source: 2020 and 2010 ACS 5-year estimates, 2000 Decennial Census

Figure 5-7: Median Household Income and Home Value



Source: ACS 5-year estimates

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Affordable and Workforce Housing

The U.S. Department of Housing and Urban Development (HUD) defines housing as affordable if the cost of occupying the house does not consume more than 30 percent of the household's income. HUD defines housing costs as contract rent plus utilities for renter, and monthly payment (mortgage, taxes, and insurance) for owners.

According to HUD, affordable housing is determined based on the Area Median Income (AMI). For homeowners, affordable housing costs do not exceed 30 percent of the yearly income for those who earn 80 percent or less of the AMI. For renters, affordable housing costs do not exceed 30 percent of the yearly income for those who earn 60 percent or less of the AMI. Workforce housing is generally thought of as housing affordable to essential public- and service-sector employees such as teachers, fire fighters, and nurses. It is defined here as housing affordable to households with incomes up to 120 percent of AMI.

Income limits are calculated for metropolitan areas and non-metropolitan counties in the country using the Fair Market Rent (FMR) area definitions used in the Section 8 program, based on HUD estimates of median family income, with adjustments for family size. **Table 5-8: HUD FY24 Income Limits Summary** shows the income limits for different family sizes.

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Table 5-8: HUD FY24 Income Limits Summary

FY 2024 Income Limit Area	Median Family Income	FY 2024 Income Limit Category	Persons in Family							
			1	2	3	4	5	6	7	8
Worcester County, MD HUD Metro FMR Area	$103,400	Very Low (50%) Income Limits ($)	36,200	41,400	46,550	51,700	55,850	60,000	64,150	68,250
		Extremely Low-Income Limits ($) *	21,700	24,800	27,900	31,200	36,580	41,960	47,340	52,720
		Low (80%) Income Limits ($)	57,900	66,200	74,450	82,700	89,350	95,950	102,550	109,200

Source: HUD FY 2024 Section 8 Income Limits

NOTE: Worcester County is part of the Worcester County, MD HUD Metro FMR Area, so all information presented here applies to all of the Worcester County, MD HUD Metro FMR Area. HUD generally uses the Office of Management and Budget (OMB) area definitions in the calculation of income limit program parameters. However, to ensure that program parameters do not vary significantly due to area definition changes, HUD has used custom geographic definitions for the Worcester County, MD HUD Metro FMR Area.

The Worcester County, MD HUD Metro FMR Area contains the following areas: Worcester County, MD;
** The FY 2014 Consolidated Appropriations Act changed the definition of extremely low-income to be the greater of 30/50ths (60 percent) of the Section 8 very low-income limit or the poverty guideline as established by the Department of Health and Human Services (HHS), provided that this amount is not greater than the Section 8 50% very low-income limit. Consequently, the extremely low income limits may equal the very low (50%) income limits. Income Limit areas are based on FY 2024 Fair Market Rent (FMR) areas. For information on FMRs, please see our associated FY 2024 Fair Market Rent documentation system.*

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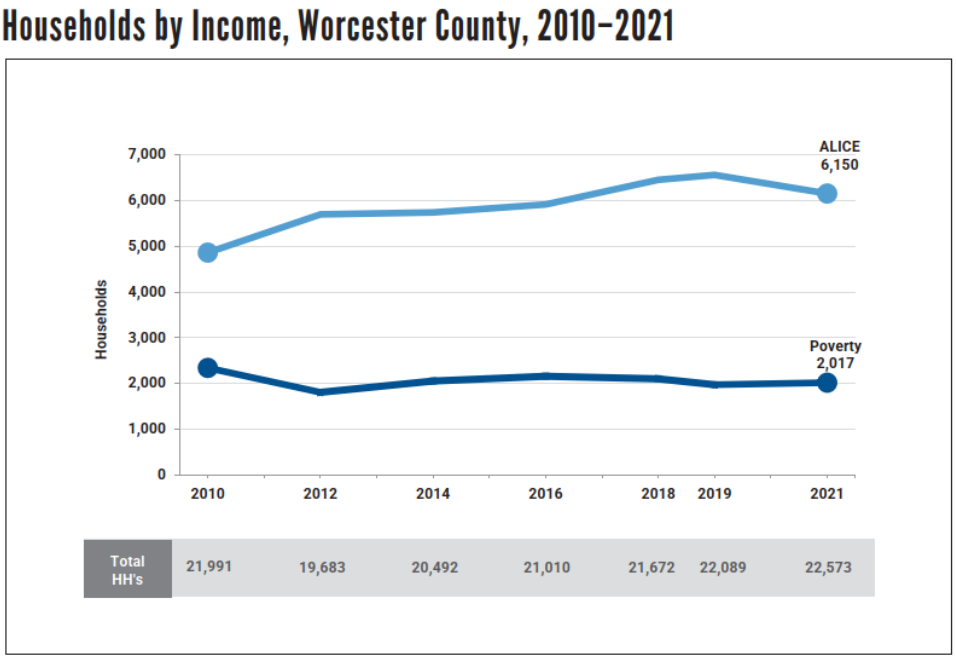
ALICE 2023 Report shows the affordability statistics based on the ALICE threshold. ALICE is an acronym for Asset Limited, Income Constrained, Employed. These are households that earn more than the Federal Poverty Level, but less than the basic cost of living for the County (the ALICE Threshold). Households below the ALICE Threshold, ALICE households plus those in poverty, can't afford the essentials.

Figure 5-8: Households by Income below is taken from the ALICE Report 2023 to show the affordability in Worcester. As of 2021, more than 6,000 households are below the ALICE threshold in Worcester.

Figure 5-8: Households by Income



Note: See an interactive version of this data at UnitedForALICE.org/Maryland

Sources: ALICE Threshold, 2010–2021; American Community Survey, 2010–2021

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Workforce Housing

Workforce housing is housing affordable to households earning between 60-120 percent of AMI. Workforce housing targets middle-income workers, which includes professions such as police officers, firefighters, teachers, healthcare workers, and retail workers. Those who need workforce housing may not always qualify for subsidized housing programs such as the Low-Income Housing Tax Credit (LIHTC) program or the Housing Choice Vouchers program (formerly known as Section 8).

From the 1940s to the 1990s, housing was generally affordable to many middle-income workers due to wages remaining relatively consistent with costs of living. During the late 1990s and early 2000s, incomes began to lag behind rising costs of living, and housing supply for middle-income workers grew stagnant, causing an acute need for workforce housing. Because affordable housing programs focused on serving households making 60 percent or lower of AMI, middle-income workers were left with fewer housing options.

Federal programs through HUD or state governments are predominantly focused on supporting people that make less than 60 percent of AMI. The workforce housing target of 60-120 percent of AMI is an income stratum that is largely unserved and unaddressed by both federal and state programs aside from FHA loans. Affordable housing for the working and middle classes is largely left to individual municipalities and counties to deal with. Families that fall into this income category have found it increasingly difficult to purchase a home that is located in the area where they work, and that provides for the needs of their household. In response, many families have found housing that is significantly further away from their place of employment. This results in increased commute times, greater reliance on transportation infrastructure, less free time, and ultimately lower quality of life.

The success of Ocean City as a tourism destination drives strong demand for seasonal workforce housing in Ocean City and the surrounding unincorporated areas. The influx of tourists and temporary residents during the summer months drives significant competition for short-term accommodations, prompting increased development of vacation rentals and second homes. This concentrated demand has placed upward pressure on housing prices and availability not only within Ocean City but also in surrounding unincorporated areas such as West Ocean City, Berlin, and Ocean Pines. As more of the local housing stock is directed toward seasonal or investment use, the supply of affordable, year-round residences has become increasingly constrained. This dynamic contributes to a growing shortage of workforce housing, particularly for employees in the hospitality, service, and retail sectors who sustain the local tourism economy. Consequently, many workers face long commutes or must seek housing outside the County, posing challenges for both economic stability and community sustainability.

Attainable Housing

According to a report by the Urban Land Institute on Attainable Housing,[4] an additional area for discussion related to the country's housing affordability challenge is the near disappearance, in most areas, of modestly priced, new for-sale homes, which could be referred to as attainable housing. The

[4] Attainable Housing: Challenges, Perceptions, and Solutions (https://www.rclco.com/wp-content/uploads/2019/04/Attainable-Housing3-Challenges-Perceptions-and-Solutions-ULI-Terwilliger.pdf)

report defines attainable housing as nonsubsidized, for-sale housing that is affordable to households with incomes between 80-120 percent of the area median income.

Housing prices have accelerated rapidly, partly as a result of limited new supply. The lack of overall supply, and the very low rate of growth in new construction at attainable price points, has led to significant challenges among many young adult households, and others with moderate incomes, who are looking to become homeowners. According to the 2020 Maryland Housing Needs Assessment & 10 year Strategic Plan,[5] Worcester's share represented less than 1 percent of total statewide housing funding, with only 2% of all subsidized units located in the County.

The majority of state-supported activity focused on single-family loans and neighborhood revitalization, with limited funding for multifamily construction, a gap that constrains the development of affordable rental options. This pattern of funding distribution contributes to the County's ongoing affordability challenges, where 34 percent of households are cost-burdened,[6] paying more than 30 percent of income toward housing. The relatively low per-household funding levels highlight the limited capacity of existing state resources to address affordability needs in Worcester. Strengthening investment in multifamily development and rental assistance would be essential to improving housing accessibility for lower-income residents and ensuring a more equitable distribution of resources across the County.

Developers and builders are seeing housing demand shift because of the rise of small households. This trend has negative implications for the availability of smaller homes at attainable price points. The size of the traditional family household has been declining, and the proportion of smaller households is increasing. Factors contributing to these trends include delaying marriage until later in life; birthing fewer children; having both partners in the workforce; greater rates of divorce; later-in-life remarriages; healthy life spans and longevity; and increased rates of aging in place. The County also experiences a notable influx of retirees who frequently purchase second homes before relocating. Despite the shifts in household size, new construction has continued to focus on delivering larger homes with more bedrooms. This results in gaps between the needs and demands of residents and the supply of appropriate housing.

To successfully bridge this gap, attainable housing developments should focus on:

- **Smaller Homes—** Homes with less than 1,400 square feet offer first-time homebuyers, downsizers, and small households of any age and income level alternative housing options.
- **Value Housing—**Many homebuilders are introducing models to specifically address attainable housing. These scaled-down models often offer greater simplicity in terms of option packages and structural components, thereby enabling the homebuilder to deliver products more cost-effectively which can increase the supply of attainable housing.
- **Missing-Middle Housing—**This strategy provides housing options at densities between single-family homes and mid-rise communities whose scale would be compatible (e.g., duplexes, triplexes, courtyard buildings, bungalow courts, live-work buildings). The scale of these buildings

[5] https://dhcd.maryland.gov/Documents/Other%20Publications/Report.pdf

[6] Maryland Housing Needs Assessment & 10-Year Strategic Plan (2020), Page 165

can be attractive, especially when higher density, multi-unit attached housing is often perceived as being of less value than traditional single-family homes.

- **Cluster Housing—**Detached cluster homes allow for higher densities than traditional single-family homes but create the traditional feel associated with single-family developments often desired by homebuyers.

Housing Pipeline

The County's demographics, and how they may affect future aspirations, are significant considerations in the development of a housing strategy. As the population continues to age, the need for a variety of housing types for those over 65 is growing. Demand for large, four-bedroom suburban homes may not be desirable for this age group, given cost, maintenance, and transportation considerations. Likewise, the millennial and younger generations have yet to demonstrate the same commitment to and ability to access homeownership and a suburban lifestyle as the generations preceding them, with many looking for more town-centered locations with less dependence on automobile-based transportation options.

How future housing projects will meet this need is yet to be determined. Gathering and analyzing housing data can help the County monitor its progress and adjust housing policies as appropriate. Data and mapping tools are becoming both more sophisticated and easier to implement and use. Building permit data is useful in tracking residential projects and also in determining infrastructure planning needs. The Maryland Department of Planning is developing a Statewide Building Permit Reporting System to identify the location and to quantify the amount of residential development activity. Permit data will be collected through counties and municipalities. The County should ensure that its reporting is consistent with the needs of this project, as the data collected can be used by the County to undertake more detailed analysis of housing trends and also as a tool for its public facility planning.

Coordinating with the State on the development of these tools may enable the County to implement these tools more easily. As data from these analyses becomes available, the County can coordinate with elected officials and regional organizations to identify housing needs, including the need for housing for all age groups.

Housing Permits

The 2025 Housing Study reports the residential permitting trends by building size in unincorporated Worcester County between 2022 and 2024, see **Figure 5-9: Housing Units Permitted across Worcester County, 2022-2024**. The figure provides a snapshot of the development pipeline, denoting the number of new housing units authorized for construction each year. Unsurprisingly, single-family homes consistently accounted for most permitted units, making up 85 percent of all units in 2022 (257 units), 74 percent in 2023 (373 units), and 95 percent in 2024 (337 units). While there was an uptake in permits for five or more units in 2023, which made up almost a quarter of that year's total, permits for duplexes and multifamily remained low overall.

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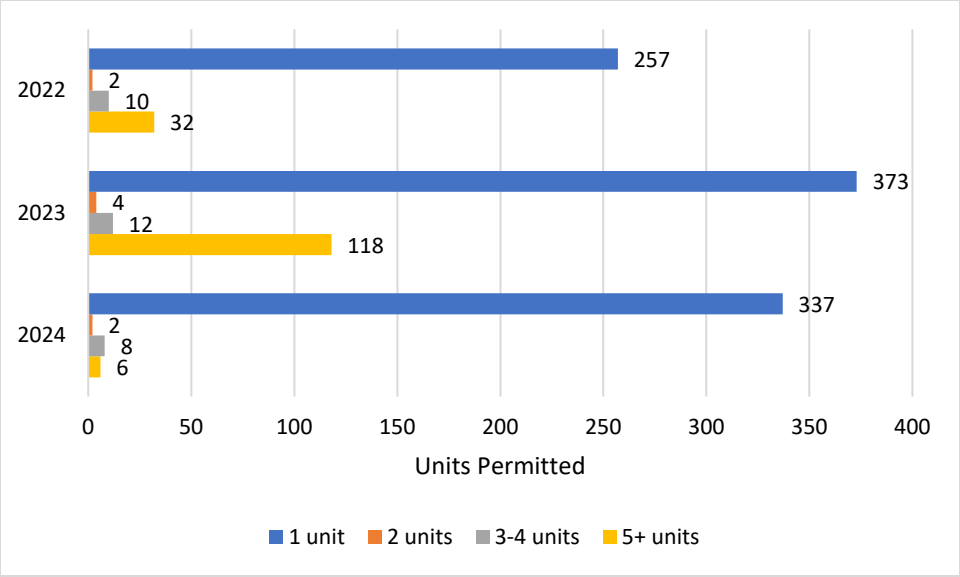
Figure 5-9: Housing Units Permitted across Worcester County, 2022-2024



Source: U.S. Census Building Permits Survey; Matrix Design Group Inc. (Worcester County Housing Study 2025)

Note: The unit of analysis is the number of housing units permitted. Estimates are reported values, not imputed values.

Substandard Housing

The 2025 Housing Study finds that substandard housing remains a significant issue, especially in the County's southern and inland areas, such as Pocomoke City, Snow Hill, and nearby unincorporated communities. The report's analysis, which combines census tract data with parcel-level construction and age information, reveals clusters of older, lower-quality homes that are more vulnerable to deterioration, code violations, and health hazards. Many of these homes were built before 1970 and often rely on non-standard heating fuels like bottled gas or kerosene, indicating limited access to modern utilities and higher safety risks. In contrast, northern coastal communities such as Ocean City and Ocean Pines generally report newer, better-quality housing. The study emphasizes that addressing substandard conditions will require targeted rehabilitation programs, code enforcement, and modernization efforts, particularly in high-need southern areas to preserve affordable housing and improve living standards.

Homelessness

Like most of the United States, Worcester County and its surrounding region has also been facing the issue of homelessness. According to the Point-In-Time (PIT) count, which gives a snapshot of the sheltered and unsheltered homeless population on a single night in the month of January each year, 653,104 people – or about 20 of every 10,000 people in the United States – experienced homelessness

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across the United States in 2023.[7] This is the highest number of people reported as experiencing homelessness on a single night since PIT count reporting began in 2007.[8]

The PIT count in Wicomico, Somerset and Worcester counties[9] indicate that a total of 87 persons from households with children and 242 adults from households without children experienced homelessness. The data shows that majority of the people experiencing homelessness are Black/African Americans. Amongst the households with children, 61 out of the total 87 people were aged under 18 years. In contrast, majority of the people in households without children were aged above 55 years (101 adults).

It should be noted, however, that this data only captures one night in January in a given year, therefore it may not be comparable to the average numbers or trends over the year.

Table 5-9: PIT Count Experiencing Homelessness in 2023 in Wicomico, Somerset and Worcester Counties

	Overall	Females	Males	Black/African American	Chronically Homeless	Adults with Serious Mental Illness
Adults and Children	87	51	36	71	0	--
Adults only	242	89	150	121	70	53

Source: 2023 Point-in-Time Count MD-513 Wicomico, Somerset, Worcester Counties CoC

The primary contributing factors of homelessness are a combination of low wages and a lack of available, affordable, or adequate housing. Low income relative to cost of living, disabling conditions, domestic violence, and sudden income loss are common issues that result in individuals losing housing. Coupled with rising unemployment and loss of incomes, the historical drivers of homelessness were exacerbated by the COVID-19 pandemic. States and the Federal government responded with several new policies and programs to prevent or delay eviction which was helpful in the short run. Since the COVID-19 emergency has ended, most of these programs have been discontinued, making housing affordability a continued issue that has been a major cause of homelessness.

Worcester County's agencies work together to address homelessness, but they all agree that finding affordable housing is a major challenge. This issue makes provider agencies jobs harder. Most people experiencing homelessness need services in the northern part of the County, especially in Berlin or Ocean City areas.

Affordable housing is often available during the off-season months (October through April). However, during the tourist season, apartments can cost $700 to $1,000 more per month. This increase can lead to homelessness or raise the risk of losing housing starting May 1, when higher rental rates apply. Winter rental housing is not always available, but when the season starts after three months, prices for

[7] This count does not include people served in rapid rehousing, permanent supportive housing, or other permanent housing programs, which comprise 60 percent of the national inventory as reported in the 2023 Housing Inventory Count.

[8] 2023 Annual Homeless Assessment Report (AHAR to Congress)

[9] 2023 Point-in-Time Count MD-513 Wicomico, Somerset, Worcester Counties CoC

winter rentals increase. As a result, some individuals who cannot afford these higher prices end up returning to the streets.

Employment opportunities in Worcester County vary greatly. In the Ocean City area, many jobs come with seasonal tourism during the summer months. These jobs are usually not long-term since businesses cut back after the tourist season ends. During the off-season, Worcester County has one of the highest unemployment rates in Maryland. This can lead to housing instability, as people may not earn enough to support themselves and their families.

Worcester County also lacks primary care providers, dentists, pediatricians, and psychiatrists. Telepsychiatry has helped some, but it does not fully meet the demand for psychiatric services. Public transportation is another significant issue. Shore Transit connects towns like Berlin, Ocean City, Pocomoke, Salisbury, and Snow Hill, but its schedule is limited and often inconvenient for medical appointments. Using public transportation can also create financial strain, as costs are charged per person and per ride, with extra fees for transfers. After the tourist season, bus services are reduced even more.

Some specialized behavioral health services available in urban areas are not offered in Worcester County. Tidal Health Regional Medical Center, located in Wicomico County, is the only provider of adult inpatient mental health services. Crisis beds and partial hospitalization programs are available in neighboring counties but not in Worcester County. There is a continuous need for crisis beds and peer support for people with mental illness.

The Worcester County Homeless Outreach Team (HOT) initiated its coordinated outreach efforts in May 2018 to connect individuals experiencing homelessness to vital services. Outreach activities in the rural regions of Worcester County present significant challenges due to the transient nature of homelessness. The team is comprised of approximately 22 members from various agencies throughout the County, collaboratively providing support to homeless individuals encountered during their outreach efforts. The team convenes approximately twice monthly, designating one meeting for street outreach activities.

The data that is being collected is Point in time (PIT), explained earlier, which can refer to a time metric, a count of people experiencing homelessness, or a general phrase that means at a specific moment in time. A PIT report provides a snapshot of data at a specific time.

Local Resources

Diakonia is actively serving the Tri-County Lower Eastern Shore Region. In the Summer of 2023, Diakonia piloted a new Rapid Response Team that responds to calls from the community and emergency dispatch regarding complaints/concerns of potentially homeless persons. Over the course of the year, Diakonia received almost 250 calls, averaging 1 person every other day. Diakonia has plans to build 42 affordable housing units to help mitigate the housing shortage on the Lower Eastern Shore.

Other resources for people experiencing homelessness in Worcester County include the following:

- Homeless Alliance for the Lower Shore (HALS)- Tri County Resource guides.
  Offers emergency shelter, rental assistance, and case management. You can call (410) 219-0923 to assess the eligibility and availability of beds.
- 211 Maryland
  Call 2-1-1 to connect with community resources to help with food, utility assistance, and other financial needs. 211 is available 24/7.

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- Local shelters in and near Worcester County:
    - Christian Shelter: Located at 334 Barclay Street, Salisbury, MD 21804. Their phone number is (410) 749-5673.
    - Samaritan Ministries, Inc. Located at PO Box 661, 814 4th Street, Pocomoke, MD 21851. Their phone number is (410) 957-4310.
    - Diakonia, Inc. Located at 12747 Old Bridge Road, Ocean City, MD 21842. Their phone number is (410) 213-0923.
    - HALO Shelter : Located at 119 South Boulevard in Salisbury, MD 21804. Their phone number is (410) 742-9356.

Housing Resources

Listed below are some of the current housing resources that operate within Maryland. These programs provide support for many of the goals established in this plan and are resources that should continue to be leveraged by the County and residents to facilitate the improvement of housing supply, affordability, and access.

Housing Choice Vouchers Program (formerly Section 8)

Multifamily federally funded, tenant-based vouchers According to the DHCD website, “the Housing Choice Voucher Program (HCVP) is a Federally funded, locally administered rental assistance program that subsidizes the rent of lower-income families, the elderly, and disabled to afford decent, safe housing in the private market using federal funds. The Maryland Department of Housing and Community Development administers the program in parts of the Eastern Shore and Western Maryland including Allegany County (including the City of Cumberland), Caroline County, Dorchester County, Frederick County, Garrett County, Kent County, Somerset County, Talbot County, Wicomico County and Worcester County.”

Maryland Housing Authority

Maryland Housing Authority is a government-run organization that provides housing help in certain areas. Residents who qualify can get access to affordable public housing, housing project assistance, or subsidized housing within the County.

Maryland Mortgage Program

The Maryland Mortgage Program (MMP) helps homebuyers achieve homeownership through a range of loan programs that make purchasing and owning a home more affordable. MMP home loans are available as either Government or Conventional insured loans. Government loans can be guaranteed by the Federal Housing Administration (FHA), the U.S. Department of Veterans Affairs (VA), or the U.S. Department of Agriculture/Rural Housing Service (USDA/RHS).

MMP has a dual track product line that includes loan products for first-time homebuyers and flexible products that include assistance for down payments and closing costs. The program also offers some specialty loans for specific types of borrowers (with student debt or purchasing in a particular location). Product enhancements may also be available (special assistance grants or mortgage credit certificates).

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Maryland Housing Toolbox

This toolbox was developed from the Maryland Department of Housing and Community Development's Housing Needs Assessment. It is a downloadable spreadsheet that includes approximately 70 housing-related actions. Each action has an overview, implementation considerations, and beneficiaries. This toolbox was developed to help communities shape housing framework and future policies.

Local Resources

Worcester County typically receives grant funding of $300,000 every two years through the Community Development Block Grant (CDBG) program, administered through the Maryland Department of Housing and Community Development (DHCD). These funds enable Worcester County to provide grants to support rehabilitation activities to approximately 12 to 15 low- to moderate-income homeowners living in substandard housing units. Grant funds are supplemented through the Special Loans Program offered by DHCD; additionally, the County partners with Shore Up! Inc. to cover the cost of weatherization and other energy saving measures. Referrals are made to Chesapeake Housing Mission for the construction of handicap accessible ramps where these are needed.

Through DHCD's Operation Rebuild, the County is assisting in the replacement of 10 dwelling units as of 2024. This program assists owner-occupied single-family homeowners by providing low interest loans to replace their substandard home with one that meets current building codes and standards.

In 2024, Worcester County received a $50,000 grant from DHCD to update the 2004 Housing Study and Affordable Housing Report. The recommendations provided in the completed 2025 Housing Study will allow the County to develop a housing program to improve existing housing stock and target areas identified therein, so that funds can be used for the highest and best use to provide a greater supply of affordable housing.

6. ECONOMIC DEVELOPMENT AND TOURISM

Introduction

Worcester County's geographic position as the easternmost county in the state of Maryland, and the only county in Maryland to border the Atlantic Ocean, presents unique economic opportunities. The county is home to the popular vacation resort area of Ocean City, founded in 1875, as well as wild habitats on the primitive wilderness areas on Assateague Island and in the Pocomoke River and Swamp. Additionally, Worcester is the only county in Maryland that borders both Delaware and Virginia. It offers ready access to major metropolitan markets, including Washington D.C., Baltimore and Philadelphia. This resulting regional connectivity is an advantage for residents and visitors alike.

Worcester County's economy is in an era of growth and diversification, with key elements like supporting small businesses and fostering tourism remaining highly relevant. Promoting a diverse economy and creating opportunities in higher-wage industries continue to be critical goals.

Since the County's last Comprehensive Plan was adopted in 2006, the economic landscape has undergone dramatic shifts, particularly with the rise of remote work, the increasing importance of digital infrastructure, and the growth of agritourism. These changes should be integrated into this plan.

Currently, Worcester County faces several economic challenges, including seasonal dependence on tourism, workforce retention, the need to attract skilled talent, limited affordable housing for workers, and threats to agriculture and fisheries from environmental changes, such as the potential displacement of commercial fishing due to wind farm development.

Moving forward, strategic land use and infrastructure planning will be essential to balancing economic expansion with the preservation of the County's rural and coastal character. By focusing on higher-wage job creation, workforce development, and sustainable tourism, Worcester County can work towards long-term prosperity. Efforts to foster balanced growth, support small businesses, and create living-wage opportunities while investing in affordable housing and infrastructure will be vital to the County's continued prosperity.

Goals and Objectives

A primary goal of economic development is to foster a resilient and inclusive economy by driving sustainable growth in tourism, small business, technology, agriculture, and light industry. In Worcester County, this includes preserving and celebrating the County's rural and coastal heritage while creating opportunities for year-round employment, innovation, and community well-being.

The following general objectives have been identified as critical to the ongoing success of Worcester County and its residents. These are grouped into categories as they apply to the County's big picture goals for economic development and tourism:

1. **Support Business Retention and Expansion (BRE)**

- *Action Item 6.1.1:* Support existing businesses with resources, guidance, and financial support.
- *Action Item 6.1.2:* Conduct regular outreach meetings to identify challenges and growth opportunities and provide connections and resources.
- *Action Item 6.1.3:* Continue collaboration with local chambers of commerce, county and town communication, and legislative officials.

2. Foster Economic Growth and Employment Opportunities

- *Action Item 6.2.1:* Seek to raise the County's median income to meet the state average by increasing access to higher-paying, year-round employment.
- *Action Item 6.2.2:* Diversify the economic base by extending the tourist season and fostering growth in emerging industries, such as technology and health care.
- *Action Item 6.2.3:* Increase employment opportunities to retain talented young workers and attract new talent to the County.
- *Action Item 6.2.4:* Align vocational education and workforce development programs with current and anticipated employment demands, including technical and soft skills training.
- *Action Item 6.2.5:* Support the expansion of existing employers and encourage entrepreneurship to grow the local economy.
- *Action Item 6.2.6:* Reduce unemployment by targeting job creation efforts to underserved populations and regions.
- *Action Item 6.2.7:* Promote southern Worcester's potential for housing employees and allied businesses of NASA and the Mid-Atlantic Regional Spaceport at Wallops Island.

3. Encourage Entrepreneurship and Innovation

- *Action Item 6.3.1:* Establish small business incubators and co-working spaces to support startups and small enterprises.
- *Action Item 6.3.2:* Provide resources for grants, loans, and incentives for innovative projects and new businesses.
- *Action Item 6.3.3:* Continue to host workshops, business roundtable discussions, business groups, and networking events to foster a culture of entrepreneurship.

4. Drive Sustainable Growth in Tourism and Hospitality

- *Action Item 6.4.1:* Strengthen the tourism and hospitality industry by supporting towns and cities that define the County's character.
- *Action Item 6.4.2:* Promote the creation of sports, cultural, and major attractions to boost visitation and increase tax revenue.
- *Action Item 6.4.3:* Develop attractions and initiatives to encourage visitation during off-peak seasons.
- *Action Item 6.4.4:* Highlight eco-tourism through environmental, heritage, and cultural attractions in partnership with heritage areas and museums.

- *Action Item 6.4.5:* Support programming in sports tourism and arts and entertainment industries.

5. **Create Opportunities for Engagement and Collaborative Development**
    - *Action Item 6.5.1:* Collaborate with towns, chambers of commerce, and local partners to advance tourism and business initiatives.
    - *Action Item 6.5.2:* Partner with state-level entities to advocate for increased funding for economic development and tourism programs.
    - *Action Item 6.5.3:* Address the needs of agricultural and agri-tourism sectors to ensure their continued growth and success.
    - *Action Item 6.5.4:* Involve residents and stakeholders in decision-making processes.
    - *Action Item 6.5.5:* Strengthen partnerships with state and regional economic development organizations.
    - *Action Item 6.5.6:* Recognize and celebrate the achievements of local businesses and entrepreneurs.
    - *Action Item 6.5.7:* Collaborate with businesses in the Aerospace industry to support sustainable expansion of operations and employment opportunities.

6. **Invest in Community and Sustainability**
    - *Action Item 6.6.1:* Develop and support facilities catering to the County's aging population, including health care and accessible housing options.
    - *Action Item 6.6.2:* Ensure economic development aligns with the County's rural and coastal sustainability goals.
    - *Action Item 6.6.3:* Address the needs of the agricultural and agri-tourism sectors to ensure their growth and continued contribution to the local economy.

Economic Markets

Worcester County's economy is a dynamic blend of tourism, agriculture, and small business entrepreneurship. Anchored by Ocean City, a premier East Coast vacation destination, the County benefits from a robust hospitality sector that drives seasonal economic activity. Beyond tourism, the region boasts a thriving agricultural industry, including poultry farming, crop production, and agritourism ventures that connect local farms to visitors.

Small businesses and local artisans play a significant role, supported by a business-friendly environment and community-focused initiatives. Emerging sectors, including renewable energy and technology, add to the County's economic diversity. With its unique combination of natural beauty, vibrant communities, and strategic location near the Atlantic coast, Worcester County continues to grow as a hub for business and leisure.

The resort industry, construction, real estate, the public sector, agriculture, and an evolving focus on workforce development are the County's largest employers. These sectors employ a significant portion

of the workforce and depend on the County's natural resources, rural charm, and coastal character for their success. For this reason, growth and economic development must be pursued in a manner that preserves these unique characteristics.

Year-round and seasonal population growth has expanded the market for the County's businesses. Service industries, including health care and technology, are expected to lead economic growth. Economic development efforts should focus on nurturing existing local industries, attracting higher-wage industries, and investing in workforce development to support a skilled and adaptable labor force.

See **Table 6-2, Employment by Industry with 10-year forecast** for the complete breakdown.

Table 6-1: Largest Employers in Worcester County (2024)

Employer	Location	Product/Service	Employment
Harrison Group*	Ocean City	Hotels & Restaurants	975
Atlantic General Health Systems	Berlin	Medical Services	970
Blue Water Development / Blue Water Hospitality*	Ocean City, Berlin	Hospitality Management & Real Estate Development	608
Bay Shore Development*	Ocean City	Amusements & Hotels	600
Fagers Island*	Ocean City, Berlin	Hotels & Restaurants	600
O.C. Seacrets*	Ocean City	Restaurant, Distillery & Liquor Store	487
Ocean Enterprise 589 / Ocean Downs Casino*	Berlin	Casino gaming	349
Ashore Resort & Beach Club*	Ocean City	Hotel & Restaurant	300
Dough Roller*	Ocean City	Restaurants	275
91st Street Joint Venture / Princess Royale*	Ocean City	Hotels & Restaurants	250
Real Hospitality*	Ocean City	Hotel Management	215
Ocean Pines Association	Berlin	Nonprofit civic organization	190
Sunsations*	Ocean City	Beach Wear / Products & Souvenirs	180
Bel-Art Products/SP	Pocomoke City	Scientific & Lab Products	164
Carousel Resort Hotel & Condominiums*	Ocean City	Hotels & Restaurants	150
Trimper Rides*	Ocean City	Amusements	145
Berlin Nursing & Rehabilitation Center	Berlin	Nursing & Rehabilitation	127

6. ECONOMIC DEVELOPMENT AND TOURISM

Harrison House Senior Living[10]	Snow Hill	Nursing & Rehabilitation	85
Hardwire	Pocomoke City	Protective armour products	83
Dolle's Candyland*	Ocean City	Candy	50
Benelli	Pocomoke City	Firearms	40

*Reflects summer employment levels

Source: Maryland Department of Commerce Brief Economic Facts sheet on Worcester County

Table 6-2: Employment by Industry with 10-year forecast, 2024-33

Industry	Employment	Current Avg. Annual Wages	10-yr. Forecast Employment
Accommodation and Food Services	7,919	$33,275	14,474
Retail Trade	3,987	$35,934	5,150
Health Care and Social Assistance	2,412	$59,965	2,579
Public Administration	1,839	$60,449	1,682
Educational Services	1,743	$62,415	1,686
Construction	1,658	$50,044	1,475
Arts, Entertainment, and Recreation	1,308	$36,837	1,951
Other Services (except Public Administration)	1,170	$33,506	1,381
Professional, Scientific, and Technical Services	1,132	$61,925	992
Administrative and Support and Waste Management and Remediation Services	956	$47,197	1,135
Real Estate and Rental and Leasing	909	$53,683	875
Manufacturing	812	$54,667	821
Finance and Insurance	472	$83,076	393
Wholesale Trade	352	$50,529	348
Transportation and Warehousing	297	$47,351	321

[10] This facility is no longer owned or operated by Harrison Senior Living and is operating under the ownership of Snow Hill Nursing and Rehabilitation.

6. ECONOMIC DEVELOPMENT AND TOURISM

Agriculture, Forestry, Fishing and Hunting	280	$107,255	328
Information	190	$53,961	172
Management of Companies and Enterprises	67	$66,461	61
Unclassified	9	$56,225	11
Utilities	7	$66,288	6
Mining, Quarrying, and Oil and Gas Extraction	5	$19,029	5
Total - All Industries	27,524	$45,865	30510

Source: JobsEQ 2024Q2

Construction and Real Estate

Worcester County has had a growing construction and real estate industry, driven by both residential and commercial development. Worcester has seen significant interest from both investors and developers due to its desirable location as the only coastal county in Maryland. In recent years, residential construction has been robust, with both new homes and housing renovations in high demand.

The commercial construction in Worcester has been similarly active, with developments focused on tourism-related infrastructure, retail spaces, office buildings, and mixed-use projects. Waterfront properties and developments catering to hospitality and leisure industries are key contributors to the local economy.

The construction and real estate industry can encounter challenges such as rising material costs, labor shortages, high interest rates, and the economic cycle. Additionally, balancing development and environmental factors have proven to be difficult, especially in waterfront areas where sea level rise adds to the pressure. While some challenges may be unavoidable, careful planning can support the local construction and real estate industries. As long as demand for growth and/or redevelopment is strong in the County, these industries will continue to be viable.

Recommendations for Construction and Real Estate in Worcester County should focus on the following:

- **Stable Growth:** Leverage planned population growth to sustain the construction sector while balancing affordability and rural character.
- **Workforce Housing:** Prioritize affordable housing projects to support workforce retention and attract new residents.

Industry-specific objectives have been identified as critical to fulfilling recommendations and supporting the ongoing success of Construction and Real Estate in the County:

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- Ensure the land use plan provides adequate land for growth to meet housing, commercial, and support service demands.
- Continue to provide workforce training programs to supply skilled labor to the construction industry.
- Offer continuing education opportunities to keep construction and real estate professionals informed of county policies and market trends.

Tourism and Hospitality

Worcester County has longstanding ties to the tourism and hospitality industry based on its geographic location as Maryland's only point of access to the Atlantic Ocean through the town of Ocean City. Ocean City is one of the most well-known resort towns on the East Coast, making it a vital part of not just the County's tourism and hospitality industry but also the states. With 11,000 hotel rooms and more than eight million visitors each year, the economic potential Ocean City brings to the County cannot be understated.

Tourism in Worcester County is not limited to the beach, boardwalk, and other oceanfront and resort amenities in Ocean City. Along with Ocean City's allure, Berlin, Pocomoke and Snow Hill also provide opportunities for tourism. The County and the towns should continue to expand their cooperative tourism efforts.

Berlin is a historic community known for Victorian architecture and eclectic shops and restaurants. Snow Hill offers two museums, bustling streets filled with art and antique vendors, restaurants, and small shops. Pocomoke City is home to the Delmarva Discovery Museum and the historic Mar-Va Theater. Worcester is home to the only casino on the Eastern Shore, the Casino at Ocean Downs, nine championship golf courses, several state parks and forests, and Assateague Island National Seashore. The County's commitment to the protection of public and private open space has created opportunities for a plethora of recreational activities such as hiking, biking, kayaking, bird watching, golf, marine mammal tours, and more.

Worcester County is home to a wide variety of events throughout the year, enhancing its appeal to tourists. Notable annual events include:

Ocean Pines

- Bay Day in Ocean Pines
- Arts Day in the Pines
- Classic Car & Jeep Show
- 4th of July Fireworks Celebration
- Summer Series

Berlin

- Jazz and Blues, Wine & Brews
- Bathtub Races
- Smalltown Throwdown
- Fiddler's Convention
- Oktoberfest
- Ice Ice Berlin
- New Year's Eve

Pocomoke

- 4th Friday Street Festivals
- Concerts in Cypress Park
- Great Pocomoke Fair
- Boat Docking Challenge

Snow Hill

- Annual Oyster Roast
- Blessing of the Combines
- First Fridays - Arts on the River
- Worcester County Fair
- Dicken's Holiday Weekend
- Iron Furnace Fifty
- Furnace Town Renaissance Faire

Ocean City

- Ocean City Music Festivals, Oceans Calling, Country Rock, Boardwalk Rock, Rising the Tides Festival, drawing in crowds from all across the country.
- Home of the White Marlin Open, largest billfish tournament in the world
- Summer Concert Series at Sunset Park
- Annual Springfest, Sunfest, and Winterfest
- Dreamfest
- Sundaes in the Park
- OC Film Fest
- OC Air Show

These events, along with the region's history, culture, and recreational offerings, contribute to making Worcester County a vibrant destination year-round.

Based on summer employment numbers, three of the top five employers are in the tourism and hospitality industry – Harrison Group, Bay Shore Development, and Fagers Island.

6. ECONOMIC DEVELOPMENT AND TOURISM

The mission of the Beach to Bay Heritage Area is to promote, preserve and protect the cultural heritage, historical linkages, and natural assets of Maryland's Lower Eastern Shore. Worcester County incorporates by reference into this comprehensive plan all portions of the Beach to Bay Heritage Area Management Plan, except those sections solely pertaining to other jurisdictions within the Beach to Bay Certified Heritage Area.

Tourism and the Hospitality industry in Worcester County should focus on the following planning considerations:

- **Tourism Diversification**: Build on the success of outdoor recreation by expanding eco-tourism, cultural tourism, and off-season events to lengthen the shoulder seasons.
- **Protecting Rural and Coastal Character**: Prioritize natural resource stewardship and sustainable growth to differentiate from competing resorts and prevent sprawl.
- **Collaborative Marketing**: Strengthen partnerships with towns to promote distinctive attractions like Ocean City, Berlin, Snow Hill, and Pocomoke as complementary destinations.

Industry-specific objectives have been identified as critical to fulfilling recommendations and supporting the ongoing success of Tourism and Hospitality in the County:

- Invest in marketing campaigns to promote Worcester County's unique attractions, including Assateague Island, Ocean City, and Pocomoke River State Park.
- Expand off-season tourism by creating and promoting events, festivals, and eco-tourism opportunities.
- Partner with local businesses (outfitters, retail, restaurant), attractions (museums, historical sites) and other organizations such as the Heritage Area to enhance visitor experiences, encourage guests to have multi night stays and increase repeat visits.
- Support the traditional resort industry while diversifying offerings with high-quality recreational, cultural, and heritage experiences.
- Encourage the development of large-scale attractions, including sports, cultural, and environmental venues, to enhance the County's appeal.
- Continue support for beach replenishment projects to preserve coastal attractions.
- Collaborate with towns to strengthen their tourism efforts.
- Expand eco-tourism opportunities by leveraging the County's environmental, cultural, and heritage assets.
- Facilitate year-round recreational and resort-oriented developments to mitigate seasonality.
- Address the needs of hunting, fishing, and boating sectors as part of the County's tourism strategy.

6. ECONOMIC DEVELOPMENT AND TOURISM

Industrial

Industrial attraction and location are a challenge. Successfully recruiting compatible industries requires a strategic approach that ensures access to the necessary utilities, transportation, and infrastructure. With limited opportunities for industry relocation and intense competition from neighboring regions, offering incentives such as tax abatements, below-market land prices, and other financial advantages is often essential. Therefore, economic development efforts should focus on supporting and expanding existing industries by providing the fundamental infrastructure they need to grow. Heavy industry and the hospitality sector can be incompatible. For this reason, both the type and location of industrial development must go through an intensive planning process.

In addition to tactical site selection, adhering to architectural design standards and ensuring adequate public services, including reliable electrical, natural gas, and other utilities, is vital. Given this, industrial development should focus on light and heavier industry in the Pocomoke area and light industry in the existing industrial areas near Berlin and near the Village of Showell. Ongoing economic development efforts should continue to focus on attracting higher-wage jobs and industries that align with the County's infrastructure and regional characteristics.

Neighboring Accomack County is home to Wallops Flight Facility (WFF), located on Wallops Island, Virginia, a prominent rocket launch site operated by NASA's Goddard Space Flight Center. The anticipated growth of this facility in upcoming years presents a tremendous opportunity for southern Worcester to house Wallops employees and allied businesses. Additionally, the aerospace industry attracts a skilled workforce with higher-wage jobs and capitalizing on the expanding market would help advance the County's economic development efforts.

The recommendations for the Industrial industry in Worcester County should focus on the following:

- **Strategic Industry Development**: Focus on light and medium industries in Pocomoke, Berlin, Bishopville, and Showell, emphasizing industries that align with the County's rural character and existing infrastructure.
- **Incentives and Infrastructure**: Continue offering competitive incentives (tax abatements, land subsidies) alongside investments in utilities, transportation, and broadband to attract compatible industries.
- **Design Standards**: Continue to enforce architectural and site design standards to ensure industrial development aligns with the County's aesthetic and environmental values.

Industry-specific objectives have been identified as critical to fulfilling recommendations and supporting the ongoing success of industrial activity in the County:

- Identify and promote available industrial sites for immediate development.

- Maintain an inventory of suitable industrial sites and infrastructure to support business relocation and expansion.
- Focus industrial development efforts in designated industrial parks.
- Conduct a feasibility study for upgrading broadband and natural gas infrastructure in key industrial areas.
- Upgrade industrial infrastructure, including electrical supply, natural gas, and broadband connectivity.
- Develop industrial parks with state-of-the-art infrastructure to attract advanced manufacturing and technology firms.
- Offer short-term incentives, such as reduced fees or expedited permits, to attract light industries.
- Retain existing industries while attracting light industries in technology, research, health care, and advanced manufacturing.
- Identify and rehabilitate "brownfields" for potential industrial use.

Health Care

Worcester County has several major healthcare assets that serve the community and the surrounding region. Some notable ones include:

- **Atlantic General Hospital (AGH)**: Located in Berlin, Atlantic General Hospital is a major healthcare provider in Worcester County. It offers a range of services, including emergency care, surgery, diagnostics, cancer care, and outpatient services. AGH serves as the primary hospital for many residents of Worcester County and the surrounding areas.

- **TidalHealth Worcester**: Located in Berlin, MD, this facility is an important extension of the TidalHealth network, based out of Salisbury, Maryland in Wicomico County. This TidalHealth campus providing both inpatient and outpatient services to residents of Worcester County. It offers emergency care, diagnostic services, and specialized medical care, helping to improve healthcare access in the area.

- **Chesapeake Health Care**: This organization operates multiple healthcare centers in Worcester County, offering a wide range of services including primary care, mental health, and dental services. It has a focus on underserved populations and provides services across various locations.

- **UM Shore Regional Health**: While located primarily in the neighboring counties, UM Shore Regional Health extends its healthcare services to Worcester County as part of its regional

healthcare network. It provides access to specialists, emergency services, and other advanced medical care in the region.

- **Health Departments and Community Clinics**: The Worcester County Health Department operates multiple clinics and community outreach programs to support public health initiatives, preventive care, and access to healthcare for vulnerable populations.
- **Veteran's Administration Outpatient Clinic in Pocomoke:** This is the only United States Department of Veteran Affairs outpatient clinic in all of Wicomico, Somerset and Worcester Counties and Virginia Eastern's Shore, servicing veterans from 5 counties.

These assets contribute significantly to the healthcare infrastructure in Worcester County and support the local community's healthcare needs. Additionally, TidalHealth, AGH, and other medical facilities significantly contribute to the local economy through sustainable job creation and regional economic growth by contributing to an environment conducive to business expansion and development.

The recommendations for the Health Care industry in Worcester County should focus on the following:

- **Healthcare Workforce Growth**: Collaborate with Atlantic General Hospital and TidalHealth to expand services and attract skilled healthcare professionals through targeted incentives and community integration initiatives.
- **Aging Population Needs**: Enhance healthcare infrastructure and services to cater to the County's growing senior population.

Industry-specific objectives have been identified as critical to fulfilling recommendations and supporting the ongoing success of Heath Care activity in the County:

- Work with Atlantic General Hospital and TidalHealth to expand recruitment efforts for health care professionals.
- Launch a public awareness campaign showcasing Worcester County as an attractive place for health care workers to live and work.
- Support Atlantic General Hospital and TidalHealth in growing and expanding as they consolidate systems across the region. Provide health care employees with collateral information to assist in their decision to relocate to the County to live, work, and play.
- Anticipate growth in health care needs and work to expand the health care sector, addressing both service provisions and employment opportunities.

Agriculture

The recommendations for Agriculture in Worcester County should focus on the following:

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- **Sustainable Farming:** Support local farmers through incentives for value-added products, alternative crops, and agricultural tourism.
- **Right-to-Farm Policies:** Preserve rural character by protecting farmland and encouraging innovative income streams for farmers.
- **Infrastructure Investments:** Address challenges in the grain supply chain and support local processing facilities to bolster agricultural viability.

Agricultural operations in Worcester County continue to face significant economic pressures due to fluctuating commodity prices, rising input costs, and global market competition. The past decade has also seen the effects of climate change, such as more frequent extreme weather events, including flooding and drought, impacting yields and increasing operational risks. Inflationary pressures have further compounded these challenges by raising the costs of fertilizer, fuel, and equipment.

The poultry industry remains a cornerstone of the local agricultural economy, though it has undergone notable changes. While the County continues to be a major player in poultry production, consolidation in the industry has led to fewer processing plants, further reducing competition. This dynamic continues to exert downward pressure on grain prices and limits profit margins for grain farmers. However, recent investments in renewable energy by some poultry companies have created potential opportunities for farmers to partner on sustainability initiatives.

Field crop production, primarily corn and soybeans, continues to serve as a critical input for poultry feed. While the County remains a net importer of grains for feed, some local farms are exploring diversified cropping systems, including specialty grains and organic production, to meet growing demand for high-value, sustainable products.

To bolster farm income, there has been a significant push toward value-added agriculture and agritourism. Local farmers are increasingly embracing opportunities to process and market their products directly, such as producing artisan cheeses, craft beverages, and packaged goods. Agritourism ventures, including pick-your-own farms, farm-to-table events, and educational tours, have grown in popularity, driven by consumer interest in local food and experiences.

According to the most recent USDA Census of Agriculture (2017), the value of agricultural products sold in Worcester County was approximately $141 million, reflecting modest growth compared to previous decades. Average sales per farm increased to $340,000. The diversification of products, alongside higher-value ventures, has played a key role in maintaining this growth despite challenges.

Industry-specific objectives have been identified as critical to fulfilling recommendations and supporting the ongoing success of Agriculture in the County:

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- Preserve farming and enhance its economic viability by promoting agricultural tourism, value-added products, and alternative crops such as hemp, organic vegetables, and wine grapes.
- Support agricultural infrastructure and marketing cooperatives to improve profitability.
- Implement zoning and preservation programs to reduce farmland fragmentation.
- Enforce the "right-to-farm" policy to protect agricultural operations.
- Encourage educational and recreational agricultural initiatives to enhance public awareness.
- Preserve forestry by limiting fragmentation and supporting related industries.
- Organize workshops for farmers on value-added products and sustainable farming practices.
- Launch pilot programs for alternative crops, such as hemp or organic vegetables, with funding from state and federal grants.
- Establish partnerships with local retailers to market locally produced agricultural goods.
- Create a regional marketing cooperative to sell local products directly to consumers and retailers.

Commercial Services

Retailing is one of the largest employers in the County and is a significant contributor to the economy.

The Ocean City Boardwalk in Ocean City provides a vibrant space for businesses to cater to tourists. Shops selling souvenirs, apparel, and beach gear contribute to local sales tax revenue and support seasonal employment for residents.

The Outlets Ocean City in West Ocean City are a major shopping destination for both locals and tourists. This retail center attracts a range of retail, home accent stores, and restaurants and generates sales tax revenue, drawing in consumers year-round. These outlets not only support retail jobs but also create demand for maintenance, logistics, and service roles.

Downtown Berlin is known for its charming historic district and eclectic small shops, restaurants, and art galleries. These businesses boost sales and generate local tax revenues, while also enhancing Berlin's reputation as a popular destination for day-trippers.

Downtown Snow Hill offers a mix of locally owned boutiques, antique shops, and seasonal markets, providing a unique shopping experience in this historic town. As part of an ongoing effort to revitalize, Snow Hill is a Main Street Affiliate. That is a community that is approved by the State to work on Main Street Designation but has not yet achieved that status. Main Street Maryland oversees and awards grants to Main Street efforts such as Snow Hill's.

Downtown Pocomoke City is a treasure trove of independent boutiques and antique shops. Like the downtown districts in Berlin and Snow Hill, downtown Pocomoke City has the potential to attract tourists with its unique selection of local businesses and reputation as a quaint and charming town.

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The recommendations for Commercial Services in Worcester County should focus on the following:

- **Right-Sized Development:** Reassess commercial zoning to align with actual demand, reducing traffic congestion and underutilized spaces.
- **Mixed-Use Planning:** Encourage local commercial services in new residential developments while imposing strict design standards for large-scale commercial projects.
- **Support Small Businesses:** Provide resources and programs to nurture entrepreneurship while balancing the need for higher-wage industries.

Industry-specific objectives have been identified as critical to fulfilling recommendations and supporting the ongoing success of Commercial Service activity in the County:

- Locate commercial centers in major communities to serve as retail and service hubs.
- Encourage mixed-use developments that integrate commercial, office, and residential spaces.
- Balance commercial land supply with demand to prevent underutilization and over-congestion.
- Continue to implement design standards for commercial developments to ensure they enhance community aesthetics and functionality.
- Continue to implement siting and design standards for large-scale and commercial developments to ensure compatibility with community character.
- Continue to discourage “franchise architecture” in favor of unique, community-oriented designs.
- Host workshops for small business owners on digital marketing and e-commerce strategies.
- Offer grants to businesses that embrace mixed-use development and innovative designs.
- Collaborate with local chambers of commerce to identify underserved areas needing commercial development.

6. ECONOMIC DEVELOPMENT AND TOURISM

Employment

The County's labor force stands at approximately 24,600 with an unemployment rate of 3.3 percent (2023), the lowest unemployment rate on record for Worcester County in at least 20 years (Maryland Unemployment Rates - by County). This percentage was slightly higher than the State unemployment rate of 2.1 percent but lower the national rate of 4.1 percent. See **Table 6-3, Employment Status** for the comparisons.

Table 6-3: Employment Status (2023)

	Worcester County		Somerset County (MD)		Sussex County (DE)		State of Maryland	
	Estimate	%	Estimate	%	Estimate	%	Estimate	%
Civilian labor force	26,736	59.1	9,787	46.8	121,901	54.7	3,326,225	66.8
Employed	25,012	55.3	9,226	44.1	116,521	52.3	3,194,028	64.1
Unemployed	1,724	3.8	561	2.7	5,380	2.4	132,197	2.7

Source: 2023 ACS 5-year estimates

Income and Poverty

As of the 2023 American Community Survey (ACS), the County had a total of 23,827 households and 15,341 families. Of those, 12.1 percent of households and 6.6 percent of families had annual incomes less than $25,000, while 40.7 percent of households and 51.7 percent of families had incomes greater than $100,000. The income range of $100,000-$149,999 accounts for the largest single income range for households (20.6 percent) and for families (25.9 percent). (**See Figure 6-1. Worcester County Income Ranges**).

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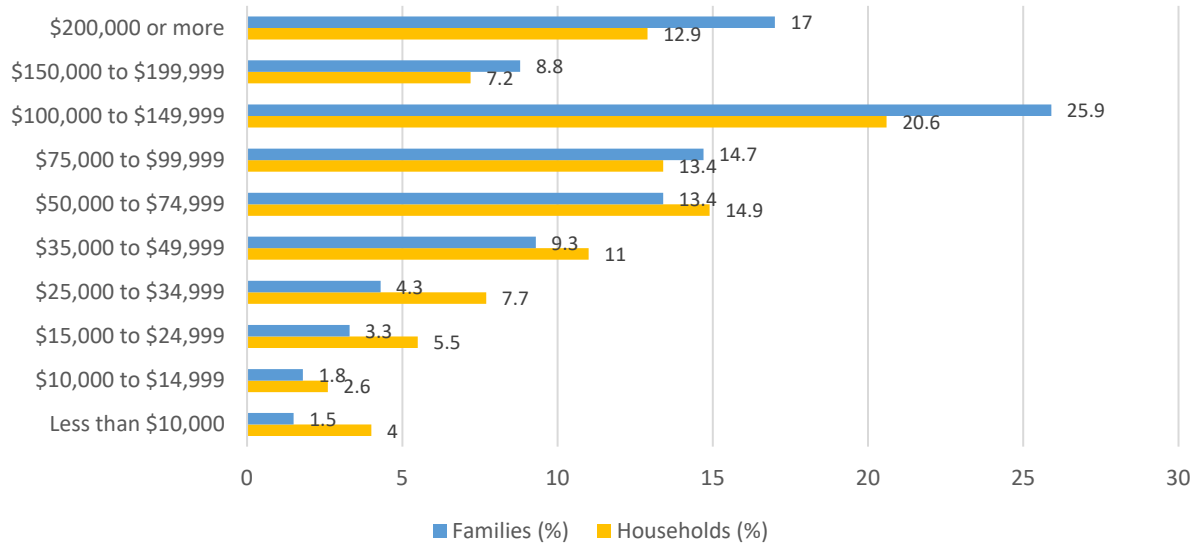
Figure 6-1: Worcester County Income Ranges (2023)



Source: 2023 ACS 5-year estimates

Table 6-4, Annual Income, shows the median household, family, and per capita income for the County, in comparison to neighboring counties and the State of Maryland. Worcester's median household, family, and per capita income was lower than the State but consistently higher when compared to neighboring counties, Sussex County (Delaware) and Somerset County (Maryland). Household income is typically defined as the total gross income received before taxes in a 12-month period by all members of the household above age 15, regardless of whether the individuals are related to each other. Family income measures the income of all people living in one household and that are related to each other through blood, adoption, or marriage.

Table 6-4: Annual Income (2023)

Income	Worcester County (MD)	Sussex County (DE)	Somerset County (MD)	State of Maryland
Median Household Income	$81,455	$78,162	$52,462	$101,652
Median Family Income	$102,724	$95,047	$70,366	$124,487
Per Capita Income	$51,620	$44,963	$26,031	$51,689

Source: 2023 ACS 5-year estimates

According to the 2023 ACS, 5.2 percent of families and 8.1 percent of all people in Worcester County had incomes in the past 12 months that fell below the poverty level, as depicted in **Table 6-5. Poverty in Worcester County**. More than a quarter of families with a female head of household and related children under 18 years old were considered to be living below the poverty level in the County.

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Table 6-5: Poverty in Worcester County (2023)

	Total	% below poverty level
Population for whom poverty status is determined	52,574	8.1
Families	15,341	5.2
With related children of householder under 18 years	5,136	10.5
Married Couple Families	11,815	2.7
Female Householder, no spouse	2,601	16.1

Source: 2023 ACS 5-year estimates

Incentive Zones

Worcester County is committed to creating a business-friendly environment and assisting businesses in their growth and location in the County. To assist in this area, several incentive programs are available for assistance. The following are several of the programs available in support of sustaining and creating new opportunities for providing additional services to the residents of Worcester County.

Opportunity Zones

The Opportunity Zone program is a nationwide initiative administered by the U.S. Treasury created under the 2017 Tax Cuts and Jobs Act. This program provides federal tax incentives for investment in distressed communities over 10 years. Areas designated as opportunity zones will be able to reap the benefits of capital gains to help redevelop underserved communities. Snow Hill, Berlin, and Ocean City (from the inlet to approximately 33rd Street) are designated Opportunity Zones here in Worcester County.

Enterprise Zones

Businesses locating within an enterprise zone may be eligible for real property and state income tax credits. Upon application and approval, the zone offers a ten-year credit against local real property taxes on a portion of real property improvements. Credit is 80 percent for the first five years and decreases 10 percent annually to 30 percent in the tenth and final year. The zone also offers a one-time $1,000 credit per new worker on state income taxes. In Worcester, the County has Enterprise Zones within the Berlin, Snow Hill and Pocomoke regions.

The Enterprise Zone program provides real property and state income tax credits for businesses located in a Maryland enterprise zone in return for job creation and investments. Businesses located in Focus Areas may be also qualified for personal property tax credits on new investment in personal property and enhanced income tax credit for creating new jobs.

Business and Industrial Property

Worcester County offers a diverse range of commercial and industrial spaces across its regions, spanning 2 to 80 acres. The presence of three designated Maryland Enterprise Zones (as outlined above) provides

new and expanding businesses with access to crucial property and job tax credits. Additionally, the County takes pride in its two Arts and Entertainment Districts, actively fostering and supporting diverse artistic and cultural initiatives.

Pocomoke City serves as the County's central manufacturing hub, housing the expansive 175-acre Pocomoke Industrial Park, with continued growth. Also, a designated SBA HUBZone, small and medium-sized businesses gain a competitive edge in government contracting. Additionally, there are three federally designated Opportunity Zones located in Snow Hill, Berlin, and downtown Ocean City, aiming to stimulate economic growth by offering tax incentives to investors. The VLT (video lottery terminal) program utilizes slot machine proceeds from Ocean Downs Casino to assist small, minority, and women owned businesses throughout the County.[11]

Arts and Entertainment (A&E) District

An Arts and Entertainment District is a geographically designated area in which a high concentration of arts and entertainment facilities serve as an anchor attraction. The intent of the A&E District is to stimulate neighborhood revitalization, improve the attractiveness and safety of areas, stimulate business activity (particularly in the evenings and on weekends), attract residents and visitors and build the tax base.

The tax incentives available upon the designated Arts and Entertainment District include: an income tax subtraction modification for qualifying residing artists; a property tax credit; and an exemption from the Admissions and Amusement Tax.

Worcester County is home to two A&E districts with a concentration of cultural venues and arts activities: Berlin and Snow Hill. The program stimulates revitalization and business development, attracts residents and visitors, and builds the tax base.

The designation offers incentives to artists, arts organizations and creative businesses:

- Artist Income Tax Subtraction Modification
- Property Tax Incentives
- Admissions & Amusement Tax Exemption

Strategies supported by the A&E Districts program include:

- Creating accessible and unique arts destinations
- Leveraging the state's regional identities, natural resources, and heritage
- Facilitating dynamic arts experiences that engage community and attract visitors
- Enabling artists of all disciplines to live, work, and prosper

[11] *Source: Brief Economics Facts // Worcester County, Maryland (https://commerce.maryland.gov/Documents/ResearchDocument/WorcesterBef.pdf)*

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- Investing in the power of place

Financial Resources and Incentives

Working with state, federal, and non-profit partners, business owners on Maryland's Coast have access to targeted resources to start or expand in Worcester County. From farming and fishing to technology and manufacturing, these programs incentivize job creation, innovation, and expansion.[12]

The Maryland Department of Commerce

The Maryland Department of Commerce offers programs including venture capital investments and tax credits, direct loans, grants, and loan guarantors. These programs work together to attract new companies to the state, encourage expansions and job creation and revitalize our economy.

- Enterprise Zone Property Tax Credits
- Biotech Investment Incentive Tax Credit
- Buy Maryland Tax Credit
- Job Creation Tax Credit
- Maryland R&D Tax Credit
- One Maryland Tax Credit
- Partnership for Workforce Quality
- Video Lottery Terminal Fund (VLT)

More financial resources and incentives include:

- ***Advantage Maryland*** – Provides below-market, fixed-rate direct assistance to growth-industry-businesses.
- ***Eastern Shore Entrepreneurship Center*** – Loans from $10,000 to $100,000 for small business startups.
- ***ExportMD*** – Grants of up to $5,000 to help offset international marketing costs.
- ***Manufacturing Machinery Tax Exemption*** – County tax rebate on new machinery and equipment of $10,000 or more annually.
- ***Maryland Agricultural & Resource-Based Industry Development Corp*** – Assists farm, forestry, and seafood businesses.
- ***Maryland Business Works*** – Offers 50 percent reimbursement for worker training programs.
- ***Maryland Capital Enterprises*** – Funding for small and micro businesses to start or expand.

[12] *Source: Choose Maryland's Coast - Economic Development Collateral Piece (https://www.flipsnack.com/MarylandsCoast/choose-maryland-s-coast/full-view.html)*

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- ***Maryland Industrial Partnerships*** – Matching funding program for university-based research projects.
- ***Maryland Industrial Development Financing Authority*** – Ensures repayment on percentage of principal and interest for loans.
- ***Maryland Economic Development Corporation*** – Assists in the expansion, modernization, and retention of MD businesses.
- ***MidAtlantic Trade Adjustment Assistance Center*** – Provides technical assistance and grants to businesses impacted by foreign competition.
- ***Neighborhood BusinessWorks*** – Flexible financing loans to new or expanding small businesses and non-profit organizations.
- ***Small Business Development Center (Eastern Shore Region)*** – Located at Salisbury University, SBDC offers no-cost consulting to help startups refine business plans.
- ***TEDCO*** – Manages multiple programs designed to invest in and support entrepreneurs.
- ***USDA*** – Rural Development Business Programs provide technical and financial assistance.

Worcester County Tourism and Economic Development Office

In March 2023, the Department of Tourism and the Department of Economic Development completed a rebranding process and were combined into one office – the Worcester County Tourism and Economic Development (WCTED).

Located in Snow Hill, WCTED serves business owners, employers and entrepreneurs throughout the County. Under the direction of the County Commissioners and Chief Administrative Officer, the office develops partnerships and programs to support businesses on Maryland's Coast. The Economic Development team has established their mission, "to improve the quality of life for county citizens by increasing employment opportunities, expanding the tax base, protecting our environmental assets, and creating full-time, family supporting jobs."[13] Services and technical assistance include:

- Manufacturing Machinery Tax Exemption
- Site Selection & Real Estate
- Small Business Development and Financing
- Start Up & Entrepreneurial Assistance
- Tax Incentive Navigation
- Workforce Development & Training

While Economic Development focuses on County residents, Tourism's objective is to increase visibility to outsiders and promote travel to the area. The Department maintains its own website, with information

[13] *Source: Maryland's Coast Worcester County (https://choosemarylandscoast.org/about-us/)*

on lodging options, local businesses, entertainment, and an events calendar. The “Towns” tab enables visitors to explore what town in the County has to offer, highlighting the unique features of each community and further promoting regional connectivity.

7. FISHERIES

Introduction

Maryland law requires that all counties located on tidal waters include a Fisheries element in their comprehensive plan. This chapter focuses on the designation of areas for loading, unloading, and processing finfish and shellfish, and for docking and mooring commercial fishing boats and vessels.

Goals and Objectives

To support the long-term viability of fisheries in Worcester County, a focused strategy is needed that balances economic development strategies with the preservation of working waterfronts and existing marine activity. Key objectives include maintaining commercial marine zoning at the West Ocean City (WOC) Harbor to protect it from residential encroachment, encouraging sustainable aquaculture as an economic supplement and a tool for enhancing water quality, and thoughtfully integrating tourism by promoting secondary attractions that complement—rather than compete with—core commercial marine activities.

Specific goals and recommended actions have been identified as critical to fulfilling recommendations and supporting the ongoing success of fisheries in the County:

1. **Preserve Working Waterfronts**
    - *Action Item 7.1.1:* Maintain the West Ocean City Harbor as a commercial harbor and explore opportunities for compatible tourism development.
    - *Action Item 7.1.2:* Protect seafood landing and processing facilities through zoning and land-use incentives.
    - *Action Item 7.1.3:* Sustain fisheries and recreational fishing through water quality and habitat protection measures.
    - *Action Item 7.1.4:* Enhance water quality initiatives to ensure long-term sustainability of local fisheries.
2. **Support Aquaculture**
    - *Action Item 7.2.1:* Encourage sustainable aquaculture to supplement traditional fisheries and promote water quality improvements.
    - *Action Item 7.2.2:* Promote aquaculture, including fish, clam, and oyster farming, to support the local economy.
    - *Action Item 7.2.3:* Invest in sustainable aquaculture research and development, including new methods for fish, clam, and oyster farming.
3. **Tourism Integration**
    - *Action Item 7.3.1:* Develop secondary tourism attractions around the harbor to complement commercial marine activities without compromising their primacy.
    - *Action Item 7.3.2:* Explore opportunities for compatible tourism development at West Ocean City Harbor.
    - *Action Item 7.3.3:* Promote recreational fishing opportunities through marketing campaigns targeting regional anglers.
    - *Action Item 7.3.4:* Create a regional marketing cooperative with commercial watermen to sell local products directly to consumers (for example, a fish market).
    - *Action Item 7.3.5:* Develop tourism initiatives around commercial fishing to create additional revenue streams.

7. FISHERIES

Commercial Fishing

Worcester County has a strong connection to commercial fishing, given its proximity to the Chesapeake Bay and the Atlantic Ocean. The County is home to some of Maryland's most prominent seafood operations, particularly in communities such as Ocean City. These operations process types of seafood including blue crabs, oysters, and finfish.

Commercial fishing boats have Federal fishery catch quotas that require their harvest to be landed in a Maryland port. These catches, which are processed and sold in Worcester County by Southern Connection Seafood and Martin Fish Company, have an annual market value of more than $3.7 million (2022).

Worcester County has more than 15 public boat ramps that provide access to local waters for both recreational and commercial fishing. The County also has several private and commercial docks, especially in and around Ocean City.

The Ocean City Inlet allows smaller vessels to travel between the Atlantic Ocean and coastal bays. Most commercial boats moor in the West Ocean City (WOC) Harbor, which is adjacent to the inlet. The WOC Harbor enables commercial fishing operations to offload their catch, and it also features dedicated facilities for seafood processing and shipping.

Within this harbor, the County hosts the annual “Harbor Day at the Docks,” a waterfront festival which celebrates the County’s rich history and maritime heritage, as well as sport fishing and commercial fishing industries. The harbor’s commercial fishing buy operations also host Maryland’s horseshoe crab bleed operations, generating necessary products used by drug and medical device makers to test for dangerous impurities in vaccines, prosthetics and intravenous drugs. The bleed operations are a key supplier of the state’s biopharma and life sciences companies, which is key sector of Maryland’s economy.

Besides the County’s commercial marine facilities located in the West Ocean City Harbor, there is another commercial marina supporting watermen and aquaculture efforts in the Coastal Bays. The Baywater Marina in Snow Hill, perched on the shores of the Chincoteague Bay, is the only commercial marina located south of the Ocean City Inlet north of the Virginia state line.

These commercial marina areas accommodate businesses that supply and cater to marine activities and needs. The County is a destination for boating, both for people who choose it as a place to dock their boat and for people who visit and perhaps would like to rent or charter a vessel for recreational purposes. Opportunities abound to enhance these destinations, grow local businesses, and increase outdoor tourism.

Promoting and Protecting the Seafood Industry

Charter boat services accommodate visitors looking for the opportunity to fish, crab, or cruise the waters of the Coastal Bays, the Atlantic Ocean, and the County’s rivers. Within the Maryland Land Use Article, there is a requirement for counties located on tidal waters to include a Fisheries Element that designates areas on or near tidal waters for the loading, unloading, and processing of finfish and shellfish and for the docking and mooring of commercial fishing boats and vessels. Such areas are

geographically located to facilitate the commercial harvesting of finfish and shellfish and to ensure reasonable access to the waterways by commercial watermen.

Given the historical significance of the seafood industry to the County's economy and to its culture, a number of locations within Worcester County meet these criteria. An indicator of the importance that the County places on ensuring and promoting the survival of the seafood industry was the establishment of the Commercial Marine District in the West Ocean City Harbor. Noting the critical need to preserve and protect Worcester County's commercial fishing industry, the County Commissioners established the Commercial Marine (CM) district and adopted sectional rezoning maps for the area in 1999. In the resolution approving this change, the Commissioners noted that "the commercial fishing industry has substantial historical, cultural and economic values for Worcester County and its protection is critical." Not only does the commercial fishing industry play a key role in the overall health and diversity of Worcester County's economy, but the CM district that receives the fleet's catch is a part of the required justification for federal maintenance of the Ocean City Inlet.

Tourism

Near the WOC harbor is the site of the world's largest billfish tournament, the White Marlin Open. The White Marlin Open is a 52-year-old deep-sea fishing tournament that is incredibly important to the area's history and has a large impact on the local economy. In 2023, this annual tournament generated 130 jobs, attracted 3,500 anglers, and awarded roughly $10.5 million in prize money. In addition to the thousands of participants, the event also brings in thousands of spectators.

Worcester County's commercial and sport fishing industries depend on the commercial marine support provided in and around the WOC harbor, the only harbor in Maryland with direct access to the Atlantic Ocean.

Challenges

While the County supports commercial fishing licenses and operations, it faces challenges from seasonal and supply fluctuations, state regulations, and pressures to rezone. Despite the current access points, CM District establishment and processing facilities, the County's seafood industry may face challenges with its ongoing viability as a sustainable business sector.

Offshore wind projects are one such threat. Another is the extent of dredging needed to keep the Ocean City Inlet and the federal channels open to the Atlantic Ocean and Coastal Bays for commercial fishing operations. Silted-in channels can prevent access or cause circuitous routes for the commercial boats to access the Ocean and Bays raising operational costs. While the current Maryland Coastal Bays Report Card has a grade of B-, declining water quality and habitats will continue to be a threat to the County's fisheries.

While the County supports commercial fishing licenses and operations, it faces challenges from seasonal and supply fluctuations, and state regulations. Competing land uses can bring pressures to rezone. In support of marine activities as the primary use of the zoning district, the purpose and intent statement specifically prohibits recourse against the effects of any normal commercial fishing or other commercial

marine activity or operation in the district, including but not limited to noise, odor, vibration, fumes dust or glare.

8. NATURAL RESOURCES

Introduction

Natural resources and sensitive areas including streams, coastal bays, wetlands and their buffers, floodplains, habitats of threatened or endangered species, agricultural and forested lands, and many other protected areas and resources are important to the County to promote tourism, support forestry, agricultural, and fishing industries, and are essential to the County's quality of life and appeal for residents and visitors alike. However, these sensitive areas can be vulnerable to adverse impacts from development activities, residential and tourist use, and climate change. This Environmental Resources and Sensitive Areas chapter provides information and guidance on protecting these natural resources and sensitive areas.

Goals and Objectives

Worcester County recognizes the importance of protecting its natural resources and will continue to do so by establishing and strengthening regulations, encouraging voluntary action and preparing for the future as climate change becomes an increasing threat. The County has developed several goals and recommendations that are discussed in more detail below:

1. **Implement resource protection, conservation, and preservation strategies that promote high water quality and protect aquatic life and ecological function throughout Worcester County.**
    - *Action Item 8.1.1:* Continue to monitor state and federal regulation changes with respect to natural resources protection and update the County code, as necessary.
    - *Action Item 8.1.2:* Continue the County's participation as a partner working within the Maryland Coastal Bays Program's Comprehensive Conservation and Management Plan (CCMP) for the restoration and protection of Maryland's Coastal Bays.
    - *Action Item 8.1.3:* Adopt updated Critical Area map and continue to implement the Critical Area Program to minimize adverse effects of human activities on water quality and natural habitat and allow for development in a sensitive manner.
    - *Action Item 8.1.4:* Support State programs for the protection and the restoration of wetlands and consider a no net loss policy.
    - *Action Item 8.1.5:* Establish a standard stream buffer of 100 feet for perennial streams and 50 feet for intermittent streams outside of the Critical Area.
2. **Undertake land preservation and other efforts to preserve and expand open space, forests and other "greenways" to protect habitat diversity, create biodiversity corridors, and provide contiguous areas for safe movement of people and animals throughout the County.**
    - *Action Item 8.2.1:* Use codes and plan reviews to ensure native, non-invasive vegetation is preserved and/or planted along waterways, and within parks, open spaces, and public rights-of-way to the extent practicable.
    - *Action Item 8.2.2:* Establish and implement an invasive species removal program and focus on planting native species within natural areas and forest lands.
    - *Action Item 8.2.3:* Support the continued implementation of the Forest Mitigation Plan and Accounting Procedure.
    - *Action Item 8.2.4:* Consider establishing a specific no net loss of forest policy for the County within the requirements of the revised state Forest Conservation Act (FCA) law.
    - *Action Item 8.2.5:* Permanently preserve agricultural land capable of supporting agricultural production.

- *Action Item 8.2.6:* Protect natural, forestry, and historic resources and the rural character of the landscape associated with farmland.
- *Action Item 8.2.7:* To the greatest degree possible, concentrate preserved land in large, contiguous blocks to effectively support long-term protection of resources and resource-based industries.

3. **Prepare for and protect against impacts to natural resources, people, and infrastructure from the impacts of climate change.**
    - *Action Item 8.3.1:* To accommodate storm surges, nuisance flooding, and climate change, prevent development in mapped flood zones and evaluate the appropriateness of going beyond FEMA requirements.
    - *Action Item 8.3.2:* Adopt local mitigation, floodplain management, and outreach activities that exceed the minimum National Flood Insurance Program (NFIP) and allow for the application for Community Rating System (CRS) participation through the Federal Emergency Management Agency (FEMA).
    - *Action Item 8.3.3:* Review the CoastSmart CS-CRAB boundary and ensure projects that are regulated under CoastSmart apply the correct horizontal limits of floodplains for consideration during design.
    - *Action Item 8.3.4:* Complete an updated inventory of eroding shorelines and consider stabilization methods to mitigate erosion for the most critical areas, with nonstructural or living shoreline approaches preferred.
    - *Action Item 8.3.5:* Complete an inventory and assess vulnerability of older commercial and residential structures to prepare for the anticipated higher frequency of heavy rainfall events.
    - *Action Item 8.3.6:* Direct concentrated growth away from vulnerable areas to planned growth areas to protect environmental resource and take advantage of adequate and adjacent infrastructure to accommodate residential and commercial expansion in an orderly, cost-effective and environmentally sustainable manner.
    - *Action Item 8.3.7:* Educate public on Maryland's new requirements for energy usage performance reporting.
    - *Action Item 8.3.8:* Educate residents on how to deal with heat waves and erratic weather to help prepare for such events and prevent the dangers of high temperatures.

Guiding Principles and Legislation

The guiding principles set forth in this plan help to foster protection, preservation, and conservation of natural resources and sensitive areas. Adhering to these principles provides for management of existing and future development in a way that sustains current and future populations, the environment, and the County's economic vitality. These guiding principles include:

- Careful management of natural resources and sensitive areas with goals of restoring and maintaining healthy natural systems.
- Focusing future growth within existing growth areas to ensure protection of natural resources and sensitive areas and to create resilient communities.

- Leveraging existing environmental programs and establishing new initiatives that foster universal stewardship of natural resources and sensitive areas, resulting in sustainable communities and protection of the environment.
- Collaboration with government, businesses, and residents for creation and maintenance of hazard-resilient communities that balance sustainable growth and resource protection.
- Encouraging opportunities with respect to the County's tourism and resource-based economy.

Legislation and Policies

The State's Land Use Article, which incorporates the provisions of the 1992 Economic Growth, Resource Protection, and Planning Act, requires local governments to include a "Sensitive Areas" element in their Comprehensive Plans. This element must include goals, objectives, principles, policies, and standards designed to protect the following sensitive areas from the adverse impacts of development:

- Streams or wetlands and their buffers
- Floodplains
- Habitats of threatened or endangered species
- Steep Slopes
- Agriculture or forest lands intended for resource protection or conservation
- Other areas in need of special protection

Maryland Land Use Article also requires comprehensive plans to include a Mineral Resources Element. The element must incorporate land use policies and recommendations for regulation necessary:

- To balance mineral resource extraction with other land uses.
- To the extent feasible, prevent the preemption of mineral resource extraction by other uses.

The County has a comprehensive program in place to protect natural resources and sensitive areas, including adherence to State and federal regulations and protections within the County ordinances and the development code. The County will monitor State and federal regulation changes with regard to natural resources and sensitive areas protection and will update ordinances, as necessary.

Federal and State Regulations

- **Clean Water Act, Section 404**. The US Army Corps of Engineers (USACE) regulates the discharge of dredged or fill material into wetlands. The USACE district office determines whether various activities such as placement of fill material, levee and dike construction, mechanized land clearing, land leveling, transportation infrastructure construction, and dam construction require a permit.
- **Endangered Species Act.** The primary purpose of this Act is to protect wildlife, fish, and plants that are listed as threatened or endangered species by prohibiting their import or export and by preparing plans for their recovery.
- **Maryland Department of the Environment**, **Land Management Administration (LMA).** The LMA is responsible for licensing and permitting processes associated with mining activities, sewage sludge utilization, refuse disposal, groundwater discharge permits for rubble landfills, and other related permitting to protect the environment.

- **Maryland Forest Conservation Act.** The main purpose of this Act is to minimize the loss of Maryland's forest resources during land development by making the identification and protection of forests and other sensitive areas an integral part of the site planning process. Depending on the type or size of proposed development, Forest Stand Delineations and Forest Conservation Plans may be required.
- **Maryland Non-tidal Wetlands Protection Act.** The Maryland Department of the Environment (MDE), Nontidal Wetlands and Waterways Division ensures there is no overall net loss of non-tidal wetland acreage and reviews the following construction activities: grading or filling, excavating or dredging, changing the existing drainage pattern, disturbance of water levels or water table, or destroying or removing vegetation. Permits are required for activities that alter a non-tidal wetland or wetland buffer.
- **Chesapeake Bays and Coastal Bays Critical Areas Program.** The Maryland General Assembly passed the Chesapeake Bay Critical Area Protection Program legislation in 1984 due to the decline of certain Chesapeake Bay natural resources. The Act was amended in 2002 to include the Maryland Atlantic Coastal Bays. The Critical Area includes all land within 1,000 feet of Maryland's tidal waters and tidal wetlands. It also includes the waters of the Chesapeake Bay, the Atlantic Coastal Bays, their tidal tributaries, and the lands underneath these tidal areas. As a result, each Maryland county and municipality fronting the Bay or its tributaries had to adopt a local Critical Area Plan and development ordinances, based on criteria established by the Critical Area Commission, which required that new development within the Critical Area minimize impacts on the Bay's water quality and plant, fish, and wildlife habitat.
- **Maryland Tidal Wetlands Act.** MDE manages tidal wetlands and provides resource protection for the activities such as filling open water and vegetated wetlands, construction of piers, bulkheads, revetments, dredging, and marsh establishment.
- **Maryland's Stormwater Management Act of 2007**. These regulations, effective May 4, 2009, require Environmental Site Design (ESD) through the use of nonstructural best management practices and other better site design techniques to be implemented to the maximum extent practicable.
- **Policy for Nutrient Cap Management & Trading**. MDE has developed this policy to support restoration of the Chesapeake Bay watershed while accommodating expected population growth. While the trading regulations presently apply only to the Chesapeake Bay basin, Worcester County has requested the extension of nutrient trading regulations to the Atlantic Coastal Bays watershed.
- **Water Quality Infrastructure Program.** This program, administered by MDE, provides grants and loans for sewage treatment and drinking water system upgrades through the State's Biological Nutrient Removal (BNR) Cost-Share Grants Program, Supplemental Assistance Program, and State Revolving Loan Fund (SRF).
- **Living Shorelines Protection Act.** The Living Shorelines Protection Act of 2008 requires Maryland shoreline property owners to use natural materials to prevent erosion, except in areas where it can be demonstrated that these measures are not feasible. In making feasibility determinations, MDE considers areas of excessive erosion, areas subject to heavy tides, and areas too narrow for effective use of nonstructural measures. The goal of the act is to help communities become more resilient to climate change.

- **Robert T. Stafford Disaster Relief & Emergency Assistance Act**. In 2000, the Stafford Act enacted the Disaster Mitigation Act and, by FEMA's Interim Final Rule published in 2002, established in the Maryland Code that each Maryland jurisdiction adopt and maintain a Hazard Mitigation Plan (HMP). The HMP ensures eligibility for funding and technical assistance from State and federal hazard mitigation programs. It addresses natural hazards determined to be of high and moderate risk as defined by the updated results of the local hazard, risk, and vulnerability summary. Natural hazards continue to be evaluated during 5-year update cycles and include coastal resiliency planning priorities.
- **Chesapeake Bay Restoration Act.** This Act and subsequent policies, programs, and regulations address Bay restoration. This Act established the Chesapeake Bay Restoration Fund administered by MDE for upgrading the 66 largest wastewater treatment plants to Enhanced Nutrient Reduction (ENR) standards. This Act established the Septic Upgrade Program to remove nitrogen, and the fee paid by onsite sewage disposal system (OSDS) or septic users to fund the upgrade of septic systems with nitrogen-reducing technologies through the Septic Upgrade Program as well as connections of septic systems to sewers.
- **Maryland Model Floodplain Management Ordinance (FPMO).** MDE prepared the Maryland Model FPMO (January 2018) in response to the requirement that local jurisdictions adopt regulations that are fully compliant with the requirements of the National Floodplain Insurance Program (NFIP). For most communities, the requirement to update regulations is triggered by revisions to the Flood Insurance Rate Maps (FIRMs) and associated Flood Insurance Study (FIS).
- **Maryland Coastal Bays Program.** The Maryland Coastal Bays Program is one of the 28 National Estuary Programs receiving EPA funding for the restoration and protection of "estuaries of National significance." This grassroots, multi-stakeholder program collaborates to restore and protect the Maryland Coastal Bays watershed, which supports abundant wildlife, aquatic resources, and serves as a unique opportunity for tourists and residents to relax and recreate (the watersheds are both rural and urban). The towns of Ocean City and Berlin cooperate with the National Park Service, Worcester County, the EPA, and the Maryland Departments of Natural Resources, Agriculture, Environment and Planning to establish and implement a comprehensive plan (CCMP) for management of this sensitive resource.
- **Rural Legacy Program.** The Rural Legacy Program was created to discourage sprawl development and protect areas, designated by local government, for future generations to enjoy. Under the program, landowners sell or donate their development rights as an alternative to developing or subdividing their land or selling their property to developers. This option provides farmers and landowners the ability to retain ownership to continue growing crops, harvest timber or limited raising of livestock (similar to the MALPF program). Purchasing and placing perpetual easements also helps to protect natural resources in areas identified as particularly important to conserve, therefore supporting protection of water quality and habitat through additional protections including vegetated buffers and limitations on impervious surface. In Worcester County specifically, these easements provide habitat and water quality benefits to the Coastal and Chesapeake Bays and the local watersheds. This program is funded through DNR Program Open Space Funds and State general obligation bonds. Worcester County has established three Rural Legacy Areas (RLAs): The Coastal Bays (Chincoteague Bay Watershed) RLA, established in 1999, The Dividing Creek RLA,

established in 2008, and the Bishopville-Showell RLA, established in 2024. To date, the County has protected more than 13,300 acres of farmland and forests. The County has a goal of protecting an additional 2,000 acres within each Rural Legacy Area within the next 10 years.

- **Watershed Planning.** Watershed restoration plans (WRAS) have been completed for the Isle of Wight, Newport and Sinepuxent Bay subwatersheds. These documents provided a strategy for watershed protection and improvement, and outline locations and priorities for land use, best management practices (BMPs) and restoration of wetlands, habitats, and waterways. The WRAS program in Maryland has been molded into the WIP Phase III program for Chesapeake Bay watershed, and as part of the combined Coastal Bays Watershed Plan prepared in 2019 for the Atlantic Coastal Bays Watersheds for TMDL compliance as there was no comparable plan enacted for WIPs for the Coastal Bays. The Assawoman Watershed component of that plan has received plan approval from MDE and the EPA, making it eligible for Section 319 grant funding.
- **Maryland Environmental Trust.** The Maryland Environmental Trust (MET) was created in 1967 to protect Maryland's natural environment and is the state's primary recipient of donated conservation easements. MET is affiliated with the Maryland Department of Natural Resources (DNR) and governed by a citizen board of trustees. It is one of the oldest and largest land trusts in the country and has protected over 129,000 acres of scenic open space, primarily with donated conservation easements. It seeks to protect farms and forest lands, wildlife habitat, waterfront acreage, natural areas, historic sites, and valuable scenic features. MET and its cooperating local land trusts prefer to accept donations on lands greater than 25 acres, though there is no fixed minimum parcel size. Donations are accepted throughout the year. A property owner may benefit from a donated conservation easement by the federal income tax deduction, the Maryland property tax credit, the Maryland income tax credit, and through estate tax savings. MET promotes the protection of natural, historic and scenic resources through its Land Conservation Program, Stewardship Program and Land Trust Assistance Program and provides grants to non-profit organizations for environmental education projects through its Keep Maryland Beautiful Program. In Worcester County, most easements held by MET are co-held by the Lower Shore Land Trust.
- **Maryland Agricultural Land Preservation Foundation.** The Maryland Agricultural Land Preservation Foundation (MALPF) purchases agricultural preservation easements that forever restrict development on prime farmland and woodland. Worcester County continues to have a "certified" agricultural land preservation program (as of July 1, 2004). This allows the County to retain additional transfer tax and access additional state funding match for purchase of agricultural easements through MALPF.

County Regulations

The following is a list of key County code sections that pertain to natural resources and sensitive areas:

- **NR 1-III: Agricultural Land Preservation.** Agricultural land preservation program that protects agricultural land and woodland from development. This program allows owners of qualifying land to sell easements to the state, permanently protecting their land for agricultural use. Efforts to preserve agricultural land also leads to the protection of wildlife and the environmental quality of the Chesapeake and Coastal Bays and their many valuable tributaries.

- **NR 1-IV: Forest Conservation.** The Worcester County Forest Conservation Law was enacted under the Maryland Forest Conservation Act, which requires all county governments to adopt local forest conservation programs. The purpose of the Worcester County Forest Conservation Program is to "preserve, protect, and establish forest areas in conjunction with certain land development activities."
- **NR 2-I: Shoreline Construction.** The Natural Resources Division of the Department of Environmental Programs is responsible for all aspects of the Shoreline Construction process. These responsibilities include the intake, review, and approval of applications during the beginning stages of the project and also subsequent permitting and inspections duties that occur during the construction and/or installation of improvements to ensure they are completed in accordance with their approved plan and building standards.
- **NR 3-I: Coastal Bays Critical Area.** The County completed a comprehensive update of the Critical Areas ordinance in July 2024 with Bill No. 24-05. This update included all state regulatory changes relevant to the Critical Areas law and combined the Atlantic Coastal Bays and Chesapeake Bay codes into a single ordinance.
- **BR 2-III: Floodplain Management.** The purpose of this chapter is to protect human life, health, and welfare; encourage utilization of construction practices to prevent or minimize future flood damage; minimize flooding of water supply and sanitary sewage disposal systems; maintain natural drainage; reduce financial burdens by discouraging unwise design and construction in areas subject to flooding; minimize need for rescue and relief efforts associated with flooding; minimize prolonged business interruptions; minimize damage to public facilities and utilities; reinforce those building in and occupying special flood hazard areas should assume responsibility for their actions; minimize impact of development on adjacent property within and near flood prone areas; provide and maintain flood storage and conveyance functions; minimize development impact on the natural and beneficial functions of floodplains; prevent floodplain uses that are hazardous or environmentally incompatible; and meet participation requirements of the National Flood Insurance Program (NFIP).

Significant Updates Since the 2006 Comprehensive Plan

Since the adoption of the 2006 Comprehensive Plan, Worcester County has adopted and passed multiple environmental resolutions and bills. These include:

- **The 2006 Comprehensive Plan Amendments**. The 2006 Comprehensive Plan was amended in 2009 to add a Priority Preservation Areas Element (PPA) to identify specific areas of the County where agricultural land preservation is highest priority, to institutionalize the County's certified Agricultural Preservation Program and further the County's conservation objectives to ensure the long-term viability of agricultural and forestry resources in the County. The plan was also amended in 2011 to add a Water Resources Element (WRE) which detailed examinations on suitability of water and water resources that will be adequate for the needs of existing and future development proposed in the Land Use Element of the Comprehensive Plan.
- **Resolution 12-7 Adopting 2012 Land Preservation, Parks and Recreation Plan.** The County updated and replaced the 2006 Plan, which identifies specific actions for improving parks, recreation, and open space preservations in Worcester County. Plans were also adopted in 2017 and 2023.

- **Resolution 14-22 Adopting 2014 Hazard Mitigation Plan Update.** The County updated and replaced the 2006 Hazard Mitigation Plan to include new data, mapping, HAZUS Level 2 Analysis, status of 2006 recommendations and new Mitigation Strategies and Actions.
- **Resolution 18-6 Adopting 2017 Land Preservation, Parks, and Recreation Plan.** The County updated and replaced the 2012 Plan.
- **Resolution 18-10 Adoption of Hurricane Evacuation Zone Maps Under FEMA's Know Your Zone Program.** Developed and adopted Hurricane Evacuation Zone Maps in support of the Know Your Zone Program to help educate the public on knowing when to evacuate a specific area in the event of a hurricane or other critical emergency.
- **Resolution 19-4 Adopting Revisions to 2017 Worcester County Land Preservation, Parks and Recreation Plan.** The County adopted proposed revisions to the 2017 Plan, including an updated total acreage of land protected by Lower Shore Land Trust.
- **Resolution 20-31 Adopting the 2020 Worcester County Hazard Mitigation and Resilience Plan.** The County adopted the 2020 Worcester County Hazard Mitigation and Resilience Plan, which identifies various hazard types, associated risks, and ways to address vulnerabilities.
- **Resolution 22-3 Modifying the Land Classification Designation for a Single Property in the Atlantic Coastal Bays Critical Area to Correct a Mapping Error.** The County amended a mapping area for a property in the Coastal Bays Critical Area. The land use classification for this property was amended from Resource Conservation Area (RCA) to Limited Development Area (LDA).
- **Bill 20-3 Natural Resources – Special Events in Resource Conservation Areas.** Establishes certain standards for events within Resource Conservation Areas of the Atlantic Coastal Bays Critical Area, including: activities must generally occur outside of the buffer area, and requiring compliance with and protection of Habitat Protection Areas.
- **Bill 20-4 Natural Resources – Forest Conservation Law.** Repealed and reenacted a subsection of the Worcester County Forest Conservation Law regarding the amount of payment in lieu of afforestation and reforestation to require a person subject to this law to demonstrate to the satisfaction of the Department that they are unable to accomplish afforestation or reforestation onsite or offsite and appropriate credits generated by a forest mitigation bank in the County or in the same watershed are not available, before they shall be permitted to contribute money into the Forest Conservation Fund. Also established a rate of thirty and one half (30.5) cents per square foot for payments in lieu of afforestation and reforestation for projects located within a priority funding area, and 120 percent of the aforesaid rate for projects located outside a priority funding area, and provided that said rate may be adjusted annually for inflation.
- **Bill 21-8 Natural Resources – Critical Area Law.** Various changes were made to the Critical Area Law as written in the Worcester County Annotated Code, primarily to update it to reflect current State regulations.
- **Bill 23-09 – LRPRP Update.** This update reflected MDOT bikeways grant for 611 and the shared use path network along with new analysis and goals discussion and a revised Capital Improvements Program (CIP) that includes information from municipalities. The update also summarized public feedback on recreational/open space needs, updated parks and recreation inventory, and provides a level of service, proximity analysis and equity analysis to identify deficiencies and support the CIP.

- **Bill 24-05 Natural Resources – Worcester County Critical Area Law.** Amended the Worcester County Chesapeake and Atlantic Coastal Bays Critical Area Law to update and combine the Chesapeake and Atlantic Coastal Bays and their tributaries to comply with State law.

Physiography

Worcester County is part of the Delmarva Peninsula, the three-state region named for the states of Delaware, Maryland, and Virginia. This peninsula is the largest on the East Coast at 170 miles in length and 70 miles in width. Worcester County is the seventh largest County in Maryland with a land area of 490 square miles. Adjacent to the Atlantic Ocean, Worcester County provides Maryland's only ocean beach frontage with 31 miles of beach. The County's Coastal Bays afford protection for aquatic resources, support abundant wildlife, and offer recreational benefits for tourists and residents. In the western portion of the County, the Pocomoke River is one of the state's Wild and Scenic Rivers and serves as a navigable waterway connecting to the Chesapeake Bay.

The County is in the Atlantic Coastal Plain geophysical region of the State of Maryland. The Atlantic Coastal Plain is the largest physiographic province in Maryland and is underlain by a wedge of unconsolidated sediments including gravel, silt, sand and clay **(Map 8-1 Geology).** This wedge thickens as you travel eastward to the Atlantic coastline. Mineral resources are mainly sand and gravel, which are often used by the construction industry as aggregate materials. The landforms of the Coastal Plain have an important effect upon the retention and infiltration of rainfall, the hindrance of runoff, and the discharge of groundwater by evapotranspiration.

Land elevation in the County ranges from sea level to approximately sixty feet. The topography is level to gently rolling, with most of the land lying between twenty- and forty- feet above sea level. Coastal Bay tributaries in the east provide surface drainage with the St. Martin's River provides drainage for the northernmost party of the County, and the Pocomoke River and its tributaries drain the remaining two-thirds of the County.

The Coastal Bays and their tributaries cut across several different historical geologic formations. The primary formations – the Omar, Ironshire, and Sinepuxent formations – were deposited and eroded as sea level rose and fell during the glacial and intervening intergalactic episodes of the Pleistocene. The most recent Quaternary deposits represent tidal marshes that developed during the most recent sea level rise or transgression, which began approximately 18,000 years ago. All these formations have one thing in common: they are composed of unconsolidated sediments, such as gravel, sand, silt and clay. While the sediments are compacted, they have not been lithified or turned into rock and are therefore easily eroded.

The Coastal Bays are bordered on the east by two barrier islands, Fenwick, and Assateague, which serve as major tourist attractions. These barrier islands enclose five bays: Assawoman Bay, Isle of Wight Bay, Sinepuxent Bay, Newport Bay, and Chincoteague Bay. Coastal processes operating along the barrier islands, particularly episodic storms that move sediment from the ocean side to the bay side of the islands or that open inlets through the islands, affect the present-day geology of the Bays.

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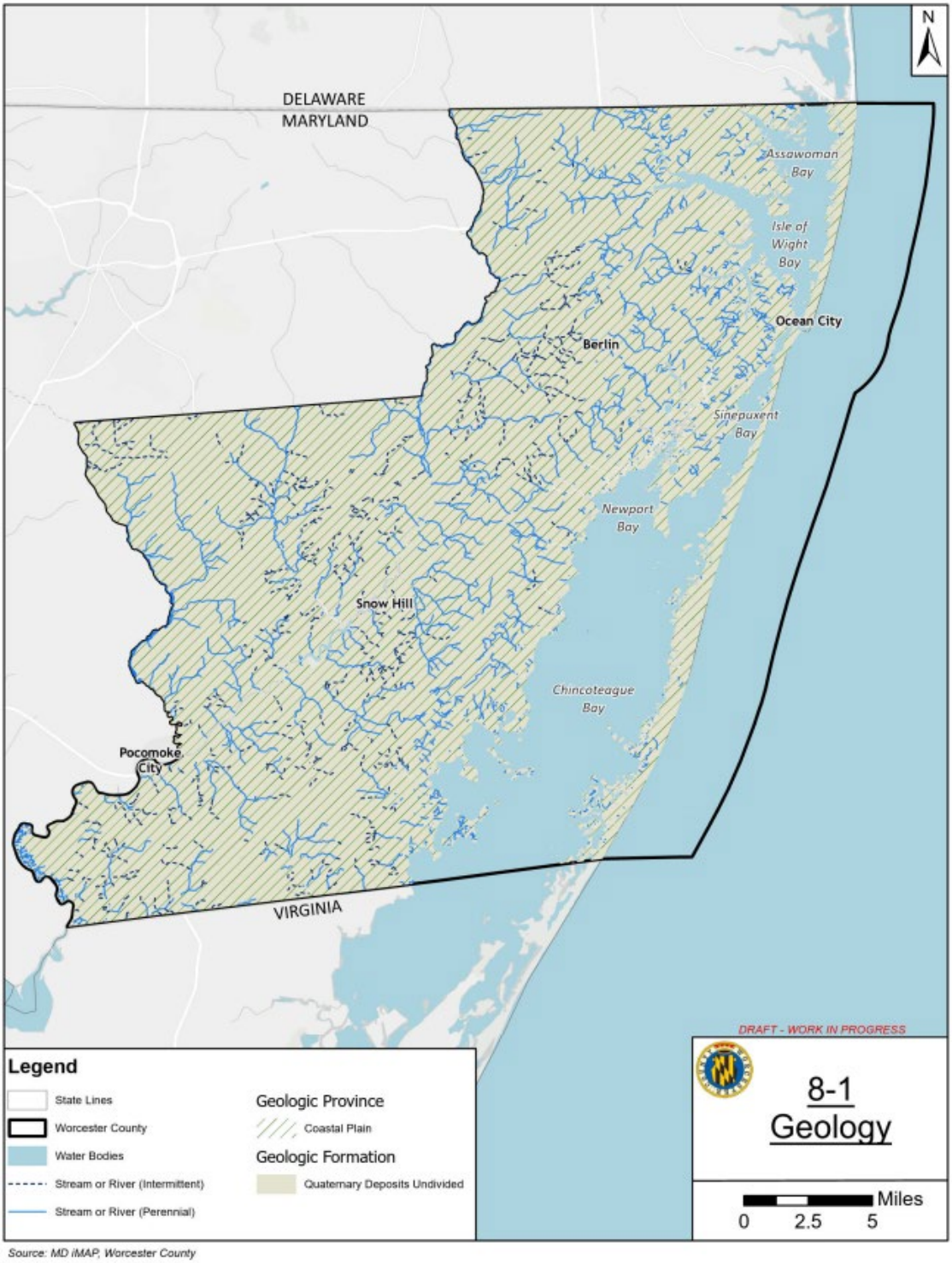
Map 8-1: Geology



Source: MD iMAP, Worcester County

8. NATURAL RESOURCES

Soils

The most current soil survey data is a product of the National Cooperative Soil Survey (NCSS), a joint effort of the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), other federal and State agencies, and local partnerships. The soil survey data identifies specific soil types and their limitations, which is important in determining whether they can support development. Examples of constraining factors can include steep slopes, wetness, depth to bedrock, frost action, shrink/swell, erosion factors, and flooding.

All seven recognized classes of natural soil drainage are represented in the County: excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. General definitions for each drainage class and the percent of soils in the County associated with each drainage class, as defined by the USDA, are below:

Excessively drained (3 percent): Water is removed very rapidly. The occurrence of internal free water commonly is very rare or very deep.

Somewhat excessively drained (3 percent): Water is removed from the soil rapidly. Internal free water occurrence commonly is very rare or very deep.

Well drained (11 percent): Water is removed from the soil readily but not rapidly. Internal free water occurrence commonly is deep or very deep; annual duration is not specified. Water is available to plants throughout most of the growing season in humid regions. Wetness does not inhibit growth of roots for significant periods during most growing seasons.

Moderately well drained (10 percent): Water is removed from the soil somewhat slowly during some periods of the year. Internal free water occurrence commonly is moderately deep and transitory through permanent rock. The soils are wet for only a short time within the rooting depth during the growing season, but long enough that most terrestrial plants that are not adapted to particularly wet conditions are affected.

Somewhat poorly drained (2 percent): Water is removed so slowly that the soil is wet at a shallow depth for significant periods during the growing season. The occurrence of internal free water commonly is shallow to moderately deep and transitory to permanent. Most terrestrial plants that are not adapted to particularly wet conditions have restricted growth unless artificial drainage is provided. The soils commonly have one or more of the following characteristics: low or very low saturated hydraulic conductivity, a high-water table, additional water from seepage, or nearly continuous rainfall.

Poorly drained (27 percent): Water is removed so slowly that the soil is wet at shallow depths periodically during the growing season or remains wet for long periods. Most terrestrial plants that are not adapted to particularly wet conditions cannot be grown unless soil is artificially drained. The occurrence of internal free water is shallow or very shallow and common or persistent. The soil, however, is not continuously wet directly below plow-depth.

Very poorly drained (22 percent): Water is removed from the soil so slowly that free water remains at or very near the ground surface during much of the growing season. The occurrence of internal free water is very shallow and persistent or permanent. Most terrestrial plants that are not adapted to

particularly wet conditions cannot be grown unless soil is artificially drained. The soils are commonly level or depressed and frequently ponded.

The remainder of the land (22 percent) is not classified by drainage class, as it is water, developed land, or subaqueous.

Table 8-1: Worcester County Soils, groups soil descriptions by their drainage class, which refers to the frequency and duration of wet periods under conditions like those that were present when the soil formed **(See Map 8-2, Soils).** Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil.

Table 8-1: Worcester County Soils

Drainage Class	Soil Name
Excessively Drained	Acquango sand, 5 to 10 percent slopes, occasionally flooded; Evesboro loamy sand, 0 to 2, 2 to 5, and 5-15 percent slopes; Runclint loamy sand, 0 to 2 and 2 to 5 percent slopes
Somewhat Excessively Drained	Cedartown-Rosedale complex, 0 to 2 and 2 to 5 percent slopes; Galestown loamy sand, 0 to 2, 2 to 5, and 1 to 10 percent slopes
Well Drained	Fort Mott loamy sand, 0 to 2 and 2 to 5 percent slopes; Hambrook sandy loam, 0 to 2 and 2 to 5 percent slopes; Matapeake fine sandy loam, 0 to 2 and 2 to 5 percent slopes; Matapeake silt loam, 0 to 2 and 2 to 5 percent slopes; Nassawango fine sandy loam, 0 to 2 and 2 to 5 percent slopes; Nassawango silt loam, 0 to 2 and 2 to 5 percent slopes; Rosedale loamy sand, 0 to 2 and 2 to 5 percent slopes; Sassafras sandy loam, 0 to 2, 2 to 5, and 5 to 10 percent slopes, Northern Tidewater Area; Udorthents, loamy, 0 to 5 percent slopes
Moderately Well Drained	Brockatonorton sand, 0 to 2 and 2 to 5 percent slopes, occasionally flooded; Hammonton loamy sand, 0 to 2 percent slopes, Northern Tidewater Area; Hammonton loamy sand, 2 to 5 percent slopes; Mattapex fine sandy loam, 0 to 2 ad 2 to 5 percent slopes; Mattapex silt loam, 0 to 2 and 2 to 5 percent slopes, Northern Tidewater Area; Woodstown sandy loam, 0 to 2 and 2 to 5 percent slopes, Northern Tidewater Area
Somewhat Poorly Drained	Klej loamy sand, 0 to 2 and 2 to 5 percent slopes
Poorly Drained	Askecksy loamy sand, 0 to 2 percent slopes; Elkton sandy loam, 0 to 2 percent slopes; Elkton silt loam, 0 to 2 percent slopes; Fallsington sandy loams, 0 to 2 percent slopes, Northern Tidewater Area; Fox Hill sand, 0 to 2 percent slopes, frequently flooded; Hurlock loamy sand, 0 to 2 percent slopes; Othello silt loams, 0 to 2 percent slopes, Northern Tidewater Area; Zekiah sandy loam, frequently flooded
Very Poorly Drained	Beaches, very frequently flooded; Berryland mucky loamy sand, 0 to 2 percent slopes; Broadkill mucky silt loam, 0 to 1 percent slopes, very frequently flooded, tidal; Boxiron and Broadkill soils, 0 to 2 percent slopes, very frequently flooded, tidal; Chicone mucky silt loam, frequently flooded; Kentuck silt loam; Longmarsh and Indiantown soils, 0 to 1 percent slopes, frequently flooded; Manahawkin muck, 0 to 2 percent slopes, frequently flooded, Northern Tidewater Area; Mullica-Berryland complex, 0 to 2 percent slopes; Nanticoke and Mannington soils, 0 to 1 percent slopes, very frequently flooded, tidal; Puckum muck, 0 to 2 percent slopes, frequently flooded, occasionally ponded; Purnell peat, 0 to 1 percent slopes, very frequently flooded, tidal; Sunken mucky silt loam, 0 to 2 percent slopes, occasionally flooded, tidal; Transquaking and Mispillion soils, 0 to 1 percent slopes, very frequently flooded, tidal

Source: NCSS Web Soil Survey

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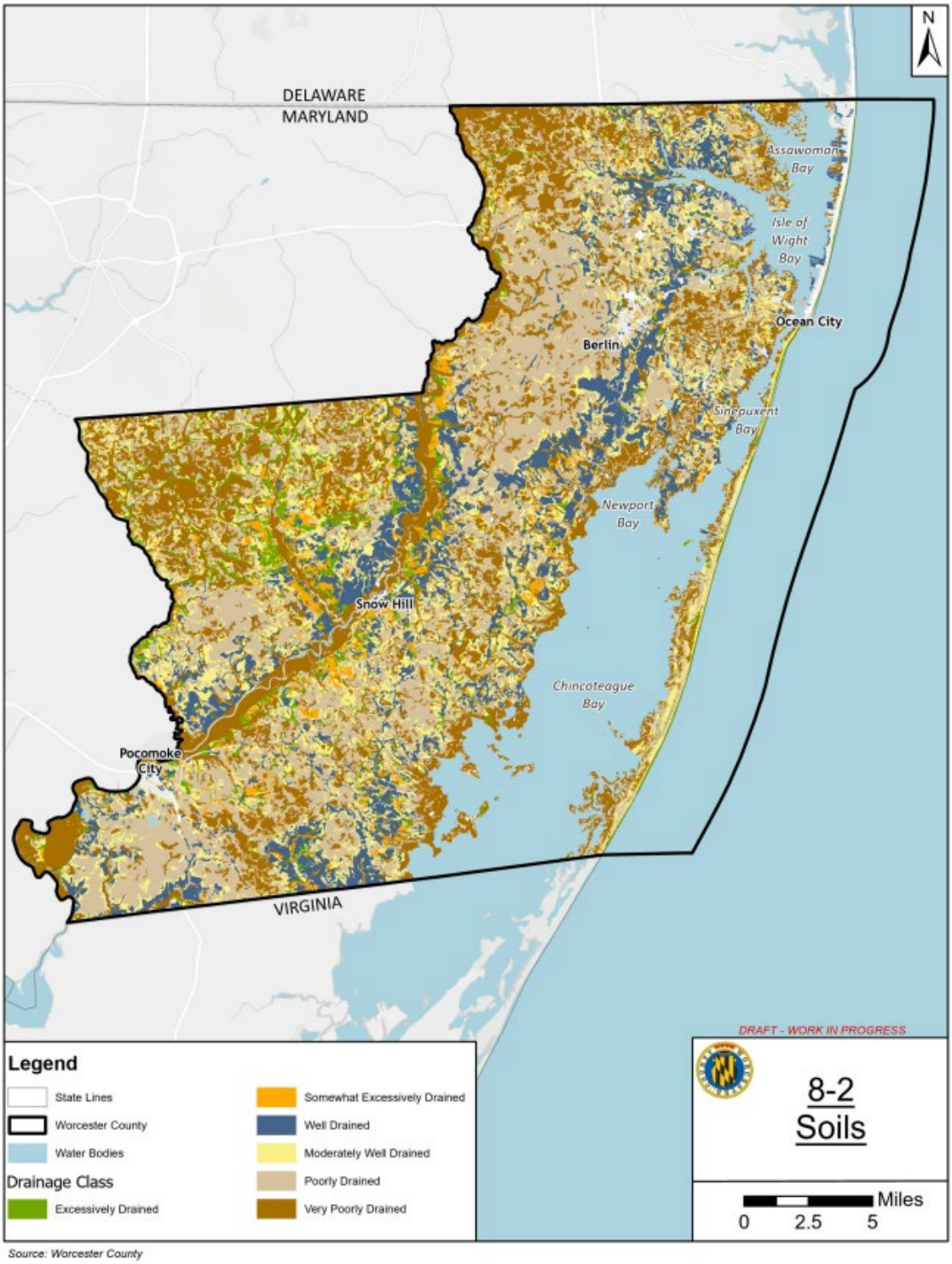
Map 8-2: Soils



Source: Worcester County

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Mineral Resources

Sand and, to a lesser extent, gravel are the County's only mineral resources. These resources are mined and used for road fill and other construction uses. As of 2024, there were 24 active surface mines in the County.

Surface mining is defined as the breaking of the soil surface to extract or remove minerals. This includes all parts of the extraction or removal process of minerals from their original location, the processing of minerals at the site of extraction, as well as the extraction of sand, gravel, rock, stone, earth or fill from borrow pits for highway construction purposes or other facilities. Surface mining operation permits are issued by MDE. Periodically, site inspections of permitted areas occur to ensure the conditions of the permit, and the accompanying Reclamation Plan, are being fulfilled.

All discontinued surface mining operations are required to be reclaimed per MDE standards. In some cases, discontinued extraction areas transition into wetlands, ponds, and other habitats. Some discontinued areas are actively reused for extraction of dried spoils for wetland and shoreline restoration projects.

New surface mining operations are permitted within the Critical Area if identification of appropriate post-excavation uses for this land such as recreation, habitat restoration, open space, or development are accomplished according to the appropriate land management classification and other applicable County and State codes and ordinances. New surface mining operations are not permitted in the Critical Area where: important natural resources occur; highly erodible soils exist; the use of renewable resource lands would result in the substantial loss of long-range productivity of forest and agriculture, or would result in a degrading of water quality or a loss of vital habitat; lands are within 100 feet of the mean high water line of tidal waters, tidal wetlands, or the edge of streams. More information on the Critical Area can be found in the **Critical Area** section of this Chapter.

Streams and Stream Buffers

Worcester County contains ten 8-digit watersheds: Assawoman Bay Watershed, Isle of Wight Bay Watershed, Newport Bay Watershed, Sinepuxent Bay Watershed, Upper Pocomoke Bay Watershed, Nassawango Creek Watershed, Wicomico Creek Watershed, Dividing Creek Watershed, Lower Pocomoke River Watershed, and Chincoteague Bay Watershed. These watersheds contain a network of streams, tributaries, and creeks that are used for irrigation, provide important spawning grounds for fish and shellfish, help support other kinds of wildlife, support commercial and recreational fishing and attract outdoor enthusiasts. **Map 8-3: Watersheds** shows the ten watersheds in the County while **Map 8-4: Environmental Features** shows the network of waterways throughout the County.

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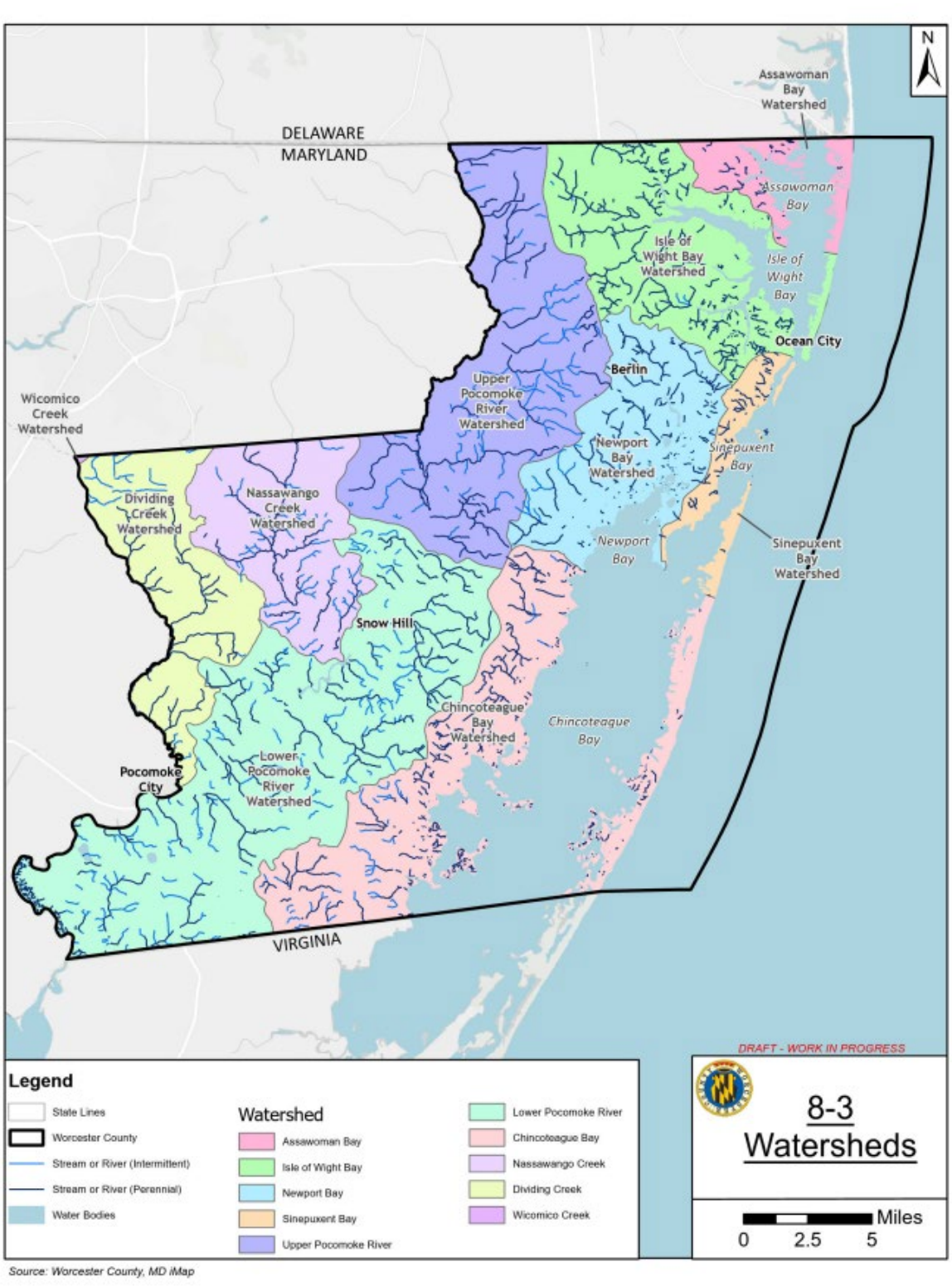
Map 8-3: Watersheds



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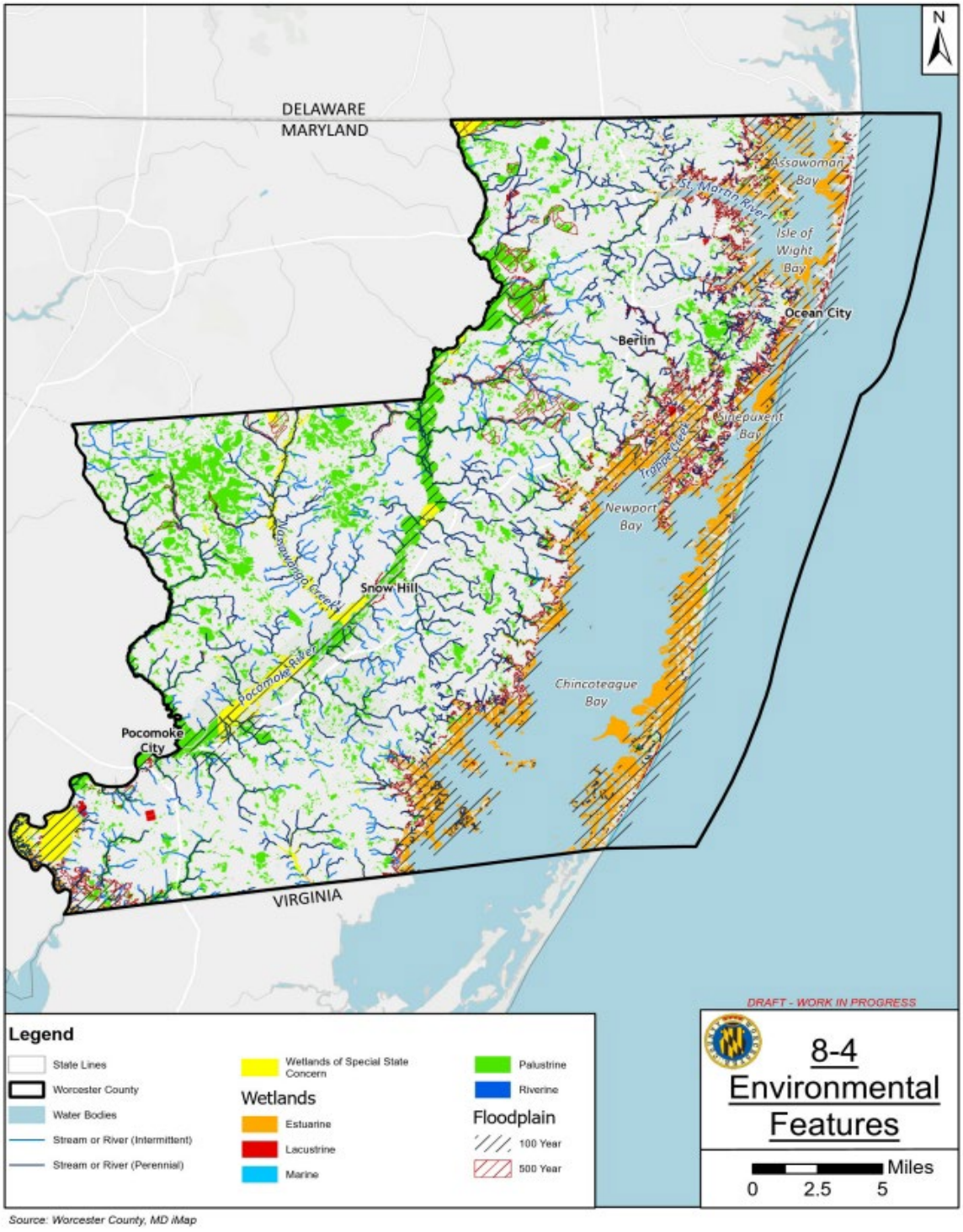
Map 8-4: Environmental Features



Source: Worcester County, MD iMap

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The Pocomoke River is the main tributary of County's portion of the Chesapeake Bay Watershed. Important tributaries to the Pocomoke River include the Nassawango Creek and Dividing Creek. Associated with the upper Coastal Bays are large tidal tributaries such as the St. Martin River, Turville, and Herring Creeks, and Trappe Creek is a large tidal tributary associated with the lower Coastal Bays. Significant smaller tributaries include Manklin Creek, Greys Creek, Marshall Creek, and Roy Creek. These vital waterbodies are vulnerable to adverse impacts from development activities and certain types of agricultural practices, and their protection and regulation is a vital aspect of County plans.

Streams are categorized by the USACE based on the balance and timing of the stormflow and base flow components. Stormflow refers to streamflow that is influenced by precipitation events, such as rain and snow/snowmelt, while base flow refers to the streamflow that is sustained between those precipitation events. These include:

- Ephemeral streams – flow only during or immediately after periods of precipitation. They generally flow less than 30 days per year.
- Intermittent streams – flow only during certain times of the year. Seasonal flow in an intermittent stream usually lasts longer than 30 days per year.
- Perennial streams – flow continuously during both wet and dry times. Baseflow is dependably generated from the movement of groundwater into the channel.

Stream buffers are areas along the lengths of stream banks established to protect streams from human disturbances. They are defined by the State as an existing, naturally vegetated area or an area established in vegetation and managed to protect aquatic, wetlands, shoreline, and terrestrial environments from man-made disturbances (COMAR 27.02.05).

Stream buffers are a best management technique to reduce sediment, nitrogen, phosphorus and other runoff pollutants by acting as a filter, thus minimizing damage to streams. A healthy stream buffer will hold soil in place, filters stormwater runoff pollutants, can provide a refuge area for threatened animals and plants, hide predators from prey, and keep streams shaded and cool. The effectiveness of a buffer depends on the width and other factors such as soil erodibility, steep slopes, and wetlands. Ideal stream buffers include:

- Stream banks and steep slopes, which should remain intact to prevent erosion from clogging the stream bed and provide habitat for plants and animals.
- Streamside forests and other vegetation to provide habitat and shading, stabilize banks, and produce leaf litter to support microscopic shredders, filter feeders and decomposers that form the base of a healthy stream food chain.
- Floodplains, where most streamside wetlands are formed and where energy dissipation, natural filtration, food storage, and water storage occur.

Worcester County currently does not have a defined width for stream buffers that are not within the County's Chesapeake Bay Critical Area or Coastal Bays Critical Area but will be established with the adoption of the model floodplain ordinance. These programs generally require a minimum 100-foot vegetated buffer extending landward from the tidal water's mean high water line, tidal wetlands and

tributary streams. It is recommended that the County establish a standard stream buffer of 100 feet for perennial streams and 50 feet for intermittent streams outside of the Critical Area.

Groundwater is a major source of the County's existing and future water supply. The land area that overlays the aquifers that contribute water to the public water supply well is defined as the County's Wellhead Protection Area. The aquifer systems providing the community water supply and the wellhead protection area are integrally connected to many surface waters and streams, making protection of both groundwater and surface waters critical for ensuring public health, safety, and welfare. The designation of Wellhead Protection Area and careful regulation of activities within these districts ensures a future supply of safe and healthy drinking water. For more information on Wellhead Protection Area, see **Chapter 11 – Water Resources.**

Critical Areas

Both Chesapeake Bay Critical Area and Atlantic Coastal Bays Critical Area are found in Worcester County. The Chesapeake Bay Critical Area was established by the Maryland General Assembly in 1984 due to concern about the decline of water quality and natural resources of the Chesapeake Bay. The Critical Area is denoted as the area of land that exists within 1,000 feet of the mean high-water line of tidal waters of the landward edge of tidal wetlands, and all waters of and lands under the Chesapeake Bay and its tributaries. Worcester County Chesapeake Bay Critical Area begins 1,000 feet beyond the head of the tide at Whiton Crossing and includes about 10,000 acres of the County that lie within the Pocomoke River Watershed. Chesapeake Bay Critical Area maps were initially based on the 1972 State Wetland Inventory maps, with updates made in each jurisdiction by the Critical Area Commission. Current tax maps showing the Chesapeake Bay Critical Area were adopted by the Worcester County Commissioners in September 2003, but updates have been initiated with DNR.

In 2002, Maryland's General Assembly formally recognized the five Coastal Bays unique to Worcester County and their ecological value. Over the last quarter century, these bodies of water had felt the effects of significant growth along the County's shoreline and needed protection. Like the Chesapeake Bay Critical Area, the Atlantic Coastal Bays Critical Area is denoted as the area of land that exists within 1,000 feet of the head of the tide or tidal wetlands. Current tax maps showing the Atlantic Coastal Bays Critical Area were adopted by the Worcester County Commission in November 2002, but updates are currently underway with DNR. Both the Chesapeake Bay Critical Area and Atlantic Coastal Bays Critical area will be referred to simply as "Critical Area" for the remainder of this document.

Critical Area is broken into different designations. These designations are classified by the land's predominant use and intensity of development and is one of the following:

- RCA—Resource Conservation Area. An area characterized by nature-dominated environments including wetlands, forests, abandoned fields, and resource-utilization activities (e.g., agriculture, forestry, fisheries activities, aquaculture).
- LDA—Limited Development Area. An area that is currently developed with low- or moderate intensity uses, which contains areas of natural plant and animal habitats and where the quality of runoff has not been substantially altered or impaired.

- IDA—Intensely Developed Area. An area where residential, commercial, institutional, or industrial land uses are predominant and where relatively little natural habitat, if any, occurs.

Approximately 57,671 acres of land in the County fall within the Critical Area. While development is not prohibited within the Critical Areas, it is reviewed for compliance with the appropriate designation. The most restrictive is the RCA, which limits densities to no greater than one dwelling unit per 20 acres and limits lot coverage generally to a maximum of 15 percent of the lot area. These areas are usually undeveloped areas characterized by agricultural use, forests, or other natural resources. Approximately 26,429 acres of the County's land area are designated as RCA.

The density and intensity of use in the LDA and IDA are established by using the underlying zoning classifications. Lot coverage in the LDA is generally limited to a maximum of 15 percent of the lot area. There are no lot coverage limits within the IDA, but it is required to minimize the destruction of forest and woodland vegetation and to control sediment, reduce runoff, and remove nutrients. Properties within the IDA are subject to water quality improvement requirements to offset an increased lot coverage. Approximately 3,094 acres of land are designated LDA within the County, and approximately 3,603 acres are designated as IDA.

On all waterfront properties or properties that border tidal wetlands, there is a 100-foot buffer that is measured from mean high water, the most landward extent of tidal wetlands, or the bank of tributary streams. In this area there are greater restrictions on what can legally occur relative to clearing, cutting, structures or general disturbance. In some areas, however, the restrictions are reduced. These less restrictive buffer areas are known as buffer management areas. **Map 8-5: Critical Areas** show the extent of Critical Areas throughout the County.

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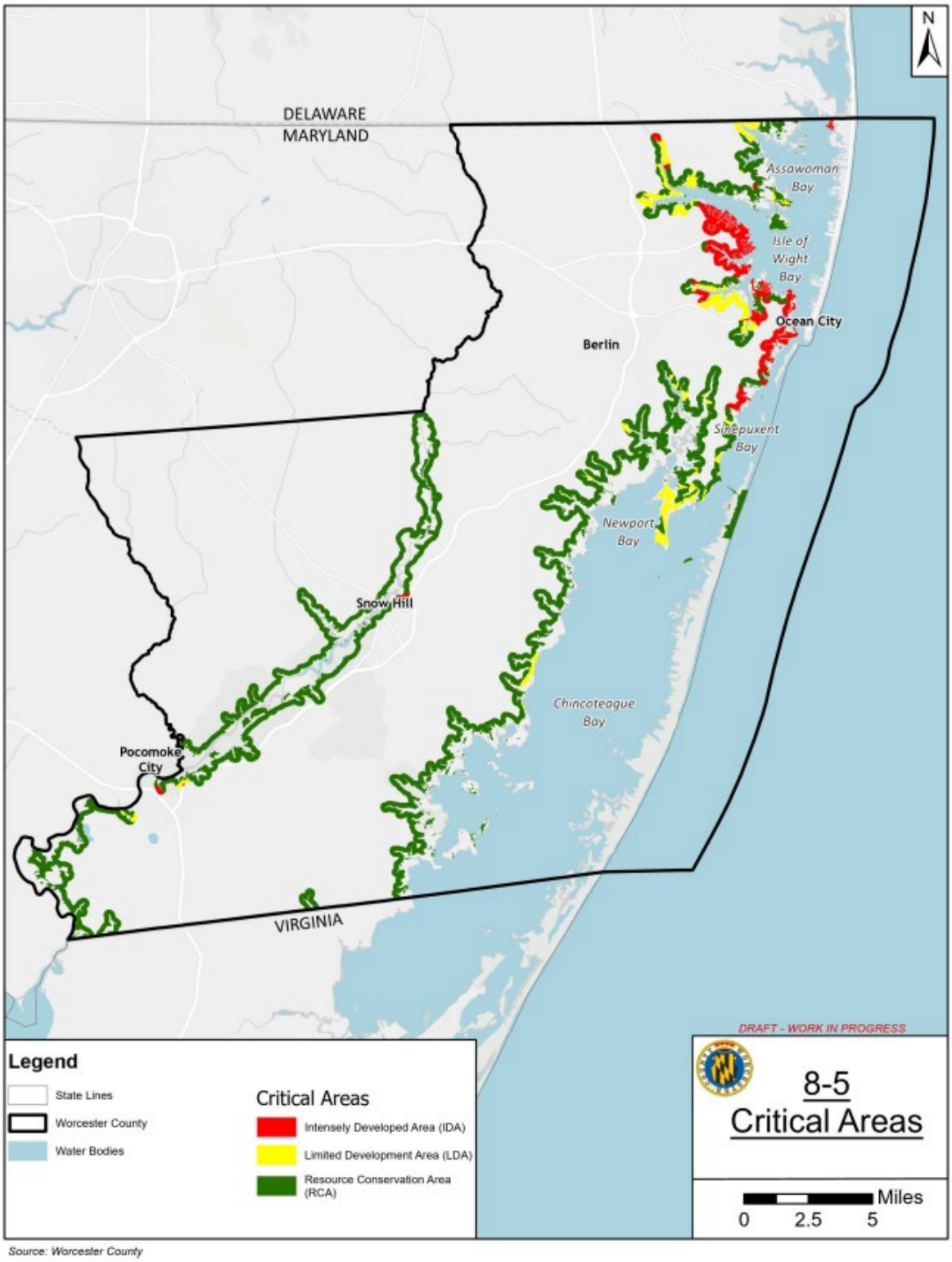
Map 8-5: Critical Areas



Source: Worcester County

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Wetlands

Wetlands are defined by wetland hydrology, hydric soils, and hydrophytic vegetation (i.e., plants adapted to wet conditions). Wetlands help to reduce or mitigate flooding impacts, provide erosion control, maintain and improve water quality, support groundwater recharge, and provide habitat for various plants and animal species. Wetlands are categorized as nontidal or tidal. Nontidal wetlands are defined by the MDE as inland, freshwater areas not subject to tidal influence and are usually covered or saturated with water for long periods during the growing season. Tidal wetlands include saltwater and brackish areas as well as some freshwater habitats. These wetlands may be permanently, irregularly, or seasonally flooded.

Map 8-4: Environmental Features, shows that approximately 76,672 acres (approximately 18 percent of the County) are covered in tidal and nontidal wetlands. This map is a guidance map and likely only represents minimums. These wetlands are classified as palustrine, lacustrine, estuarine, and riverine. The most abundant type is palustrine or freshwater wetlands, which may be either tidal or nontidal, which represent 68 percent of the County's total wetlands (51,877 acres). Estuarine wetlands (salt and brackish wetlands) represent 31 percent of the County's total wetlands (24,119 acres). There is a very small percentage of lacustrine wetlands (less than 1 percent of total wetlands or 288 acres), riverine wetlands (less than 1 percent of total wetlands or 7 acres), and marine wetlands (less than 1 percent or 380 acres). Additionally, 8,026 acres or 10 percent of the wetlands in Worcester County are designated as Wetlands of Special State Concern, primarily located along the Pocomoke River and Nassawango Creek. These wetlands are considered the best examples of Maryland's nontidal wetland habitats and are designated for special protection under the State's nontidal wetlands regulations.

There are Tier II waters in Worcester, which are streams and rivers where water quality exceeds the state minimum standards and biological communities are healthy, robust, and diverse. These waterbodies have extra review and protective measures for development within their watershed areas. MDE has designated Little Mill, Nassawango, and Dividing Creek as Tier II waters. MDE divvies up Tier II waters according to their ability to maintain ecological integrity. Waters with "assimilative capacity remaining" can withstand proposed landcover changes. Those classified as "no assimilative capacity remaining" require a more in-depth analysis of the potential impacts from proposed landcover changes and may need impact mitigation.

While the United States Geological Survey (USGS) and the Maryland Department of Natural Resources (DNR) both provide generalized mapping of wetland areas, the specific location and extent of wetlands require a site-by-site analysis. Final delineation of wetland locations is required as part of the development review process.

The USACE and MDE jointly regulate wetland activities in the County. That regulation occurs through Section 404 of the Clean Water Act, Maryland Nontidal Wetlands Protection Act, Maryland Tidal Wetlands Act, and the Waterway and 100-year Floodplain Construction Regulations. MDE also regulates shoreline activities under the Living Shorelines Protection Act, with authorization from MDE and a permit from the local government required prior to starting a project.

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Climate change, subsidence, erosion, and development remain the largest threats to the County's wetlands. The County has measures in place to protect wetlands, such as zoning the Pocomoke River Corridor and much of the Chincoteague Bay shoreline and shorelines of its tributaries as "RP" Resource Protection District. Currently, the total amount of RP zoned land is 86,737 acres. Additionally, much of the Nassawango Creek corridor is owned and protected by the Nature Conservancy. 7,500+ acres of the southeastern portion of the Chincoteague Bay watershed are permanently protected from development with Rural Legacy easements and approximately 1,000 acres of this area is wetlands. There are also established Rural Legacy Easements in the Lower Pocomoke River watershed and the Dividing Creek watershed. More information on efforts to preserve wetlands in the County can be found in the **Conservation Lands** section of this chapter.

Tidal and non-tidal wetlands have been lost, especially in the northern coastal bays, as much as 25 percent lost since 1989 (2025 CCMP). Salt marshes in the coastal bays are degrading and drowning. Restoration of coastal marshes is important for the species that depend on this habitat, for water quality and also for flood protection. Inlet dredging is an important source of material for marsh and island restoration. Cooperation among agencies is essential for use of dredge material for marsh restoration. Worcester County should work with Maryland Coastal Bays and other agencies to plan for use of dredge material to protect and restore salt marshes.

Floodplains and Flood Hazards

The National Weather Service classifies flooding as "the inundation of normally dry areas due to increased water levels in an established watercourse." Floods threaten life, safety, and health and causes damage to property and infrastructure. Flooding can occur during any season of the year from a variety of sources. Riverine floodplains and coastal areas tend to be the most susceptible to flooding, however flooding can occur in other areas due to unusually long periods of heavy rainfall. There are multiple flood types, including:

- **Riverine Flooding:** Originates from a body of water, typically a river, creek, or stream, as water levels rise onto normally dry land. Water from snowmelt, rainfall, freezing streams, ice flows, or a combination thereof, causes the river or stream to overflow its banks into adjacent floodplains.
- **Flash Flooding:** Occurs when a large volume of water flows or melts over a short period, usually from slow moving thunderstorms or rapid snowmelt. These types of floods occur rapidly with significant impacts, and due to their localized nature do not have well-defined hazard areas.
- **Urban Flooding:** This type of flooding occurs due to development and the ground's decreased ability to absorb excess water without adequate drainage systems in place. This type of flooding typically occurs when land uses change from fields or woodlands to roads and parking lots. When the amount of water generated from rainfall and runoff exceeds a storm water system's ability to remove it, developed areas may flood.
- **Nuisance Flooding:** This type of flooding is associated with high tides that flow back through the stormwater system, increasing or raising the level of groundwater, and overtopping the banks and edge of waterways. The occurrence of nuisance flooding is an indicator of rising water levels in the Atlantic Ocean, Chesapeake Bay and Coastal Bays, and associated tributaries. Areas that were previously dry now flood during high tide events since the water elevation is high enough to crest

the banks of waterways through outfalls that were previously high enough to prevent backflow while also allowing outflow. A Nuisance Flooding Plan was prepared in 2020 and is scheduled to be updated in 2026 and will be incorporated as a chapter within the updated *Worcester County Hazard Mitigation and Resilience Plan.*

The National Flood Insurance Program (NFIP) produces Flood Insurance Rate Maps (FIRMs) nationwide, which are a community's official map where the Federal Emergency Management Agency (FEMA) has delineated both the special hazard areas and the risk premium zones applicable to the community. The NFIP underwrites flood insurance coverage using the information from the FIRM and the associated Flood Insurance Study (FIS). Communities that adopt and enforce regulations that meet or exceed NFIP criteria are eligible for flood insurance. Buildings built to these regulations have lower flood risk and insurance rates.

The County participates in the NFIP with an effective date of its FIRM and FIS of July 16, 2015. The Town of Berlin, Ocean City, Pocomoke City, and the Town of Snow Hill also participate in the NFIP.

The County is prone to various forms of flooding, and FEMA's Digital Flood Insurance Rate Map (DFIRM) shows flood inundation areas that are depicted as flood zones. These flood zones include A, AE, AO, VE and X (shaded and un-shaded). Floodplains are shown on **Map 8-4: Environmental Features.**

In 2018, the MDE prepared the Maryland Model Floodplain Management Ordinance (FPMO) in response to the requirement that local jurisdictions adopt regulations that are fully compliant with the requirements of the NFIP. For most communities, the requirement to update regulations is triggered by revisions to the Flood Insurance Rate Maps (FIRMs) and associated FIS.

Table 8-2: FEMA Special Hazard Flood Areas (SHFA) Risk Areas

Flood Zone	Description
A	Areas with a 1 percent annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	Areas with a 1 percent annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
AO	River or stream flood hazard area, and areas with a 1 percent or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1-3 feet. These areas have a 26 percent chance of flooding over the life of a 30-year mortgage.
Moderate Risk Areas	
X (Shaded) 0.2% or 500-Year	Moderate flood area(s), shaded area(s) shown on FIRM, are the areas between the limits of the base flood and the 0.2 percent annual chance (or 500-year) flood.
Minimum Risk Areas	
X (Unshaded)	The areas of minimal flood hazard, which are areas outside the SFHA and higher than the elevation of the 0.2 percent annual chance flood, are labeled Zone X (unshaded).

Source: FEMA

There are 88,319 acres of FEMA-mapped 100-year flood zone in the County, which equates to approximately 20 percent of the County's total land area. There are 11,123 acres of FEMA-mapped 500-year flood zones, which equates to approximately 3 percent of the County's total land area.

Undisturbed floodplains are important for moderating storm floodwaters, absorbing wave energy, and reducing erosion and sedimentation. Additional resources within floodplains, such as wetlands and stream buffers, also help to maintain water quality, provide recharge groundwater, protect fisheries, and provide habitat and natural corridors for wildlife. By protecting floodplains from development, downstream communities benefit from reduced risks and costs associated with loss of life and property.

It is important to note that FIRMs provide an analysis of flood scenarios based on past events and data. They indicate areas of high, moderate, and low risk. Future conditions are not considered. FEMA FIRMs do not account for:

- Shoreline erosion, wetland loss, subsidence, or relative sea rise
- Upland development or topographic changes
- Degradation or settlement of levees and floodwalls
- Changes in storm frequency and severity
- Effects of multiple storm events

While some of these factors do not impact the County directly, or have as great an impact as others, it is important to be aware that approximately 25 percent of flood damages nationally occur to structures

that are outside of FEMA mapped flood hazard areas and that few, if any, standards exist nationwide for development in the areas immediately adjacent to the floodplain or outside of mapped floodplain areas.

To help the County review proposed developments, developers are required to provide detailed base flood elevation information to the County. The County then provides this information to FEMA and request revisions to floodplain maps with more accurate data as needed.

In 2000, the Stafford Act enacted the Disaster Mitigation Act and, by FEMA's Interim Final Rule published in 2002, established in the Maryland Code that each Maryland jurisdiction adopt and maintain a Hazard Mitigation Plan (HMP). The HMP ensures eligibility for funding and technical assistance from State and federal hazard mitigation programs. It addresses natural hazards determined to be of high and moderate risk as defined by the updated results of the local hazard, risk, and vulnerability summary. Natural hazards continue to be evaluated during five-year update cycles and include climate change and coastal resiliency planning priorities. The County's latest version of this plan is the 2020 Worcester County Hazard Mitigation and Resilience Plan.

Community Rating System (CRS)

Worcester County is not currently participating in the FEMA Community Rating System (CRS). The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed NFIP requirements. As an incentive, flood insurance premium rates are discounted to reflect reduced risk. Additional benefits of the CRS include:

- Increased opportunities for citizens and property owners to learn about risk, evaluate their individual vulnerabilities, and take action to protect themselves as well as their homes and businesses;
- Adoption of floodplain management activities that enhance public safety, reduce damage to property and public infrastructure, and avoid economic disruption and loss;
- Opportunities for communities to evaluate the effectiveness of their flood programs against a nationally recognized benchmark;
- Availability of free technical assistance for community officials in designing and implementing some activities; and
- Incentives for communities to maintain and improve their flood programs over time.

The three goals of the CRS include:

1. Reducing and avoiding flood damage to insurable property
2. Strengthening and supporting the insurance aspects of the NFIP
3. Fostering comprehensive floodplain management

These goals can be reached by implementing higher regulatory standards, establishing a robust public outreach initiative, preserving open space to reduce flooding risk and increase resiliency, and creating an emergency preparedness plan.

It is recommended that the County consider applying for participation in the CRS as many of the activities that are awarded points in the rating system are already underway. These activities include, but are not limited to, open space preservation and establishing a Hazard Mitigation and Resilience Plan.

8. NATURAL RESOURCES

Coastal Bays

Atlantic Coastal Bay resources in Maryland only occur in Worcester County. There are five Coastal Bays: Newport Bay, Assawoman Bay, Chincoteague Bay, Isle of Wight Bay, and Sinepuxent Bay (see **Map 8-4: Environmental Features)**. In total, these bays boast 248 miles of shoreline and nearly 35,000 acres of wetlands. They are home to a variety of wildlife, including 360 different types of birds as well as more than 108 rare, threatened and endangered species.

These five bays receive drainage from approximately half of Worcester County and have felt the effects of significant growth along the County's shoreline during the past quarter century. Because the impacts of climate change are eroding tidal wetlands and shorelines in all the Coastal Bays in the County, each faces its own challenges and ecosystem threats based on various factors such as geography, land use, and environmental influences.

The region is expected to experience an increase in precipitation along with an increase in the frequency and intensity of storm events. This will lead to more flooding. Improving stormwater systems and installing them in places where there are no systems can reduce flooding.

Multiple restoration projects have been completed by the Maryland Coastal Bays Program in partnership with various entities who have helped both fund and maintain efforts. These various entities include Worcester County, the Maryland Department of Transportation State Highway Administration (SHA), The Lower Shore Land Trust, the Coastal and Estuarine Land Conservation Program, the National Estuary Program, DNR, and other private partners. These projects include living shorelines, establishment of nature parks, wetland restoration, dam removal, establishment of a kayak launch, and various other efforts to preserve ecological function of sensitive resources and provide educational and recreational spaces for residents and tourists to enjoy.

The Pocomoke River Restoration Project is an example of enhancing resiliency and restoring floodplain function that might have applications in other parts of the County (dnr.maryland.gov/ccs/pages/pocomoke-river-restoration.aspx).

The 2023 Maryland Coastal Bays Report card gave the Coastal Bays an overall score of a “B minus,” which is the highest score the Coastal Bays have received since the annual report card began in 2008. Coastal Bay health is defined by four water quality indicators – nitrogen, phosphorus, chlorophyll *a*, and dissolved oxygen – and two biotic indicators – seagrass and hard clam – toward scientifically derived ecological thresholds or goals. More information on each Bay and their 2023 ratings is below.

Newport Bay

In 2023, Newport Bay received a “C minus” on the Maryland Coastal Bays report card. Intact natural shorelines, high wetland coverage, and low impervious surfaces were balanced by degraded water quality, low densities of hard clams, and poor seagrass coverage. This resulted in Newport Bay’s overall ecosystem health grade ranking as last in the Coastal Bays. Newport Bay, one of the smallest of the Coastal Bays, sports wide and productive marshes on both banks. The Bay’s many tributaries come together in a vast complex of wetlands, channels, ponds, and uplands. However, extensive mosquito ditches are also present in these marshes, which compromise natural drainage.

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With 42 percent forested land, Newport Bay has the second-highest proportion of land covered with woodland of any subwatershed of the Coastal Bays. Add to this the watershed's diverse hardwood forests and lack of loblolly pine monocultures, and the area emerges as one of the most important forest hubs in the Coastal Bays watershed. While Berlin anchors the watershed's northern side, the expansive tidal guts, marshes, and forests on Newport Bay's southern side help it rival Chincoteague Bay in wildlife diversity. Like its southern cousin, its expansive marshes and riparian forest provide critical habitat for birds, reptiles, amphibians, and rare plants. Extensive hardwood forested wetlands on the watershed's northeastern and southeastern sides is important for maintaining water quality and also for forest interior dwelling birds. About 325 ha (800 acres) of forest (7 percent of the total forestland) are currently protected in the 11,000-ha (27,400-acre) watershed.

Assawoman Bay

The Assawoman Bay watershed includes both Worcester County and Sussex County in Delaware. The northern half of Ocean City drains into Assawoman Bay; more than 40 percent of the overall drainage is from Delaware. This area is largely agricultural, other than existing developed areas and Ocean City. In 2023, Assawoman Bay received a "B minus" on the Maryland Coastal Bays report card, which is its highest recorded rating. Assawoman Bay is directly connected to Little Assawoman Bay in Delaware through a channel known as 'The Ditch.'

The extent of exchange between these two waterbodies is unknown, but wind and tides are thought to play an important role. Preliminary monitoring results suggest that Greys and Roys Creeks, as well as the Ditch, may contribute negatively to the water quality in the northern end of Assawoman Bay. Additionally, substantial loss of tidal marsh occurred in Assawoman Bay prior to implementation of wetlands protection laws in the 1970s. Only small parcels of tidal marsh remain today on the bay shore of Fenwick Island. However, substantial areas of tidal marsh still survive along the mainland shoreline. The remaining marshes of this area are probably highly vulnerable to loss in association with climate change.

Chincoteague Bay

The Chincoteague Bay watershed is the largest of the five Coastal Bay watersheds, with both Worcester County in Maryland and Accomack County in Virginia contributing to the drainage area. The drainage area contains extensive marshes, farms, and forest, with forested areas accounting for nearly half of the land cover. There are twelve wetlands of special state concern in the watershed. In 2023, Chincoteague Bay received a "B minus" on the Maryland Coastal Bays report card. In recent years there has been an increase in nutrients and phytoplankton in the bay, which is a threat to seagrass coverage. Many bay islands are also being lost to erosion and climate change impacts. These islands provide essential habitat for numerous waterbird species as well as other organisms. Like the other Coastal Bay watersheds, agricultural activities contribute to nutrient pollution in the bay

Isle of Wight Bay

The Isle of Wight Bay watershed is the second largest of the five Coastal Bay watersheds, with both Worcester County in Maryland and Sussex County in Delaware contributing to the drainage area, with headwaters near Selbyville, Delaware. This watershed contains Ocean City, Ocean Pines, some of West

Ocean City, and most of the Route 50 commercial corridor. This area has been a receiver of population growth and development. In 2023, Isle of Wight Bay received a “B minus” on the Maryland Coastal Bays report card.

Isle of Wight Bay and its watershed are the most heavily used of the Coastal Bays. Bounded on the east by densely developed Ocean City, it is also bounded on the west by very dense residential development. The north boundary is Route 90 with two in-line bridge spans leading from the mainland to Cape Isle of Wight and then to north Ocean City. The south boundary is the Route 50 bridge, bringing traffic into south Ocean City. Flowing into Isle of Wight Bay are waters from Herring Creek, Turville Creek, and St. Martin River, all with increasing residential development.

There are at least 111 canals adjacent to the Coastal Bays, 59 of which are in Isle of Wight Bay. Most of these canals were built between 1960 and 1980 by development projects that dug the canals to create residential waterfront lots. Dead-end canals are problematic for several reasons. They usually have only one opening. Most were dug through wetlands with the material being side-cast to build elevation. The canals were often dug deeper than their receiving waters, creating lower bottom elevation and poor flushing. This causes canal water to stagnate and become depleted of dissolved oxygen, which is essential for organisms to survive. The canals receive pollutants from stormwater runoff. The Ocean Pines community alone, located in both Isle of Wight Bay and St. Martin River watersheds, has 322 km (200 mi) of ditches, mostly draining into 19 km (12 mi) of canals that serve to remove stormwater from 8,300 properties.

While the amount of waterfront has increased dramatically by this development, the result is that non-point source pollution from all residences has increased as well. Additionally, the loss of wetlands associated with this development has meant a decreased ability to filter out nutrients and pollution before reaching the bays. Animal waste, lawn trimmings, fertilizers, fishing waste (scraps and bait), and trash are all major sources of pollution.

Sinepuxent Bay

Sinepuxent Bay ranked first in the Coastal Bays for estuarine health and second for watershed health, receiving a “B plus” on the 2023 Maryland Coastal Bay Report card. It had the best water quality, highest density of hard clams, and greatest seagrass coverage—likely due to its small, relatively undeveloped watershed and good oceanic flushing through the Ocean City Inlet. This resulted in Sinepuxent Bay’s overall ecosystem health ranking as the best of the Coastal Bays. Sinepuxent Bay’s long, thin dimensions give its recreational qualities a dichotomous feel.

On its northern end, near the Ocean City Inlet, yachts and commercial fishing boats depart for sea from the sprawling West Ocean City Harbor. A public boat ramp there also brings jet skiers and recreational boaters from around the East Coast. Good fishing in the inlet and the northern half of the bay makes for crowded conditions in July and August north of Assateague Road. South of there, campgrounds, shallow water, and limited development change the scene to a rural one. On the eastern border of Sinepuxent Bay lies one of the East Coast’s true gems— Assateague Island National Seashore. The barrier island, known for its wild horses, is a refuge for both wildlife and the two million people who visit the island every year.

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Sinepuxent Bay's small, relatively undeveloped shoreline and flushing from the Ocean City Inlet give it the best water quality among the Coastal Bays. With the lowest nitrogen levels, Sinepuxent Bay enjoys healthy fisheries and abundant seagrass.

Hazard Mitigation

Hazard mitigation involves reducing the risks of natural hazards and their associated damage to people and property. The County developed a *2020 Worcester County Hazard Mitigation and Resilience Plan* that addresses all natural hazards that are most likely to affect Worcester County. The natural hazards identified in the County include coastal hazards (flooding, storms and erosion), riverine flooding, wildfire, wind, drought, thunderstorms, tornados, winter storms, and hazardous materials. These were ranked to provide structure and prioritize mitigation goals and actions. Table 7-3 shows the overall risk potential identified in the 2020 plan for each hazard. For more information on these hazards, please see the *2020 Worcester County Hazard Mitigation Plan*.

Table 8-3: Worcester County Hazard Identification and Risk Assessment

Identified Hazard	Type of Events	2020 Worcester Hazard Identification and Risk Assessment
Coastal	Coastal Flooding; Coastal Storms; Storm Surge; Hurricane/Tropical Storm; Nor'easter; Potential Sea Level Rise; Shoreline Erosion	High
Flood	Riverine Flood	Medium-High
Wildfire	Wildfire; Brush Fire; Conflagration	Medium-High
Wind	Thunderstorm winds; non-thunderstorm wind	Medium-High
Drought	Drought; Extreme Heat	Medium
Thunderstorm	Thunderstorm; Lightning; Hail	Medium
Tornado	Tornado	Medium
Winter Storm	Winter Storm; Extreme Cold; Nor'easter (Snowfall)	Medium-Low
HazMat	Toxic Chemicals	Medium-Low

Source: 2020 Worcester County Hazard Mitigation and Resilience Plan

Climate Change

Climate change refers to the long-term change in the average weather patterns and temperatures. Worcester County is susceptible to climate change, facing pressing issues such as climate change, heavy precipitation events, and increasing temperatures. Adaptation of infrastructure in the face of climate change and mitigation of the effects on the County is an important part of what will shape Worcester County in the coming years.

The *2015 Maryland Commission on Climate Change (MCCC) Act* required the MCCC and its participating agencies to develop an action plan and firm timetable for mitigation of and adaptation to the likely consequences and impacts of climate change in Maryland. In February 2021, MDE released the *2030*

Greenhouse Gas Reduction Act (GGRA) Plan, which is a comprehensive plan that sets a clear and unifying path for the State to dramatically reduce greenhouse gas emissions that contribute to climate change.

In 2020, the County prepared their *2020 Worcester County Hazard Mitigation and Resilience Plan*, which received a 'satisfactory' rating from FEMA. The plan "seeks to eliminate or reduce hazard related human, economic, and environmental losses" and includes unincorporated areas of the County as well as the towns of Berlin, Pocomoke, and Snow Hill. Ocean City has its own plan, the *2017 Ocean City, Maryland Hazard Mitigation Plan*. While the County's Hazard Mitigation and Resilience plan mostly addresses current impacts of hazards for a five-year span (2020-2025), it also identifies and addresses the anticipated role of climate change for hazards such as flooding, extreme weather events, extreme heat, and coastal erosion.

Sea Level Rise

The rising and spreading of water over normally dry land is referred to as inundation. Scientists use models to develop maps showing the possible impacts of inundation based on various Sea Level Rise (SLR) scenarios for state's waterways and the land that surrounds them (watersheds). These maps reflect the filling of these watersheds at constant elevations, also referred to as bathtub modeling. In other words, the maps show the water levels rising in the watersheds similar to the filling of a bathtub.

Worcester County boasts 774 miles of coastline, which are important for the County's economy and quality of life. Due to its location, low elevations, and dependence on the coast, the County is particularly vulnerable to the effects of SLR. Changes in sea level have the potential to impact existing infrastructure and natural resources in the short-term and also the durability of future development with long-term design life.

The impacts of 2-, 5-, and 10-foot SLR are shown in **Map 8-6: Sea Level Rise Inundation**. With many areas of the County susceptible to SLR, it is important to consider potential associated impacts, which include coastal erosion, flooding and loss of wetlands, saltwater intrusion, and expansion of flood-prone areas. Long-range planning and accounting for changes in sea level that may be expected in the County will help lead to informed decisions for public and private investments by minimizing risk potential for damage to both existing and future resources.

The Maryland CoastSmart Council was established in 2014 by the Maryland General Assembly for the purpose of adopting specific Coast Smart siting and design criteria to address impacts associated with coastal flooding on future capital projects. Per the Maryland CoastSmart regulations, state construction projects and projects in coastal areas that receive more than $500,000 in state funding must apply the horizontal limits of a floodplain corresponding to a Design Flood Elevation (DFE) with 3 feet of freeboard. This will show wider inundation areas. MDE, DNR, and other state agencies developed the CoastSmart – Climate Ready Action Boundary (CS-CRAB) for the Maryland CoastSmart Council, which shows these updated horizontal limits that account for these wider inundation areas consistent with projected Maryland sea level rise. This boundary is shown on **Map 8-7: CS-CRAB**.

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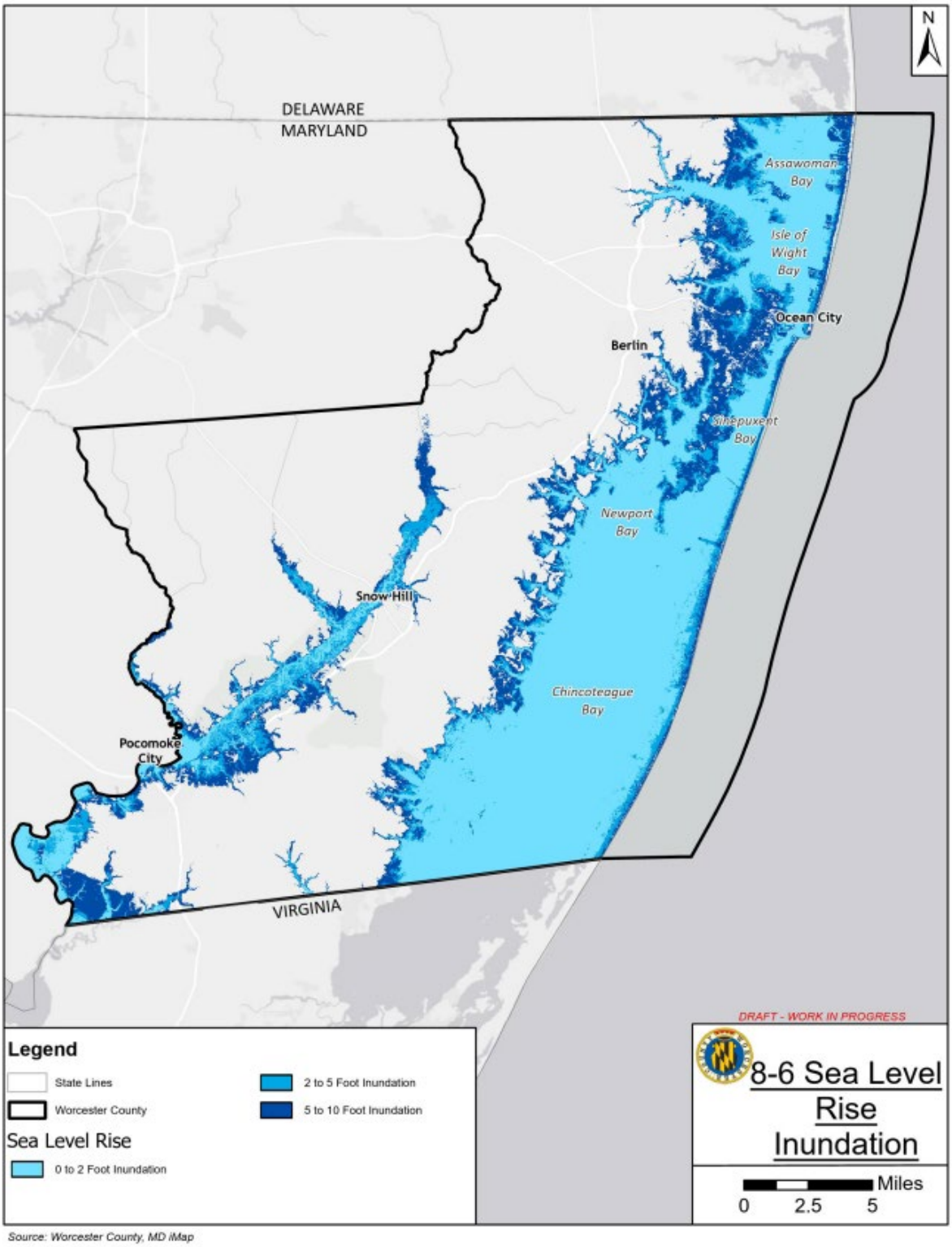
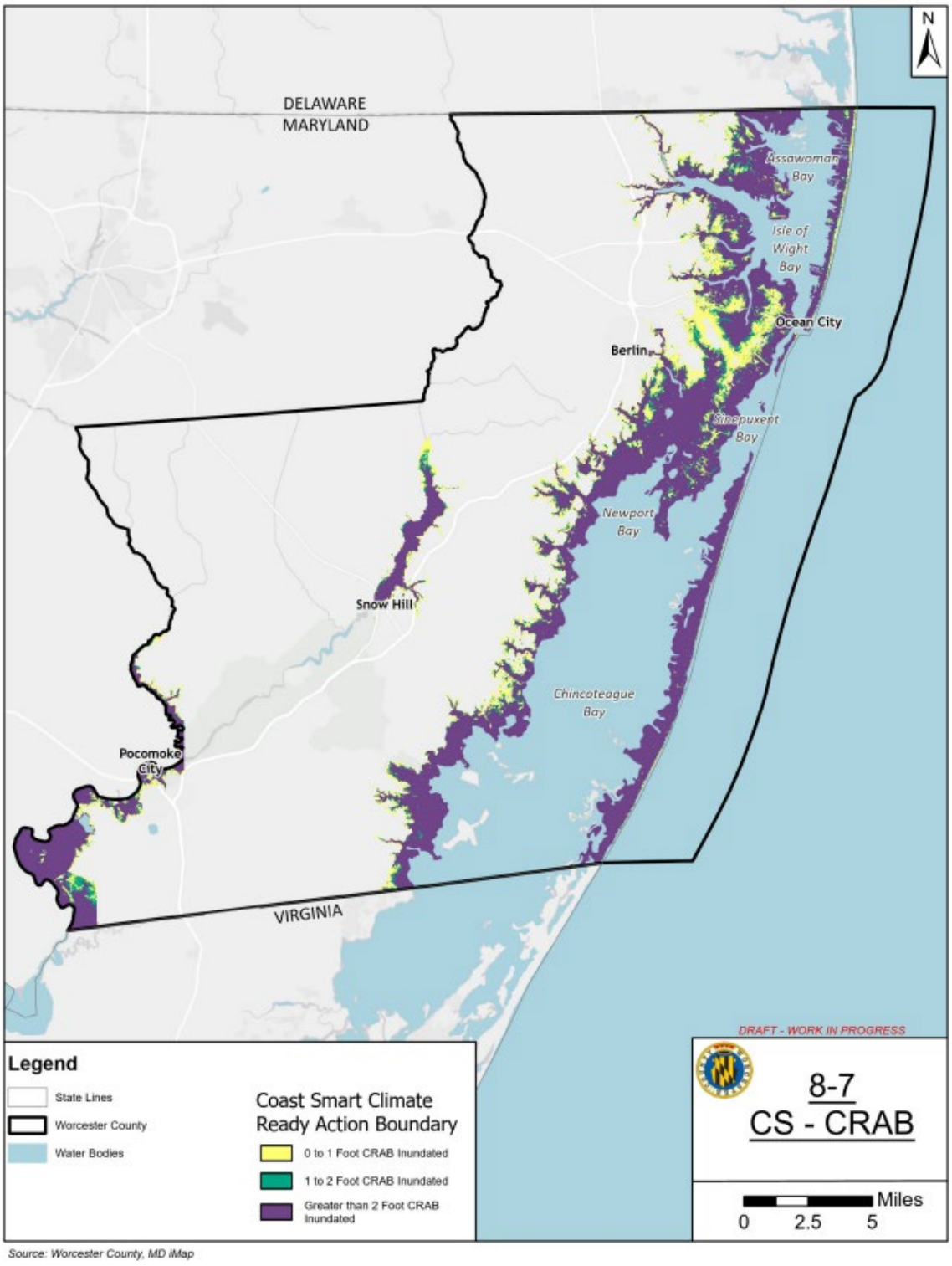
Map 8-6: Sea Level Rise



Source: Worcester County, MD iMap

8. NATURAL RESOURCES

Map 8-7: CS-CRAB



Source: Worcester County, MD iMap

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In 2008, a document was prepared for the County titled *Sea Level Response Strategy* which presented several scenarios to assess the impacts of climate change on Worcester County over the next century. The document also provided a prioritization of response options to determine which options would be useful despite uncertainties in the rate and range of climate change. The *2020 Worcester County Hazard Mitigation and Resilience Plan* indicates that the Seaside area of Worcester County ranks "very high" on the SLR Hazard Ranking, while the Bayside area ranks "low."

One of the expected impacts of sea level rise is coastal erosion, which causes loss of land and habitat, damage to infrastructure, increase vulnerability to hazards, and economic impacts especially for areas that rely on coastlines for recreational industries and tourism.

Shoreline erosion is not a serious threat to human life; however, it is a slow and ongoing geological process that could lead to significant economic, property and infrastructure loss. The *2008 Sea Level Rise Response Strategy, Worcester County, Maryland,* notes that approximately 56 percent of the County's shoreline is receding, with 4 percent eroding at over 4 feet per year. These eroding areas are candidates for nonstructural or living shoreline stabilization approaches to mitigate erosion.

The *2020 Nuisance Flood Plan* was prepared to document the County's response and monitoring of these conditions. Worcester County, Maryland is experiencing nuisance flooding in mapped floodplains that is occurring on a more frequent basis, including urban flooding in the towns of Pocomoke City and Snow Hill. This has County and town responders busy responding to these events. These challenges are exacerbated by the increase in frequency and intensity of storms caused by higher global temperatures creating more favorable conditions for heavier and more frequent participation. Citing one useful tool for reported nuisance flooding events, the County has logged 158 events reported to the *MyCoast* reporting application, with the majority occurring within the Town of Ocean City, which has their own nuisance flooding plan. Worcester County has approximately 92 roads that were identified in the *Hazard Mitigation and Resilience Plan* as being potentially flooded during an event with 33 roads identified as impacted by tidal flooding, which is frequently referred to as "sunny day" or high tide flooding.

The *2020 Worcester County Hazard Mitigation and Resilience Plan* notes that the Virginia Institute of Marine Science inventoried a large portion of the Coastal Bays and found that approximately 26 percent of the shoreline was armored or contained some form of erosion control structures. However, these erosion control measures often cause erosion to nearby unarmored shores. It is recommended that the County complete an updated inventory of eroding shorelines and consider stabilization methods to mitigate erosion for the most critical areas, with nonstructural or living shoreline approaches preferred.

Another impact of sea level rise is saltwater intrusion. As sea level rises, the extent of tidal, brackish surface waters within the Chesapeake Bay, Coastal Bays, and Atlantic Ocean expands both upstream and landward above and below the ground, which in turn increases saltwater intrusion into aquifers. Saltwater intrusion is discussed further in the Water Resources section.

Heavy Precipitation Events

Climate change is expected to result in more frequent heavy precipitation events. This can lead to flooding, especially in areas with inadequately sized drainage infrastructure. This flooding can result in safety hazards, inaccessible roadways, travel delays, and damage to buildings or other infrastructure.

The County's infrastructure and its ability to handle such events plays a contributing role in how effectively the area can be evacuated and how it can prevent damage from these events. Planning for these events determine how successful the County and emergency services can respond to these events. An assessment of the vulnerability of older commercial and residential structures would be helpful to prepare for the anticipated higher frequency of heavy rainfall events.

Temperature Rise

Another key issue surrounding climate change is a steady rise in temperature. Rising temperatures will result in a longer growing season, heat waves, and more consecutive days where it does not cool off at night. This has many implications for infrastructure and human health. Air conditioning systems in buildings may not be sized appropriately for increasing temperatures and shorter, milder winters can mean residents are dealing with more ticks and mosquitoes. Of particular concern are vulnerable populations who may not have access to air conditioning in the summer. Although temperature is not something that can be controlled, there are ways for the County to prepare for a possible increase. Tree planting and shade contribute greatly to heat dispersion. Making sure buildings are up to code for cooling systems will also mitigate the effects of long-term temperature changes. Educating people on how to deal with heat waves and erratic weather also helps prepare the population for such events and can be a successful way to prevent the dangers of high temperatures.

Habitats of Rare, Threatened, and Endangered Species

The Federal Endangered Species Act of 1973 requires a list of endangered and threatened species and the protection of those species and their ecosystems. The primary State law that allows and governs the listing of endangered species is the Nongame and Endangered Species Conservation Act (Md. Natural Resources Code Ann. §10-2A). This Act is supported by regulations that contain the official State Rare, Threatened, and Endangered Species list.

Protecting animal and plant species and their habits is important for many reasons:

- Animal and plant species contribute to the County's environmental quality, making it an attractive place to live.
- An abundance of animal and plant species support outdoor recreational activities such as hunting, boating, wildlife viewing, and hiking.

Habitats of rare, threatened, and endangered species are defined as areas that, due to physical or biological features, provide important elements for the maintenance, expansion, and long-term survival of threatened and endangered species. This area may include breeding, feeding, resting, migratory, or overwintering areas. Physical or biological features include (but are not limited to) the structure and composition of the vegetation, faunal community, soils, water chemistry, and quality; and geologic, hydrologic, and microclimatic factors.

The DNR's Wildlife and Heritage Service Natural Heritage Program (WHS) tracks over 1,250 native plants and animals that are among the rarest in Maryland and most in need of conservation efforts as elements of the State's natural diversity. Lists of rare, threatened, and endangered animals and plants, including federally listed species are maintained by the WHS, statewide, which officially recognizes 566 species and subspecies as endangered, threatened, in need of conservation, or endangered extirpated:

- **Endangered.** A species whose continued existence as a viable component of Maryland's flora or fauna is determined to be in jeopardy.
- **Threatened.** A species that appears likely, within the foreseeable future, to become endangered in Maryland.
- **In Need of Conservation.** A species whose population is limited or declining in Maryland, such that it may become threatened in the foreseeable future if current trends or conditions exist.
- **Endangered Extirpated**. A species that was once a viable component of the flora or fauna of Maryland, but for which no naturally occurring populations are known to exist.

As of November 2021, within the County, 28 animals and 97 plants are listed by the Maryland Department of Natural Resources (see **Table 8-4**). Of these, three animals and one plant species are listed as endangered under the federal *Endangered Species Act*, which include the Leatherback Sea Turtle (a rare visitor to Maryland's coastal waters), the Red-cockaded Woodpecker (extirpated in Maryland), the Roseate Tern (which no longer breeds south of Long Island, NY), and Chaffseed (also extirpated in Maryland).

Table 8-4: DNR-Listed Species in Worcester County

Category	Plants	Animals
Endangered	66	20
Threatened	22	3
In Need of Conservation	0	2
Endangered Extirpated	9	3
Total	97	28

Source: Maryland Department of Natural Resources

Populations of many island and marsh nesting birds in the Coastal Bays are in decline, including the common tern (state-endangered and facing 90 percent decline), seaside sparrow, salt marsh sparrow (projected for extinction by 2060), and black skimmer (near extirpation). All of Maryland's breeding royal terns and black skimmers nest in the Coastal Bays and the salt marsh sparrow only lives in salt marshes. Erosion of islands and decline in salt marsh habitat in the bays is a significant reason for the decline.

Multiple projects are underway to combat loss of habitat and subsequent population decline for island and marsh nesting birds. The Maryland Coastal Bays Program and DNR have deployed a raft to serve as habitat for common terns as a stop gap measure until more island habitat can be restored. Additionally, Marshes for Tomorrow, an effort with Audubon and Maryland Coastal Bays Program, is working to restore marsh at a landscape scale in Maryland, including the Coastal Bays, which will provide critical habitat for the salt marsh sparrow.

To assist in identifying the potential habitats for these species areas, DNR designates Sensitive Species Project Review Areas (SSPRAs). SSPRAs represent the general location of documented rare, threatened, and endangered species, and other areas of concern including Critical Areas, Natural Heritage Areas, Listed Species Sites, and Nontidal Wetlands of Special State Concern.

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Forest Interior Dwelling Species (FIDS) are those species that require large blocks of forests to survive and maintain sustainable populations. FIDS include a diverse group of birds such as tanagers, warblers, and vireo, as well as short-distance migratory birds such as woodpeckers, hawks, and owls. Many factors have contributed to the decline of FIDS; however, the loss and fragmentation of forests on the breeding grounds is a major contributor to this decline. In general, FIDS are not well adapted to compete with species that evolved along forest edges and openings. The fragmentation of large forest tracts largely through land development threatens the habitat needed for long-term survival of these species and exposes them to predators or competing species.

When forests are under extreme stress, individual species and their habitats become threatened, thereby endangering the health of the forest. The plants, animals, and forests are essential to maintaining biological diversity in this region. The distance between blocks of forests influences the abundance of many FIDS. Some species can survive in smaller forests if they are connected to other areas via corridors.

Aquatic habitats are another vital resource—they not only protect waterways and their biodiversity, but also help with the County's resiliency efforts in the face of climate change. Submerged aquatic vegetation (SAV, i.e. bay grasses) serves as important food, nursery, and habitat for many species of fish and fowl. Its health is a good indicator for measuring Chesapeake Bay and Coastal Bay restoration progress as the health of these grasses are closely linked to water quality. They provide essential food and habitat for many important species of waterfowl, fish, shellfish, and invertebrates; remove suspended solids from the water; protect shorelines from erosion; and oxygenate the water. Shellfish beds are both an economic and a natural resource—the bottom (benthic) community provides food for bottom feeding fish.

Within Worcester Couty, portions of the Upper Pocomoke River watershed, Dividing Creek watershed, Lower Pocomoke River watershed and the entire Nassawango Creek watershed are identified as stronghold watersheds by DNR. These watersheds are considered to be the most important for the protection of Maryland's freshwater stream biodiversity and are places where greatest conservation need species of stream-dwelling fish, amphibians, reptiles, or mussels have the highest abundance or diversity. These species are generally most sensitive to environmental degradation, with a small change in watershed or stream health able to permanently eliminate one or more of these sensitive species. Maintaining the health of these watersheds is critical for sustaining these species and the vital ecosystem services they provide.

The County contains three State designated Natural Heritage Areas. These include Lower Nassawango Creek, Mattaponi, and North Sinepuxent Bay Dunes. Natural Heritage Areas are within legally protected lands, such as parks or state wildlife management areas. They must contain one or more threatened or endangered species or wildlife species in need of conservation, must be a unique blend of geological, hydrological, climatological, or biological features, and must be considered among the best Statewide examples of its kind.

In the late 1990s, DNR began an effort to identify ecologically important lands in Maryland. The result of this effort is a mapped network of large blocks of intact forest and wetlands called "hubs" linked together by linear features such as forested stream valleys, ridgelines, or other natural areas called

"corridors." **Map 8-8: Green Infrastructure, Hubs, Corridors and Gaps**, shows the location of these hubs and corridors, which are vital to maintaining healthy wildlife populations across the state, while also providing a number of ecosystem services to the citizens of Maryland, including clean water, clean air, carbon sequestration, and climate resilience. In August 2024, DNR and the Chesapeake Conservancy partnered to update mapping of these hubs and corridors, calling it Maryland's Habitat Connectivity Network. The updated mapping helps the state understand where the most important natural habitat areas in the state are currently located, how these areas are connected, and how these areas have changed in the past two decades. These data will also provide essential information to help target and prioritize lands for protection or restoration.

Map 8-9: Ecological Areas includes significant wildlife assessment areas in the County including SSPRAs, Targeted Ecological Areas, and FIDS habitats. These areas may need special management or protection because of their importance to conservation of threatened or endangered species. The County should continue to pursue all efforts to protect habitats of threatened and endangered species by adopting regulations protecting these species from habitat loss. Further protection of woodlands or forested lands will have a positive impact on targeted ecological areas and wildlife habitats, will contribute to ecological balance, and offer sustained recreational opportunities for residents. Development in these areas should be discouraged and if development does occur, techniques to reduce impacts on targeted ecological areas and wildlife habitats should be utilized. Control of non-native invasive species within ecological areas will further protect wildlife and habitats from degradation. The County may consider establishing and implementing an invasive species removal program and focus on the planting of native species within open lands, ecological areas, natural areas, and forest lands.

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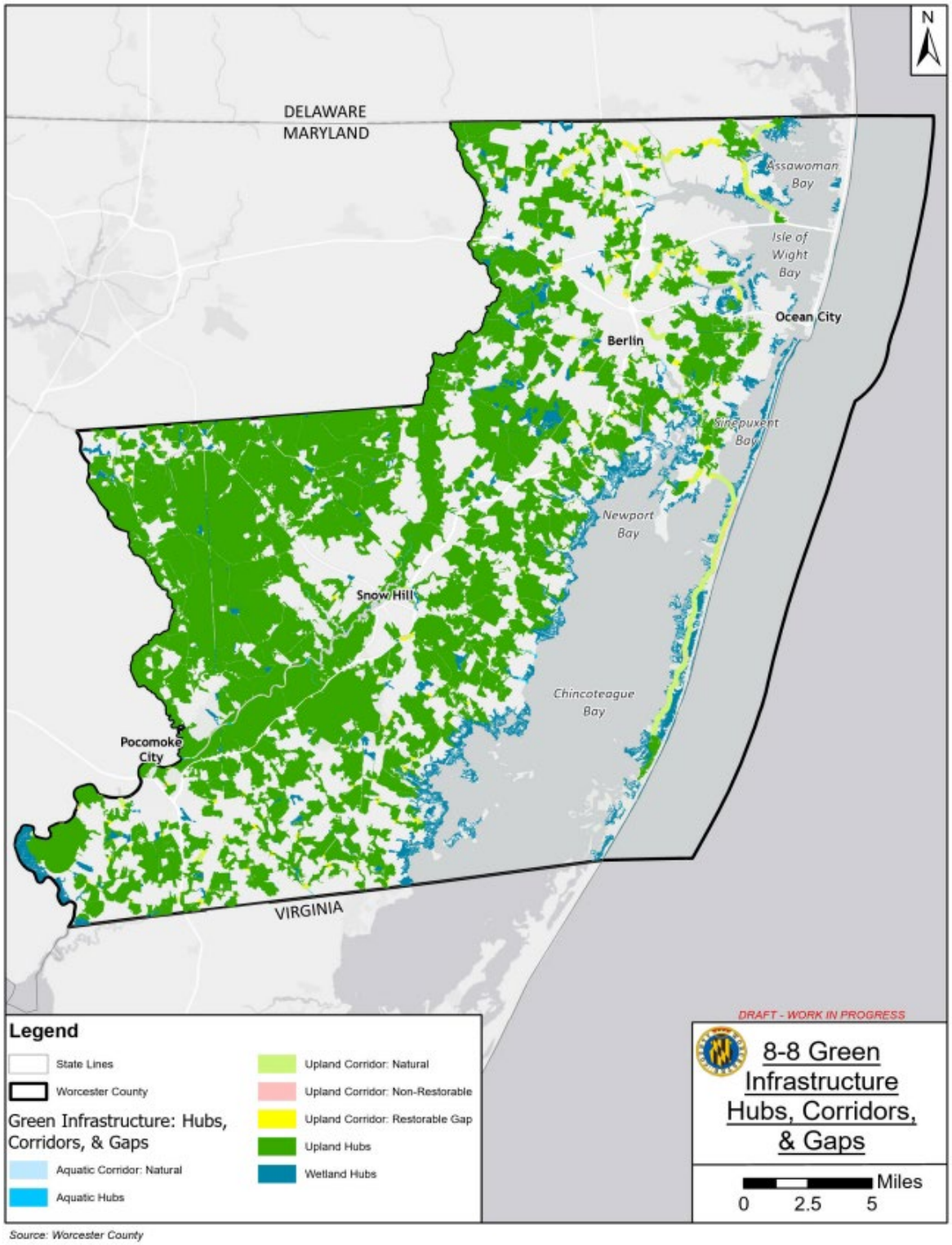
Map 8-8: Green Infrastructure, Hubs, Corridors, and Gaps



Source: Worcester County

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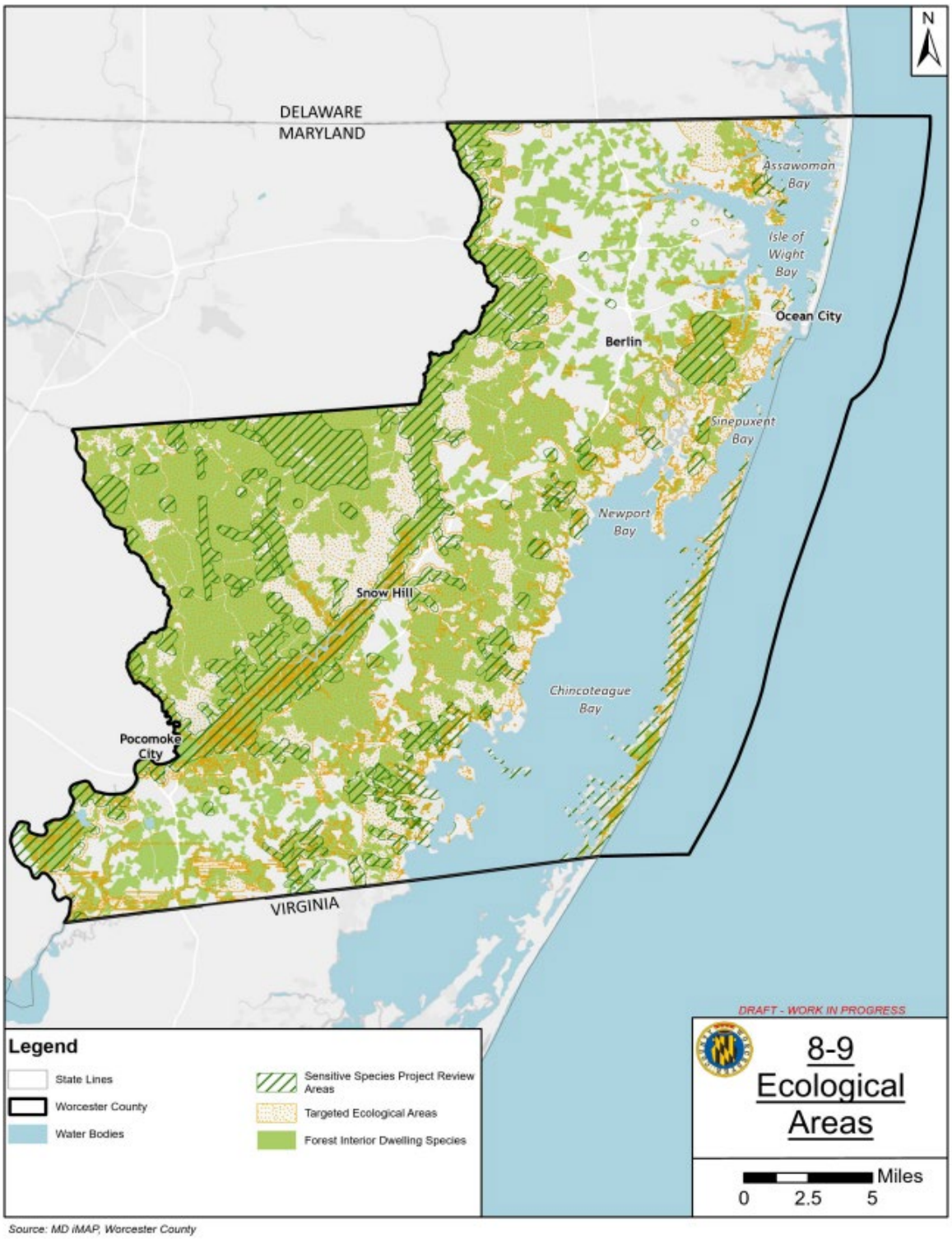
Map 8-9: Ecological Areas



Source: MD iMAP, Worcester County

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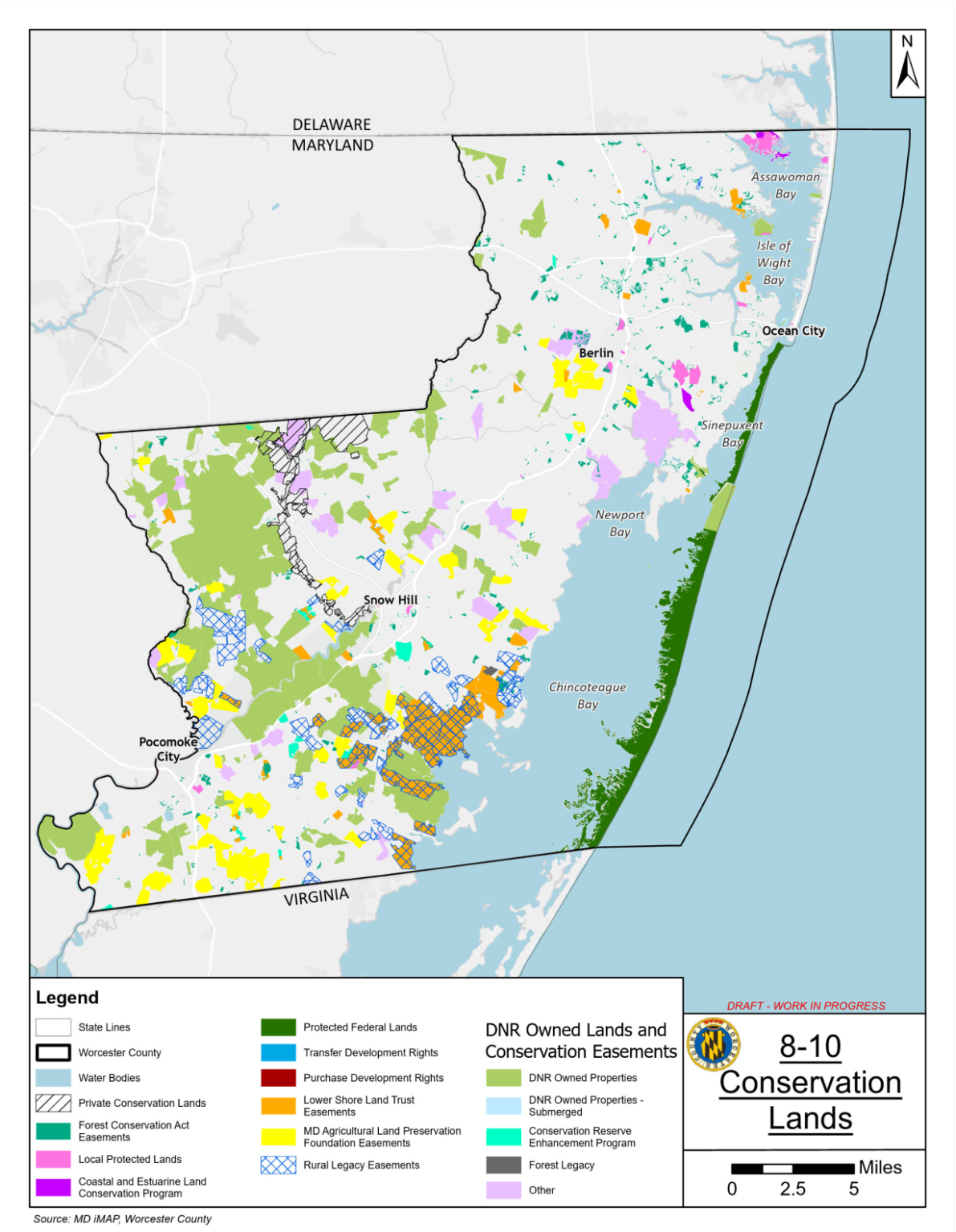
Conservation Lands

Map 8-10: Conservation Lands identifies areas of conservation lands based on the status of properties through a variety of federal, State and County preservation and conservation programs. These include:

- Maryland Agricultural Land Preservation Foundation (MALPF) Easements
- Lower Shore Land Trust (LSLT)
- DNR Owned Lands and Conservation Easements
- Forest Conservation Act Easements
- Rural Legacy Easements and Areas
- Coastal and Estuarine Land Conservation Program (CELCP)
- Conservation Reserve Enhancement Program (CREP) including the Permanent Easement Program
- Maryland Coastal Bays Program's (MCBP) Comprehensive Conservation and Management Plan (CCMP)
- Private Conservation
- Protected Lands – local and federal
- Transfer of Development Rights (TDR) Areas
- Purchase Development Rights

8. NATURAL RESOURCES

Map 8-10: Conservation Lands



Source: MD iMAP, Worcester County

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As of 2025, a total of 32.8 percent of County lands are protected with easements or with state ownership; this is 26 percent of the Coastal Bays watershed. A few of the conservation programs and achievements in the County are highlighted in this section.

The MALPF program, in existence since 1977, is one of the most successful farm preservation programs in the country. It strives to preserve sufficient agricultural land to maintain a viable base of food and fiber production. The pace of land protection increased significantly since 2017. From 2017 to 2024, approximately 3,696 acres (25 properties) were protected with MALPF easements, or about 462 acres protected annually. More than 10,800 acres in Worcester County have been permanently protected by the Maryland Agricultural Land Preservation Foundation (MALPF) Program as of 2025.

The Program consists of two basic steps: the application process and the purchase of perpetual agricultural conservation easements. MALPF's "round 2" funding cycle prioritizes bargain sales, and Worcester County landowners have increasingly received "round 2" offers due to its competitive bid process. Worcester County also provides a cash match from the agricultural land transfer tax, revenue allocated by the County, as well as funds allocated from the county general fund. These funds are matched by MALPF on a 60/40 basis. This has allowed for additional MALPF easement purchases and has been necessary for the County to meet minimum acreage protection goals. The county should continue to provide an annual cash match to MALPF.

In order to protect natural resources, the County has established three Rural Legacy Areas (RLAs): the Coastal Bays RLA (1999) the Dividing Creek RLA (2008) and the Bishopville-Showell RLA (2024). To date, Worcester County's Coastal Bays Rural Legacy Area, which includes the entire Chincoteague Bay shoreline and watershed, lower Pocomoke River watershed, and connects the Chincoteague Bay to the Pocomoke State Forest with a permanent "greenway" is approximately 45,945 acres (expanded in FY2019). 17,711 acres and counting are permanently protected as of January 2025, either by state ownership or privately owned under land conservation easement in this Rural Legacy Area.

The 2024 Coastal Bays Rural Legacy application stated a goal of protecting an additional 2,500 acres by FY34. 9,900 acres are protected with a Coastal Bays Rural Legacy easement as of end of 2025. Dividing Creek RLA was created in 2008 in partnership with Somerset County, The Nature Conservancy, and Lower Shore Land Trust. The boundary was expanded in 2019 in both counties. In Worcester County, it was expanded to include the entire Dividing Creek watershed, portions of the Nassawango Creek watershed, and upper Pocomoke River shoreline and watershed. The Dividing Creek and Nassawango Creek watersheds are an area of Maryland recognized by The Nature Conservancy as high in biodiversity. The Dividing Creek RLA is also an area with productive and contiguous farmland. The area is 55,526 acres in size, including both counties. Protection of the first Dividing Creek RLA easement in Worcester County occurred in 2009. Thirteen (13) properties have been protected in Worcester County to date (6 since 2017), totaling approximately 3,472 acres. FY26 Dividing Creek RLA application stated a goal of protecting an additional 4,500 acres by FY36.

The Bishopville-Showell Rural Legacy Area was established in 2024. The Area is 11,743 acres and contains important farmland under significant development pressure. Many of the farms are small, so unable to participate in MALPF, which requires a minimum of 50 acres to enroll.

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Worcester County has partnered with, and plans to continue to work with, the State and the Coastal and Estuarine Land Conservation Program (CELCP) (NOAA) and the Coastal Wetlands Program (USFWS), two federal programs that protect coastal resources through purchase of conservation easements or fee simple purchase for passive parks. The Greys Creek Nature Park and Ilia Fehrer Nature Preserve were both purchased with CELCP funding.

The State acquired the Greys Creek Nature Park and transferred the property to the County in 2006. This property is 517 acres and contains extensive tidal marsh, nontidal wetlands, and woodlands which provide habitat and water quality benefits. This property is jointly managed by the County and the Maryland Coastal Bays Program (MCBP). The park functions as a passive recreational outlet while also providing educational opportunities to learn about the ecology of wetlands, marsh lands, and coastal woodlands.

The Ilia Fehrer Nature Preserve was acquired by Worcester County in 2011 and is managed by MCBP for conservation purposes. The property is a 437-acre wetland preserve and is part of the larger Holy Grove Swamp Area within the Newport Bay Watershed. The west parcel of the property consists of open scrub and shrubland while the east parcel is characterized by older growth hardwood stands and a large loblolly pine stand between the two parcels of the property. A primitive loop trail was established by the MCBP on the west parcel for access to water level meters and was improved and mapped during the winter of 2023. During fall of 2022 MCBP began developing a series of trails on the east parcel. While there is no parking area at the west parcel, visitors may access the east parcel and its trails from a parking lot located off Sinepuxent Road. MCBP is working to connect the two trail systems to afford visitors the opportunity to visit the west parcel.

In 2023, DNR in partnership with the Lower Shore Land Trust purchased the former Bay Club near Berlin. This former golf club site helps conserve 672 acres of land in the headwaters of the Pocomoke River watershed, which restores wetlands, fosters reforestation, and provides public access.

Assateague State Park is located on Assateague Island and is bordered by the Assateague National Seashore to the north and south. The State Park is managed by DNR, whereas the National Seashore is managed by the National Park Service. These protected lands provide recreational activities such as swimming, beachcombing, camping, kayaking, and fishing, and also provide habitat to a variety of wildlife including deer, waterfowl and feral horses.

It is the County's intent to protect and promote private farming and forestry by accommodating inevitable population growth through appropriate planning and zoning, and by taking advantage of every program available to landowners to voluntarily protect open space. Specifically, the County is committed to continuing to seek and/or provide additional funds for the purchase of both Rural Legacy and Maryland Agricultural Land Preservation Fund (MALPF) easements, to pursue other agricultural land conservation programs, and to maintain State certification for the County's agricultural land preservation program, which allows access to additional agricultural transfer tax funds that are collected in the County.

The county also promotes restoration projects on private lands through watershed planning efforts and other programs. Local, state and federal programs available include Wetland Reserve Program and other

U.S. Department of Agriculture Programs, Conservation Reserve Enhancement Program (CREP), various State Forest Service programs, and the County Forest Conservation Fund and Critical Area fee-in lieu programs. The county has also pursued funding for restoration and resiliency projects as part of its TMDL compliance program.

The county also takes part in the Maryland Coastal Bays Program's (MCBP) Comprehensive Conservation and Management Plan (CCMP) which is a blueprint to guide future decisions and addresses a wide range of environmental protection issues, including: water quality, habitat, fish and wildlife, pathogens, land used, resiliency, and introduced species. Each CCMP is based on a scientific characterization of the estuary and is developed and approved by a broad coalition of stakeholders. A new CCMP was completed in 2025 for Maryland's Coastal Bays. A National Estuary Program, the Maryland Coastal Bays Program is a cooperative effort between Worcester County, Berlin, and Ocean City which have come together to produce successive 10-year management plans for the coastal bays. Established in 1987 under the Clean Water Act, the National Estuary Program was developed to protect economically and environmentally sensitive estuaries across the nation by engaging all user groups. The Maryland Coastal Bays Program is one of only 28 such programs nationwide.

Worcester County's 2006 comprehensive plan, as revised and amended with the adoption of the Priority Preservation Element in 2010, recommended the goal of 1,000 acres of agricultural land protection per year (800 acres within the PPA annually). The 2010 Priority Preservation Element identified a Priority Preservation Area (PPA) of 195,332 acres, with a long-term goal to protect 100,000 acres within this area for agricultural and forestry. These goals are re-articulated in the County's Agricultural Land Preservation Re-certification report, which was last updated in 2023.

The proposed Priority Preservation Area that would be adopted with this PPA map update would expand the County's PPA to 206.208 acres, including the Bishopville Showell RLA. The County's Agricultural Preservation Advisory Board reviewed this in November 2025.

Forest and Woodlands

A forest is defined in the Maryland Code as a biological community dominated by trees and other woody plants covering a land area of 10,000 square feet or greater. A forest includes areas that have at least 100 live trees per acre, with at least 50 percent of those trees having a two-inch or greater diameter at 4.5 feet above the ground. A forest also includes areas that have been cut but not cleared. A forest does not include orchards.

According to the County's 2010 Land Use/Land Cover classifications, Worcester contains approximately 155,021 acres of forest coverage, which represents roughly 51 percent of the County's land mass. In addition to enhancing the County's rural character, some of the forested lands are owned and operated by timber companies practicing silviculture (the growing of trees), an integral part of industry. Due to the nature of forested land use and limited development potential of the soil types typically associated with extensive woodlands, fewer County services are necessary in largely forested areas. Additionally, large forest tracts provide a variety of ecological benefits.

The County implements its Forest Conservation Law which is in full compliance with the Maryland Forest Conservation Act. The main purpose of this Act is to minimize the loss of Maryland's forest resources

during land development by making the identification and protection of forests and other sensitive areas an integral part of the site planning process. The County specifies that activities that require an application for any public or private subdivision plan, site plan approval, or grading and sediment control permit on areas 40,000 square feet or greater must comply with the Forest Conservation Law.

In 2013, the Maryland General Assembly clarified that it is the policy of the State to achieve “no net loss of forest,” meaning at least 40 percent of all land in Maryland is to be covered by tree canopy. In 2003, the Governor signed a bill which outlines the State’s plan for no-net forest cover loss. Each County was given the option to establish its own plan by July 1, 2024, or default to the state requirements. The "no net loss" policy is being replaced on July 1, 2026, with a net canopy growth policy which requires measurement every four years. There are also policy measures underway at the state level regarding mitigation banking under the new FCA that have yet to be clarified with the counties. One big change is that qualified conservation of existing forests is now creditable again. The new state forestry manual is being updated and has yet to be delivered to the counties. DNR anticipates updating the local model ordinance by July 1, 2025, and adopting new regulations by July 1, 2026.

In October 2019, the State enacted legislation that updated the Natural Resources Article §5-1610, Forest Conservation Fund, which required all Counties to implement a Forest Mitigation Plan and Accounting Procedure. This Plan prioritizes a plan of action to maintain a viable Forest Conservation program by exploring land acquisition, forest banking, GIS tracking, and an increased forest conservation fee in lieu rate. In 2010, in response to this legislation, the County enacted changes under Bill No 20-4 by incorporating the Forestry Policy Act of 2009 which reduced clearing thresholds, addressed the reporting of easement information in GIS layers, and made changes to inter-family exemptions for transfers. It was again amended in 2020, under Bill 20-4, for changes including: demonstration of unavailability of forest mitigation bank credits, procedures and assurances of mitigation, and an update to fee in lieu rates.

9. AGRICULTURE

Introduction

This chapter articulates the County's policy framework for sustaining agricultural land and industry. Despite the intensive urbanization of Ocean City and commercial and residential development of the northeastern portion of the county, Worcester County remains a largely rural community, with a landscape dominated by cropland and forest. Agriculture is second to tourism in sustaining the local economy.

According to the 2010 Land Use/Land Cover data produced by the Maryland Department of Planning, Worcester County contains 89,000 acres of cropland and 145,000 acres of forested land;[14] accounting for 30 percent and 49 percent of the County, respectively. The 2022 Census of Agriculture, which collects data in a different way, notes that the County's 361 designated farms accounted for 104,121 acres or 34 percent of Worcester County (a negligible change from the 2017 census).[15] The average farm size was 288 acres (the average farm size has been trending upward for decades), and the median was 63 acres.[16] A total of 92 percent of these are characterized as family farms.

More than 67,000 acres in Worcester County are classified as "prime farmland," with another 40,000 acres designated as "prime farmland if drained or irrigated." According to the US Department of Agriculture (USDA),[17] "prime farmland" is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops.

In addition, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable [pH], acceptable salt content, and few or no rocks. When treated and managed properly, these soils have the capability to produce sustained high yields of crops.

To classify the various levels of soil quality, USDA Soil Surveys include a Land Capability Classification system to group and prioritize soil classifications according to their limitations for field crops, the risk of damage if they are used for crops, and the way soils respond to management. Prime agricultural soils are considered to include Soil Capability Classes 1 and 2.

In the 17th and 18th centuries, tobacco was the mainstay agricultural commodity in Worcester County. This gave way to grain crops and livestock grazing by the early 20th Century. Today, grains for poultry feed (corn, soybeans and wheat) are the mainstay crops, and Worcester County ranks fifth in the state in broiler production. According to the Census of Agriculture, 8.61 million broilers (meat type chickens) were sold in 2022.[18] Worcester County ranks eighty-seventh among *all counties nationwide* in broiler

[14] http://www.mdp.state.md.us/OurWork/landuse.shtml

[15] Census of Agriculture, USDA. 2022.

[16] *Ibid*.

[17] United States Department of Agriculture, Natural Resources Conservation Service; Soil Survey of Worcester County, Maryland. 1997.

[18] *Ibid.*

production.[19] The total value of all agricultural products sold in Worcester County in 2022 was more than $289 million (ranking fifth in Maryland and a 16 percent change from 2017).[20] The average market value of products sold per farm was over $800,000 in 2022 (a 19 percent increase from 2017).[21]

The poultry industry is a staple element of the economy on the Delmarva Peninsula as a whole. Overall, on Delmarva, chickens outnumber people 390 to 1.[22] Not only chicken production itself, but also locally produced grains for feed are essential for the continued success of the chicken industry; the large base of local farmers is an important part of the "three legged stool" (poultry growers, poultry companies, and grain farmers) needed to sustain the industry. Contiguous farmland that is minimally disrupted by other types of development is also important for the continued success, and flexibility of farming industries. When residential and other development fragments farmland, it not only results in loss of farmland, but creates traffic, adjacent landowner complaints and other conflicts with agriculture which at some point becomes detrimental economically to farming on a larger scale.

Value-added agriculture includes not only the production and /or processing of agricultural products, but an associated public educational or interactive component, also known as "agritourism." With increased interest from the public, value-added products and agritourism has become a more viable economic option for farmers and processors in Worcester County, but it is still a small part of the overall agricultural economy in the county. According to the 2022 Census of Agriculture, farm-related income was more than $5.3 million in 2022, a 62 percent increase from 2017.[23]

The forest products industry is also important in Worcester County. Like farmland, all forestland is not equally productive. Forested riparian areas, critical area buffers, wetlands and certain hydric soils are important to protect for habitat and water quality, but not as critical to the forestry industry. The lower eastern shore has experienced a significant loss of local timber mills over the past several decades, mirroring a wider trend across Maryland's Eastern Shore with only a few remaining mills today.

Market consolidation and other factors have contributed to this decline. Regardless, forestry contributes significantly to the economy and supports jobs. In the eastern shore region, in 2019, forestry contributed nearly $203 million in direct economic impact to the state economy and supported 2,309 jobs.[24] Direct contribution in Worcester County was $25 million and 69 jobs directly involved in forestry.[25] Beyond timber, forests provide essential ecological services such as clean air and water, habitat for hundreds of species of birds and other organisms, and contribute to the health of the

[19] *Ibid.*

[20] *Ibid.*

[21] *Ibid*

[22] *Ibid*

[23] *Ibid.*

[24] Hickman, John and Guy, Sarah. The Impact of Resource-Based Industries on the Maryland Economy. October 2022. Business Economic and Community Outreach Network (BEACON) at Salisbury University.

[25] *Ibid.*

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Chesapeake and Coastal Bays. The more acres of forestland available in the future, the more likely Worcester's forests can be managed sustainably.

Goals and Objectives

It is important to note that farmland and forested land do much more for a community than provide for a specific industry. Cost of Community Service Studies carried out across the nation consistently find that farmland, forested land and other agricultural land use generates a fiscal surplus for a community, even when the land is assessed at its current agricultural use. In this way, farmland is similar to other commercial and industrial uses. In contrast, residential land use does not cover its costs to local government; it must be subsidized by the aforementioned land uses. Conversion of agricultural land to residential land, therefore, should not be seen as a way to generate more revenue for local government and balance local budgets.[26]

Given the imperative to protect agricultural land, Worcester County will aim to target the following goals and recommended actions:

1. **Protect and promote private farming and forestry by accommodating inevitable population growth through appropriate planning and zoning.**
    - *Action Item 9.1.1:* Continue to support DNR forest service and other entities that provide technical assistance to private forest owners.
    - *Action Item 9.1.2:* Promote cooperative work between farmers/landowners and other stakeholders to balance water quality and productivity and other environmental challenges facing farmers and owners of forested land.
    - *Action Item 9.1.3:* Work with the state and other partners and entities to balance commercial solar development in rural areas with protection of farmland.
2. **Establish a Priority Preservation Area within which protection efforts will be focused and non-agricultural development will be discouraged. Specifically, in the long term, protect at least 85,808 acres through conservation easements and restrictive zoning.**
    - *Action Item 9.2.1:* Continue purchase of Rural Legacy and Maryland Agricultural Land Preservation Fund (MALPF) easements using a system that prioritizes land most at risk for development and/or purchase of the best bargains.
    - *Action Item 9.2.2:* Cooperate with the Lower Shore Land Trust in their efforts to preserve farmland.
    - *Action Item 9.2.3:* Pursue other agricultural land conservation programs and funding, when available.
    - *Action Item 9.2.4:* Maintain State certification for the county's agricultural land preservation program, which allows access to additional agricultural transfer tax funds that are collected in the county.
3. **Prioritize prime farmland for permanent protection.**

[26] American Farmland Trust. Fact Sheet: Farmland Information Center, Cost of Community Services Studies. September 2016.

- *Action Item 9.3.1:* Continue to support the Soil Conservation District, the Extension Service and other entities that provide technical services, support innovation as well as promote environmental protection actions on agricultural land.
- *Action Item 9.3.2:* Establish a farmland conservation fund as a source of local matching funds for land protection.

Agricultural Zoning

Approximately 84 percent of the County is zoned A-1 (Agricultural) or RP (Conservation); 169,158 and 87,463 acres, respectively, after Worcester County underwent comprehensive re-zoning in 2009. In these zones only, five lots may be subdivided from what was an entire parcel of land in 1967. In the A-1 zone, six lots may be created under certain circumstances, including clustering of lots (extremely rare). In the RP zone up to five lots per parcel are permitted only by special exception. This has allowed the county to minimize development pressure in these zones.

An A-2 zone was created from A-1 and E-1-zoned areas in 2009 (7,253 acres). This zone is intended to foster agricultural use, while also allowing uses of a more commercial nature that require large tracts of land that had been permitted in the entire A-1 zone prior to 2009.

Worcester County has not adopted a tier map or otherwise made any changes to zoning regulations following the enactment of the Sustainable Growth and Agricultural Preservation Act of 2012 (the "septics law"). All of this has ensured that development is minimized in the A-1 zone.

Figure 9-1 depicts the number of residential building permits issued annually, county wide and in the A-1 zone. Within the period of 2007 to 2025, 3,666 building permits were issued in total; 648 in the A-1 zone. This data shows that development is concentrated in designated growth areas, with limited development occurring in the A-1 zone.

Subdivisions within the PPA are a similar metric to gauge development impact as reflected in **Table 9-1: Residential Land Use and Land Protected in Priority Preservation Areas**. From 2018 to 2024, approximately 1,158 acres were involved in subdivision for residential purposes and 4,366 acres were protected.

Protection outstripped development more than three-fold on a per acre basis in this period. It is also likely that some of the acreage involved in subdivision remained in agricultural use. This slow pace of development is anticipated to continue to provide ample time for the acquisition of conservation easements on agricultural and forested land.

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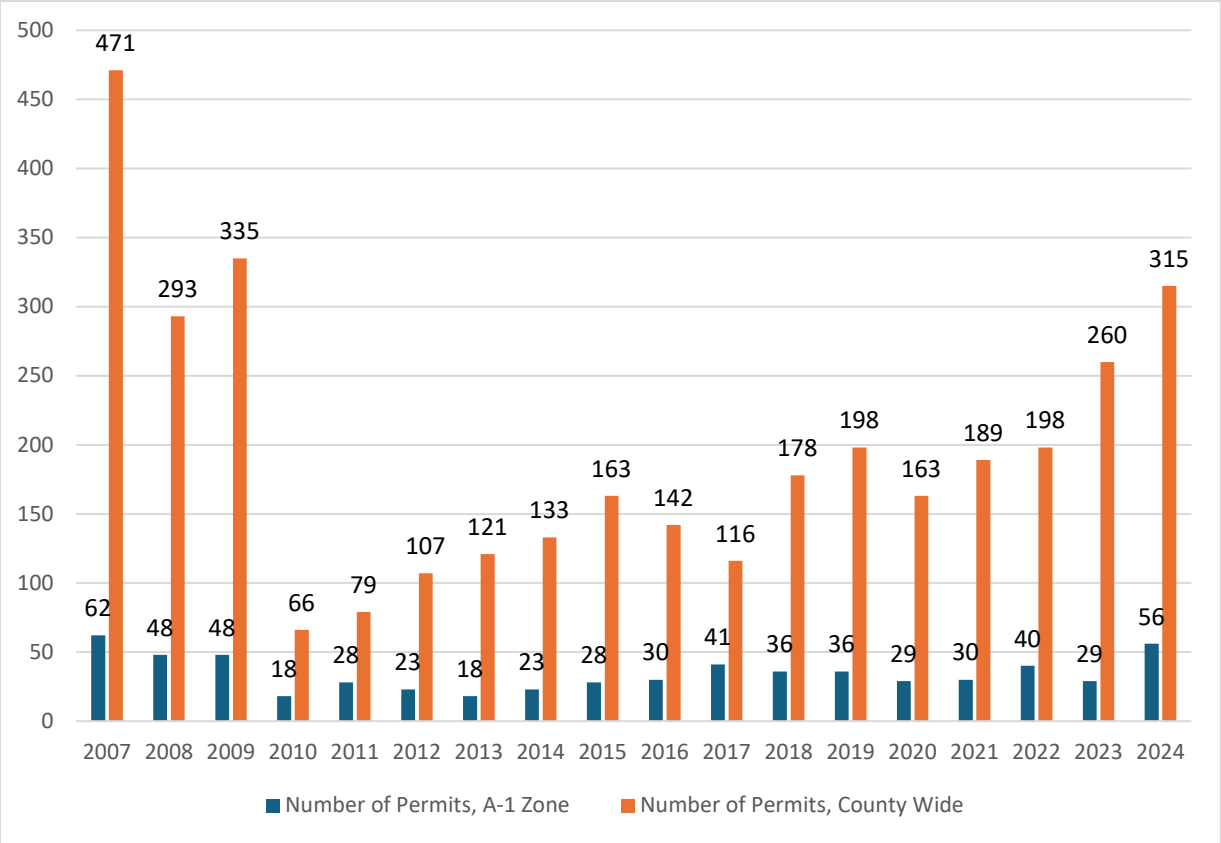
Figure 9-1: Residential Building Permits Issued by Worcester County 2007-2024



Data source: Worcester County Development, Review and Permitting

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Table 9-1: Residential Land Use and Land Protected in Priority Preservation Area (PPA)

Year	Lands subdivided for residential use in the PPA	Residential units constructed in the PPA*	Lands Protected in the PPA
2018	11 lots; 72.41 acres	22	811.4 acres (MALPF) 474.8 acres (Rural Legacy)
2019	6 lots; 22.1 acres	21	800.17 acres (MALPF) 186.9 acres (Rural Legacy)
2020	6 lots; 36.79 acres	24	173.5 acres (MALPF) 137 acres (Rural Legacy) 56.7 acres (CREP Permanent Easement)
2021	11 lots; 120.67 acres	27	458.58 acres (MALPF) 2,046.48 acres (Rural Legacy) 153.56 (LSLT/MET)
2022	10 lots; 117 acres	38	481.46 acres (MALPF) 244.57 acres (Rural Legacy)
2023	19 lots; 578 acres	25	103.98 acres (MALPF) 88.74 (Rural Legacy)
2024	3 lots; 211 acres	39	722.84 acres (MALPF) 113.6 acres (Rural Legacy)

**Data 2022 and prior is relevant to the original PPA

Priority Preservation Areas

To help keep a critical mass of land in farming use, the county established a state certified agricultural preservation program effective July 2004. Certified counties keep 75 percent of the agricultural transfer tax and are eligible for additional state matching funds which are used to fund the program.

To remain eligible for this program, the County must establish a Priority Preservation Area (PPA) that includes a strategy for assuring the long-term integrity of the agricultural resources in this area (Agriculture Article 2-518 and State Finance and Procurement Article 5-408, modified by House Bill 2 in 2006).

The County established a PPA in 2010 with the adoption of a Priority Preservation Areas Element. The PPA established was 195,332 acres and at that time 53,724 acres, approximately 28 percent of the PPA, was protected land. In the following 15 years, more than 25,000 acres of farm and forested land were protected. It is also important to note that, during this period, fewer than 3,000 acres were converted to residential use in the County. **Table 9-1: Residential Land Use and Land Protected in Priority Preservation Area (PPA)** shows acres subdivided and acres protected during the period between 2018 and 2024.

Figure 9-2 depicts the boundaries of the updated PPA, which has been expanded to include the entire Bishopville-Showell Rural Legacy Area that was established in 2024. The new PPA is 206,208 acres, 67

percent of the County's total area. A total of 81,284 acres of the PPA (39 percent) are designated as "prime farmland." **Table 9-2** provides data on land use in the PPA. Approximately 94 percent of the PPA is undeveloped. **Table 9-3** provides a breakdown of protected land in the PPA.

Approximately 38 percent of the PPA is protected through state-ownership, conservation easements or other permanent mechanisms. The State of Maryland requires that the acreage goal for land protection within the PPA be equal to at least 80 percent of the remaining undeveloped land in the area. To meet this goal, at least 165,000 total acres should be protected. Since 79,192 acres are already protected in the PPA, 85,808 acres would need to be protected to achieve this requirement.

Protection of this acreage and minimization of fragmentation is necessary to support the continued viability of the poultry industry, which is increasingly challenged by residential development in rural areas across Delmarva, as well as to ensure that adequate prime and farmable soils are available to meet future market demands for food and other crop products. Dust, odor, chemical applications, noise and other activities associated with farming create conflicts with residential development, which can ultimately harm the industry.

A large inventory of forest land will be important to meet future needs for forest products, as well as protect air and water quality for county residents and visitors. Fortunately, a base of good forest land is already protected in the PPA. Most of the 38,400 acres of state-held land is forested. As noted above, 116,000 acres of the PPA are forested. **Figure 9-2** depicts the PPA boundary and generalized land cover.

Map 9-2: Priority Preservation Areas (PPAs)

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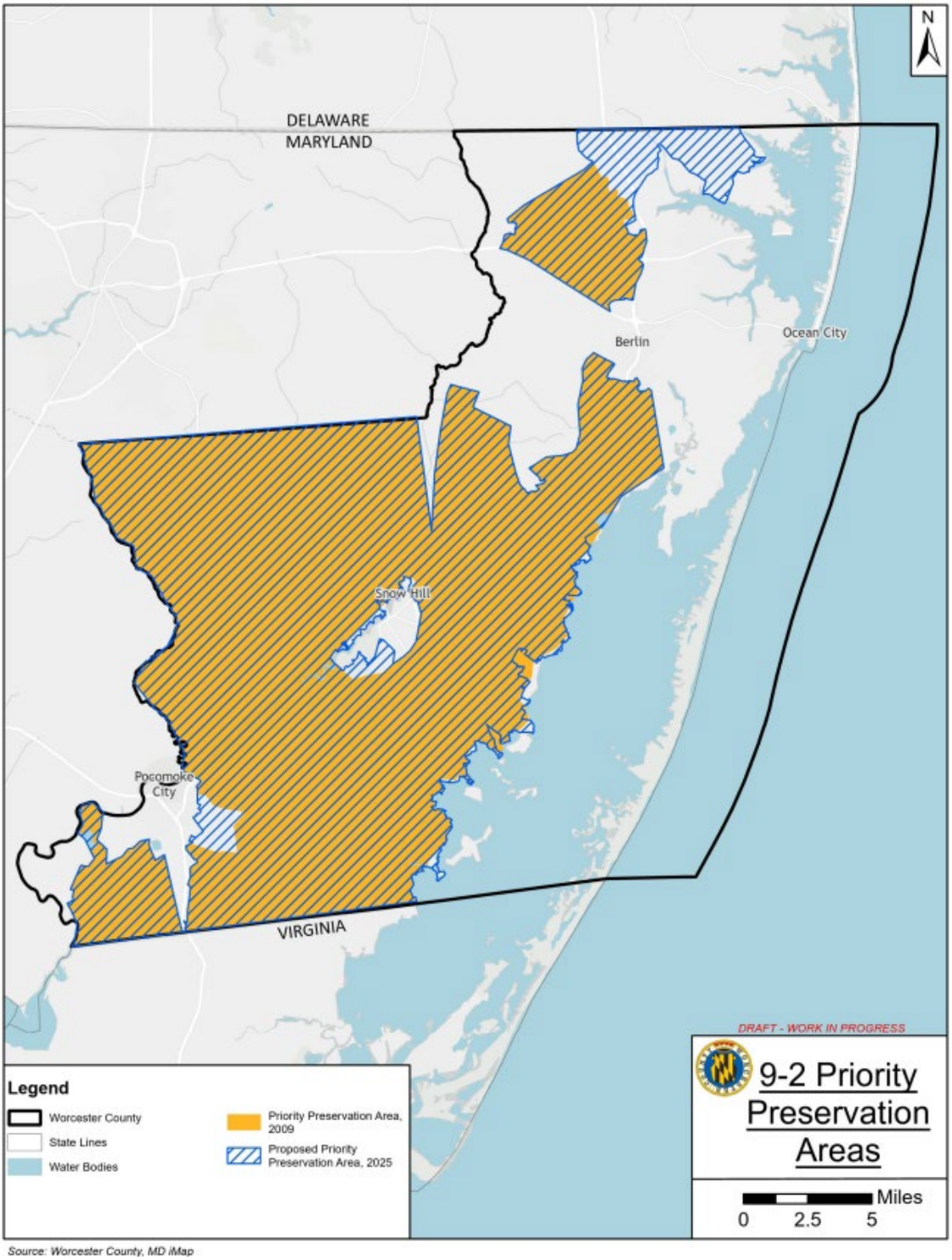

Source: Worcester County, MD iMap

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The County's land use plan map found in **Chapter 4 – Land Use** is consistent with the PPA.

Table 9-2: Land Use in the Priority Preservation Area (2010 MDP Land Use/Cover data)

Land Use Category	Acres
Low-Density Residential/Large-lot subdivision	8,702
Medium to High-Density Residential	140
Commercial	369
Industrial	162
Institutional	192
Open Urban Land	501
Wetland	6,020
Bare Ground/Extractive	339
Open water	1,850
Forest or Brush	116,000
Cropland/agricultural use	71,945
Roads	289

Source: Worcester County

Table 9-3: Protected Land in the Priority Preservation Area (as of September 2025)

Land Protection Program/Owner	Acres
The Nature Conservancy	5,426
Rural Legacy Program Easement	13,467
Deed Restricted Private Land	412
MALPF Easement	10,740
CREP Permanent Easement	655
DNR-held Conservation Easement	5,285
Forest Legacy	95
State-owned Lands	38,777
Other Lower Shore Land Trust Easement	1,946
County-owned Lands	500
WRE/WRP Easement	1,889
Total	*79,192*

Source: Worcester County

Implementation

Worcester County protected approximately 12,340 acres of farmland/productive forestland from 2009 to 2025, through the Rural Legacy and MALPF programs, the vast majority within the Priority Preservation Area (PPA). The County's stated goal has been to protect 1,000 acres annually within the PPA and the county protected an average of 823 acres annually.

MALPF

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Created by the General Assembly in 1977, Maryland Agricultural Land Preservation Foundation (MALPF) purchases agricultural preservation easements that forever restrict development on prime farmland and woodland. Worcester County continues to have a "certified" agricultural land preservation program (as of July 1, 2004). This allows the county to retain additional transfer tax and access additional state funding match for purchase of agricultural easements through the Maryland Agricultural Land Preservation Foundation.

The pace of land protection increased significantly since 2009. From 2009 to 2025, about 5,774 acres (37 properties) were protected with MALPF easements, or about 385 acres annually.

Worcester County's approach to ranking that prioritizes discount offers, along with other factors, has increased the acreage protected in the County. MALPF's "Round 2" funding cycle prioritizes bargain sales, and Worcester County landowners have increasingly received "Round 2" offers due to its competitive bid process.

Worcester County also provides a cash match from the agricultural land transfer tax, revenue collected by the County, and allocates funds in most years from the County's General Fund. These funds are matched by MALPF on a 60/40 basis. This has allowed for additional MALPF easement purchases, thus enabling the County to meet its minimum acreage protection goals. The County should continue to provide an annual cash match to MALPF and consider establishing a farmland conservation fund that would support additional easement purchases.

Rural Legacy

The Rural Legacy Program was created to discourage sprawl development and protect areas, designated by local government, for future generations to enjoy. The program provides farmers and landowners an alternative to developing (or subdividing) their land or selling their property to developers. The program also supports the protection of water quality and habitat through additional protections including vegetative buffers and limitations on impervious surfaces.

Under the program, landowners can sell or donate their development rights and still retain ownership to continue growing crops or limited raising of livestock (similar to the MALPF program).

Worcester County's Coastal Bays Rural Legacy Area includes the entire Chincoteague Bay shoreline and watershed, the Lower Pocomoke River watershed, and connects the Chincoteague Bay to the Pocomoke State Forest with a permanent "greenway." This area is approximately 45,945 acres (and was expanded in FY 2019).

More than 18,000 acres are permanently protected, either through state ownership or by privately owned land under conservation easement. Approximately 10,000 acres are protected with a Coastal Bays Rural Legacy easement as of October 2025. Due to difficulty finding remaining interested landowners, the County has focused on the other two Rural Legacy Areas: Dividing Creek RLA and Bishopville-Showell RLA.

Dividing Creek Rural Legacy Area was created in 2008 in partnership with Somerset County, The Nature Conservancy and Lower Shore Land Trust. The boundary for this area was expanded in 2019 in both counties. In Worcester County, it includes the entire Dividing Creek watershed, portions of the

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Nassawango Creek watershed, and upper Pocomoke River shoreline and watershed. The Dividing Creek and Nassawango watersheds are an area of Maryland recognized by The Nature Conservancy as high in biodiversity.

The Dividing Creek Rural Legacy Area is also an area with productive and contiguous farmland. The area is 55,526 acres in size, including land in both counties. Protection of the first Dividing Creek Rural Legacy Area easement in Worcester County occurred in 2009. To date, 14 properties have been protected in Worcester County, totaling more than 3,500 acres.

The Bishopville-Showell Rural Legacy Area was established in 2024. The area is 11,743 acres and contains important farmland under significant development pressure. It includes lands surrounding the unincorporated villages of Bishopville and Showell. To date, multiple uses, some not compatible with agriculture, have occurred in this area. Many of the farms are small, and so are unable to participate in MALPF, which requires a minimum of 50 acres to enroll. Protection of the remaining farms in this area is needed to maintain the rural landscape. To date, one easement within this area has been purchased.

Donated Conservation Easements

Worcester County is served by the Lower Shore Land Trust, a non-profit organization that works in cooperation with the Maryland Environmental Trust to obtain donated permanent conservation easements in rural areas. More than 1,900 acres in Worcester County are protected by a donated conservation easement, held by the Lower Shore Land Trust and Maryland Environmental Trust. Landowners who donate are eligible for tax benefits.

Land Use Management

Worcester County's zoning code, and specifically the A-1 and RP zones as currently established, protects rural areas from irreversible, sprawl development that would negatively impact farming and forestry. By not adopting septic tier maps, Worcester County has not mapped areas where major subdivisions may be developed on septic systems. This plan recommends that these policies continue.

Value-added processing, agri-tourism, continuing education for farmers, and educating county citizens on the value of supporting local farms are supportive actions that can be taken to keep farming viable.

Value-added retail and agri-tourism are permitted by special exception in the A-1 zone. There are many roadside farm stands permitted throughout the county in several zoning districts, although exact numbers are not available. A-1 zoning enables farm owners to hold special events in their principally agricultural structures, thus allowing temporary/short-term uses that do not impact farming, but provide income, and may also help connect the public to the agricultural landscape and products. Agricultural alcohol production facilities, including farm breweries and wineries, have emerged as a new growth area that the county supports through zoning policies.

Challenges

It is important to identify the challenges the agricultural sector/rural land faces and will face in the coming years. Farming is dynamic—the industry is continually affected by economic and regulatory factors, changes in population and land use and innovations in technology.

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Along with the threat of fragmentation and loss of farmland due to encroachment of other land uses, the poultry and associated feed industries are facing other challenges. Saltwater intrusion and land loss is already occurring on the Delmarva peninsula and anticipated to continue to impact low lying land, including in Worcester County. This makes the soil unproductive as farmland or woodland transforms into marsh or open water. Storm surges exacerbate this. Drought conditions may increase in intensity and duration in the future, stressing both poultry and crops.

Agricultural practices continue to trend towards intensification and higher productivity, with yields per acre up 70 percent between 1982 to 2022.[27] While efficiency has also improved, balancing production with water quality protection will continue to pose a significant challenge.

The poultry industry is faced with several economic challenges, including inflation, global trade conflicts, and avian influenza. Meanwhile, the forestry industry is facing declining forest markets. Pests and invasive plants pose threats to native vegetation. Continued parcelization of forested land poses a challenge for forest management, as many private forest owners may not opt to use professional services to assist with sustainable management, and management of smaller woodlots can be more challenging. All of these challenges will require creative solutions, many at the local level, through the period covered in this comprehensive plan.

[27] Delmarva Land and Litter Collaborative.

10. TRANSPORTATION

Introduction

Transportation is an important part of County planning because it provides for connectivity, supports community sustainability, and helps to enable local economic activity. This chapter discusses the County's transportation infrastructure and examines the importance of maintaining and supporting the current and future vehicle and multimodal transportation needs of the County.

Goals and Objectives

Worcester County, in cooperation with local, state, and federal entities, will provide for safe and efficient movement of people and goods by the various transportation modes with an acceptable level of congestion.

1. **Support transportation infrastructure and future transportation needs.**
    - *Action Item 10.1.1:* Improve connectivity to recreational facilities and other points of interest by adding missing sidewalk or bicycle connections.
    - *Action Item 10.1.2:* Conserve and maintain scenic roadway views to maintain the rural character of the County.
    - *Action Item 10.1.3:* Integrate walkability and multi-modal transportation into land use planning and development.
2. **Improve safety, mobility, accessibility, and resiliency in the transportation network.**
    - *Action Item 10.2.1:* Limit the number of access points to maintain road capacity and reduce conflicting vehicular movements.
    - *Action Item 10.2.2:* Strongly encourage the use of service roads or interparcel connectors where appropriate.
3. **Seek to integrate transportation and land use where feasible, to create more sustainable patterns of development, especially in designated growth areas.**
    - *Action Item 10.3.1:* Encourage traffic studies as part of large development projects or rezoning requests to assess the effect of the project on the road network.
    - *Action Item 10.3.2:* Develop a policy that requires developers to pay for infrastructure upgrades as part of new development.

Policies and Guidelines

Three statewide and countywide plans provide context for the County's transportation planning.

The Playbook – 2025 Maryland Transportation Plan

The Playbook is Maryland's long-range transportation plan. It defines goals and objectives in support of the State's efforts to create safe, reliable, accessible, and sustainable transportation options across Maryland. This plan provides guidance to local officials to enhance safety for all, expand transportation infrastructure to serve local communities and support the economy, and to promote environmental stewardship.

2050 Maryland Statewide Bicycle & Pedestrian Master Plan

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This Plan identifies statewide goals and strategies for improving active transportation access, safety, and connectivity. It establishes priorities and performance measures to guide future planning and investment based on the goals instituted in the *2023 Moore-Miller Transition Report* as well as *The Playbook*. Maryland counties and municipalities serve as partners in developing these connected and safe transportation networks.

Maryland's Coast Worcester County Greenway Trails Master Plan

This Plan provides guidance to help strengthen Worcester County's active transportation by providing healthy, equitable, and sustainable greenways. The goals identified in this Plan are to:

- Identify key origins, destinations, and trail corridor opportunities, including along existing roadways, utility corridors, parklands, or railroad rights of way.
- Identify safe, convenient, and cost-effective opportunities to make trail connections.
- Identify opportunities for additional trail amenities such as trailhead parking, wayfinding, seating areas, playgrounds, interpretive signage, landscape enhancements, or other amenities supported by community members.
- Identify engineering constraints such as needs for stormwater management, bridges, roadway crossings, or right of way acquisition.
- Inventory and assess existing environmental resources, including sensitive habitats and ecosystems, historic sites, and cultural amenities, and identify the permitting and regulatory requirements for any potential impacts.
- Build partnerships with key stakeholders for project support and participation, including potential for partnerships in trail funding and maintenance.
- Position priority trail corridors for the next steps towards implementation, including strategies to secure grant funding with the Maryland Department of Transportation Kim Lamphier Bikeways Grant program or through a multitude of Federal grant opportunities.

Functional Classification

The Maryland Department of Transportation State Highway Administration (MDOT SHA) identifies roadways by their functional classification, which groups the highways, roads, and streets by the role each roadway plays in moving vehicles. The five classifications, as described and defined by MDOT SHA and the Federal Highway Functional Classification system, are:

- Interstates - highest classification of roadway, designed and constructed with mobility and for long-distance travel.
- Principal Arterials - connectors that serve regional traffic. The primary function is to move traffic efficiently through the area with controlled access to neighboring roads or destinations.
- Minor Arterials - connect traffic from Principal Arterials to lower classified streets. They connect access to neighboring roads and local destinations. Direct access to individual properties and neighborhoods is usually discouraged.

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- Collectors – provide road access to higher density residential neighborhoods and commercial areas. Traffic is usually a higher density of thru traffic from local roads and streets. They provide access to neighborhoods, commercial, and industrial areas.
- Local Roads - intended to provide access from residences to the higher roadway network. Local roads can be connected as an urban grid in smaller blocks or as a single road with direct connection to the main line.

Within the County, the existing roadway facilities are classified as Arterial Highways, Major Collector Highways, Minor Collector Highways, and Local. All roadways and their corresponding functional classifications for MDOT SHA are shown in **Map 10-1: Functional Classification**. **Table 10-1: County Classifications** lists the main roadways that connect the County to neighboring Counties and States along with their corresponding County classification.

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Map 10-1: Functional Classification

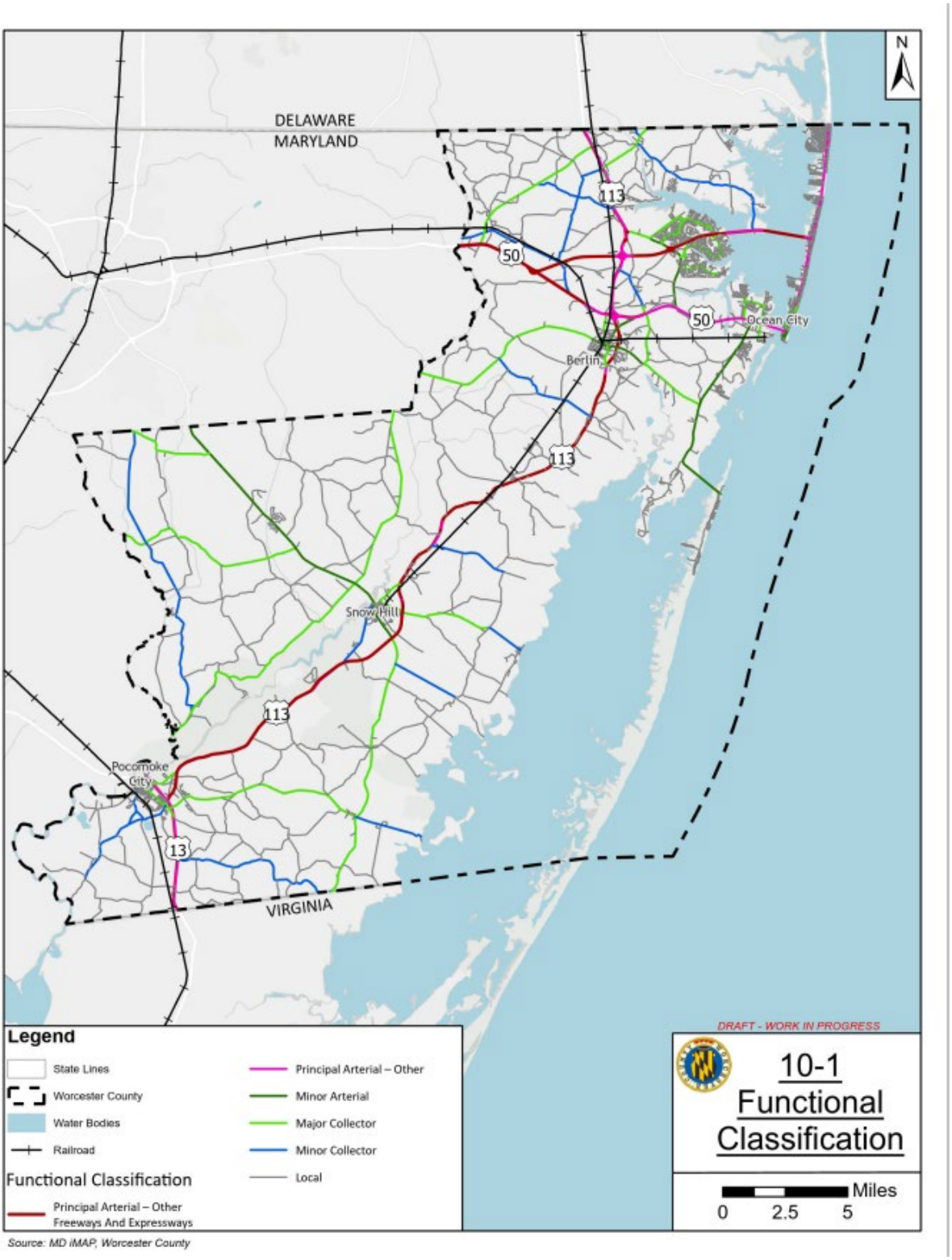

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Table 10-1: County Classifications

Roadway	Route	Functional Classification
Ocean City Expressway	MD 90	Arterial Highway
Ocean Gateway	US 50	Arterial Highway
Ocean Highway	US 13	Arterial Highway
Worcester Highway	US 113	Arterial Highway
Bay Street/Assateague Road	MD 376	Major Collector Highway
Racetrack Road	MD 589	Major Collector Highway
Snow Hill Road	MD 12	Major Collector Highway
Whaleyville Road	MD 610	Major Collector Highway
Stephen Decatur Highway	MD 611	Major Collector Highway
Old Ocean City Road	MD 346	Minor Collector Highway
Whiton Road	MD 354	Minor Collector Highway
Dividing Creek Road and Nassawango Road	MD 364	Minor Collector Highway
Public Landing Road and Bay Street	MD 365	Minor Collector Highway
Stockton Road	MD 366	Minor Collector Highway
Bishopville Road	MD 367	Minor Collector Highway
Saint Martins Neck Road	MD 368	Minor Collector Highway
Libertytown Road	-	Minor Collector Highway
Market Street	-	Minor Collector Highway
Beauchamp Road	-	Minor Collector Highway
Broad Street (Pocomoke)	-	Minor Collector Highway
Golf Course Road	-	Minor Collector Highway
Harrison Road	-	Minor Collector Highway
Keyser Point Road	-	Minor Collector Highway
Nassawango Road	-	Minor Collector Highway
Old Bridge Road	-	Minor Collector Highway
Pocomoke Baby Beltway	-	Minor Collector Highway

Source: Worcester County Zoning Code § ZS 1-326. Classification of highways.

Maintenance

The Roads Division of Worcester County Public Works is responsible for the day-to-day operation and maintenance of County-owned roads and bridges. MDOT SHA is responsible for all other state roadways and bridges. The Roads Division is responsible for maintaining approximately 571 miles of roads and 35 bridges within the County. Maintenance responsibilities include:

- Road repairs

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- Paving
- Drainage
- Landscaping maintenance
- Installation of traffic signs
- Marking of County roadways
- Roadway design and construction

Traffic Volumes

MDOT SHA monitors roadway volumes by measuring Annual Average Daily Traffic (AADT). AADT is measured by counting the total multi-direction vehicle volume of a roadway in 24 hours and dividing it by one year (365 days). **Table 10-2: Annual Average Daily Traffic** shows the MDOT SHA AADT's for the main arterial roadways within the County. **Map 10-2: AADT** shows all 2022 AADT values for the existing roadway system.

Table 10-2: Annual Average Daily Traffic

Roadway	Route	Functional Classification	AADT
Ocean City Expressway	MD 90	Principal Arterial – Other Freeways and Expressways	24,830
Ocean Gateway	US 50	Principal Arterial – Other Freeways and Expressways	33,522
Ocean Highway	US 13	Principal Arterial – Other Freeways and Expressways	20,686
Worcester Highway	US 113	Principal Arterial – Other Freeways and Expressways	23,360
Coastal Highway	MD 528	Principal Arterial – Other	50,242
Baltimore Avenue	MD 378	Minor Arterial	18,172
Bay Street/Assateague Road	MD 376	Minor Arterial	6,010
Broad Street	MD 374	Minor Arterial	2,315
Old Ocean City Road	MD 346	Minor Arterial	2,673
Philadelphia Avenue	MD 528	Minor Arterial	37,882
Racetrack Road	MD 589	Minor Arterial	21,141
Snow Hill Road	MD 12	Minor Arterial	5,565
Stephen Decatur Highway	MD 611	Minor Arterial	11,670
Williams Street	MD 377	Minor Arterial	2,874

Source: MDOT SHA 2020 Roadway Functional Classification & 2022 Annual Average Daily Traffic (AADT)

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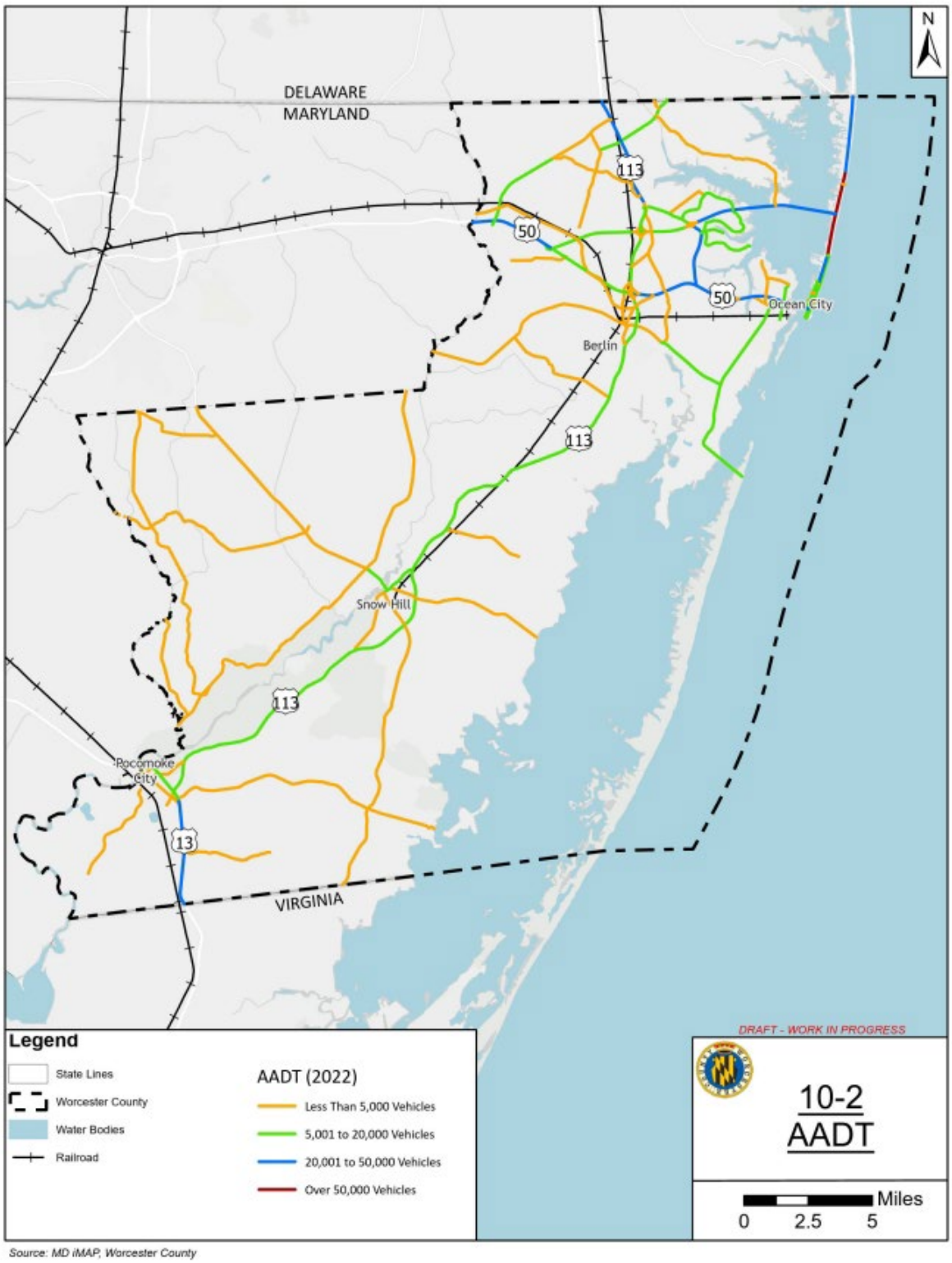
Map 10-2: AADT



Source: MD iMAP, Worcester County

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Scenic Byway

Maryland has 19 designated scenic byways that cover approximately 2,487 miles of roadway. Scenic byways are mapped driving routes that go through areas rich with nature, culture, and history. They offer a slower paced travel route that encompasses a travel theme such as, mountains, beaches, or small-town Main Streets. There are two designated scenic byways in Worcester County, the Cape to Cape route and the Blue Crab Scenic Byway.

The Cape to Cape route is a 79-mile route that promotes the East Coasts' historic beaches and islands that travel from the Delmarva Peninsula to Chincoteague, Sinepuxent, and Assawoman. This byway encourages users to stop and experience Ocean City, Berlin, Snow Hill, and Assateague Island. The Blue Crab Scenic Byway is a 210-mile route that promotes Crisfield/Smith Island, Ocean City, Assateague Island National Seashore and other public lands within the Lower Eastern Shore Heritage Area. The route combines several existing state scenic byways into one primary tour. (More can be read about this route from the *Blue Crab Scenic Byway Corridor Management Plan*.) The County should continue to promote, preserve, and maintain these scenic routes and their Corridor Management Plans.

Transit

Bus service in Worcester County is provided by Shore Transit and the Ocean City Beach Bus. Shore Transit is the public transit agency for the Maryland Lower Eastern Shore counties of Somerset, Wicomico, and Worcester. The agency's mission is to provide safe, reliable, friendly, and effective transportation services to the community. The fleet consists of 45 vehicles that operate 361 days a year (operation is 7 days a week along six fixed routes with 70 total bus stops).

Worcester County has two of these fixed routes (Routes 452 and 432) with 20 associated bus stops. The County continues to monitor the growing needs for transit and the existing workforce. **Table 10-3: Shore Transit Ridership** shows the available ridership data for all the route bus stops in 2024.

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Table 10-3: Shore Transit Ridership

Bus Stop ID	Bus Stop Name	2024 Ridership
S236	Atlantic General Hospital	3,567
S242	Decatur St	1,540
S247	Walmart – Berlin	6,159
S253	Hardee's - Pocomoke City	657
S255	Pocomoke Plaza	3,178
S256	Snow Hill Detention Center	1,211
S258	Ocean City Transfer Point	13,542
S259	Walmart - Pocomoke City	10,246
S261	White Marlin Mall (at KFC)	3,688
S262	West Ocean City Park and Ride	20,571
S263	Worcester Addiction Cooperative Services (WAC)	408
S264	Worcester Co. Commission on Aging Inc (MAC)	1,865
S266	Market St. & Maple St	1,372
S267	Byrd Park – South	2,074
S268	Byrd Park – North	547
S296	Franklin Ave. (across from Medical Center)	564
S301	Market St. @ Pocomoke Family Medical Ctr	5,196
S304	Ocean Pines Sports Core Pool	805
S351	12th St. & Market St. - Pocomoke	1,087
S352	Market St. & 12th St. - Pocomoke	358
	Total 2024 Ridership:	**78,635**

Source: Shore Transit 2024 Fixed Route Bus Stop Stats for Worcester County

The Ocean City Beach Bus and the Park-N-Ride Beach Bus are the public transit agencies serving Ocean City. Their mission is to provide transportation, which is safe, convenient, affordable, reliable, and friendly to the residents, visitors, and those who work or do business in Ocean City. The Park-N-Ride Beach Bus operates only during the summer season but is available seven days a week. It provides service every 20 minutes from 6 a.m. to 11 p.m. from the South Division Street Transit Station to and from the West Ocean City Park-N-Ride located off Ocean Gateway.

The Ocean City Beach Bus operates year-round and provides service from the South Division Street Transit Station to/from the 144th Street Transit Station. There are 124 bus stops along these two routes.

Map 10-3: Transit, shows the routes and bus stops for all Worcester County transit agencies. Bus stop locations for the Ocean City lines were excluded due to the quantity and scale of the map. However, all

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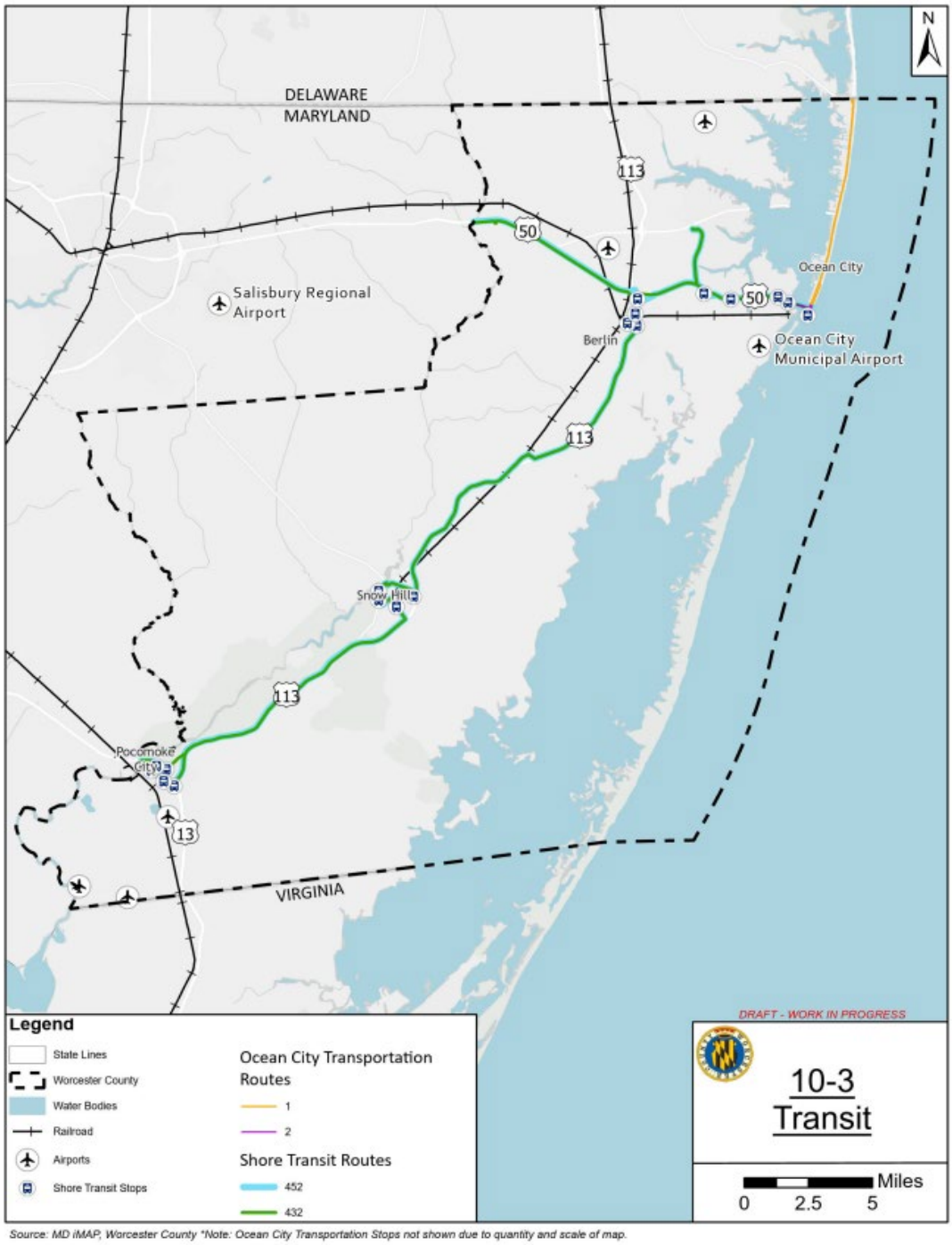
bus stop locations can be found on the oceancitymd.gov website. **Table 10-4: Ocean City Transit Ridership** shows the available monthly and yearly ridership data for the last five years (2020 to 2024).

Map 10-3: Transit



Source: MD iMAP; Worcester County *Note: Ocean City Transportation Stops not shown due to quantity and scale of map.

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Table 10-4: Ocean City Transit Ridership

Month	2020 Ridership	2021 Ridership	2022 Ridership	2023 Ridership	2024 Ridership
January	15,331	10,741	12,544	15,608	14,310
February	17,943	9,605	15,105	15,383	15,134
March	23,815	17,168	22,957	26,390	28,802
April	6,472	19,119	40,393	37,627	30,007
May	15,578	86,115	137,772	123,981	117,583
June	97,150	247,089	317,916	307,986	291,727
July	98,753	277,627	328,366	307,320	281,775
August	88,510	234,971	304,006	277,667	251,744
September	62,630	156,845	176,429	203,125	200,118
October	31,024	60,294	66,867	83,223	107,874
November	12,827	17,921	19,013	18,435	18,147
December	11,189	16,619	17,702	19,134	16,801
Total Ridership	**481,222**	**1,154,114**	**1,459,070**	**1,435,879**	**1,374,022**

Source: Ocean City Transit – Bus Ridership by Calendar Year for Worcester County

Pedestrian Facilities

Pedestrian facilities include bicycle facilities, sidewalks, side paths, crosswalks, and trails. Accessible and connected non-motorized facilities are important to the County to encourage non-vehicle transportation, community health, and environmentally friendly means of transportation. It is important for the County to be consistent with all State bicycle and pedestrian master plans, as well as local municipal multimodal plans.

The County took an important step forward in 2024 in developing the *Worcester County Greenway Trails Master Plan*. This Plan sets goals and guidance for the County's pedestrian facilities, bicycle facilities, and greenways/trails that go hand in hand with this Comprehensive Plan. All existing and proposed facilities identified in this Greenway Plan are shown in **Map 10-4: Greenway Facilities**.

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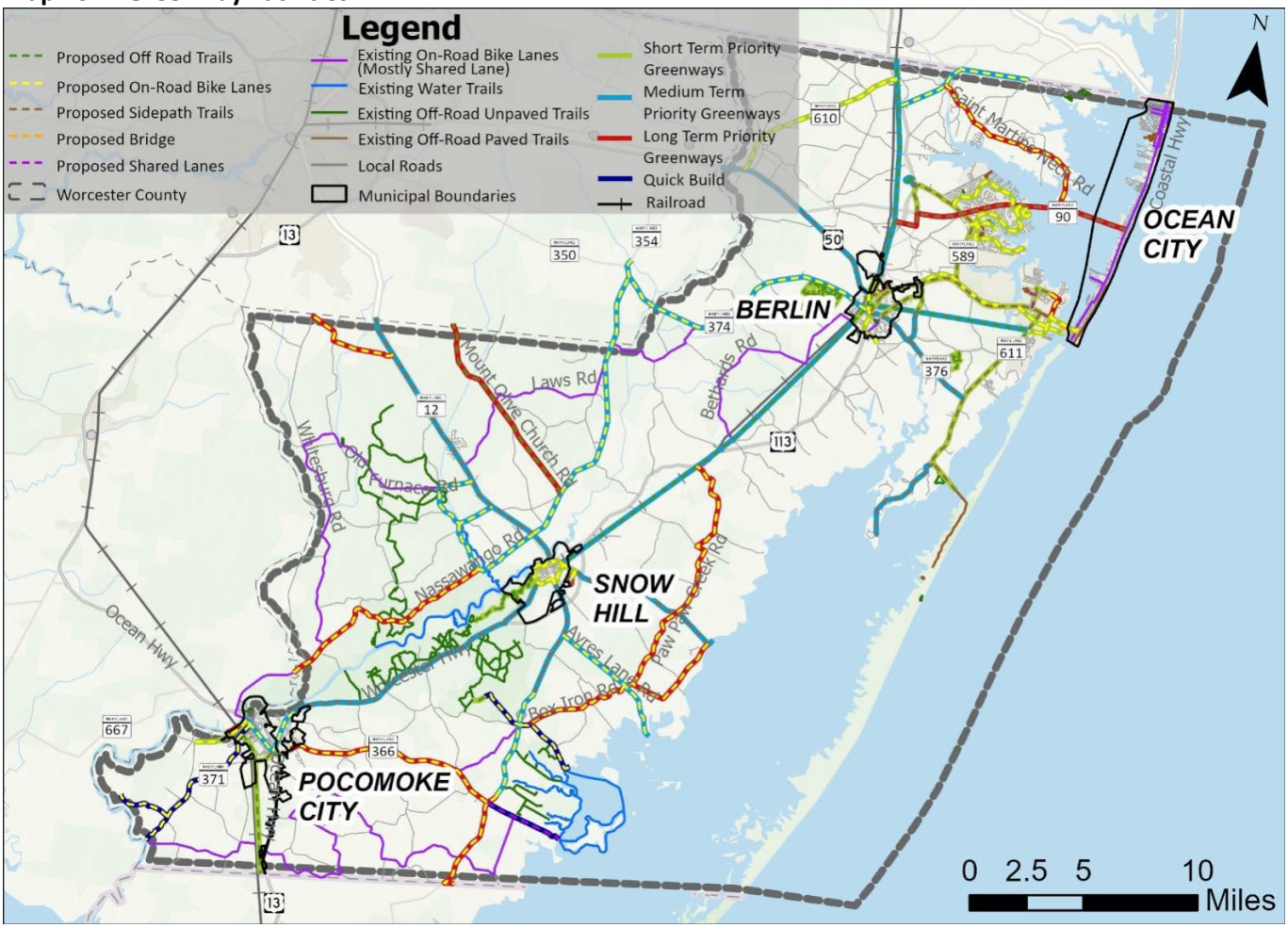
Map 10-4: Greenway Facilities



Source: Maryland's Coast Worcester County Greenways Trails Master Plan, page 28.

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Bicycle Facilities

Bicycle facilities provide users with safe riding options to protect them from vehicles and traffic congestion. Bicycle facilities within the County include designated bicycle lanes, shared lanes, and off-road trails. There are many on-road bike options within the County, as depicted in **Map 10-4**, that are identified as either a dedicated bike lane or a marked shared lane. The County should continue to work with municipalities and MDOT SHA to maintain these existing facilities and consider adding additional facilities when future roadway projects and new developments arise.

Sidewalk Facilities

Sidewalk facilities are paved paths that follow roadway alignments that only pedestrians may use. Sidewalk facilities also include curb ramps, pedestrian crosswalks, and pedestrian signals. These facilities are important within the County and municipalities so that pedestrians have safe and accessible connections to schools, shopping centers, work, places of worship, and other common points of interest.

Worcester County has a large network of sidewalks within residential and commercial areas. The County and/or property owners should continue to maintain these existing facilities and plan for future improvements. Sidewalk improvements should be considered and incorporated in all ongoing and future roadway or development projects. The County should also continue to work closely with the State to ensure that the State sidewalk facilities are also maintained.

Trails

Trails are pedestrian facilities that are typically paved or unpaved roadway-separated paths utilized by cyclists and pedestrians. These paths follow a roadway alignment with a landscaping or concrete buffer or their own alignment. The two main coastal trails within the County are Ocean City's Boardwalk and within the Assateague Island National Seashore. There are also trails present throughout the County, most of which are located within parks. Park locations can be found in **Chapter 3 – Community Facilities**.

Water Trails

Water trails are routes on a waterway that are designated for recreational use by canoes, kayaks, and paddle boards. Since Worcester County is a coastal community, it has an extensive network of water trails and access points. This network is included in the Greenways Trail Master Plan and should continue to be maintained, protected, and expanded by the County. All existing water trails are shown in blue in **Map 10-1**.

Water Transport

Worcester County through zoning has provided protection and encouragement for the commercial marine operations at the West Ocean City Harbor. The commercial component is critical to the federal calculus for funding maintenance dredging of the inlet. Maintaining the Ocean City Inlet for safe passage

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for the commercial fishing fleet and a substantial number of recreational vessels is vital to the economy of the area and safety during severe storms. Worcester County is not alone as many coastal inlets exposed to the Atlantic Ocean experience frequent and less predictable shoaling because of environmental conditions.

These ocean inlets typically require multiple dredge visits each year to maintain the authorized depth. The dynamics of sediment movement and the sources of that material have notably changed in the Ocean City Inlet since Hurricane Sandy in 2013. These changes have also been acknowledged by the US Corps of Engineers.

The commercial fishing industry has substantial historic, social, cultural and economic values for Worcester County and its protection is critical. Establishment in 1999 of the Commercial Marine zoning district around the West Ocean City Commercial Harbor was done to protect this vital economic engine. Commercial marine zoning within the West Ocean City Harbor should be continued and strengthened where needed to protect the harbor's commercial status.

Marinas, docks, and shoreline stabilization have received increasing attention due to their effect on the shoreline and near-shore waters. The land and water boundary provides important habitat for the Coastal Bays' fish and wildlife. For this reason, a marina, dock, and shoreline stabilization policy should be developed to provide guidance to the county staff when reviewing water-oriented facilities. The objective should be to provide water access yet provide protection for these special habitats. Community docking facilities should be pursued to the maximum extent feasible to minimize shoreline construction.

The County's Natural Resources Article limits the length of waterfront structures to one hundred twenty-five feet unless a variance is granted. To conserve the beauty of the waterfront by controlling pollution and hindering wetlands impacts such as fragmentation and unnatural shading in addition to preventing overcrowding and congestion, care should be taken to limit the impacts of these structures on the County's shorelines.

Worcester County and their partners in the Coastal Bays watershed are working towards developing and implementing an updated Sediment Management and Dredging Plan. This program will utilize sediment for restoration, coastal resiliency, and habitat enhancement projects within the Coastal Bays. Another part of this effort will be working towards an update to the Corps Ocean City Water Resources Study (OCWRS) of 1998 to review the increasing water resource issues within the OC inlet and the Coastal Bays and look holistically at providing solutions for flooding, navigation, and ecosystem restoration.

Maintenance of the Pocomoke River channel should continue, and it should be monitored for design changes to accommodate cargo traffic needs. In addition to the environmental, recreational and aesthetic benefits, the Pocomoke River provides valuable routes to transport critical resources and commercial products to and from the lower County. These include items such as aggregates and agricultural products.

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Railroads

Two rail lines serve Worcester County: the Maryland and Delaware Line and the Delmarva Central Railroad. The Maryland and Delaware Line is a 92-mile, Class III short-line rail that connects Snow Hill, Newark, and Berlin to Maryland and Delaware. The Delmarva Central Railroad is a 188-mile, Class III short-line rail that connects Delaware, Pocomoke, and Virginia. These lines mainly serve the County for bulk hauling of grain and stone. Currently in Berlin, MD, Tracks and Yaks offers a guided railbike tour that allows visitors to safely railbike along 6.5-miles of retired tracks that were established in 1877. The excursion is a shares rail history and promotes visitation of the Queponco Train Station Museum.

Airports

There are two public airports that serve Worcester County: Salisbury Regional Airport and the Ocean City Municipal Airport. The Salisbury Regional Airport supports the American Airlines, FEDEX cargo, Maryland State Police helicopter operations, and general-aviation activities. The Salisbury Regional Airport won a grant under the FY23 Small Community Air Service Development Program to support a new flight route from Salisbury Regional Airport (SBY) to Orlando International Airport (MCO) in Orlando, Florida, which will help support the County's economy and transportation connections. The Ocean City Municipal Airport maintains a general aviation center for local flights and plane maintenance. Both airport facilities provide car rental services.

County Priorities

Every year Worcester County updates its list of transportation priorities for the Maryland Department of Transportation's Consolidated Transportation Program (CTP). The letter is developed based on input from the public, county staff, and elected and appointed officials and sent to MDOT.

MDOT evaluates the projects in the letter to assist the state in updating the CTP, which is a six-year capital budget for State transportation projects. The CTP includes capital transportation projects that may involve planning, environmental studies, design, right-of-way acquisition, or construction. In 2024, Worcester County identified the following transportation priorities:

- Dualize MD 90 to address increased traffic demands and widen the shoulders.
- Dualize MD 589 to address increased traffic demands and increased development.
- Replace the defective drawbridge on US 50.
- Signalize the intersection of MD 611 and MD 376.
- Signalize the intersection of MD 367 and MD 368 (Bishopville).
- Signalize the intersection at US 13 and MD 366 (Pocomoke).
- Signalize the intersection at US 50 and MD 610.
- Construct safety improvement on US 113 near Corkers Creek to prevent crashes.
- Eliminate flooding on MD 12 north of Snow Hill.
- Construct dedicated right turn lane on southbound St. Martin's Neck Road at MD 90.
- Construct APS/CPS for pedestrians to cross the intersection of US 113 and MD 346.
- Develop an access management plan for the MD 611 to address growth and traffic.
- Construct a shared-use path on MD 611 from US 50 to Assateague State Park.

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- Update the bathrooms at the MD State Line – US 13 – Pocomoke Welcome Center.

Ocean City, Snow Hill, and Berlin also submitted priority letters to be attached with Worcester County. The County should continue to monitor these projects as well as future needs, and work with the State to ensure these transportation goals are implemented.

Highway Needs Inventory

The Highway Needs Inventory (NHI) is a MDOT SHA long-term document that identifies highway improvement projects to serve the existing and projected population and economic activity in the State as well as address safety and structural problems that need to be constructed. The NHI notes that only a portion of the proposed projects may be addressed in the future due to needs and resources that are subject to change. **Table 10-5: Highway Needs Inventory** presents the lists of Worcester County projects from 2021.

Table 10-5: Highway Needs Inventory

Route	Improvement	Estimated Cost ($000)
Primary System		
MD 90 (Ocean City Expressway)	Freeway reconstruction	$655,700
US 13 (Ocean Highway)	Access control improvements	$141,200
US 50 (Ocean Gateway)	Access control improvements with interchange at MD 589	$216,700
US 50 (Ocean Gateway, Kelly Bridge)	Bridge construct/reconstruct	$376,200
US 113 (Worcester Highway)	Interchange construct	$84,700
Secondary System		
MD 376 (Bay Street)	2 lane reconstruct	$17,800
MD 589 (Racetrack Road)	Multi-lane reconstruct including interchanges	$251,500
MD 611 (Stephen Decatur Road)	Multi-lane reconstruct	$30,100
MD 756 (Old Snow Hill Road)	2 lane reconstruct	$16,300

Source: 2021 Highway Needs Inventory

Transportation Studies and Projects

There are no current or future planned County roadway projects; however, MDOT SHA has a few active projects within the County.

MD 90 (Ocean City Expressway) US 50 (Ocean Gateway) to MD 528 (Coastal Highway) Planning and Environmental Linkages (PEL) Study

The importance of addressing MD 90 needs was identified by Worcester County as their number one Consolidated Transportation Program (CTP) priority in their 2022 letter to MDOT. As a result, SHA completed a Planning and Environmental Linkages (PEL) Study for the MD 90 corridor between US 50

and MD 528 in February 2023. The PEL study identified long-term transportation needs, including traffic operations, capacity, safety, pedestrian and bicyclist accessibility and emergency evacuations. Transportation goals for the MD 90 corridor were determined based on current and modeled future corridor transportation conditions, traffic analyses, and evaluation of environmental resources. The study identified the following goals for MD 90:

- Accommodate existing and future traffic needs between US 50 and MD 528 by improving capacity, traffic operations, and accommodating bicycle and pedestrian travel.
- Improve the level of safety for motorists travelling between US 50 and MD 528 by reducing stop and go movements that cause crashes and ensuring good bridge conditions.
- Provide access for evacuation during current flood events and future predicted sea level rise.

MD 528 (Coastal Highway) 15th Street to 67th Street

SHA initiated the MD 528 (Coastal Highway) project as part of the Pedestrian Safety Action Plan (PSAP). The PSAP program prioritizes safety enhancements along corridors. Implementation decisions are made using factors such as equity, destinations and connections, crash data and density. This project aims to make Context Driven improvements along 3.13 miles from 15th Street to 67th Street in Worcester County.

US 50 (Ocean Gateway) Harry W. Kelley Memorial Bridge Repairs

SHA initiated the repair work on US 50 (Ocean Gateway) Harry W. Kelley Memorial Bridge. The project will involve repairing the structural steel beams and replacing damaged connection plates. The sidewalks and hatches on the bridge will also be rehabilitated. This project is currently in the construction phase.

Transportation and Land Use

Integrating transportation and land use creates opportunities to coordinate infrastructure planning. The transportation network affects land use by creating access to land. Land use, if planned with transportation in mind, can help to reduce the number and length of vehicle trips by locating employment and residential uses in proximity to one another through mixed-use development and other land use measures. This can create a more efficient pattern of development that can be served more cost effectively in the long run.

Development intensity affects the number of vehicle trips while land use patterns influence trip length. Reducing the number and length of trips will decrease both air pollution and congestion. This can be achieved by locating work and living areas close to one another.

Mixed-use development supports the daily needs of residents by locating commercial and employment uses within walking and biking distance to residential areas. For this reason, planned growth areas benefit from detailed study of potential transportation improvements.

The majority of the County's local roads were constructed to serve rural demand and are generally uniform in capacity and construction. More urbanized areas of the County require a more robust hierarchy of local, collector and arterial streets.

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Transportation planning in growth areas should consider alternatives to integrate transportation and land use, including plans for bicycle, pedestrian and transit facilities. Such improvements should be the developers' financial responsibility.

Commercial development will have a significant impact on future congestion levels. Commercial uses generate significant traffic, so planning for the proper amount, location and design will be critical to maintain road capacity. The current amount and location of commercially zoned land poses problems for the road system, particularly for US 50 and MD 589. Commercialization of US 113 beyond its current zoning could also pose significant infrastructure challenges to the County in the long term.

11. WATER RESOURCES

Introduction

The Water Resources Element (WRE) articulates the County's policy framework for sustaining public drinking water supplies and protecting the County's waterways and riparian ecosystems by effectively managing point and nonpoint source water pollution.

Worcester County intends to meet its requirements under Maryland's stormwater regulations with continued support in developing restoration work plans and implementing water quality best management practices (BMPs) to address the impacts of stormwater runoff and nutrient loadings. This chapter aligns with the State of Maryland's Eight Sustainable Growth Planning Principles, in particular concerning growth areas, infrastructure, and sustainability.

This chapter identifies opportunities to manage existing water supplies, wastewater effluent, and stormwater runoff, in a way that balances the needs of the natural environment with the County's projected growth. In this way, the WRE creates a framework to protect the local and regional ecosystems while ensuring clean and adequate drinking water for future generations of Worcester County residents. Climate change, including sea-level rise, stronger storms, and prolonged droughts, poses new challenges for water supply reliability and watershed health. Accordingly, the WRE is designed to serve not only as a regulatory compliance tool but also as a proactive resilience strategy to safeguard the County's communities and resources.

Goals and Objectives

The goal of the WRE is to preserve and protect the County's existing water resources for their ecological value and importance to the water supply, while also addressing the impacts of future growth. Objectives include providing adequate public services, protecting drinking water supplies, preserving ecological functions, accommodating growth through compact patterns, and ensuring that future development minimizes disruption to environmental resources.

To strengthen accountability, the County will establish measurable objectives which are listed below:

1. Provide Adequate Public Services

   Water Supply and Infrastructure Resilience

   - *Action Item 11.1.1:* Reduce unaccounted water loss to below 10% of system withdrawals by 2030.
   - *Action Item 11.1.2:* Update design standards for water and wastewater infrastructure to account for increased flood frequency and intensity.
   - *Action Item 11.1.3:* Require siting of new wells, pumping stations, and treatment facilities outside of FEMA 100-year and 500-year floodplains where feasible.
   - *Action Item 11.1.4:* Require abandonment of private wells in areas with new public service connections.
   - *Action Item 11.1.5:* Requiring annual monitoring and public reporting of water and wastewater performance.

   Wastewater Services

- *Action Item 11.1.6:* All new private systems up to 50,000 GPD must incorporate enhanced nutrient removal technology.
- *Action Item 11.1.7:* Spray irrigation sites will undergo performance monitoring to confirm nutrient uptake effectiveness.
- *Action Item 11.1.8:* No new surface water discharges will be approved in sensitive and impaired watersheds.
- *Action Item 11.1.9:* Worcester County will develop a nutrient trading framework for agricultural, municipal, and development sectors.
- *Action Item 11.1.10:* Worcester County will adopt a goal of reducing septic nitrogen loads by 20% by 2035.
- *Action Item 11.1.11:* All Critical Area septic systems must be upgraded to BAT (Best Available Technology) by 2030.
- *Action Item 11.1.12:* The County will incentivize cluster and shared BAT systems for dispersed rural lots.

2. Protect Drinking Water Supplies

Contaminant Monitoring & Response

- *Action Item 11.2.1:* Monitor and address emerging contaminants such as PFAS and microplastics.
- *Action Item 11.2.2:* Establish a County-wide program to test public water systems and representative private wells for PFAS and other emerging contaminants.
- *Action Item 11.2.3:* Coordinate with MDE, USGS, and EPA to establish clear action thresholds for PFAS.
- *Action Item 11.2.4:* Incorporate PFAS monitoring results into water appropriation permitting and Water and Sewer Plan amendments.

Aquifer Protection

- *Action Item 11.2.5:* Monitor aquifer water levels for saltwater intrusion risks tied to sea-level rise, especially in the Pocomoke and Ocean City aquifers.
- *Action Item 11.2.6:* Prioritize monitoring in the Pocomoke aquifer area due to chloride risks.
- *Action Item 11.2.7:* Adopt wellhead protection ordinances for Pleistocene aquifer-dependent systems.

3. Preserve Ecological Functions

Groundwater & Land Use Decisions

- *Action Item 11.3.1:* Connect land use policies with groundwater recharge requirements.
- *Action Item 11.3.2:* Prioritize low-impact land development practices that maintain natural infiltration.

Stormwater and Non-Point Source Pollution

- *Action Item 11.3.4:* Require all new development greater than one acre to implement green infrastructure BMPs (e.g., bioretention, permeable pavement, green roofs).
- *Action Item 11.3.5:* Establish a retrofit program with a goal of converting at least 25% of existing stormwater facilities to enhanced BMPs by 2035.
- *Action Item 11.3.6:* Create a stormwater utility fee to fund retrofits and long-term maintenance.
- *Action Item 11.3.7*: Developers must meet nutrient reduction standards through on-site BMPs or participation in nutrient trading.

4. Accommodate Growth Through Compact Patterns

   Growth and Infrastructure Coordination

   - *Action Item 11.4.1:* Expand use of water conservation technologies in new developments.
   - *Action Item 11.4.2:* Ensure that land use decisions and infrastructure planning support compact development and reduce strain on ecological systems.

5. Ensure that Future Development Minimizes Disruption to Environmental Resources

   Unified Approach to Environmental Stewardship

   - *Action Item 11.5.1:* Integrate climate resilience throughout the water management framework.
   - *Action Item 11.5.2:* Establish measurable targets for nutrient reduction, water conservation, and infrastructure resilience.

Water Supply – Current Conditions and Groundwater

Worcester County's water supply relies entirely on groundwater resources, primarily from four aquifers: the Pleistocene, Pocomoke, Ocean City, and Manokin. Studies have shown both the productivity of these aquifers and their vulnerability to saltwater intrusion and over-pumping. While older reports provide a foundation, more recent USGS and MDE data will be incorporated into ongoing assessments to ensure planning decisions reflect current conditions. Development proposals in sensitive recharge areas must demonstrate no-net-loss of infiltration capacity, and future planning will emphasize cross-jurisdictional coordination with Delaware for aquifers shared across state lines.

Available Groundwater Resources

According to the State of Maryland, Department of Geology, *Mines and Water Resources Bulletin 16*, 1955, "The quantity of groundwater in the sedimentary deposits of Somerset, Wicomico, and Worcester Counties is estimated at 600,000 billion gallons."[28] Much of this water cannot be recovered because it exists in clay formations or at depths down to 8,000 feet and much is highly mineralized, which limits its uses.

[28] http://www.mgs.md.gov/publications/report_pages/BULL_16.html

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As *Bulletin 16* states, "Of greater importance than the quantity of water stored in the sediments is the quantity of groundwater recharge by infiltration from rainfall and from bodies of surface water." The importance of aquifer recharge is obvious when wells are impacted by drought or saltwater intrusion due to over-pumping. Reclaiming, reusing, and returning groundwater to the aquifer source is the best way to protect and preserve the water resources locally.

In 2016, the United States Geological Survey (USGS) published a report documenting a regional assessment of groundwater availability in the Northern Atlantic Coastal Plain Aquifer System that identified the amount, location, and character of groundwater supply sources to help Coastal Plain counties facilitate sound management of these sources.[29] The report noted that, due to population increases and changes in land use the water levels in many of the confined aquifers are decreasing by as much as two feet per year. The report emphasizes the need to balance the water withdraw with the aquifer recharge and the potential effects of long-term climate change on changes in aquifer recharge and in sea-level rise.

General Hydrology

Worcester County lies within the Atlantic Coastal Plain Physiographic Province. This province includes roughly the area east of Interstate 95 in Maryland. It is underlain by unconsolidated elastic sediments of Lower Cretaceous to recent age, which thicken to the southeast so that they appear wedge-shaped. The thickness of these sediments is greater than 8,500 feet beneath the Atlantic shore. There are five small community water systems that pump water from the Quaternary sediments, an unconfined aquifer. This aquifer has been studied considerably, and hydrologic, lithologic, and geochemical data is available in several Maryland Geological Survey reports (1955, 1972, 1974, 1982, 2013 and 2018).

The County has four main sand and gravel aquifers that yield substantial quantities of groundwater. The four aquifers used in Worcester County, in order of increasing depth, are the Pleistocene, Pocomoke, Ocean City, and Manokin Aquifers.

Figure 11-1 shows a cross section of these aquifers in northern Worcester County. **Figure 11-2** shows the areas of the County where the principal aquifers, Pleistocene, Pocomoke, and Manokin Aquifers, are used, and **Table 11-1** lists the aquifer nomenclature-depths, thickness, and soil characteristics. A brief explanation of each aquifer follows.

[29] https://pubs.usgs.gov/publication/pp1829

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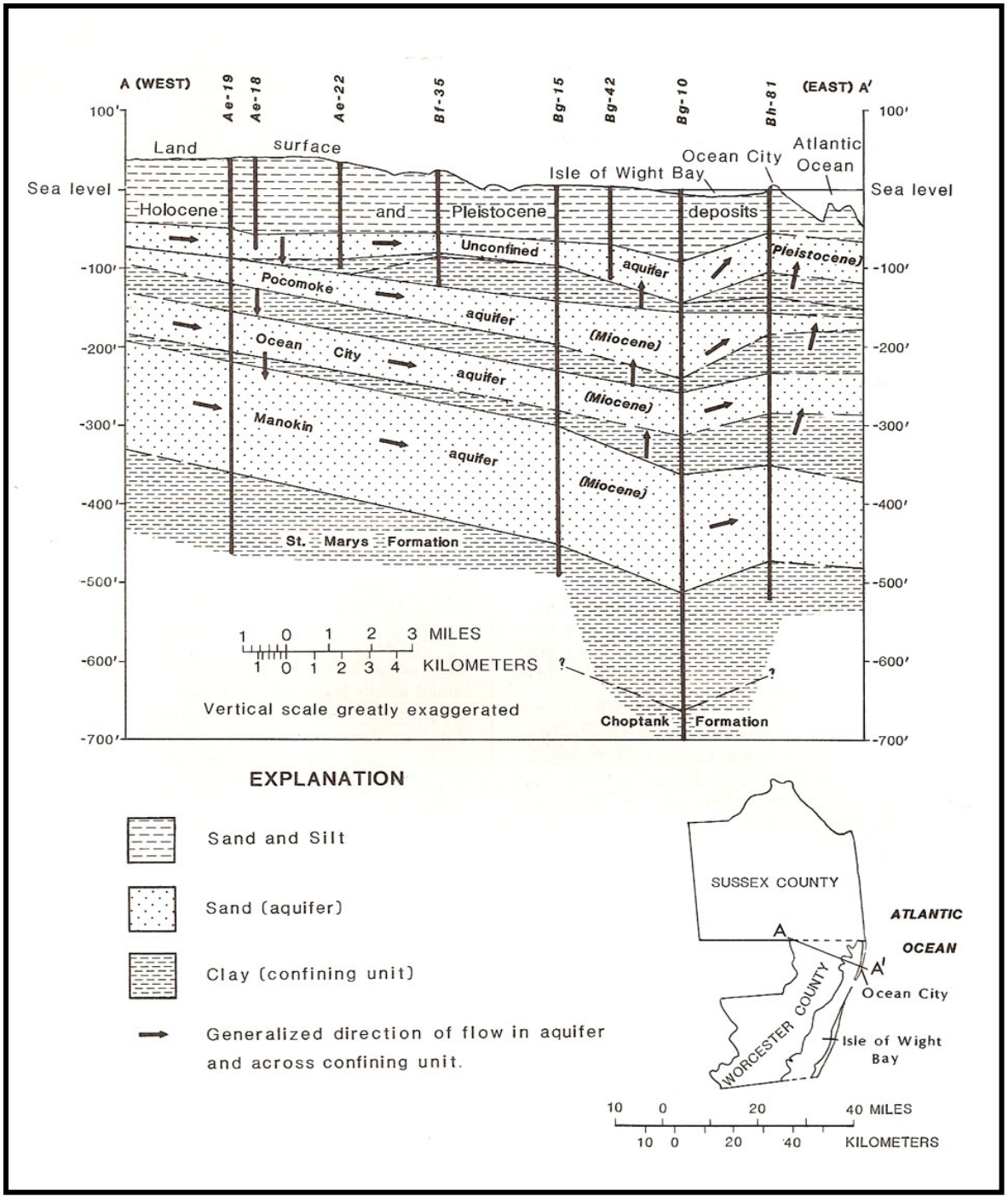
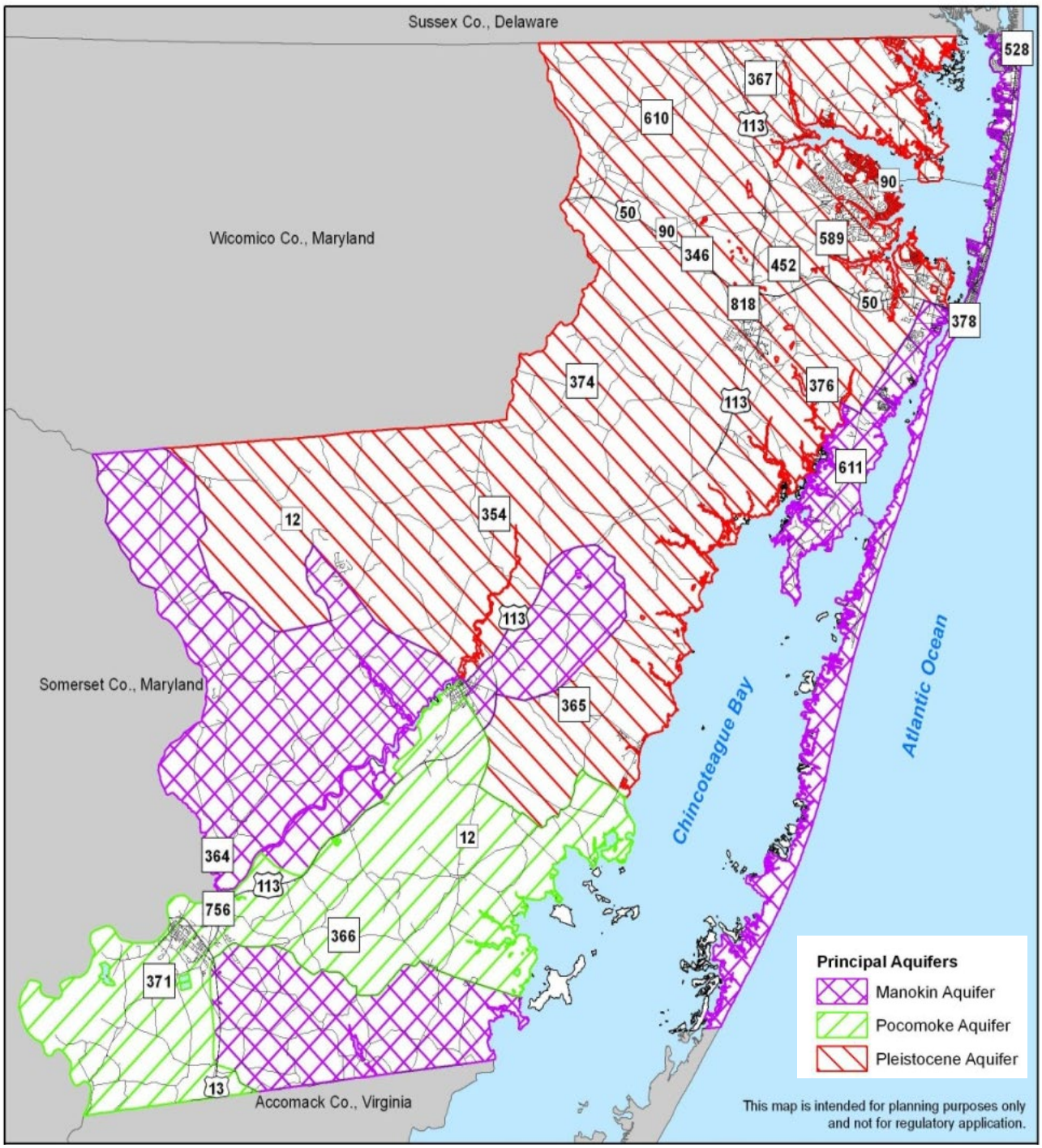
Figure 11-1. Cross Section of Aquifers in Northern Worcester County, Maryland.



11. WATER RESOURCES

Figure 11-2. Principal Aquifers in Worcester County, Maryland



11. WATER RESOURCES

Table 11-1. Coastal Plain Stratigraphic Nomenclature and Aquifers of the Eastern Shore of Maryland

System	Series (Group)	Geologic Unit	Thickness (feet)	Hydrogeologic Unit(s)	Dominant Lithologic Character
Quaternary & Tertiary	Holocene	Holocene deposits	0 – 40	-----	Soil, alluvial sand and silt, dune sand, and peat. Disconformable base.
	Pleistocene & Pliocene (Columbia Group)	Shoreline complex	0 – 230	Columbia Aquifer	Lenticular deposits of sand, silt, clay, and peat. Some beds of coarse sand and fine gravel. Tan; some gray and blue clay.
		Salisbury Formation: Beaverdam Fm. and Pensaukan Fm. of Owens and Denny (1979)			Beaverdam Sand: Light gray to light tan, fine to coarse grained, moderately sorted, feldspathic sand. Pensauken Formation: Light tan to orange tan, medium to coarse grained, moderately to poorly sorted, pebbly feldspathic sand.
Tertiary	Miocene (Chesapeake Group)	Upper Miocene Aquifer Complex [Yorktown and Cohansey Formations of Rasmussen and Slaugheter (1955)]	0 – 50	Upper confining bed	Lenticular silts, clays, and fine sands. Green-blue silt and fine gray sand most common, but occasionally includes blue-green pebbly clay.
			0 – 80	Pocomoke Aquifer	Sand, gray or tan-gray; coarse and pebbly generally, but locally fine.
			0 – 85	Lover confining bed	Blue and gray clayey silt and sand; some peat. Some beds of shell and calcite and/or limestone.
				Ocean City Aquifer	Coarse gray sand, fine gravel.
			0 – 240	Manokin Aquifer	Fine to very coarse gray sand, and some lignite or peat. Some silty sand and clay. Occasional beds of shell and/or “rock”.
		St. Marys Formation	0 – 190	Confining layer	Gray fossiliferous clay, silt, fine sand, and silty and sandy clay.
		Choptank Formation	0 – 240	Frederica Aquifer and confining layer	Gray fine sand. Thin Beds of shell and calcite. Green or brown clay and fine sand. Thin beds of shell and calcite or limestone.

The Pleistocene Aquifer

In many areas of the County, adequate quantities of groundwater can be obtained within the upper 100 feet of land surface from the Pleistocene Aquifer. The aquifer is very productive and is the most used; however, the deeper confined aquifers are becoming more utilized now. The Town of Berlin and the Ocean Pines community both utilize this aquifer, along with many smaller public water systems and hundreds of private wells. Agricultural wells are usually limited to this aquifer as well. This aquifer is generally considered to be unconfined, although in many areas it is partially confined by shallow silty clay layers. It receives recharge by local precipitation and is vulnerable to surface contamination and saltwater intrusion.

This aquifer is also referred to as the Columbia Aquifer or Quaternary Aquifer in MGS reports. The Quaternary sediments are mostly surficial, of fluvial and estuarine origin and are composed predominantly of sand and gravel with some layers of silty clay and clay. The aquifer functions as a water-table aquifer. Its thickness ranges from a few feet to 220 feet, with the thickest layers located in the northeast and southeast parts of the County. In general, the regional movement of groundwater is from areas with a high-water table, corresponding to topographic highs, towards streams and the Chesapeake Bay and the Atlantic Ocean. In areas with high water tables, there may be hydraulic connections with underlying aquifers, and water may move downward to recharge these underlying aquifers. Aquifer tests conducted on Quaternary sediments indicate that transmissivity ranges from 100 to 50,000 feet^2/day.

The Pocomoke Aquifer

The Pocomoke Aquifer is present in the southeastern two-thirds of Somerset County and most of Worcester County. The aquifer pinches out updip in northeastern Worcester County. The altitude of the top of the Pocomoke aquifer decreases from its sub crop area to about 200 feet below sea level beneath Ocean City in Worcester County, Maryland. The Pocomoke Aquifer is composed of individual sands 10 to 20 feet thick, which cumulatively reach a maximum thickness of over 100 feet at Ocean City.[30] Transmissivity of the Pocomoke aquifer calculated at three sites in Worcester County ranges from 1,070 feet^2/d at Pocomoke City to 9,170 feet^2/d near Ocean City. A belt of above-average transmissivity extends northeastward from Newark, Maryland to Isle of Wight Bay, near Ocean City.

The Ocean City Aquifer

The Ocean City Aquifer is present in Maryland in the eastern half of Worcester County and the easternmost portion of Wicomico County. The altitude of the top of the Ocean City aquifer ranges from about 150 feet below sea level in northern Worcester County near the Wicomico County boundary, to 254 feet below sea level south of Ocean City. The aquifer pinches out updip in eastern Wicomico County. The aquifer ranges from about 30 to 110 feet thick and dips at about 10 feet/mi. The aquifer is thickest in the Town of Ocean City. Transmissivity of the Ocean City aquifer calculated at eight sites in

[30] http://www.mgs.md.gov/groundwater/coastal_plain_aquifers_mobile.html

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Worcester County ranges from 670 to 5,500 feet^2/d. The most transmissive portion of the aquifer occurs in the fine to coarse sands that dominate the section in the southern portion of the Town of Ocean City.

The Manokin Aquifer

The Manokin aquifer is present in Maryland in Wicomico, Worcester and Somerset Counties. The altitude of the top of the aquifer decreases from its sub crop area in the western portion of Wicomico County to approximately 370 feet below sea level at Ocean City and southeastern Worcester County. Individual sands within the Manokin aquifer average 10 to 20 feet thick, with the greatest cumulative thickness reaching 195 feet in Worcester County. The aquifer generally dips to the southeast at about 5 to 10 feet/mi. Transmissivity of the Manokin aquifer ranges from 480 to 14,800 feet^2/d. At Salisbury, transmissivity is as high as 7,440 feet^2/d. Storage coefficient ranges from 2 x 10^{-4} to 1 x 10^{-3}. As described above, the County's sole source of potable water is withdrawn from four aquifers.

The Pleistocene Aquifer is the most used; however, the deeper confined Manokin and Pocomoke Aquifers, as shown in **Figure 11-3**, supply potable water to the southern and far eastern and central western parts of the County. The deeper aquifers are confined (artesian) aquifers, except for the Pocomoke Aquifer in a small area of Bishopville. The recharge areas for these aquifers may be several miles away. These aquifers are less susceptible to surface contamination but more impacted by over-pumping. Ocean City, Snow Hill, and Pocomoke utilize these aquifers, along with many smaller public systems and private wells. Combined, these aquifers have supplied and are likely to continue to supply an adequate amount of water to users in the County. In the following discussion, the *Groundwater Protection Report* is summarized.

Water Supply Infrastructure

Table 11-2. Non-transient Water Systems by Use

Use	Transient, Non-Community	Non-Transient, Non-Community
Mobile Home Parks	4	2
Golf Courses	8	0
Commercial Centers	4	9
Hotel/Motel	5	2
Racetracks	0	1
Campgrounds	8	2
Industrial	4	1
Daycare/schools	2	7
Offices	3	2
Restaurants	33	0
Parks and Recreation	17	0
TOTAL	**88**	**26**

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Source: Worcester County Department of Environmental Programs, August 2025.

The County provides water service to approximately 16,900 customers through 16 supply wells and multiple treatment facilities, with Ocean City as the largest provider. To maintain reliable and resilient service, the County will require all community water systems to prepare asset management plans addressing long-term maintenance, replacement, and funding. The County will also establish a program to monitor and reduce unaccounted-for water losses and will prioritize interconnections between systems to enhance redundancy during emergencies. County-wide PFAS testing will be initiated for all public systems and a representative sample of private wells, with thresholds for action established in coordination with MDE and USGS.

Groundwater is the sole source of potable water in the County. There are 19 community water systems: four municipalities (Ocean City, Pocomoke City, Berlin, and Snow Hill), six County-owned systems, six mobile home parks, and three systems serving apartment complexes. There are 26 non-transient non-community water systems that serve a variety of large non-residential uses. **Table 11-2** lists the number of non-transient systems by use. In addition, there are 88 transient non-community water systems that serve a variety of commercial, government, office, and seasonal residential uses. There are also 4 non-transient, non- community systems within Ocean City, two that serve hotels and two that serve condominiums that provide secondary water treatment for their users.

Depending on their location, these water systems may use the shallow Pleistocene Aquifer or the deeper confined aquifers. Many of these water systems have multiple wells. The largest water supplier in the County is the Ocean City municipal system, which has 24 wells in the Ocean City Aquifer. The wells are strategically distributed across three water treatment plants in Ocean City: 15th Street Water Treatment Plant, 44th Street Water Treatment Plant and the Gorman Avenue Water Treatment Plant. The Mystic Harbour Water Service Area, which partially overlaps the West Ocean City Service area, currently has several hundred domestic and commercial wells at varying depths. These wells serve a variety of uses including existing residences. If these wells fail, user(s) must connect to a public water distribution network if it is readily accessible to the property.

Water Planning Areas

Water planning areas are tied to designated growth centers, with expansion requiring amendments to the Water and Sewer Plan. To strengthen this framework, all amendments must be supported by groundwater availability analyses that confirm long-term aquifer recharge capacity. New W1 designations will not be approved in FEMA-designated floodplains, ensuring that infrastructure investments are resilient to climate-related risks. Future amendments must explicitly demonstrate that proposed expansions will not exceed sustainable withdrawal levels.

A water planning area is an area designated as planned to receive public water service from a town or the County. The estimated time for receiving service is represented by one of the following designations: Present to two years (W1), future service 3-5 years (W2), or future service 6-10 years (W3). The areas served by private community systems can be designated W1 but are not planning areas.

Creating or amending a planning area requires an amendment to the *Water and Sewer Plan*. However, the inclusion of any water system in the *Water and Sewer Plan* does not legally obligate the County or

any of its political subdivisions to take any action to implement such projects or to enforce the implementation of such projects.

The *Comprehensive Plan* has designated growth areas near existing population centers and attempted to continue the County's compact development pattern. **Figure 11-3** shows the water system planning areas overlain on areas zoned for development and planned for growth at urban densities. This approach will assist in the containment of water service costs.

Most of the existing water systems serve communities or uses with limited expected growth. Growth in such areas will generally be infill or modest service area expansion over the next ten years. Some of the water service areas will expand in accordance with the County's planned growth strategy. An amendment to the *County Water and Sewer Plan* is necessary for expansion of a water or sewer planning area. Compliance with this plan is a prerequisite for state approval of both groundwater discharge and groundwater appropriation permits.

Water Management Strategy Area

The St. Martin's River/Ocean Pines area has been identified as vulnerable to saltwater intrusion.[31] **Figure 11-4** shows the general boundary line for the strategy area. To address this, all new wells in the strategy area will be required to undergo saltwater intrusion modeling prior to permitting. Worcester County, in partnership with MDE and USGS, will implement annual chloride monitoring and public reporting to provide early warning of aquifer deterioration.

[31] https://mde.maryland.gov/programs/Water/water_supply/Pages/WaterManagementStrategyAreas.aspx

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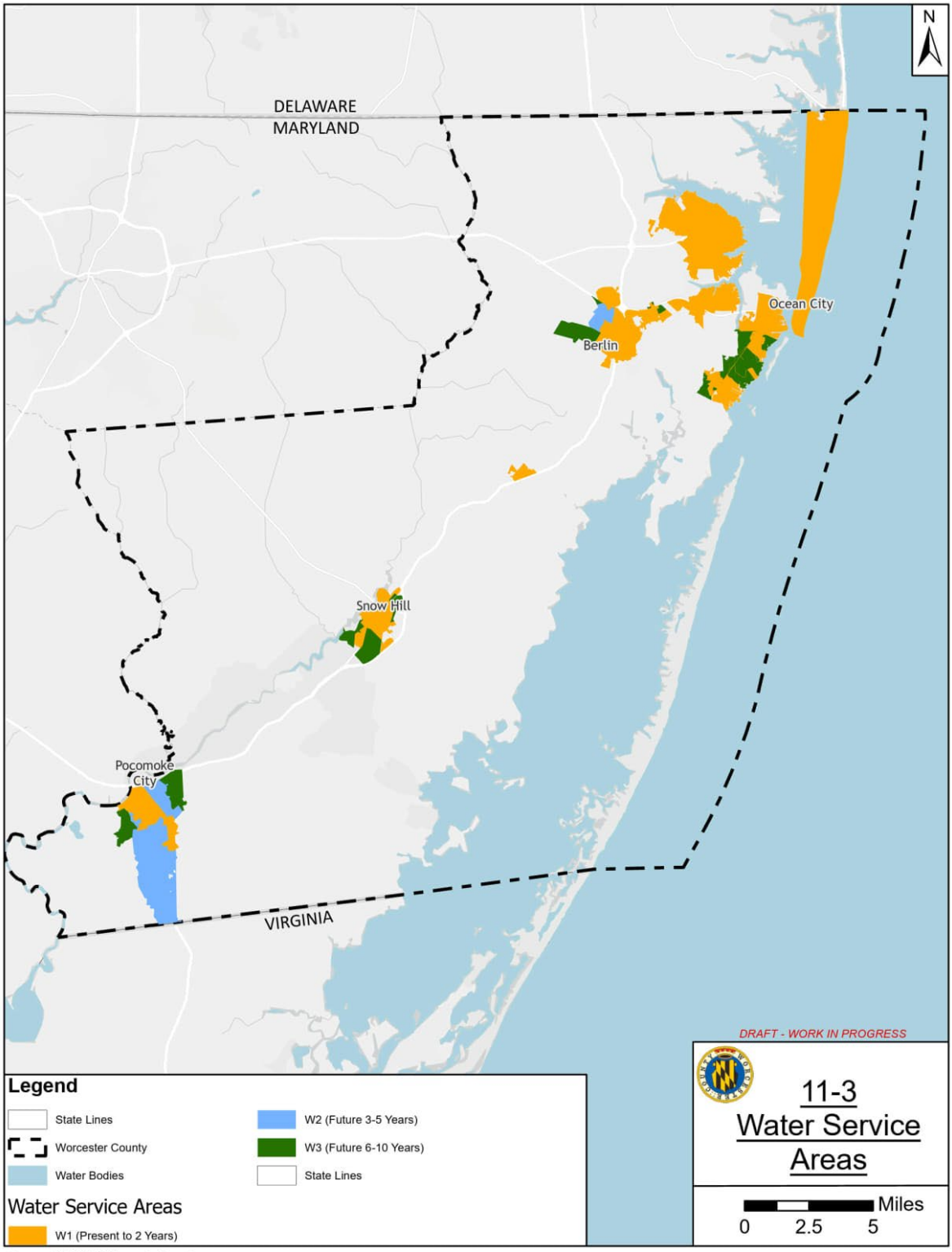
Figure 11-3. Water Planning Areas - Generalized Boundaries for W1, W2, and W3



Source: MD iMAP, Worcester County

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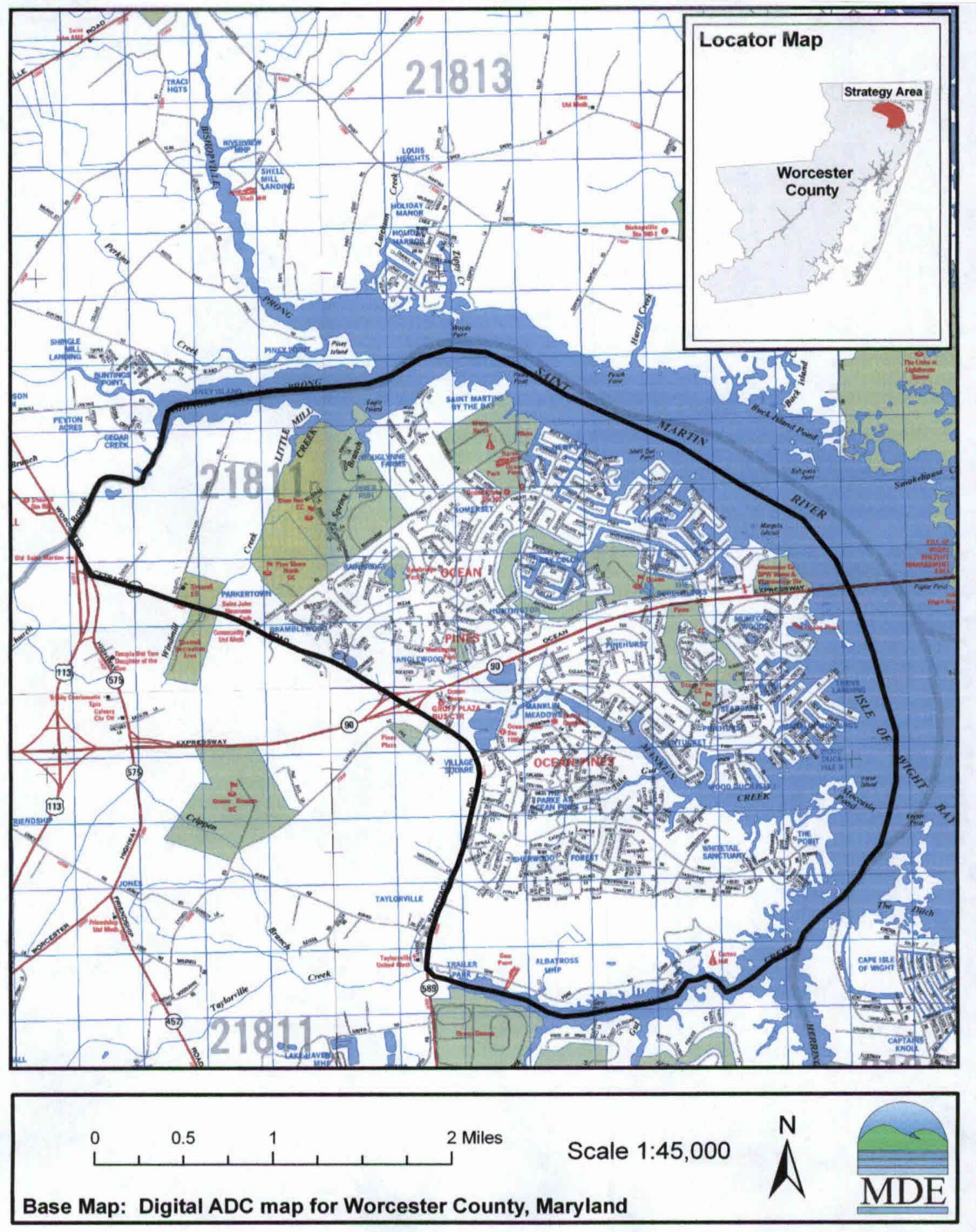
Figure 11-4. St. Martins River/Ocean Pines Water Management Strategy Area



Additional State regulations address unaccounted water for capacity development for new systems, water appropriations, and water conservation plumbing fixtures. The Code of Maryland Regulations (COMAR) 26.04.01.36.G (b) requires a plan for tracking unaccounted for water. This regulation is intended to keep systems informed about how much water is leaking in distribution systems.

MDE also issues water withdrawal permits for beneficial appropriations or use (COMAR 26.17.06.05.A). This regulation assists local jurisdictions by adding further scrutiny to the permitting process; for example, during the permit review process, applicants are required by the State to determine unaccounted water in their permit application. Applicants must also certify that they will install water conserving fixtures that will conform with the State Plumbing Code. For instance, COMAR 09.20.01.02.H (1) requires low flow toilets to be installed for all new facilities. Furthermore, COMAR 09.20.01.02.J (9) and 12-605 to 12-607 in the Annotated Code of Maryland prohibits the installation or sale of a plumbing fixture which is not an approved plumbing fixture. Thus, no high flow plumbing fixtures can be legally sold or installed in buildings in the County. The County's *Water and Sewer Plan*, according to COMAR 26.03.01.07, must also conform with Maryland's Water Conservation Plumbing Fixtures Act (MWCPFA).

Water Supply Assessment and Rural Water Supply

Groundwater withdrawals are projected to increase from 31 to 38 million gallons per day over the next 20 years, with agriculture accounting for roughly one-third of this demand. To ensure sustainability, Worcester County will require annual agricultural irrigation reporting to improve accuracy of water use data. The County will also support cost-share programs to encourage precision irrigation and water reuse in farming operations. In areas such as southwestern Worcester County, where the Pocomoke Aquifer shows signs of stress, the County will develop contingency measures that may include alternate supplies and drought restrictions.

Groundwater Withdrawals

Maximum daily groundwater withdrawals in Worcester County are estimated at approximately 31 million gallons per day, or GPD (Table 11-3). In the future, withdrawals are projected to increase to approximately 37 million gallons per day. This reflects a 17 percent increase in withdrawals from all uses. Three fourths of the withdrawal will be in municipal water systems. Public water systems including major community water and municipal water serving residential and commercial areas as well as major industry have the potential to withdraw up to 19.5 million GPD of groundwater. Maximum withdrawal by public water systems is projected to increase by approximately 5.6 million gallons per day. There are a few industrial users on individual wells which withdraw up to 90,000 GPD of groundwater. The maximum daily withdrawal for private residential wells is approximately 2.1 million GPD, which includes approximately 5,533 wells.

Agriculture withdraws an average of 9.3 million gallons of water daily, accounting for nearly one third of the potential water usage in the County. This is common for most of Maryland's Eastern Shore, where farmers use groundwater for crop irrigation and livestock (primarily poultry) watering. Agriculture's groundwater withdrawal may increase by nearly 1 million GPD in the future.

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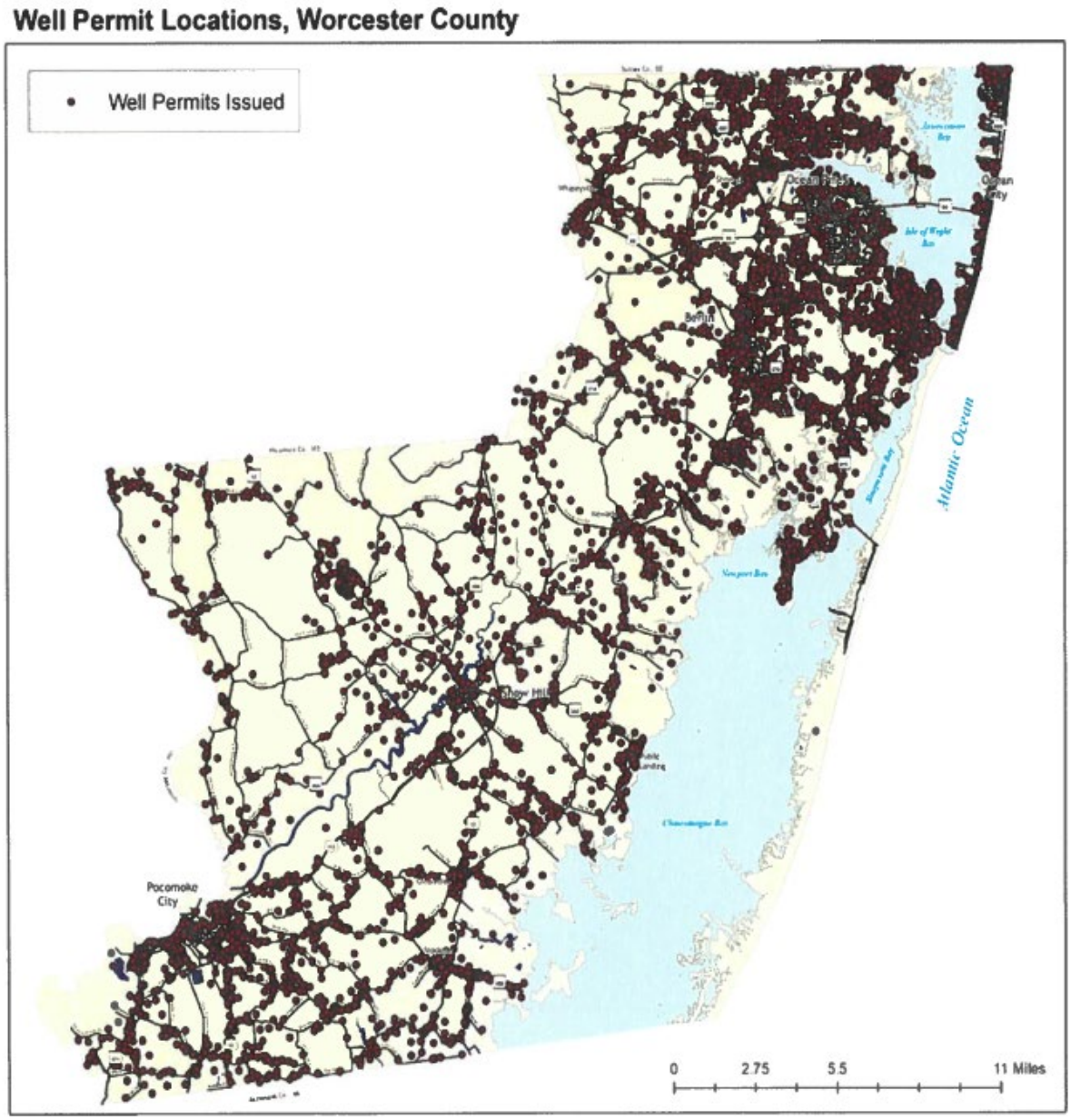
Figure 11-5. Well Permit Locations, Worcester County



Source: Database from Department of Environmental Programs, August 2025.

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Table 11-3. Existing and Future Maximum Daily Groundwater Withdrawals (GPD)

Use	Existing Use	Future Use
Major Community Water System	3,995,000	4,623,500
Municipal Water System	15,564,000	20,570,000
Industrial	90,000	90,000
Agriculture water use*	9,352,500	10,194,225
Private residential well	2,100,000	2,306,250
Total Groundwater usage	31,101,500	37,783,975
Natural groundwater available[32]	Adequate	Adequate
Recharge rate	Adequate	Adequate
Groundwater remaining	Adequate	Adequate

Source: Maryland Department of the Environment and Worcester County Department of Environmental Programs
*Agricultural water use is based on daily average amount not to exceed annual withdrawal permits.

Rural Water Supply

Worcester County is still largely a rural County, with agriculture as a primary industry (second to tourism). Poultry production and agricultural crop production (particularly corn and soybean) are the largest consumers of water in rural areas. While groundwater is the main source of water for farm irrigation, there is some surface water also used for irrigation in the southern areas of the County. Farm irrigation wells are restricted to the Pleistocene Aquifer but many poultry house wells utilize the deeper aquifers. Sufficient groundwater resources currently exist to supply the requirements of domestic wells in rural areas of the County and for the future, based on projected growth rates in those areas.

One area of concern is southwestern Worcester County, including the area surrounding Pocomoke City. This area utilizes the Pocomoke Aquifer only. The transmissivity of this aquifer has been decreasing over the years. Below the Pocomoke Aquifer, the groundwater is high in chlorides. Over-withdrawal of the Pocomoke Aquifer, causing decreased pressure in the aquifer and a large cone of depression, could causes chloride problems in the future. Monitoring water use in this region, including withdrawals from neighboring Somerset County, should be undertaken to ensure supplies are adequate for future growth in the area.

Projected Water Demand

Population growth is expected to increase demand by approximately 2.1 million gallons per day. To address capacity constraints, Worcester County will prepare a capacity gap action plan identifying areas where growth should be redirected or where additional infrastructure investment is needed. New development will be required to demonstrate water efficiency at least 20 percent above state code

[32] Sustainability of the Ground-Water Resources in the Atlantic Coastal Plain of Maryland by Robert J. Shedlock and David W. Bolton, https://pubs.usgs.gov/fs/2006/3009/

minimums. Major subdivisions will be required to incorporate rainwater harvesting and greywater reuse systems as standard practice.

The following assessment was conducted to estimate potential water supply demand based on the County's *Comprehensive Plan.* The county-wide assessment required consideration of all persons living within municipal boundaries and in the County regardless of whether a private or public water supply is provided. The *Comprehensive Plan's* growth projections estimate approximately 5,000 more residents and approximately 2.1 million more gallons per day of water demand. **Table 11-4** shows the *Comprehensive Plan's* allocation of population growth among the designated growth areas and identifies the additional water supply that will be needed to meet this demand.

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Table 11-4. Growth Projects on Water Demand

Growth Area	Population Increase	Residential EDUs Generated	Non-Residential EDUs Generated	GPD/EDU	Additional Demand Projected (GPD)
1	1067	483	0	250	120,800
3	671	304	407	250	177,700
4	1261	570	0	250	142,600
5	0	0	351	250	87,900
6	2	1	810	250	202,800
7	154	70	4	250	18,500
9	15	33	0	250	8,300
10	201	91	0	250	22,800
11	6	3	0	250	700
12	382	173	0	250	43,300
14	33	15	369	250	96,200
15	2	1	707	250	176,900
16	0	0	99	250	24,900
17	0	0	162	250	40,700
18	0	0	15	250	3,700
19	0	0	73	250	18,300
20	0	0	1,187	250	296,700
21	0	0	37	250	9,400
22	0	0	139	250	34,800
23	79	36	763	250	199,700
24	0	0	318	250	79,500
26	92	42	0	250	10,400
28	142	64	0	250	16,200
29	4	2	0	250	500
30	0	0	133	250	33,300
31	379	171	0	250	42,900
33	195	88	333	250	105,400
35	174	79	0	250	19,800
36	0	0	192	250	48,000
Totals	**4,859**				**2,082,700**

Water System Capacity for Future Projected Growth

Table 11-5 lists the County and municipal public water systems and pertinent system facts. Except for Briddletown, Newark, Pocomoke, and the Village of Showell, the majority of the water systems in the County have more than enough planned capacity to supply water to the projected population under the

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growth assessment. The difference between the planned capacity and current capacity is the capacity for growth. Beyond this, additional users can be hooked up to existing water distribution systems while considering improvements needed for infrastructure distribution as well as the location of potential users relative to nearest water distribution system.

New Development Water Supply Policy

The County's policy regarding providing potable water to new development within a public water service area is that the developer(s) and/or property owner(s) associated with the growth area or the service area's expansion shall bear the responsibility for all costs associated with the water system's expansion. This includes costs that accommodate the proposed development, including infrastructure and treatment system costs. Treatment facilities and public infrastructure for new and expanded public water areas are built by the developer(s) and turned over to the County for operation and management of the systems.

Table 11-5. County and Municipal Water Systems

Water System	No. of Wells	Source Aquifer	Current Capacity (GPD)[1]	Planned Capacity (GPD)[2]
Assateague Pointe	2	Ocean City	35,000	64,000
Berlin	**3**	**Pleistocene**	**490,000**	**1,000,000**
Briddletown[1]	0	Pleistocene	0	0
The Landings	2	Ocean City	115,000	200,000
Mystic Harbour	3	Ocean City (1) Pocomoke (2)	512,500	1,000,000
Newark	2	Manokin (1) Pocomoke (1)	142,500	142,500
Ocean City	21	OC/Manokin	16,600,000	18,100,000
Ocean Pines	5	Pleistocene	1,500,000	2,000,000
Pocomoke	**5**	**Pocomoke**	**860,000**	**860,000**
Riddle Farm	2	Manokin	205,000	228,000
Village of Showell	**n/a**	**n/a**	**n/a**	**n/a**
Snow Hill	**3**	**Manokin**	**320,000**	**1,094,000**

Notes: Bold text indicates growth areas.

1. Briddletown is served by a contract with Berlin.
2. The current capacity for water means that the figure shown is the maximum treatment capacity of the water treatment system in conjunction with the average withdrawal limit under the water appropriation permit for the system.
3. The planned capacity is a number that was planned for the system and either has been achieved or will be achieved by infrastructure improvements and/or increases in water appropriation permits in the future. Planned capacity should be the increased capacity level needed to meet projected growth.
4. Water demand projections outside the County Growth Areas include: private residential wells which are expected to increase by 9% and the major community water systems which are projected to increase by 14% by 2025.

Water System Conclusion and Recommendations

An adequate water supply is necessary for growth and development within the County. Equally important is water system infrastructure, which may be the limiting factor for expansion of any water

service area. While the quantity of groundwater in the County may be adequate, the quality of the water may make use of the water economically unfeasible, due to treatment costs.

Protection of the groundwater in areas that use the shallow Pleistocene Aquifer is highly recommended. Abandonment of water appropriation permits for areas connected to public water is highly recommended. Well-head protection ordinances should be considered for these systems. If they are approved, they should be adopted and implemented for each of the water systems that utilize this aquifer. While the deeper aquifers are not susceptible to surface contaminants, in Ocean City and Pocomoke, caution should be exercised so that increased withdrawals do not lead to saltwater intrusion either from lateral saltwater movement or upwelling from salty formations below.

Specific recommendations for water system improvements to address both quantity and quality as well as system maintenance needs are as follows.

- Adopt wellhead protection ordinances for Pleistocene aquifer-dependent systems.
- Require abandonment of private wells in areas with new public service connections.
- Prioritize monitoring in Pocomoke aquifer area due to chloride risks.
- Monitor aquifer water levels for **saltwater intrusion risks** tied to sea-level rise, particularly in the **Pocomoke and Ocean City aquifers.**
- Update design standards for **water and wastewater infrastructure** to account for increased flood frequency and intensity and require siting of new wells, pumping stations, and treatment facilities **outside of FEMA 100-year and 500-year floodplains** where feasible.
- Establish a County-wide program to test **public water systems** and a representative sample of **private wells** for PFAS (per- and polyfluoroalkyl substances) and other emerging contaminants of concern.
- Coordinate with the Maryland Department of the Environment (MDE), the U.S. Geological Survey (USGS), and the EPA to establish clear action thresholds for PFAS.
- Incorporate PFAS monitoring results into water appropriation permitting and Water and Sewer Plan amendments.

Wastewater Services

Worcester County's wastewater services guide development patterns and protect water quality. To further reduce nutrient loads, all new private systems up to 50,000 GPD will be required to incorporate enhanced nutrient removal technology. Spray irrigation sites will undergo performance monitoring to confirm nutrient uptake effectiveness. No new surface water discharges will be approved in sensitive and impaired watersheds, reflecting the County's commitment to protecting the Coastal and Chesapeake Bays.

Current Wastewater Conditions

The County adopted a policy in the 1980s that all wastewater services serving more than one lot or processing more than 5,000 gallons per day (GPD) must be owned and operated by the County or a municipality. This policy resulted from health and management issues with private systems in the County. It has recently been amended to permit certain larger systems up to 50,000 GPD that serve or

plan to serve a shopping center, planned commercial development, unified development or cooperative campgrounds and mobile home parks to be privately owned. Provisions for County oversight and other safeguards have been provided. Systems with flows of 10,000 GPD or more must obtain an Individual Groundwater Discharge Permit from MDE per COMAR 26.04.02.05, as do systems utilizing spray irrigation for wastewater disposal of treated effluent, regardless of discharge volume. For areas outside of public service areas, development relies on on-site septic waste disposal systems. In the following discussion, the County's current wastewater planning areas and facilities, policy regarding new development and the current and future state of septic systems in the County are discussed.

Sewer Planning Areas

Worcester County has 13 wastewater treatment plants (WWTP) with varying levels of capacity. To ensure long-term compliance with nutrient reduction goals, all WWTP expansions will require demonstration of nutrient offsets. The County will prepare a resiliency plan to address the vulnerability of WWTPs in flood-prone areas. Facilities with remaining capacity will be prioritized for ENR upgrades to ensure consistent performance under stricter nutrient caps.

Sewer planning areas are generally adjacent to existing population centers and municipalities. A sewer planning area is an area designated as planned to receive public sewer service from a municipality or the County. The estimated time for receiving service is represented by one of the following designations: Present to two years (S1), future service 3-5 years (S2), or future service 6-10 years (S3). The areas served by private community systems can be designated S1 but are not planning areas. Creating or amending a planning area requires an amendment to the *Water and Sewer Plan*. However, the inclusion of any sewer system in the *Water and Sewer Plan* does not legally obligate the County or any of its political subdivisions to take any action to implement such projects or to enforce the implementation of such projects. Generalized sewer planning areas are shown in **Figure 11-6** along with the general location of existing WWTP. Using **Table 11-6** each WWTP can be named and described by its facility and discharge type.

As shown in **Figure 11-6** and **Table 11-6**, there are 13 Existing and one (1) Planned WWTPs located in the Coastal Bays Watershed: nine are owned and operated by the Worcester County Government while the National Park Service, Town of Berlin, and Ocean City each own and operate WWTPs in the watershed.

Currently, eight of the County-owned and operated WWTPs utilize spray irrigation and two discharge treated effluent via injection wells; thus, eliminating nutrient point sources from the Coastal Bays Watershed. There are three WWTPs in the watershed that discharge directly to surface waters. Converting these to spray irrigation in the future would eliminate the nutrient point sources from the watershed. The Ocean Pines WWTP will continue to discharge to St. Martin's River. This plant uses best available technology and exceeds ENR standards. In turn, this plant will serve to accept effluent from households previously on septic systems, lowering overall nonpoint source nutrient contributions to the Isle of Wight Bay.

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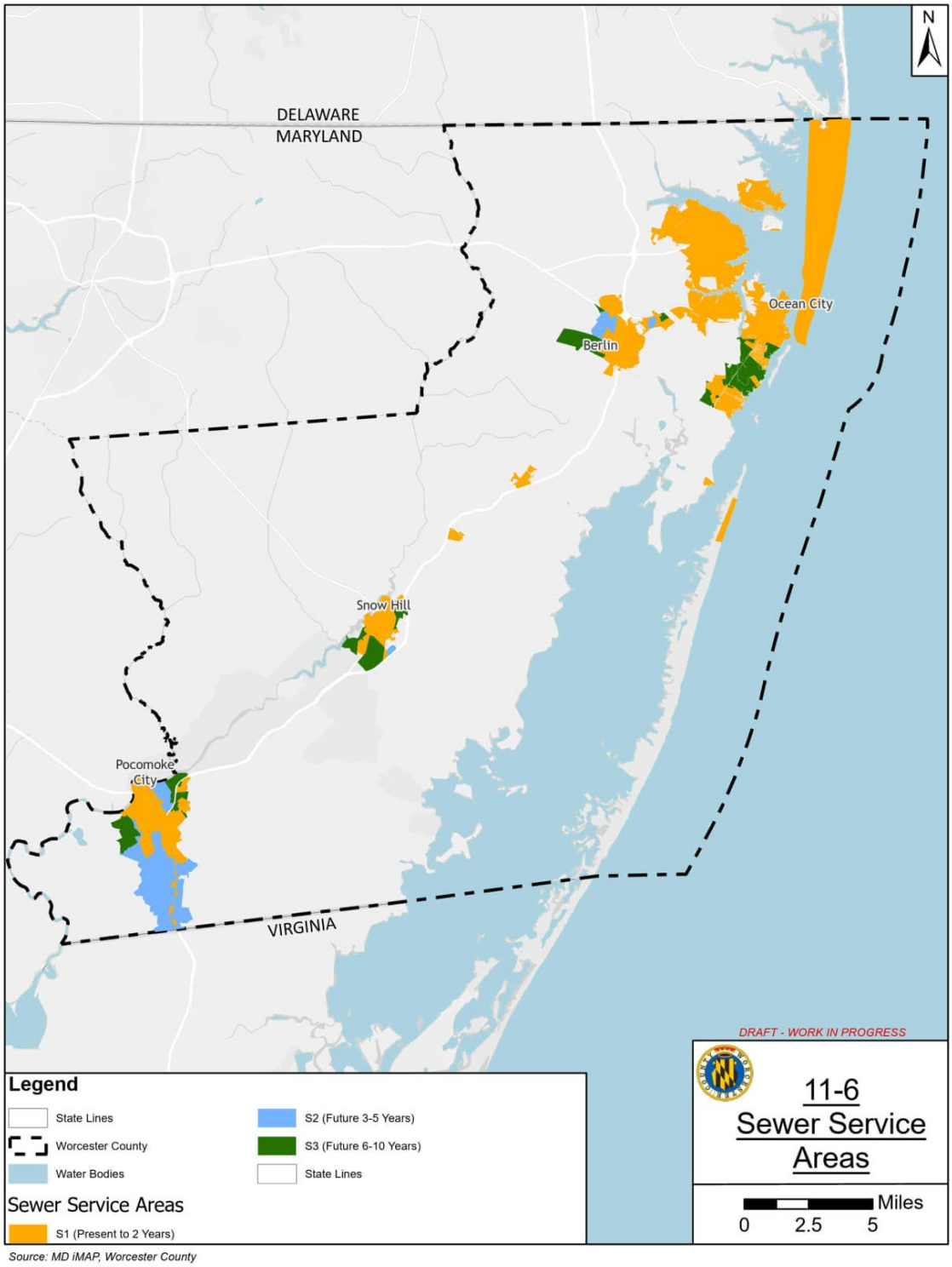
Figure 11-6. Sewer Planning Areas



Source: MD iMAP, Worcester County

Generalized boundaries for S1, S2, and S3 are shown above. Use **Table 11-6** to identify facility descriptions.

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Table 11-6. Wastewater Treatment Plant Description

ID No.	Watershed Name	Facility Type	Facility Name	Capacity (GPD)	Discharge Type
1.	Sinepuxent Bay	Major Community	Assateague Pointe	64,000	Spray
2.	Isle of Wight Bay	Major Community	Edgewater (Sussex County, DE)	61,000	Ocean outfall (DE)
3.	Sinepuxent Bay	Owned and operated by National Park Service	Federal Assateague Park	20,000	Overland flow *Spray in the future
4.	Newport Bay	Major Community	The Landings	100,000	Injection wells
5.	Assawoman Bay	Major Community	Lighthouse Sound	40,000	Spray irrigation onto golf course
6.	Sinepuxent Bay	Major Community	Mystic Harbor	450,000	Shallow groundwater injection wells and spray irrigation onto golf course
7.	Newport Bay	Major Community	Newark	58,000	Surface transitioning to spray irrigation
8.	Isle of Wight Bay	Major Community	Ocean Pines	2,500,000	Surface water discharge
9.	Isle of Wight Bay	Major Community	Riddle Farm	280,000	Spray onto adjacent golf course
10.	Isle of Wight Bay	Major Community	River Run	112,000	Spray in a dedicated spray field
11.	Isle of Wight Bay	Industrial *Planned for residential in the future	Village of Showell	Planned Facility	Surface (Industry permit) *Spray in the future if permitted for residential use
12.	Lower Pocomoke River	Municipal	The City of Pocomoke	1,470,000	Surface
13.	Newport Bay	Municipal	Town of Berlin	750,000	Spray in two dedicated spray fields
14.	Isle of Wight Bay	Municipal	Town of Ocean City	14,000,000	Ocean outfall
15.	Lower Pocomoke River	Municipal	Town of Snow Hill	500,000	Surface

Note: Overland flow treatment directs effluent into a wetland where three processes occur: transpiration, infiltration, and evaporation.

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There are two plants whose discharge type is ocean outfall, Edgewater and Ocean City. The County sends wastewater from West Ocean City to the Town of Ocean City WWTP where treated effluent is discharged to the Atlantic Ocean. The Town of Snow Hill and the City of Pocomoke's WWTP are located along the Pocomoke River in the Chesapeake Bay Watershed and discharge directly to the river. Continued management of these wastewater services will help to reduce nutrient loads overall, is vital to the continuation of the County's concentrated development pattern, and the Comprehensive Plan's implementation.

Current Facility Parameters

Specific parameters for existing WWTPs owned and operated by either the County or a municipality are shown in **Table 11-7**. The average current flow estimates the average daily wastewater flow by gallons from current users. To determine the current committed capacity, the designated number of gallons per day per equivalent dwelling unit (GPD/EDU) is multiplied by the total number of users. The sum equals the current committed capacity and shall not exceed the permitted capacity. The difference between the permitted and committed capacity is the remaining capacity, implying that additional users may utilize wastewater services. In some cases, WWTPs have the capacity to serve expansions of growth, while others are very limited, having committed most of their capacity to undeveloped or developed properties within their service areas. However, to determine a WWTPs remaining capacity, the factors below must also be considered.

- *Disposal Capacity:* A WWTP utilizing spray irrigation is limited by the ability of the service area to locate suitable land area for the purpose of spraying treated effluent.
- *Discharge Limits:* Increasing volume of treated effluent that is sprayed may exceed the land's ability to absorb and process the treated effluent per design standards.
- *Treatment Capacity:* Each WWTP must meet total nitrogen and total phosphorus standards measured on a pounds per year basis. Increasing the volume of treated effluent will increase nutrient loads. WWTPs cannot exceed nutrient caps and/or permit limits, whichever is more restrictive.
- *Physical Constraints:* The infrastructure may not function properly if permitted design limitations for the disposal method are exceeded or volume increases.

Despite having a small remaining capacity, these plants do have committed capacity that will be available to support new growth whether from undeveloped land or the intensification of uses on previously developed lands. Each municipality is currently upgrading or planning to upgrade their WWTP as necessary to conform with State treatment standards while accommodating new growth.

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Table 11-7. Current Facility Parameters

Facility Name	Average Current Flow (GPD)	Current Committed Capacity (GPD)	Current Permitted Capacity (GPD)	Estimated Remaining Capacity (GPD)	Percent Remaining Capacity
Assateague Pointe	34,500	37,640	41,930	4,290	10%
Edgewater (Sussex County, DE)	60,750	60,750	60,750	0	0%
The Landings	32,000	32,000	100,000	68,000	68%
Lighthouse Sound	27,750	27,750	37,950	6,600	19%
Mystic Harbour	187,000	187,000	363,000	176,000	48%
Newark	45,500	45,500	57,000	11,500	20%
Ocean Pines	1,010,000	1,010,000	2,600,000	1,590,000	61%
Riddle Farm	54,000	54,000	277,750	223,750	81%
River Run	55,000	55,000	112,000	57,000	51%
Village of Showell	**Planned Growth Area**				
The City of Pocomoke	707,000	707,000	1,470,000	763,000	52%
Town of Berlin	407,000	407,000	343,000	64,000	16%
Town of Ocean City	8,688,000	11,200,000	14,000,000	2,800,000	20%
West Ocean City	653,000	1,205,120	1,000,000	0	0%
Town of Snow Hill	303,000	330,500	500,000	169,500	34%

Septic System Assessment

There are approximately 6,600 septic systems countywide, with a significant portion located in Critical Areas. Worcester County will now require the use of Best Available Technology (BAT) systems for all new or replacement septic systems. A mandatory five-year inspection and pump-out program will be instituted to ensure existing systems function properly. The County will also create a septic-to-sewer conversion fund, with priority given to watersheds under TMDL nutrient restrictions.

For areas outside sewer service areas, development relies on waste disposal systems located on-site, commonly known as “septic systems”. Currently, there are approximately 6,613 septic systems in Worcester County as shown in **Figure 11-7**. There are approximately 3,576 septic systems located in the Coastal Bays Watershed, with 1,562 located in the Critical Area **(Table 11-8)**. The Isle of Wight Bay Watershed has the highest number of septic systems followed by the Newport Bay Watershed, 1,677 and 1,090 respectively. By 2035, the County anticipates an overall reduction of 229 septic systems in the Coastal Bays Watershed. There are approximately 3,037 septic systems in the Chesapeake Bay Watershed **(Table 11-9)**. Of this amount, 1,647 septic systems are located in the Lower Pocomoke River Watershed. There are currently only 202 septic systems in the Chesapeake Bay Critical Area. By 2035, the County anticipates 67 less septic systems in the Chesapeake Bay Watershed Critical Area.

11. WATER RESOURCES

By 2035, it is anticipated that an additional 183 septic systems will be added in the Coastal Bays watershed and 178 septic systems will be added to the Chesapeake Bay Watershed, for a net increase of 361 septic systems in the County.

To estimate the number of septic systems by 2035, the County estimated the number of septic systems that may be connected to a public WWTP and estimated the number of new septic systems in the County based upon an annual application rate of 60 permits per year for 10 years. **Tables 11-18 and 11-19** shows where the County anticipates connecting septic systems and new septic systems based upon the number of potential lots in each watershed for both inside and outside the critical areas.

Development near the water with septic systems is discouraged by the *Comprehensive Plan* and is expected to be very limited. Inland sites are also very limited and will be widely dispersed. This will result in negligible water quality impacts, if standards requiring best available technology are applied. As a result, the remainder of this section focuses on the few existing wastewater service areas where limited increases in capacity are planned and the facilities needed to address the designated growth areas.

11. WATER RESOURCES

Figure 11-7. Worcester County Septic System Locations

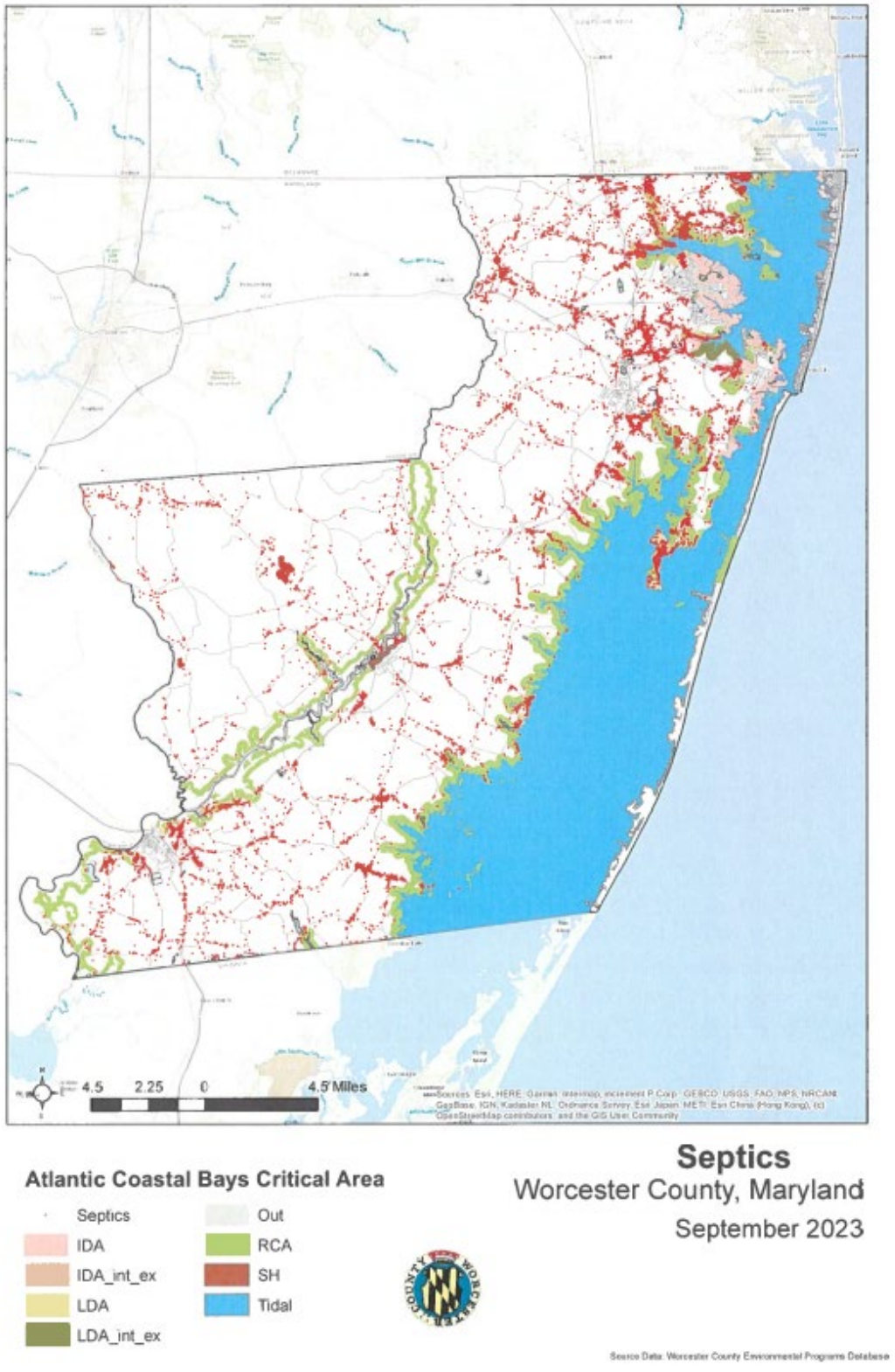

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Table 11-8. Septic Systems in the Coastal Bays Watershed

Watershed Name	No. Septic (2025)	Potential Lots for New Septic	Predicted Additional Net No. of septic systems 2025-2035[33]
Assawoman Bay	**380**	**372**	**35**
Inside Critical Area	258	254	24
Outside Critical Area	122	118	11
Chincoteague Bay	**182**	**717**	**67**
Inside Critical Area	182	182	17
Outside Critical Area	0	535	50
Isle of Wight Bay	**1,677**	**1,467**	**62**
Inside Critical Area	618	599	6
Outside Critical Area	1,059	877	56
Newport Bay	**1,090**	**919**	**5**
Inside Critical Area	331	282	-34
Outside Critical Area	759	637	39
Sinepuxent Bay	**247**	**211**	**15**
Inside Critical Area	173	165	-34
Outside Critical Area	74	46	39
Total Inside CA	**1,562**	**1,482**	**23**
Total Outside CA	**2,014**	**2,213**	**161**
Grand Total	**3,576**	**3,695**	**183**

[33] The predicted additional number of septic systems in **Tables 11-8** and **11-9** is based upon the current county wide average of 60 new system permits per year over the 10-year window distributed proportional to the number of potential lots within each area that would be served by septic systems less the predicted number of systems expected to switch from septic to WWTP from **Table 11-10**. A negative number indicates that it is anticipated more systems will be removed from septic systems and put on WWTP than the number of new permits expected within the watershed area.

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Table 11-9. Septic Systems in the Chesapeake Bay Watershed

Watershed Name	No. Septic (2025)	Potential Lots for New Septic	Predicted Additional Net No. of septic systems 2025-2035
Dividing Creek	**216**	**211**	**20**
Inside Critical Area	4	0	0
Outside Critical Area	212	211	20
Lower Pocomoke River	**1,647**	**1,425**	**53**
Inside Critical Area	171	0	-67
Outside Critical Area	1,476	1,425	132
Nassawango Creek	**381**	**365**	**34**
Inside Critical Area	16	0	0
Outside Critical Area	365	365	34
Upper Pocomoke River	**792**	**763**	**71**
Inside Critical Area	11	0	0
Outside Critical Area	781	763	71
Wicomico Creek	**1**	**1**	**0**
Inside Critical Area	0	0	0
Outside Critical Area	1	1	0
Total Inside CA	**202**	**0**	**-67**
Total Outside CA	**2,835**	**2,765**	**257**
Grand total	**3,037**	**2,765**	**178**

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Table 11-10. Septic Tank Connections to Public WWTP

Watershed Name	2026-2036	
	Outside Critical Area	Inside Critical Area
Coastal Bays Watershed		
Assawoman Bay	0	25
Chincoteague Bay	0	0
Isle of Wight Bay	25	50
Newport Bay	20	60
Sinepuxent Bay	0	5
Grand Total	**45**	**140**
Chesapeake Bay Watershed		
Dividing Creek	0	0
Lower Pocomoke River	12	67
Nassawango Creek	0	0
Upper Pocomoke River	0	0
Wicomico Creek	0	0
Grand Total	**12**	**67**

Pollution Impacts

Nutrient caps established through TMDLs will be directly tied to County strategies for wastewater and septic management. Worcester County will develop a nutrient trading framework that allows agricultural, municipal, and development sectors to participate in cost-effective nutrient reduction projects, provided they meet or exceed state standards.

Total nitrogen and total phosphorus (more generally referred to as “nutrients”) from WWTPs contribute to degraded water quality in the Chesapeake and Coastal Bays and their tributaries. Maryland's involvement in the *Chesapeake Bay 2000 Agreement* requires water and sewer planning to consider the assimilative capacity of a water body—the amount of nutrients the stream can handle while preserving water quality. This section describes the key limits on assimilative capacity as they apply to the County’s WWTPs.

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Table 11-11. Nutrient Limits of Public WWTP

Facility Type	Facility Name	Permit No	Date of Expiration	Receiving Water	Discharge Type	Annual Average Effluent Permit Limitations (GPD)	Annnual Max Total Nitrogen (lbs/yr)	Annnual Max Total Phosphorous (lbs/yr)
Major Community	Assateague Point	24DP2608	3/31/2031	Groundwater Type I Aquifer	Spray Irrigation	41,930	N/A	See Note 1
Major Community	Edgewater (Sussex County, DE)	See Note 3		Atlantic Ocean	Point (Outfall)	60,750		See Note 1
Owned & operated by National Park Service	Federal Assateague Park	14DP2530	10/31/2024	Sinepuxent Bay	Point (Outfall)	12,000	110	11
Major Community	The Landings	See Note 3			Injection Well	100,000		
Major Community	Ocean Landings II	18DP3401	12/31/2025		Spray Irrigation	30,000	913	See Note 1
Major Community	Lighthouse Sound	20DP3155	2/28/2029	Groundwater Type I Aquifer	Spray Irrigation	37,950	1,386	See Note 1
Major Community	Mystic Harbour	10DP273	4/30/2022	Groundwater Type II Aquifer	Injection Well	250,000	2,283	See Note 1
Major Community	Mystic Harbour	10DP273	5/1/2022	Groundwater Type II Aquifer	Spray Irrigation	81,000	740	See Note 1
Major Community	Newark	24DP3851	6/30/2030	Groundwater Type I Aquifer	Spray Irrigation	57,000	1,735	See Note 1

Major Community	Ocean Pines	22DP0708	12/31/2029	St. Martin's River	Point (Outfall)	2,600,000	31,926	4566
Major Community	Riddle Farm	20DP2710	4/30/2029	Groundwater Type I Aquifer - Columbia	Spray Irrigation	277,750	4,227	See Note 1
Major Community	River Run	20DP2394	11/30/2027	Groundwater Type I Aquifer - Beaverdam Formation	Spray Irrigation	112,000	3,409	See Note 1
Industrial	Village of Showell(4)	See Note 4						
Municipal	City of Pocomoke	19DP0674	5/31/2028	Pocomoke River	Point (Outfall)	1,470,000	17,908	1,343
Municipal	Town of Berlin	See Note 3			Spray Irrigation	343,000		
Municipal	Town of Ocean City	19DP0596	4/30/2029	Atlantic Ocean	Point (Outfall)	14,000,000	333,150	10,047
Municipal	Town of Snow Hill	20DP0717	12/31/2028	Pocomoke River	Point (Outfall)	500,000	6,091	457
Municipal	West Ocean City	See Note 3				1,000,000		
Municipal	Riverview Mobile Home Park	24DP3885	7/31/2028	St. Martin's River (Bishopville Prong)	Point (Outfall)	30,000	27	0

Notes:
(1) Per DEP permit concentration is to be monitored without limitation
(2) The spray irrigation limits are not assigned allocations to the receiving waters because the permits assume vegetation uptake and other natural processes reduce the amount of nitrogen reaching the receiving waters i.e. these are monitoring limits
(3) Permit and/or permit documents not available on MDE Wastewater Public Interface Tool (https://mes-mde.mde.state.md.us/WastewaterPermitPortal/ last accessed 8/19/2022)
(4) Planned facility not built or permitted

11. WATER RESOURCES

The County has the benefit of a no-new point discharge requirement in the *Water and Sewer Plan*, save for a permitted discharge for an upgrade of a conventional large flow septic system in the Critical Area to be upgraded with an advanced treatment package plant. This is why all new plants in the County utilize spray irrigation. The spray irrigation limits are not assigned allocations to the receiving waters because there is an assumption that vegetation uptake and other natural processes reduce the amount of nitrogen reaching the receiving waters.

Some nutrient increases will result from meeting future growth via existing WWTPs but only in those that have a significant amount of capacity left of new development. Snow Hill and Pocomoke City's WWTPs flows will be limited by the Chesapeake Bay Tributary Strategy point source caps. Action on the Chesapeake Bay TMDL could possibly lower those caps in the future and therefore lower their nutrient contributions to the Bay. The performance of those treatment plants to reduce nutrient loading by optimal operation can also contribute to lower impacts as will connection of existing septics to those plants that exist in adjacent sewer planning areas.

Most of the new growth in point source inputs will be mitigated by the elimination of point source discharges and transition to spray irrigation or other alternative discharges.

TMDLs

Another measure of assimilative capacity is the Total Maximum Daily Load (TMDL), the maximum amount of pollutant that a water body, such as a river or a lake, can receive without impairing water quality.

Point Source Caps

To address nutrient loads from point sources such as WWTPs, the State has established Chesapeake Bay Tributary Strategy point source caps. These caps are numerical limits on the amount of nitrogen and phosphorus that WWTPs can discharge to the Bay and their tributaries (expressed as pounds per year of nitrogen and phosphorus). Point source caps have been established for the Pocomoke and Snow Hill WWTPs and are reflected in their permits.

Future Wastewater Services

Future wastewater demand is expected to increase by nearly 2 MGD by 2035. To meet this demand without worsening nutrient loads, Worcester County will require all new growth areas to utilize spray irrigation or subsurface discharge systems. A nutrient neutrality requirement will be adopted, ensuring that no net increase in nitrogen or phosphorus results from new growth. The County will also evaluate regional treatment opportunities to reduce costs and environmental risks.

This section discusses future upgrades to existing wastewater service areas within the County as well as those growth areas designated in **Chapter 4** of the *Comprehensive Plan*. In general, if an area is not associated with a growth area the existing service areas will rely on infill development of similar character to the existing community. For those existing service areas not designated for growth by the *Comprehensive Plan*, expansion of the service areas is not planned. To begin this discussion, the following highlights upgrades planned in the sewer service areas.

11. WATER RESOURCES

Growth Area Wastewater Service

Chapter 4 of the *Comprehensive Plan* designates 29 growth areas.

The number of potential Residential and Non Residential EDU's for each growth area is identified in **Table 11-4.** If the County's population projection is realized then an additional wastewater service demand of nearly 2 million GPD by 2035 is expected and can be used for long-range planning purposes.

Table 11-12. Anticipated Wastewater Service Demand

Facility Name	Average Current Flow (GPD)	Current Committed Capacity (GPD)	Current Permitted Capacity (GPD)	Estimated Remaining Capacity (GPD)	Current Percent Remaining Capacity	Growth EDUs Generated	Growth Gallons (GPD)	Future Remaining Capacity
Assateague Pointe	34,500	37,640	41,930	4,290	10%			10%
Edgewater (Sussex County, DE)	60,750	60,750	60,750	0	0%			0%
The Landings	32,000	32,000	100,000	68,000	68%			68%
Lighthouse Sound	27,750	27,750	34,350	6,600	19%			19%
Mystic Harbour	187,000	187,000	400,000	213,000	53%			53%
Newark	45,500	45,500	50,250	4,750	9%			9%
Ocean Pines	1,010,000	1,010,000	2,125,000	1,115,000	52%	138	34,560	51%
Riddle Farm	54,000	54,000	237,000	183,000	77%	35	8,792	74%
River Run	55,000	55,000	100,000	45,000	45%			45%
Village of Showell	**Planned Growth Area**							
The City of Pocomoke	707,000	707,000	688,000	-19,000	0%			0%
Town of Berlin	407,000	407,000	343,000	-64,000	0%			0%
Town of Ocean City	8,688,000	11,200,000	14,000,000	2,800,000	20%	6,961	1,740,165	8%
West Ocean City[4]	653,000	1,205,120	1,000,000	-205,120	0%			0%
Town of Snow Hill[5]	303,000	330,500	500,000	169,500	34%			34%

Assumes that the Lower Pocomoke Growth will not be served by the Ocean City WWTP

11. WATER RESOURCES

Septic and Point Source Pollution Assessment

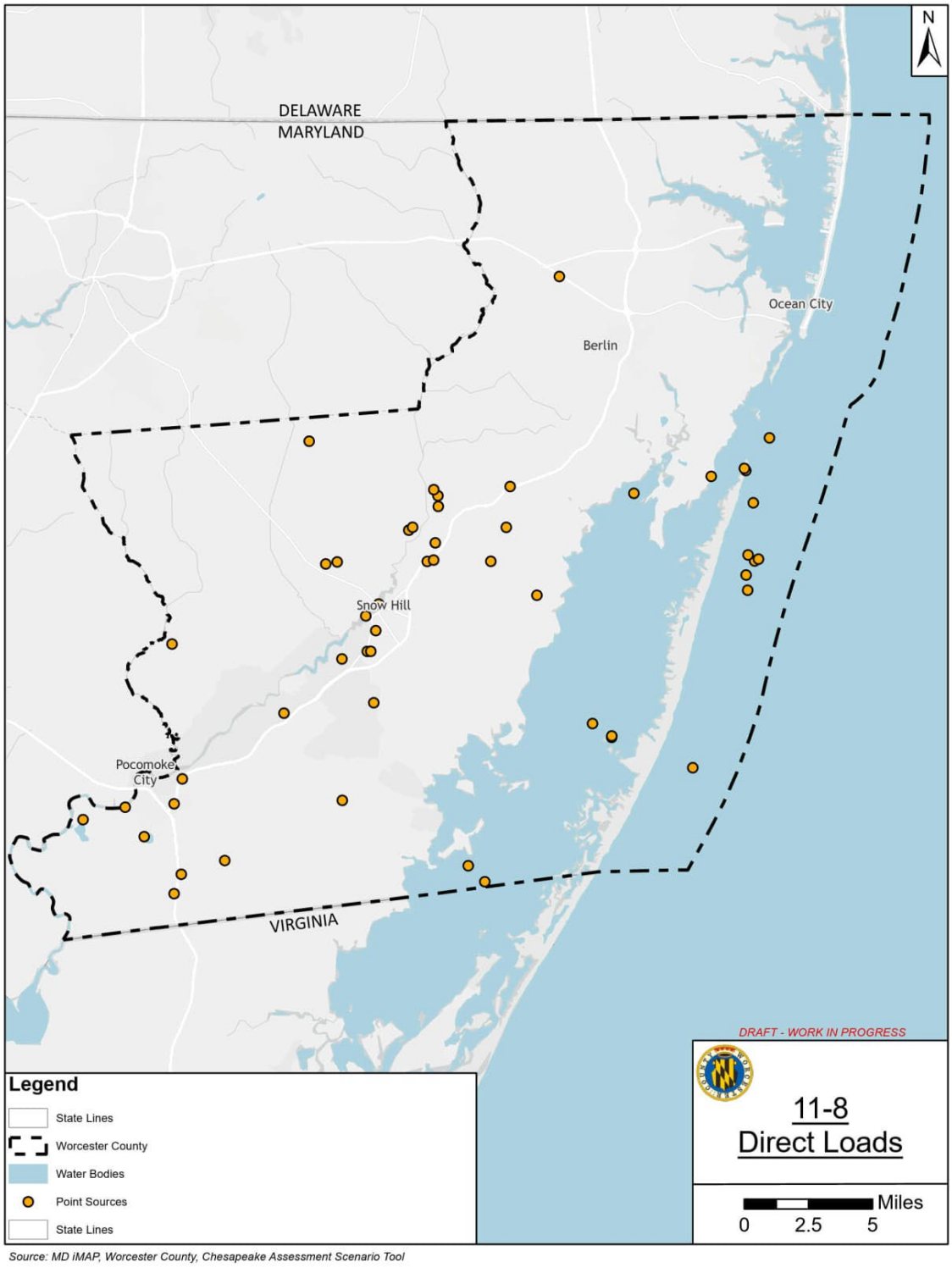
Septic system nitrogen loads remain a major contributor to nonpoint source pollution. Worcester County will adopt a goal of reducing septic nitrogen loads by 20% by 2035. All Critical Area septic systems must be upgraded to BAT by 2030. To further improve efficiency in rural development, the County will incentivize cluster and shared BAT systems to reduce nutrient leaching from dispersed rural lots.

Point sources in Worcester County are comprised of the WWTPs that discharge directly to surface waters. In the Coastal Bays Watershed, point sources are found in the Isle of Wight Bay and Sinepuxent Bay Watersheds. There are two point-sources located in the Chesapeake Bay; both are located in the Lower Pocomoke River drainage basin.

Overall, total nitrogen (TN) and total phosphorus (TP) from WWTPs may decrease in the future in the Coastal Bays Watershed. However, a closer look at the overall reduction shows that the Ocean Pines WWTP may increase its TN contribution to their respective watersheds. In the Chesapeake Bay Watershed, TN may increase in the future by 2,517 lbs largely because of the Lower Pocomoke growth areas.

11. WATER RESOURCES

Figure 11-8. Point Source Locations of Direct Loads in Worcester County



Source: MD iMAP, Worcester County, Chesapeake Assessment Scenario Tool

11. WATER RESOURCES

Stormwater Management and Nonpoint Source Assessments

Stormwater runoff remains one of the largest contributors to water quality degradation. Worcester County will require all new development greater than one acre to implement green infrastructure best management practices such as bioretention, permeable pavement, and green roofs. A retrofit program will be established with the goal of converting at least 25 percent of existing stormwater facilities to enhanced BMPs by 2035. A stormwater utility fee will be created to fund these retrofits and long-term maintenance. Developers will be required to meet nutrient reduction standards through either on-site BMPs or participation in a nutrient trading program.

This section provides an assessment of (1) programmatic aspects of effective stormwater management, (2) how nonpoint source pollution could impact water quality and wildlife habitat, and (3) the total potential nutrient impact based on nonpoint and point sources.

Stormwater Management Assessment

Stormwater runoff is generated when the ground's natural ability to infiltrate and hold rainwater is exceeded. This is primarily caused by impervious surfaces that do not allow the rainwater to infiltrate into the ground. Development activities can affect the ability of the ground to absorb the rainfall by compaction, removal of vegetation and the installation of impervious surfaces, such as roads, parking lots, buildings, and houses. When rainwater's ability to infiltrate is lessened, stormwater runoff is directed to the nearest rivers, streams, and bays. This increased runoff also contributes to the erosion of stream banks, more rapid introduction of pollutants to the water bodies, and reduced infiltration, which results in decreases in groundwater recharge.

Research conducted by the Center for Watershed Protection has shown that stream degradation occurs when its watershed is at least 10 percent impervious. Imperviousness is one of the few variables that can be explicitly quantified, managed, and controlled at each stage of land development. It is also a management practice that can be remedied by the homeowner simply by choosing to install pervious products to create driveways or sidewalks, maintaining more forests rather than lawns, and creating more gardens that allow stormwater to soak into the ground. Redirecting runoff from impervious surfaces towards areas that can absorb stormwater also reduces the amount of polluted runoff flowing into our storm drains that ultimately empty into our local waterways.

The Assawoman Bay and Isle of Wight Bay Watersheds have the highest percentage of impervious surfaces in the County, roughly 10 percent and 9 percent respectively,[34] mainly due to the Town of Ocean City (**Table 11-13**). Streets alone occupy 25 percent of the town's land area. These percentages have increased by 11 and 57 percent, respectively since 2014. County wide, the increase in impervious surfaces has been approximately 49 percent. Additional efforts are required to create and/preserve more open space, increased pervious land coverage, and improved stormwater management (SWM), together with the Coastal Bays Critical Areas Program restrictions on future redevelopment projects to reduce nutrient loading in the future.

[34] A GIS-based landcover file, digitized based on the 2025 aerial imagery, was used to calculate the acreage amount of buildings, paved and unpaved roads, paved and unpaved driveways, parking lots, sidewalks, trails, tennis courts, and dirt roads.

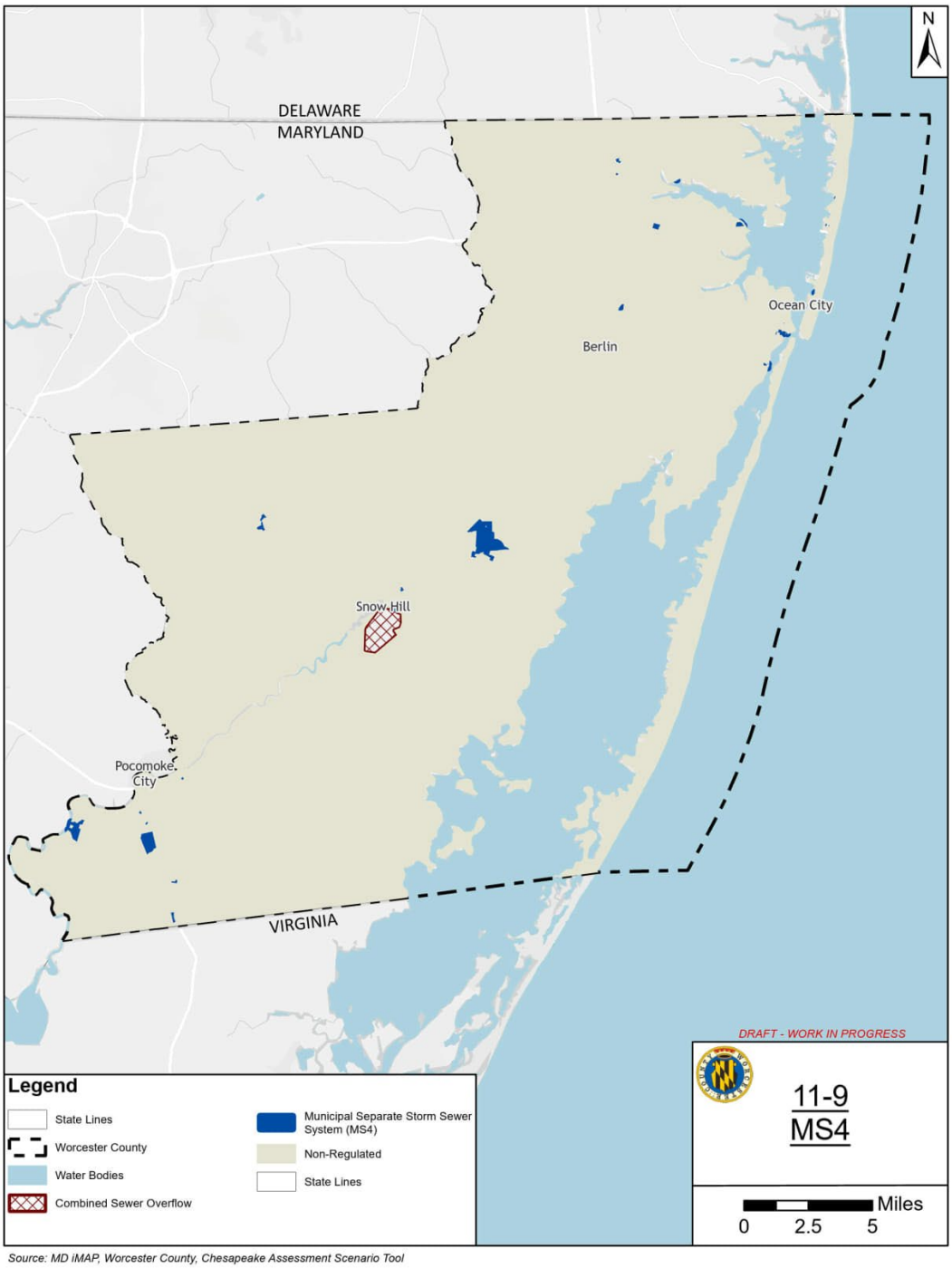
11. WATER RESOURCES

Stormwater runoff can carry a whole host of pollutants, including sediments, heavy metals, phosphorus, and nitrogen. If left untreated, these pollutants have a serious impact on the receiving water bodies, leading to diminished water quality and less than desirable habitat.

Since 1982, the State of Maryland has had a SWM program in effect. Initially this program was primarily intended to provide abatement to flooding issues by capturing and storing stormwater. However, although not particularly planned for at the onset, regulators noticed a water quality benefit from capturing and storing stormwater before ultimate discharge to local rivers, streams and bays.

11. WATER RESOURCES

Figure 11-9. Municipal Separate Storm Sewer System (MS4) and Combined Sewer Overflow in Worcester County



Source: MD iMAP, Worcester County, Chesapeake Assessment Scenario Tool

11. WATER RESOURCES

Figure 11-10. The Sediment at the Edge of Stream (lbs/yr) with No Action in 2010 and ongoing progress in 2023

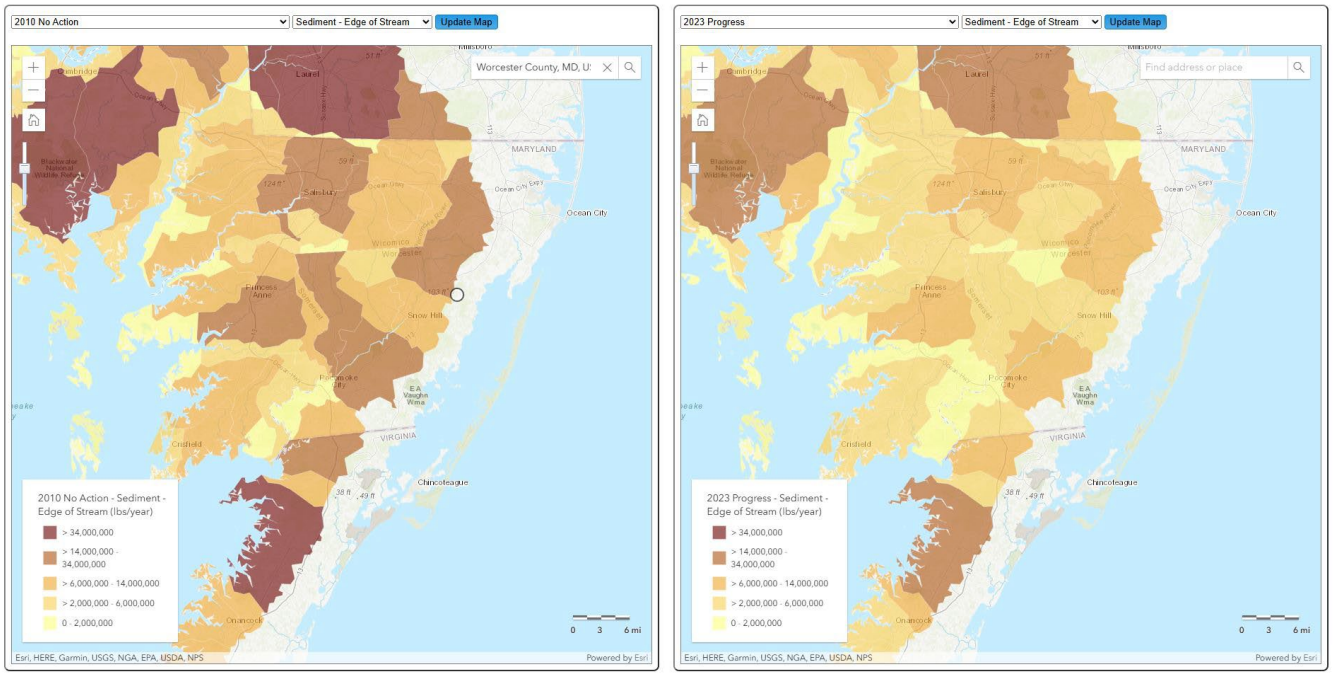
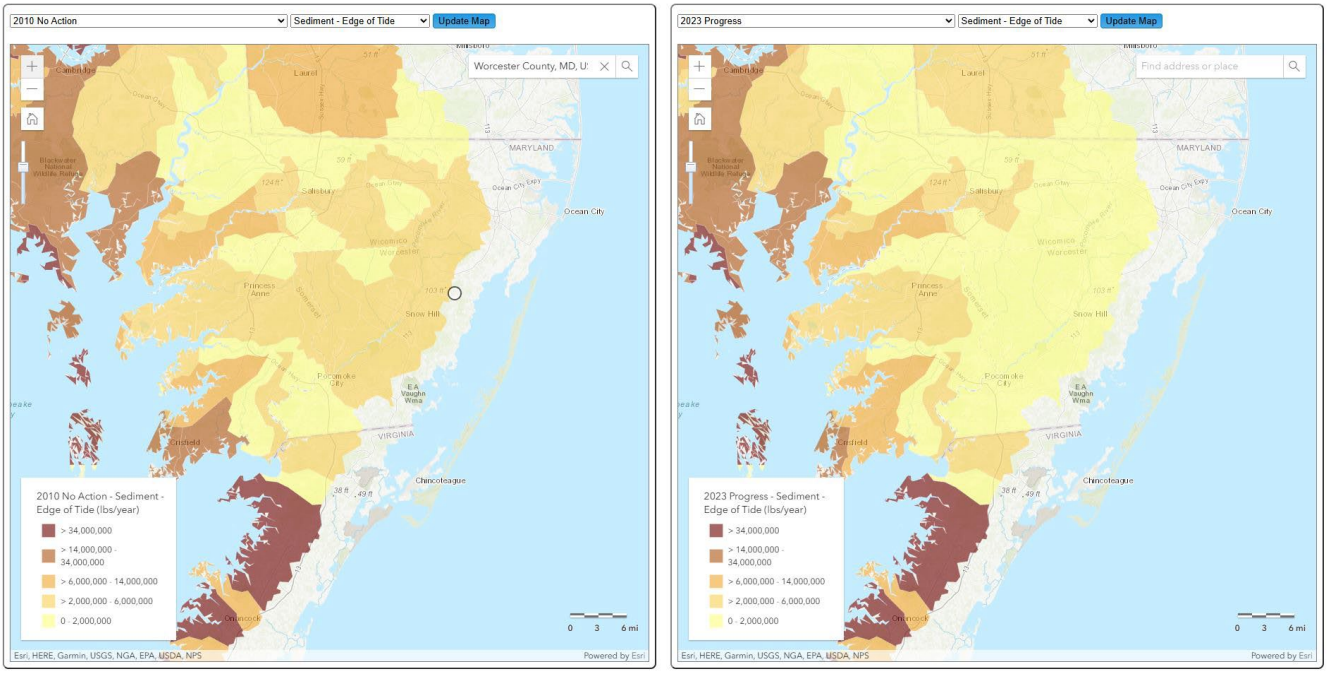


Figure 11-11. The Sediment at the Edge of Tide (lbs/yr) with No Action In 2010 and ongoing progress in 2023



11. WATER RESOURCES

Figure 11-12. Phosphorus at Edge of Stream (lbs/yr) with No Action in 2010 and ongoing progress in 2023

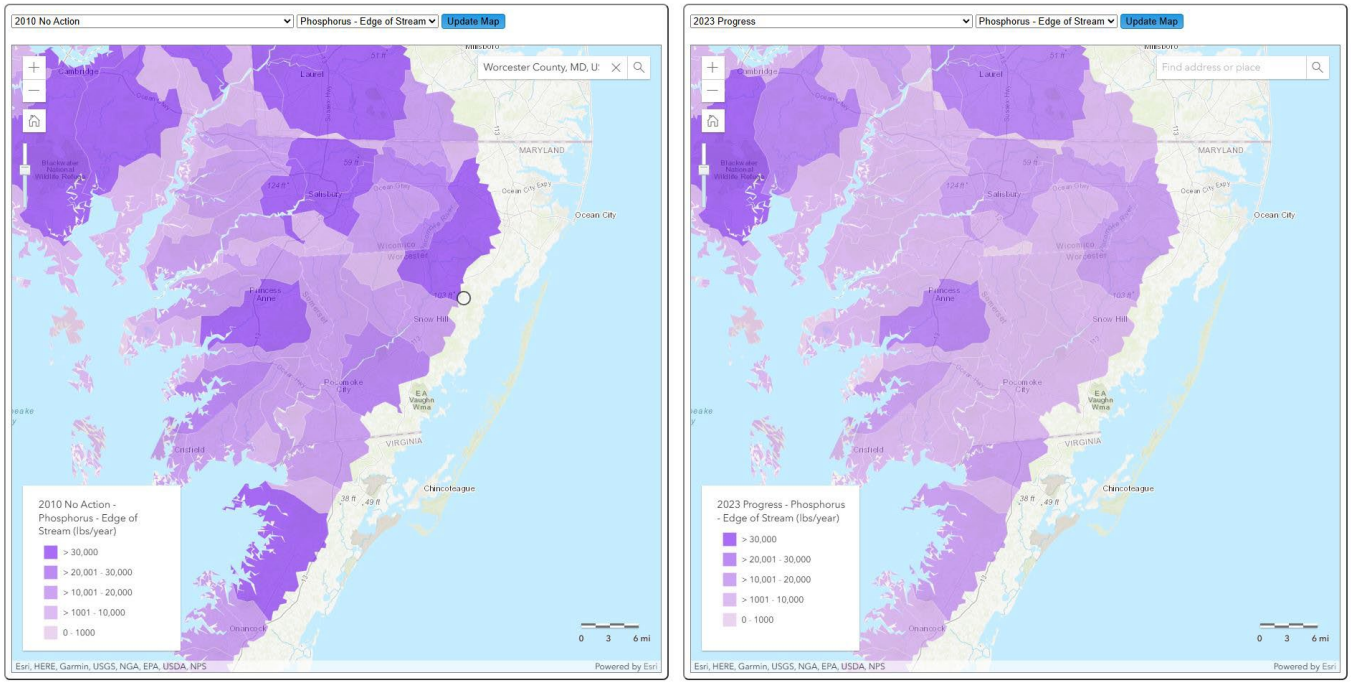
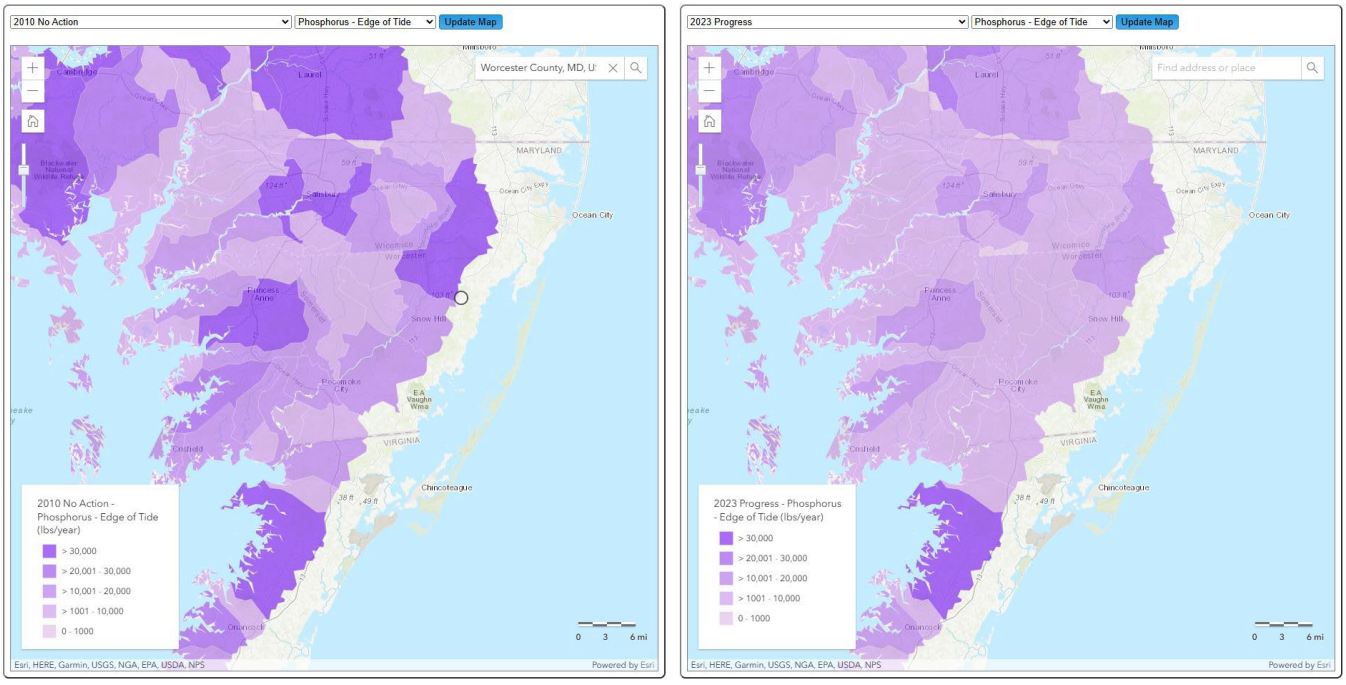


Figure 11-13. Phosphorus at Edge of Tide (lbs/yr) with No Action in 2010 and ongoing progress in 2023



11. WATER RESOURCES

Figure 11-14. Nitrogen at Edge of Stream (lbs/yr) with No Action in 2010 and ongoing progress in 2023

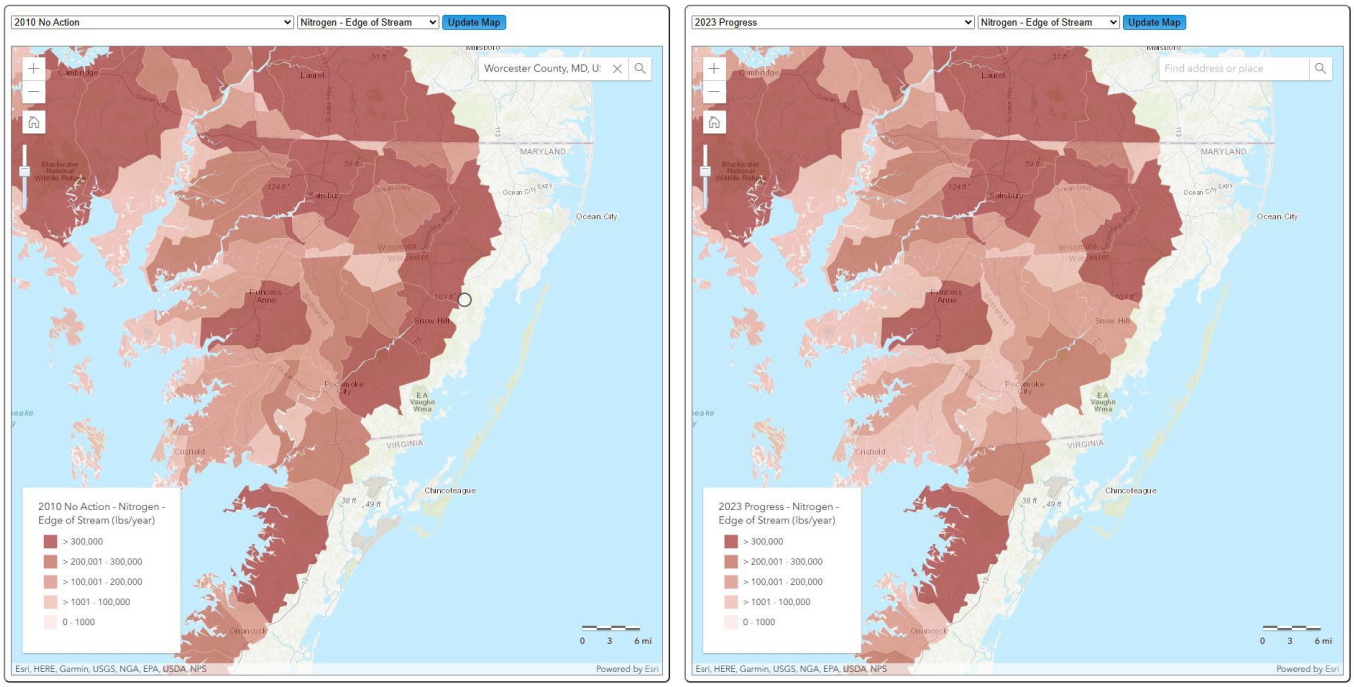
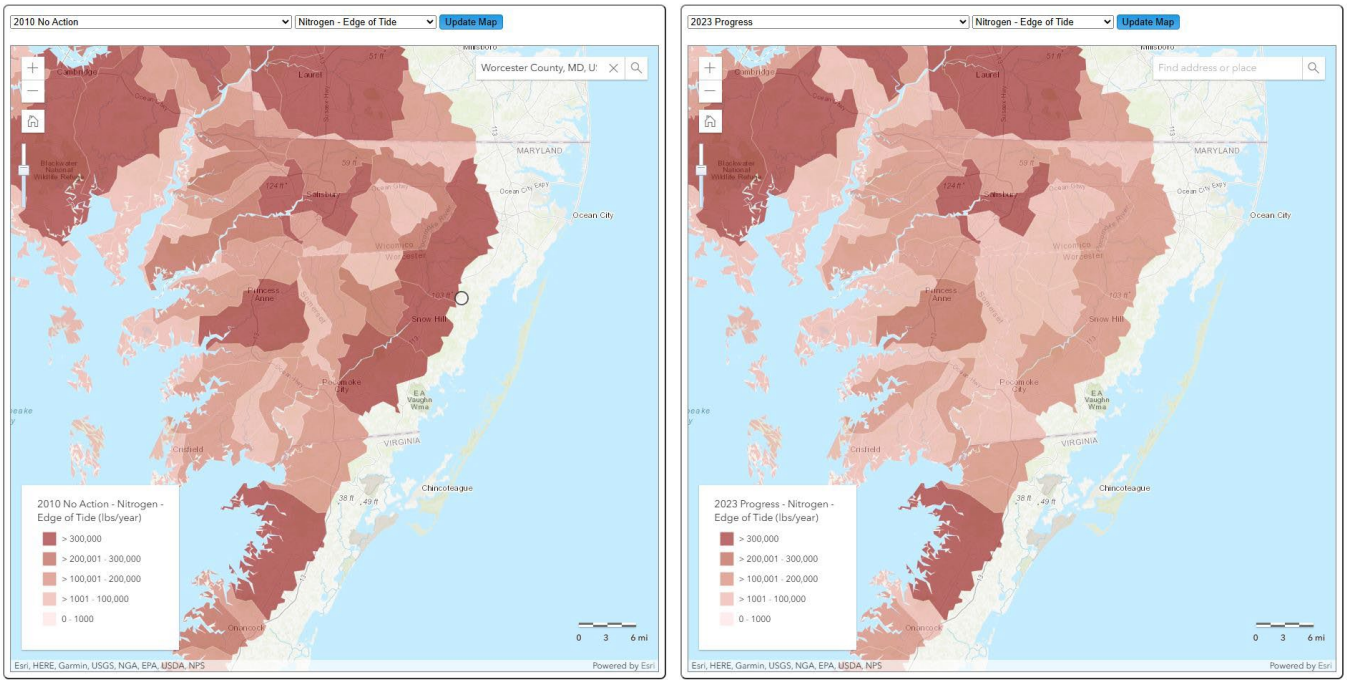


Figure 11-15. Nitrogen at Edge of Tide (lbs/yr) with No Action in 2010 and ongoing progress in 2023



11. WATER RESOURCES

Table 11-13. Impervious Surfaces by Watershed

Watershed Name	Watershed Area (acres)	2014 Impervious Area (acres)	2025 Impervious Area (acres)	Percentage Increase in Impervious	Percentage of Watershed Area Impervious
Coastal Bays Watershed					
Assawoman Bay	12,802	1,195	1,329	11.2%	10.4%
Chincoteague Bay	89,293	300	573	91.0%	0.6%
Isle of Wight Bay	41,121	2,369	3,734	57.6%	9.1%
Newport Bay	32,492	813	1,244	53.0%	3.8%
Sinepuxent Bay	13,710	409	642	57.0%	4.7%
Chesapeake Bay Watershed					
Dividing Creek	26,320	208	303	45.5%	1.1%
Lower Pocomoke River	81,443	1,723	2,526	46.6%	3.1%
Nassawango Creek	25,997	259	332	28.2%	1.3%
Upper Pocomoke River	51,204	687	1,169	70.2%	2.3%
Wicomico Creek	70	1	1	11.9%	1.6%
Grand Total	**374,452**	**7,964**	**11,853**	48.8%	

Source: 2025 Aerial Imagery, GIS-based building footprints and streets layer.

The County's current SWM Ordinance, adopted in 2014 by Bill No. 13-1, incorporates changes mandated by the State and referenced in the *2000 Maryland Stormwater Design Manual* and subsequent changes in Maryland regulations and outlined in MDE's model ordinance. One of the significant changes outlined in this manual is a menu of non-structural best management practices (BMPs) that allowed for a more environmentally sensitive approach to site development.

Unlike other areas of the State, Worcester County has little to no relief in its topography, thus allowing for easier and more successful use of non-structural BMPs. These practices incorporate existing site conditions along with vegetative filtering practices to provide water quality on site. Once approved and implemented, they provide a profound impact on water quality. The relatively flat topography lengthens the amount of time stormwater runoff takes to reach receiving waters, thus allowing for more natural nutrient uptake from existing vegetation.

In July 2024, Worcester County adopted updates to the County Critical Area Law to protect the Chesapeake Bay and Atlantic Coastal bays from the adverse impacts of development on water quality and natural habitats. The law establishes buffer requirements from tidal waters, wetlands and streams, limits forest clearing, requires mitigation for deforesting, and otherwise restricts development activities in certain areas.

11. WATER RESOURCES

Currently, Worcester County has more than 1,600 permitted and approved SWM facilities as shown in **Figure 11-16**. After final approval and associated inspections, these facilities are inspected once every three years to ensure the functionality of the sites. Of the approved stormwater management facilities, almost 85 percent incorporate non-structural BMPs.

Enforcement procedures in place in the local ordinance require developers and subsequent property owners to enter into inspection and maintenance agreements which bind properties to perpetual compliance with the approved stormwater management plan. This, along with strong oversight during construction, ensures the continued functionality of onsite SWM facilities.

In the next discussion, nutrient pollutant loads from urban stormwater and other nonpoint sources including agricultural and forest designated areas are assessed to determine its potential water quality impact.

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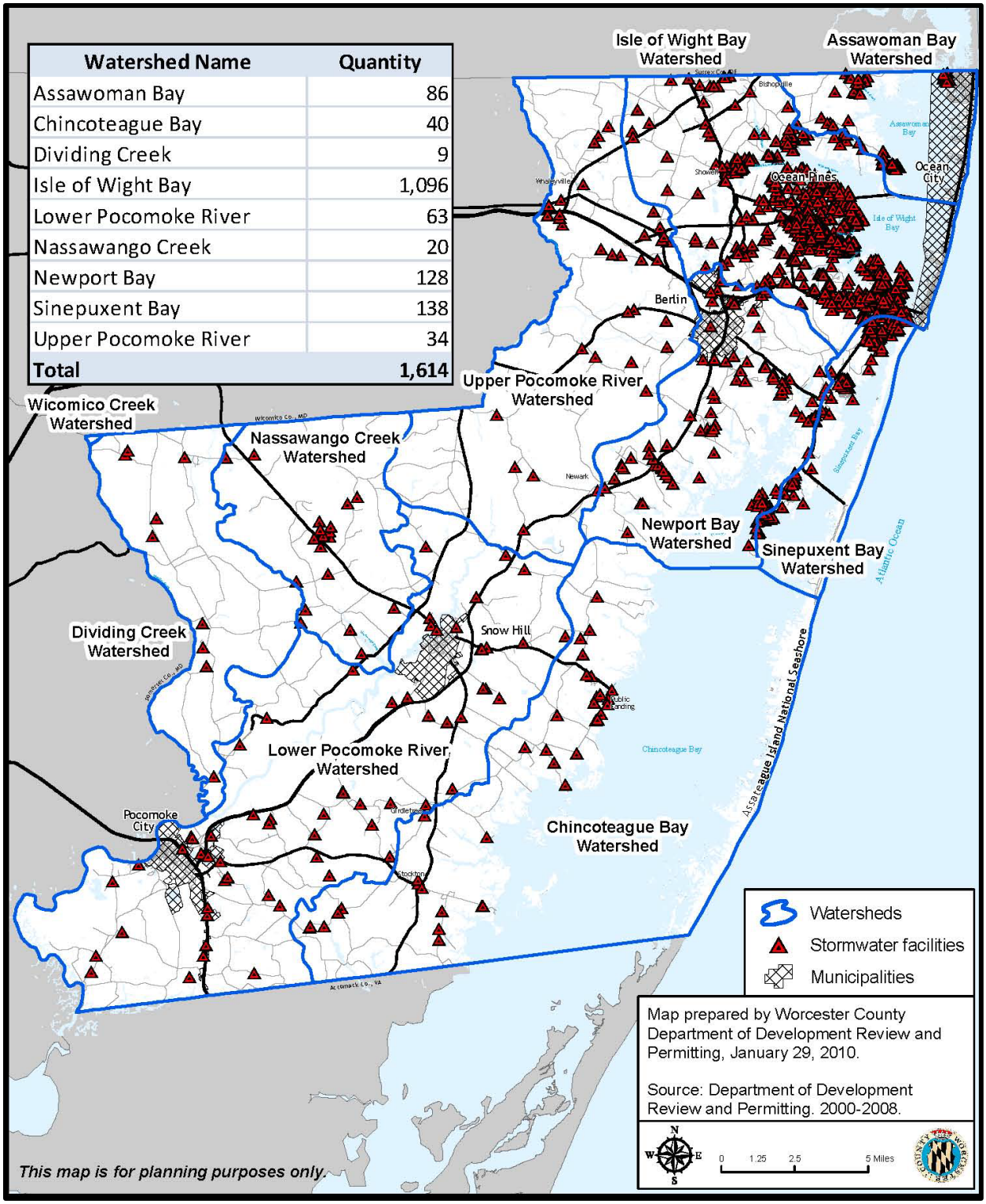
Figure 11-16. Stormwater Facilities in Worcester County



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Nonpoint Source Assessment

This assessment focused on two sources of nonpoint pollution: land use activities and septic systems. To understand the potential impact of septic systems, the County projected the future number of septic systems while considering their location, possibility of connecting systems to nearby WWTPs, and potential for upgrading systems to denitrification technologies.

Through this nonpoint source (NPS) assessment, the County quantified the potential nutrient load, specifically total nitrogen (TN) and total phosphorus (TP), each land use scenario and septic system could contribute at a watershed scale. This initial NPS assessment could supplement existing planning decision-making tools that help to identify appropriate places for future growth and development while protecting our natural resources.

This NPS assessment's methodology is based on nutrient loading rates provided by the Chesapeake Bay Program as well as land use acreages and the number of septic systems in the County (**Tables 11-8** and **9-9**). These three variables are applied in the equations shown in **Table 11-15**. Based on this methodology and generalizations of the land, the County recognizes that the results described in this WRE NPS assessment do not reflect the *actual* amount of nutrients in the watershed, but demonstrate how different land use activities, given its size, location and nutrient loading potential, could impact a watershed's water quality and wildlife habitat.

Additionally, for the purposes of this WRE, the County does not provide additional recommendations regarding air deposition but recognizes that it can contribute nutrients to water resources. EPA has committed to reducing air deposition of nitrogen to the tidal waters of the Chesapeake Bay and these reductions will be achieved through implementation of the Clean Air Act during the coming years (TMDL Implementation Letter dated 11-4-09, p. 34). The County will continue to work with federal and state agencies and assist where needed to comply with regulations. Following is a discussion focused on the land use scenarios. Then a quantitative assessment of septic systems is provided.

Table 11-14. Nutrient Loading Rates (lbs/ac/yr)

					Septic System (lbs/system/yr)	
Nutrient loading rate	**Forest**	**Agriculture**	**Urban**	**Pasture/Hay**	**Outside Critical Area**	**Inside Critical Area**
Total Nitrogen Load	1.7	13.5	8.0	4.0	6.0	12.0
Total Phosphorus Load	0.1	1.5	1.2	0.5	0.0	0.0

Source: Chesapeake Bay Program, 2024. Chesapeake Assessment and Scenario Tool (CAST) Version 2023, Phase 6-[7.14.1]. Chesapeake Bay Program Office, Last accessed [May, 2025].

For this NPS assessment the change in nutrient loadings were determined by taking the existing unconstrained Agriculturally zoned land (assuming a 30 percent conservation assumption) and assuming 50% of the unconstrained land is agriculture and 50 percent is pasture/hay. Although this assessment was conducted at a county-level and not a site-level, this broad-based planning exercise gave the County insight on how land use changes impact the environment. For this WRE, this assessment level is deemed

appropriate and can translate into improving the implementation of environmental site design standards, assisting others with voluntary approaches that can help reduce nutrient loads, and informing the land use element of the *Comprehensive Plan*.

The land use scenarios used in this NPS assessment are based on land use maps that can be found in **Chapter 4 – Land Use**. A land use map generally shows where the County anticipates growth and development, identifies the natural resources that should be protected, and the preservation of agricultural landscapes. Its purpose is to help guide over-arching planning principles. Following is a discussion about how land use changes affected nutrient loads in each watershed.

Table 11-15. Nonpoint Source Assessment Equations

Equation ID	Result	Equation	Variable	Definition	Units
Eq. 1	Total nitrogen load	$TN = LR_n * LU$	TN	Total nitrogen load	lbs/yr
			LR_n	Nitrogen loading rate	lbs/ac/yr
			LU	Land use	acres
Eq. 2	Total phosphorus load	$TP = LR_p * LU$	TP	Total phosphorus load	lbs/yr
			LR_p	Phosphorus loading rate	lbs/ac/yr
			LU	Land use	acres
Eq. 3	Septic nitrogen load	$S_n = LR_{sn} * S_a$	S_n	Septic nitrogen load	lbs/yr
			LR_{sn}	Septic nitrogen load per system	lbs/sys/yr
			S_a	Number of septic systems	n/a
Eq. 4	Total nitrogen NPS load	$TNPS_n = S + TN$ or	$TNPS_n$	Total Nitrogen nonpoint source load	lbs/yr
Eq. 5	Total pollution load	$TPL_n = TNPS_n + TPS_n$ $TPL_p = TP + TPS_p$	TPL_x	Total N or P pollution load	lbs/yr
			TPS_x	Total N or P point source load	lbs/yr

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Table 11-16. Nutrient Loads Due to Change in Land Use

	Isle of Wight	Lower Pocomoke	Newport
Area Agriculture to Urban (acre)	209.4	410.4	15.3
Nitrogen Load Decrease (lb/yr)	-1152	-2257	-84
Phosphorus Load Decrease (lb/yr)	-63	-123	-5
Area Pasture/Hay to Urban (acre)	209	410	15
Nitrogen Load Increase (lb/yr)	837	1641	61
Phosphorus Load Decrease (lb/yr)	147	287	11
Change in Nitrogen (lbs/yer)	-314	-616	-23
Change in Phosphorus (lbs/yr)	84	164	6

Septic System Contribution

This assessment examines the contribution from septic systems during the planning period 2026-2036.

Location and technology choices are regulated by State and local requirements. Some older septic systems, especially when located near the water, pose significant water quality problems. They contribute nutrients and pathogens to the nearby surface waters and groundwater. In the Critical Area, current standards require best available technology for new development and certain specific cases. State grants are now useful in converting existing outdated on-site septic systems to less damaging nutrient reduction technologies, but the continued availability of such funding is questionable.

Depending on the location of septic systems, each system may contribute 6 or 12 lbs of TN annually. There are no significant amounts of phosphorus leaching from septic systems. In Worcester County, septic systems within the Critical Area contribute 12 lbs/sys/yr of TN whereas septic systems outside of the Critical Area contribute 6 lbs/sys/yr of TN. Less nitrogen will enter the bays because of the distance traveled by groundwater which allows nitrogen removal processes to occur. Septic systems outside of the Critical Area were upgraded to enhance overall performance, not for denitrification. The following section quantifies the amount of nitrogen potentially leaching from septic systems in the Coastal Bays Watershed.

Table 11-17. Septic System Updates

Watershed Name	2011-2025		2026-2036	
	Outside Critical Area	**Inside Critical Area**	**Outside Critical Area**	**Inside Critical Area**
Coastal Bays Watershed				
Assawoman Bay	122	258	722	858
Chincoteague Bay	0	182	600	782
Isle of Wight Bay	1,059	618	1,659	1,218
Newport Bay	759	331	1,359	931

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Sinepuxent Bay	74	173	674	773
Grand Total	**2,014**	**1,562**	**5,014**	**4,562**
Chesapeake Bay Watershed				
Dividing Creek	212	4	812	604
Lower Pocomoke River	1,476	171	2,076	771
Nassawango Creek	365	16	965	616
Upper Pocomoke River	781	11	1,381	611
Wicomico Creek	1	0	601	600
Grand Total	**2,835**	**202**	**5,835**	**3,202**

Total Nonpoint Source Pollution Assessment: Stormwater and Septic Systems

This section discusses the cumulative amount of total nitrogen and total phosphorus entering local waterways from nonpoint sources if future growth patterns mirrored land use designations and projected contributions from septic systems were realized. To begin, this section first addresses total nitrogen (TN) followed by a discussion on total phosphorus (TP).

Table 11-18. Septic System Nitrogen Loads, Chesapeake Bay Watershed

Watershed Name	No. Septic (2025)	Potential Lots	Expected No. Septic (2035)	Change in no. of septic systems	Change in Nitrogen Loads
Lower Pocomoke River Watershed	**1,647**	**1,425**	**1,700**	53	-10
Inside Critical Area	171	0	104	-67	-804
Outside Critical Area	1,476	1,425	**1,608**	132	794
Upper Pocomoke River Watershed	**792**	**763**	863	71	425
Inside Critical Area	11	0	**11**	0	0
Outside Critical Area	781	763	852	71	425
Nassawango Creek Watershed	**381**	**365**	**415**	34	203
Inside Critical Area	16	0	16	0	0
Outside Critical Area	365	365	**399**	34	203
Dividing Creek Watershed	**216**	**211**	236	20	118
Inside Critical Area	4	0	**4**	0	0
Outside Critical Area	212	211	232	20	118
Wicomico Creek Watershed	**1**	**1**	**1**	0	1
Inside Critical Area	0	0	0	0	0
Outside Critical Area	1	1	**1**	0	1
Total Inside CA	**202**	**0**	**135**	**-67**	**-804**

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Total Outside CA	**2,835**	**2,765**	**3,092**	**257**	**1,541**
Grand Total	**3,037**	**2,765**	**3,215**	**178**	**737**

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Table 11-19. Septic System Nitrogen Loads, Coastal Bay Watershed

Watershed Name	No. Septic (2025)	Potential Lots	Expected No. Septic (2035)	Change in no. of septic systems	Change in Nitrogen Loads
Assawoman Bay	**380**	**372**	**415**	35	349
Inside Critical Area	258	254	282	24	283
Outside Critical Area	122	118	**133**	11	66
Chincoteague Bay	**182**	**717**	249	67	501
Inside Critical Area	182	182	**199**	17	203
Outside Critical Area	0	535	50	50	298
Isle of Wight Bay	**1,677**	**1,476**	**1,739**	62	406
Inside Critical Area	618	599	624	6	68
Outside Critical Area	1,059	877	**1,115**	56	339
Newport Bay	**1,090**	**919**	1,095	5	-171
Inside Critical Area	331	282	**297**	-34	-406
Outside Critical Area	759	637	798	39	235
Sinepuxent Bay	**247**	**211**	**262**	15	150
Inside Critical Area	173	165	183	10	124
Outside Critical Area	74	46	**78**	4	26
Total Inside CA	**1,562**	**1,482**	1,585	23	272
Total Outside CA	**2,014**	**2,213**	**2,175**	161	963
Grand Total	**3,576**	**3,695**	3,759	183	1,235

Cumulative Recommendations

The WRE commits Worcester County to integrating climate resilience throughout its water management framework, requiring annual monitoring and public reporting of water and wastewater performance, and establishing measurable targets for nutrient reduction, water conservation, and infrastructure resilience. New funding mechanisms, including impact fees, stormwater utilities, and state/federal grants, will be pursued to support these goals. Together, these policies will ensure that Worcester County's water resources remain resilient, sustainable, and capable of supporting both community and ecological needs well into the future.

12. IMPLEMENTATION

Overview

To accomplish the goals, objectives, and strategies of this plan, a wide range of implementation measures are recommended. The implementation measures recommended should be viewed as positive instruments, which will guide the future of Worcester County. The recommended implementation measures involve agencies at all levels of government, private organizations, developers, and the public; however, the final responsibility for the implementation of the plan lies with the County's citizens and elected officials.

The plan adoption is the first step in the implementation process. It is the product of considerable effort on the part of Worcester County and its County Commissioners, Planning Commission, Department of Development Review and Permitting, as well as many other County departments, the Technical Committee, community leaders, and concerned citizens. Continued action to implement the goals and objectives listed here will be needed for it to have a lasting impact.

Following the adoption of the Comprehensive Plan, the Department of Development Review and Permitting, the Planning Commission, and County Commissioners will annually assess the Comprehensive Plan's goals and objectives. From this list, the County may identify a list of priority projects and activities and update this list of priority projects as progress is made. This chapter compiles those strategies and identifies additional strategies, projects, programs, or services to guide implementation.

One approach to identify these activities is to determine what has been done, what has not been done, what has changed since the Plan was written, and what should be added to the Plan to help categorize and prioritize these activities.

The Comprehensive Plan is required by state statute to be updated no less than once every 10 years. Worcester County will seek to follow this plan review timeline:

- **Five-year Review** – Within five years of plan adoption, the Planning Commission will review the document to determine whether revisions are warranted. Following the review, the Planning Commission and staff will prepare a report summarizing their findings and present it to the County Commissioners.
- **Ten-year Update** – Within 10 years of plan adoption, the Planning Commission will update the plan as required by Maryland's Land Use Article. The goals and objectives of each of the chapters in the Worcester County Comprehensive Plan are outlined below. The goals and objectives are consistent with the State of Maryland's Eight Sustainable Planning Principles, as discussed in the plan introduction.

12. IMPLEMENTATION

Goals and Objectives

Community Facilities (Chapter 3)

The following goals have been identified for maintaining, improving, and providing additional community resources in Worcester County. These goals align with the Sustainable Growth Planning Principles that guide comprehensive plans in Maryland as of October 1, 2025.

1. **Work with the State of Maryland to plan for future needs as the County grows, including emergency services, schools, and community facilities.**
2. **Partner with Worcester County Public Schools for essential services and schools with sufficient services demanded by the County's communities.**
3. **Look at opportunities to preserve and enhance the small-town character of the County through an increase in community and cultural activities.**
4. **Provide adequate public services, including health, safety, social, recreational, and waste disposal services to facilitate the County's desired amount and pattern of growth.**

Land Use (Chapter 4)

Worcester County land use goals are to maintain and improve the County's rural and coastal character, protect its natural resources and ecological functions, accommodate a planned amount of growth served by adequate public facilities, improve the compatibility of new development with the County's existing built environment, continue to support the County's thriving economy, provide for residents' safety and health, and coordinate land use-based infrastructure decision with Delaware and Sussex County to the extent possible. Specific goals and recommended actions to achieve those goals include the following:

1. **Continue to limit rural development to uses compatible with the County's agriculture and forestry industries.**
    - *Action Item 4.1.1:* Continue to support agriculture and forestry uses throughout the county's less developed regions.
    - *Action Item 4.1.2:* Limit rural development to uses compatible with agriculture and forestry.
2. **Plan for new development by encouraging infill within existing population centers and planned growth centers while maintaining the character of the community.**
    - *Action Item 4.2.1:* Maintain the character of the County's existing population centers.
    - *Action Item 4.2.2:* Locate new development in or near existing population centers and within planned growth centers.
    - *Action Item 4.2.3:* Plan for infill within existing population centers without overwhelming their existing character.
3. **Foster a cooperative relationship among the municipalities and the County to plan for future growth via annexations that logically expand existing neighborhoods and communities.**
    - *Action Item 4.3.1:* Work with municipalities to develop annexation policies that encourage infill within their boundaries and expand existing neighborhoods and communities.

12. IMPLEMENTATION

4. **Provide appropriate residential, commercial, institutional and industrial uses that balance the available land supply while minimizing the consumption of vacant land to preserve the County's rural and coastal character.**
    - *Action Item 4.4.1:* Provide for appropriate residential, commercial, institutional, and industrial uses.
    - *Action Item 4.4.2:* Regulate development to minimize the consumption of land and preserve the County's rural and coastal character.
    - *Action Item 4.4.3:* Balance the supply of commercially zoned land with anticipated demand of year-round residents and seasonal visitors.
    - *Action Item 4.4.4:* Eliminate the E-1 Estate District zoning classification.
5. **Locate major commercial and all industrial development in areas having adequate arterial road access, while discouraging highway strip development to maintain roadway capacity, safety, and character.**
    - *Action Item 4.5.1:* Locate major commercial and all industrial development in areas having adequate arterial road access or near such roads.
    - *Action Item 4.5.2:* Discourage highway strip development to maintain roadway capacity, safety, and character.
6. **Encourage new developments to visually improve their surroundings by including appropriate landscaping and design elements that reflect the County's established architectural types and traditions.**
    - *Action Item 4.6.1:* Design new development's architecture and landscaping to visually improve its surroundings.
7. **Explore policies and actions that encourage redevelopment of existing residential and commercial properties.**

Housing (Chapter 5)

All Worcester County residents should be able to live in comfortable, safe, and affordable housing. The following goals, objectives, and action items have been identified to help advance the housing policy for the County:

1. **Support a variety of safe, quality housing choices that are affordable and accessible to households of all ages and abilities, including multi-family and mixed-use housing.**
    - *Action Item 5.1.1:* Support various housing options for individuals and families of different socioeconomic levels, life stages, and physical needs.
    - *Action Item 5.1.2:* Support opportunities to increase the housing supply for the senior population, including developments that support aging in place.
2. **Support the ability of residents to remain in Worcester County by maintaining a range of housing options, including affordable and workforce housing.**
3. **Identify, evaluate, and analyze current and future housing needs and trends.**
    - *Action Item 5.3.1:* Create a housing inventory of existing conditions that includes, but is not limited to, housing condition, age, cost, size, type, tenure, and vacancy rate.
    - *Action Item 5.3.2:* Continue to track and monitor building permits issued for new residential projects and housing renovations.

- *Action Item 5.3.3:* Continue coordinating with the Maryland Department of Planning on the development of MDP's ongoing Statewide Building Permit Reporting System so that local building permit data are compatible with the new MDP tool(s) and the output from the tool(s) can be used for local analysis.
- *Action item 5.*3.*4*: Reduce the cost of constructing new homes by streamlining infrastructure delivery, modernizing compliance requirements, and improving regulatory efficiency, while introducing targeted incentives to accelerate housing development and increase overall supply.

4. **Identify incentives for the improvement or redevelopment of housing.**
    - *Action Item 5.4.1:* Utilize programs offered by the Maryland Department of Housing and Community Development to help homeowners maintain and improve their housing conditions.
    - *Action Item 5.4.2:* Explore applying for State Community Legacy funds to fund a residential renovation and/or façade improvement program.
    - *Action Item 5.4.3:* Identify grants and other funding opportunities to assist low to moderate income residents to support improvements in their homes.
    - *Action Item 5.4.4:* Engage nonprofit organizations to assist in the rehabilitation of dilapidated or older housing stock.
5. **Identify substandard dwellings and develop a plan of action to improve them.**
    - *Action Item 5.5.1:* Prioritize targeted rehabilitation in southern communities, where aging, lower-quality housing is most concentrated as identified by the Worcester County Housing Study 2025.
    - *Action Item 5.5.2:* Review the Property Maintenance Standards for rental housing, also known as the Worcester County Rental Housing Code, and amend the minimum standards if warranted.
    - *Action Item 5.5.3:* Explore establishing a rental inspection component to the existing rental licensing program to ensure rental housing units meet Property Maintenance Standards.
    - *Action Item 5.5.4:* Consider adopting the International Property Maintenance Code to address blighted and vacant housing and property and building maintenance issues.
    - *Action Item 5.5.5:* Encourage efforts to maintain the quality and appearance of residential neighborhoods to improve the quality of life and retain property values.
6. **Identify opportunities to provide equity in housing and affordable housing opportunities in the County.**
    - *Action Item 5.6.1:* Work to ensure that a diversity of housing types, both rental and ownership opportunities, are available to serve all ages and income levels.
    - *Action Item 5.6.2:* Provide information on Maryland's Department of Housing and Community Development homebuyer programs to first-time home buyers to attract homeowners of all ages.

- *Action Item 5.6.3:* Explore opportunities to preserve historical and architectural character and promote the rehabilitation and re-use of existing structures, where feasible.
- *Action Item 5.6.4:* Support affordable housing opportunities that are accessible to the entire population, without compromising the quality of residential neighborhoods.
- *Action Item 5.6.5:* Support housing projects that provide a mix of housing to serve a mix of income levels and integrating traditional market housing with affordable housing opportunities.

7. **Continue to identify opportunities to provide housing to support County workforce needs.**
    - *Action Item 5.7.1:* Work closely with existing employers and new commercial and industrial developments to identify the workforce needs and housing available for employees.
    - *Action Item 5.7.2:* Share information with local businesses about the types of housing available in the County.
8. **Take steps to affirmatively further fair housing throughout the County.**
    - *Action Item 5.8.1:* Coordinate with the Maryland Department of Planning and the Maryland Department of Housing and Community Development to complete the required Fair Housing Assessment upon the issuance of guidance from State agencies.
    - *Action Item 5.8.2:* Implement the action items from this assessment upon its completion.
9. **Collaborate with local agencies to address homelessness and under-housing in the County.**

Economic Development and Tourism (Chapter 6)

The primary goal of economic development is to foster a resilient and inclusive economy by driving sustainable growth in tourism, small business, technology, agriculture, and light industry. In Worcester County, this includes preserving and celebrating the County's unique rural and coastal heritage while creating opportunities for year-round employment, innovation, and community well-being.

The following general objectives have been specifically identified as critical to the ongoing success of Worcester County and its residents. These are grouped into categories as they apply to general, big picture goals:

1. **Support Business Retention and Expansion (BRE)**
    - *Action Item 6.1.1:* Support existing businesses with resources, guidance, and financial support.
    - *Action Item 6.1.2:* Conduct regular outreach meetings to identify challenges and growth opportunities and provide connections and resources.
    - *Action Item 6.1.3:* Continue collaboration with local chambers of commerce, county and town communication, and legislative officials.
2. **Foster Economic Growth and Employment Opportunities**
    - *Action Item 6.2.1:* Seek to raise the County's median income to meet the state average by increasing access to higher-paying, year-round employment.

- *Action Item 6.2.2:* Diversify the economic base by extending the tourist season and fostering growth in emerging industries, such as technology and health care.
- *Action Item 6.2.3:* Increase employment opportunities to retain talented young workers and attract new talent to the County.
- *Action Item 6.2.4:* Align vocational education and workforce development programs with current and anticipated employment demands, including technical and soft skills training.
- *Action Item 6.2.5:* Support the expansion of existing employers and encourage entrepreneurship to grow the local economy.
- *Action Item 6.2.6:* Reduce unemployment by targeting job creation efforts to underserved populations and regions.
- *Action Item 6.2.7:* Promote southern Worcester's potential for housing employees and allied businesses of NASA and the Mid-Atlantic Regional Spaceport at Wallops Island.

3. **Encourage Entrepreneurship and Innovation**
   - *Action Item 6.3.1:* Establish small business incubators and co-working spaces to support startups and small enterprises.
   - *Action Item 6.3.2:* Provide resources for grants, loans, and incentives for innovative projects and new businesses.
   - *Action Item 6.3.3:* Continue to host workshops, business roundtable discussions, business groups, and networking events to foster a culture of entrepreneurship.
4. **Drive Sustainable Growth in Tourism and Hospitality**
   - *Action Item 6.4.1:* Strengthen the tourism and hospitality industry by supporting towns and cities that define the County's character.
   - *Action Item 6.4.2:* Promote the creation of sports, cultural, and major attractions to boost visitation and increase tax revenue.
   - *Action Item 6.4.3:* Develop attractions and initiatives to encourage visitation during off-peak seasons.
   - *Action Item 6.4.4:* Highlight eco-tourism through environmental, heritage, and cultural attractions in partnership with heritage areas and museums.
   - *Action Item 6.4.5:* Support programming in sports tourism and arts and entertainment industries.
5. **Create Opportunities for Engagement and Collaborative Development**
   - *Action Item 6.5.1:* Collaborate with towns, chambers of commerce, and local partners to advance tourism and business initiatives.
   - *Action Item 6.5.2:* Partner with state-level entities to advocate for increased funding for economic development and tourism programs.
   - *Action Item 6.5.3:* Address the needs of agricultural and agri-tourism sectors to ensure their continued growth and success.
   - *Action Item 6.5.4:* Involve residents and stakeholders in decision-making processes.
   - *Action Item 6.5.5:* Strengthen partnerships with state and regional economic development organizations.
   - *Action Item 6.5.6:* Recognize and celebrate the achievements of local businesses and entrepreneurs.

- *Action Item 6.5.7:* Collaborate with businesses in the Aerospace industry to support sustainable expansion of operations and employment opportunities.

6. **Invest in Community and Sustainability**
    - *Action Item 6.6.1:* Develop and support facilities catering to the County's aging population, including health care and accessible housing options.
    - *Action Item 6.6.2:* Ensure economic development aligns with the County's rural and coastal sustainability goals.
    - *Action Item 6.6.3:* Address the needs of the agricultural and agri-tourism sectors to ensure their growth and continued contribution to the local economy.

Fisheries (Chapter 7)

To support the long-term viability of fisheries in Worcester County, a focused strategy is needed that balances economic development strategies with the preservation of working waterfronts and existing marine activity. Key objectives include maintaining commercial marine zoning at the West Ocean City Harbor to protect it from residential encroachment, encouraging sustainable aquaculture as both an economic supplement and a tool for enhancing water quality, and thoughtfully integrating tourism by promoting secondary attractions that complement—rather than compete with—core commercial marine activities.

Specific goals and recommended actions have been identified as critical to fulfilling recommendations and supporting the ongoing success of fisheries in the County:

1. **Preserve Working Waterfronts**
    - *Action Item 7.1.1:* Maintain the West Ocean City Harbor as a commercial harbor and explore opportunities for compatible tourism development.
    - *Action Item 7.1.2:* Protect seafood landing and processing facilities through zoning and land-use incentives.
    - *Action Item 7.1.3:* Sustain fisheries and recreational fishing through water quality and habitat protection measures.
    - *Action Item 7.1.4:* Enhance water quality initiatives to ensure long-term sustainability of local fisheries.
2. **Support Aquaculture**
    - *Action Item 7.2.1:* Encourage sustainable aquaculture to supplement traditional fisheries and promote water quality improvements.
    - *Action Item 7.2.2:* Promote aquaculture, including fish, clam, and oyster farming, to support the local economy.
    - *Action Item 7.2.3:* Invest in sustainable aquaculture research and development, including new methods for fish, clam, and oyster farming.
3. **Tourism Integration**
    - *Action Item 7.3.1:* Develop secondary tourism attractions around the harbor to complement commercial marine activities without compromising their primacy.
    - *Action Item 7.3.2:* Explore opportunities for compatible tourism development at West Ocean City Harbor.
    - *Action Item 7.3.3:* Promote recreational fishing opportunities through marketing campaigns targeting regional anglers.

- *Action Item 7.3.4:* Create a regional marketing cooperative with commercial watermen to sell local products directly to consumers (for example, a fish market).
- *Action Item 7.3.5:* Develop tourism initiatives around commercial fishing to create additional revenue streams.

Natural Resources and Sensitive Areas (Chapter 8)

Worcester County recognizes the importance of protecting its natural resources and will continue to do so by establishing and strengthening regulations and preparing for the future as climate change becomes an increasing threat.

The County has developed several goals and recommendations that are discussed in more detail below:

1. **Implement resource protection, conservation, and preservation strategies that promote high water quality and protect aquatic life and ecological function throughout Worcester County.**
    - *Action Item 8.1.1:* Continue to monitor state and federal regulation changes with respect to natural resources protection and update the County code, as necessary.
    - *Action Item 8.1.2:* Continue the County's participation as a partner working within the Maryland Coastal Bays Program's Comprehensive Conservation and Management Plan (CCMP) for the restoration and protection of Maryland's Coastal Bays.
    - *Action Item 8.1.3:* Adopt updated Critical Area map and continue to implement the Critical Area Program to minimize adverse effects of human activities on water quality and natural habitat and allow for development in a sensitive manner.
    - *Action Item 8.1.4:* Support State programs for the protection and the restoration of wetlands and consider a no net loss policy.
    - *Action Item 8.1.5:* Establish a standard stream buffer of 100 feet for perennial streams and 50 feet for intermittent streams outside of the Critical Area.
2. **Undertake land preservation and other efforts to preserve and expand open space, forests and other "greenways" to protect habitat diversity, create biodiversity corridors, and provide contiguous areas for safe movement of people and animals throughout the County.**
    - *Action Item 8.2.1:* Use codes and plan reviews to ensure native, non-invasive vegetation is preserved and/or planted along waterways, and within parks, open spaces, and public rights-of-way to the extent practicable.
    - *Action Item 8.2.2:* Establish and implement an invasive species removal program and focus on planting native species within natural areas and forest lands.
    - *Action Item 8.2.3:* Support the continued implementation of the Forest Mitigation Plan and Accounting Procedure.
    - *Action Item 8.2.4:* Consider establishing a specific no net loss of forest policy for the County within the requirements of the revised state Forest Conservation Act (FCA) law.
    - *Action Item 8.2.5:* Permanently preserve agricultural land capable of supporting agricultural production.
    - *Action Item 8.2.6:* Protect natural, forestry, and historic resources and the rural character of the landscape associated with farmland.

- *Action Item 8.2.7:* To the greatest degree possible, concentrate preserved land in large, contiguous blocks to effectively support long-term protection of resources and resource-based industries.

3. **Prepare for and protect against impacts to natural resources, people, and infrastructure from the impacts of climate change.**
    - *Action Item 8.3.1:* To accommodate storm surges, nuisance flooding, and climate change, prevent development in mapped flood zones and evaluate the appropriateness of going beyond FEMA requirements.
    - *Action Item 8.3.2:* Adopt local mitigation, floodplain management, and outreach activities that exceed the minimum National Flood Insurance Program (NFIP) and allow for the application for Community Rating System (CRS) participation through the Federal Emergency Management Agency (FEMA).
    - *Action Item 8.3.3:* Review the CoastSmart CS-CRAB boundary and ensure projects that are regulated under CoastSmart apply the correct horizontal limits of floodplains for consideration during design.
    - *Action Item 8.3.4:* Complete an updated inventory of eroding shorelines and consider stabilization methods to mitigate erosion for the most critical areas, with nonstructural or living shoreline approaches preferred.
    - *Action Item 8.3.5:* Complete an inventory and assess vulnerability of older commercial and residential structures to prepare for the anticipated higher frequency of heavy rainfall events.
    - *Action Item 8.3.6:* Direct concentrated growth away from vulnerable areas to planned growth areas to protect environmental resource and take advantage of adequate and adjacent infrastructure to accommodate residential and commercial expansion in an orderly, cost-effective and environmentally sustainable manner.
    - *Action Item 8.3.7:* Educate public on Maryland's new requirements for energy usage performance reporting.
    - *Action Item 8.3.8:* Educate residents on how to deal with heat waves and erratic weather to help prepare for such events and prevent the dangers of high temperatures.

Agriculture (Chapter 9)

Given the imperative to protect agricultural land, Worcester County will aim to target the following:

1. **Protect and promote private farming and forestry by accommodating inevitable population growth through appropriate planning and zoning.**
    - *Action Item 9.1.1:* Continue to support DNR forest service and other entities that provide technical assistance to private forest owners.
    - *Action Item 9.1.2:* Promote cooperative work between farmers/landowners and other stakeholders to balance water quality and productivity and other environmental challenges facing farmers and owners of forested land.
    - *Action Item 9.1.3:* Work with the state and other partners and entities to balance commercial solar development in rural areas with protection of farmland.

2. **Establish a Priority Preservation Area within which protection efforts will be focused and non-agricultural development will be discouraged. Specifically, in the long term, protect at least 85,808 acres through conservation easements and restrictive zoning.**
    - *Action Item 9.2.1:* Continue purchase of Rural Legacy and Maryland Agricultural Land Preservation Fund (MALPF) easements using a system that prioritizes land most at risk for development and/or purchase of the best bargains.
    - *Action Item 9.2.2:* Cooperate with the Lower Shore Land Trust in their efforts to preserve farmland.
    - *Action Item 9.2.3:* Pursue other agricultural land conservation programs and funding, when available.
    - *Action Item 9.2.4:* Maintain State certification for the county's agricultural land preservation program, which allows access to additional agricultural transfer tax funds that are collected in the county.
3. **Prioritize prime farmland for permanent protection.**
    - *Action Item 9.3.1:* Continue to support the Soil Conservation District, the Extension Service and other entities that provide technical services, support innovation as well as promote environmental protection actions on agricultural land.
    - *Action Item 9.3.2:* Establish a farmland conservation fund as a source of local matching funds for land protection.

Transportation (Chapter 10)

Worcester County, in cooperation with local, state, and federal entities, will provide for safe and efficient movement of people and goods by the various transportation modes with an acceptable level of congestion.

1. **Support transportation infrastructure and future transportation needs.**
    - *Action Item 10.1.1:* Improve connectivity to recreational facilities and other points of interest by adding missing sidewalk or bicycle connections.
    - *Action Item 10.1.2:* Conserve and maintain scenic roadway views to maintain the rural character of the County.
    - *Action Item 10.1.3:* Integrate walkability and multi-modal transportation into land use planning and development.
2. **Improve safety, mobility, accessibility, and resiliency in the transportation network.**
    - *Action Item 10.2.1:* Limit the number of access points to maintain road capacity and reduce conflicting vehicular movements.
    - *Action Item 10.2.2:* Strongly encourage the use of service roads or interparcel connectors where appropriate.
3. **Seek to integrate transportation and land use where feasible, to create more sustainable patterns of development, especially in designated growth areas.**
    - *Action Item 10.3.1:* Encourage traffic studies as part of large development projects or rezoning requests to assess the effect of the project on the road network.

- *Action Item 10.3.2:* Develop a policy that requires developers to pay for infrastructure upgrades as part of new development.

Water Resources (Chapter 11)

The goal of the WRE is to preserve and protect the County's existing water resources for their ecological value and importance to the water supply, while also addressing the impacts of future growth. Objectives include providing adequate public services, protecting drinking water supplies, preserving ecological functions, accommodating growth through compact patterns, and ensuring that future development minimizes disruption to environmental resources.

To strengthen accountability, the County will establish measurable objectives which are listed below:

1. Provide Adequate Public Services

   Water Supply and Infrastructure Resilience

   - *Action Item 11.1.1:* Reduce unaccounted water loss to below 10% of system withdrawals by 2030.
   - *Action Item 11.1.2:* Update design standards for water and wastewater infrastructure to account for increased flood frequency and intensity.
   - *Action Item 11.1.3:* Require siting of new wells, pumping stations, and treatment facilities outside of FEMA 100-year and 500-year floodplains where feasible.
   - *Action Item 11.1.4:* Require abandonment of private wells in areas with new public service connections.
   - *Action Item 11.1.5:* Requiring annual monitoring and public reporting of water and wastewater performance.

   Wastewater Services

   - *Action Item 11.1.6:* All new private systems up to 50,000 GPD must incorporate enhanced nutrient removal technology.
   - *Action Item 11.1.7:* Spray irrigation sites will undergo performance monitoring to confirm nutrient uptake effectiveness.
   - *Action Item 11.1.8:* No new surface water discharges will be approved in sensitive and impaired watersheds.
   - *Action Item 11.1.9:* Worcester County will develop a nutrient trading framework for agricultural, municipal, and development sectors.
   - *Action Item 11.1.10:* Worcester County will adopt a goal of reducing septic nitrogen loads by 20% by 2035.
   - *Action Item 11.1.11:* All Critical Area septic systems must be upgraded to BAT (Best Available Technology) by 2030.
   - *Action Item 11.1.12:* The County will incentivize cluster and shared BAT systems for dispersed rural lots.

2. Protect Drinking Water Supplies

   Contaminant Monitoring & Response

- *Action Item 11.2.1:* Monitor and address emerging contaminants such as PFAS and microplastics.
- *Action Item 11.2.2:* Establish a County-wide program to test public water systems and representative private wells for PFAS and other emerging contaminants.
- *Action Item 11.2.3:* Coordinate with MDE, USGS, and EPA to establish clear action thresholds for PFAS.
- *Action Item 11.2.4:* Incorporate PFAS monitoring results into water appropriation permitting and Water and Sewer Plan amendments.

Aquifer Protection

- *Action Item 11.2.5:* Monitor aquifer water levels for saltwater intrusion risks tied to sea-level rise, especially in the Pocomoke and Ocean City aquifers.
- *Action Item 11.2.6:* Prioritize monitoring in the Pocomoke aquifer area due to chloride risks.
- *Action Item 11.2.7:* Adopt wellhead protection ordinances for Pleistocene aquifer-dependent systems.

3. Preserve Ecological Functions

Groundwater & Land Use Decisions

- *Action Item 11.3.1:* Connect land use policies with groundwater recharge requirements.
- *Action Item 11.3.2:* Prioritize low-impact land development practices that maintain natural infiltration.

Stormwater and Non-Point Source Pollution

- *Action Item 11.3.4:* Require all new development greater than one acre to implement green infrastructure BMPs (e.g., bioretention, permeable pavement, green roofs).
- *Action Item 11.3.5:* Establish a retrofit program with a goal of converting at least 25% of existing stormwater facilities to enhanced BMPs by 2035.
- *Action Item 11.3.6:* Create a stormwater utility fee to fund retrofits and long-term maintenance.
- *Action Item 11.3.7*: Developers must meet nutrient reduction standards through on-site BMPs or participation in nutrient trading.

4. Accommodate Growth Through Compact Patterns

Growth and Infrastructure Coordination

- *Action Item 11.4.1:* Expand use of water conservation technologies in new developments.
- *Action Item 11.4.2:* Ensure that land use decisions and infrastructure planning support compact development and reduce strain on ecological systems.

5. Ensure that Future Development Minimizes Disruption to Environmental Resources

Unified Approach to Environmental Stewardship

- *Action Item 11.5.1:* Integrate climate resilience throughout the water management framework.
- *Action Item 11.5.2:* Establish measurable targets for nutrient reduction, water conservation, and infrastructure resilience.