



# DORCHESTER COUNTY COMPREHENSIVE PLAN 2021

July 2021





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# Dorchester County Comprehensive Plan 2021

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July 2021

Cover Photo Source:  
Dorchester County Office of Tourism



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# 1 | INTRODUCTION

The 2021 Comprehensive Plan is the vision of what the County wants to become over the next 20 years and the steps needed to bring this vision to fruition. It serves as the policy guide and framework for future growth and development, infrastructure and capital improvements, and natural and cultural resource conservation. The Plan encompasses the entire geographic region of the County and includes all functional elements that have an impact upon growth and development such as economic development, transportation, land use, community facilities, and community character. This Comprehensive Plan is a unified advisory document to inform the County Council, the Planning Commission, and County departments, as well as stakeholders, non-profit organizations, social services, and the citizens, business owners, and constituents of Dorchester County. The Plan serves as the basis for the preparation of specific legislation with respect to possible revisions to the subdivision and zoning regulations, which are the key documents in implementing this Plan.



## COUNTY BACKGROUND

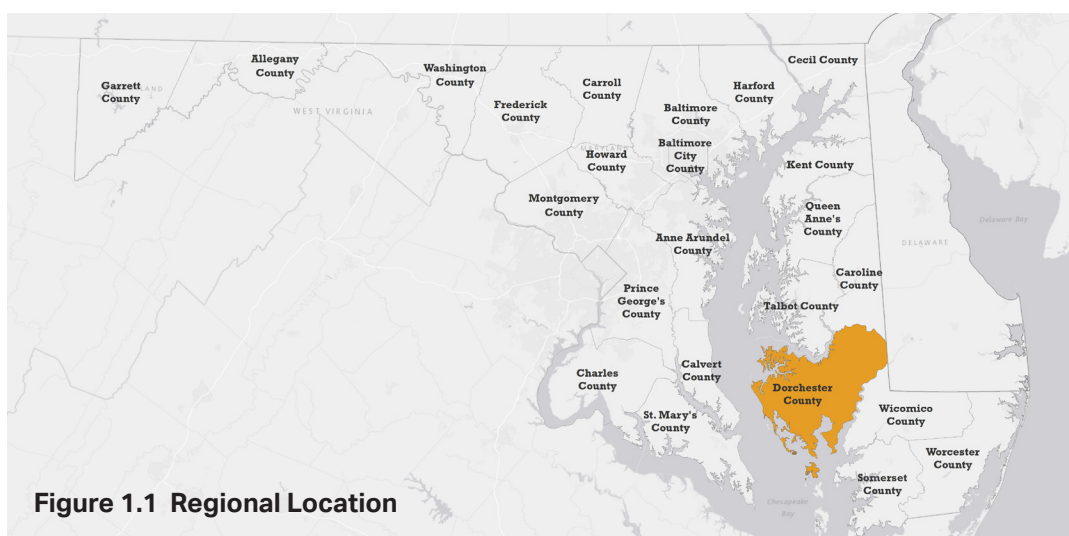
Dorchester County was formed in 1669 and named for the Earl of Dorset, a family friend of the Calverts (the founding family of the Maryland colony). The County is located on Maryland's Eastern Shore, approximately 75 miles from Baltimore and 90 miles from Washington, DC. Dorchester is the largest county, water and land combined, in the State (see **Figure 1.1 - Regional Location**). Dorchester County uses the slogan, "The Heart of Chesapeake Country", due to its geographical location and the heart-like shape of the County on a map. The County is comprised of mainly rural communities. Approximately half of Dorchester County's population live within incorporated municipalities in the County, which include Brookview, Cambridge, Church Creek, East New Market, Eldorado, Galestown, Hurlock, Secretary, and Vienna. The City of Cambridge is the cultural, economic and political hub of the County.

With over 1,700 miles of shoreline and a deep channel commercial port in Cambridge, the maritime history is an essential part of the County's heritage. The County is characterized by its history and heritage, which are marked by significant places and people that are important to the local and regional story as well as national history. Most notably, the County was the birthplace of Harriet Tubman, who escaped from slavery and afterwards worked to guide other refugee slaves to freedom in the north. The County is also characterized by a rural lifestyle and its pristine, natural setting with environmental features that

serve many important ecological, social, recreational, and economic benefits. The fluvial, nutrient rich soils provide some of the best agricultural lands in Maryland. The wetlands are the richest and most biodiverse regions in the nation and provide habitats for a wide diversity of plants and animals. Many residents of Dorchester County have historically made their living as farmers or working on the water. The Chesapeake Bay and its tributaries provide harvests of crabs, oysters and many fish species to both commercial and recreational fishermen.<sup>1</sup>

Dorchester County has been strengthening its economy by building upon its long-established agricultural, seafood and manufacturing industries while also moving toward a more diverse, modern economy. Economic gains in recent years have been driven by increases in tourism, accommodations, retail, food services, healthcare, and education and research.

Dorchester County is a special place with a unique rural character, maritime culture and history that distinguishes it from other places throughout the country. The future of Dorchester County depends on the continuing trends of protecting and promoting its history, diversifying its economy, and conserving rural and natural areas. It further depends on maximizing efficient use of public investments by guiding infill development and redevelopment towards designated growth areas and away from environmentally-sensitive and high-risk hazard areas.



**Figure 1.1 Regional Location**

<sup>1</sup> Gannett, Henry (1905). The Origin of Certain Place Names in the United States.



### GOALS AND OBJECTIVES

This Comprehensive Plan summarizes general goals, objectives, and implementation strategies without establishing detailed regulations or specific locations. Goals are intended to be general principles or policies providing overall planning direction to the area and topic. Objectives are expressed as strategies, are measurable, and are intended to set direction and serve as a guide for action into the future in order to implement the goals. Together, these goals and strategies shall help to guide decision making for development, conservation and the economic and social well-being of Dorchester County. This Plan is not intended to be a static document. It should be reviewed and updated periodically to reflect new development trends, shifts in the economy, or changes in the community's goals and objectives.

In addition to the Introduction, this Plan is comprised of 10 chapters developed to form an integrated, unified plan. Each chapter contains plan elements with goals and objectives, a review of background and trends, discussion of issues and opportunities, and recommended policies and actions towards achieving the goals and objectives. These chapters include:

- Community Profile
- Land Use
- Environmental Resources and Protection
- Water Resources
- Historic and Cultural Resources
- Housing
- Transportation
- Community Facilities
- Economic Development
- Implementation

### PLANNING LEGISLATION

This Comprehensive Plan is consistent with Maryland's Smart Growth and growth management laws. Specifically, the Plan has been prepared pursuant to State enabling legislation and the requirements for Maryland counties contained in the Land Use Article of the Annotated Code of Maryland. One of the more important functions of the Land Use Article is to define the requirements for the content, preparation, review and ultimately adoption of Comprehensive Plans. The plan addresses specific elements required

or permitted in the Land Use Article that affect our overall quality of life, including land use, sensitive areas, transportation, community facilities, water resources, housing, economic development and fisheries.

#### **State Economic Growth, Resource Protection, and Planning Act**

The 1992 Planning Act required that every Comprehensive Plan include the seven Visions (modified to eight Visions in 2000 and to 12 new visions in 2009). It required the inclusion of a Sensitive Areas Element with the purpose of establishing policies for the protection of wetlands, stream buffers, and habitats of rare, threatened and endangered species. In addition, this legislation required that local governments review their Comprehensive Plans at least every six years and update them as necessary. In 2013, the Maryland General Assembly approved House Bill 409, which revised the comprehensive plan review period from every six years to every 10 years to coincide with the Decennial Census.

#### **The Twelve Visions**

The Twelve Visions, outlined in the Land Use Article of the Annotated Code of Maryland, as amended, are the guiding principles for the development of the goals and objectives for all local Comprehensive Plans in Maryland, including the Dorchester County Comprehensive Plan.

- 1. Quality of Life and Sustainability:** A high quality of life is achieved through universal stewardship of the land, water, and air resulting in sustainable communities and protection of the environment.
- 2. Public Participation:** Citizens are active partners in the planning and implementation of community initiatives and are sensitive to their responsibilities in achieving community goals.
- 3. Growth Areas:** Growth is concentrated in existing population and business centers, growth areas adjacent to these centers, or strategically selected new 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 and preservation and enhancement of natural systems, open spaces, recreational areas, and historical, cultural, and archaeological 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, multi-modal 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:** Economic development and natural resource-based businesses that promote employment opportunities for all income levels within the capacity of the State's natural resources, public services, and public facilities are encouraged.
- 9. Environmental Protection:** Land and water resources, including the Chesapeake Bay 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 are responsible for the creation of sustainable communities by collaborating to balance efficient growth with environmental protection.
- 12. Implementation:** Strategies, policies, programs, and funding for growth and development, resource conservation, infrastructure, and transportation are integrated across the local, regional, State, and interstate levels to achieve these visions.

These vision statements serve as the unifying concept for this Plan and were used to develop the County's vision statement and should further be used as the County implements recommended strategies throughout this Plan. The Plan has also been prepared consistent with, and in consideration of, ongoing efforts in Maryland in working towards these visions.

## OTHER PLANS

The County Council adopted its first County-wide Comprehensive Plan in 1974. The 1996 Comprehensive Plan replaced the 1974 Plan. This 2021 Comprehensive Plan replaces the 1996 Comprehensive Plan. Since the 1996 Comprehensive Plan, Dorchester County has completed a number of plans and reports that influence, and are influenced by, the Comprehensive Plan and that serve to implement the Plan. These plans include, but are not limited to, the Land Preservation, Parks and Recreation Plan, Water Resources Element (attached as an addendum to the 1996 Plan), Hazard Mitigation Plans (and supplemental HMPs), and Heart of Chesapeake Country Heritage Area Master Plan. In addition, numerous studies and reports have been prepared by Federal, State and non-governmental organizations, especially pertaining to natural resources and sea level rise vulnerability and resiliency. The findings and recommendations of other planning studies were incorporated into this Comprehensive Plan as appropriate.

### Plans Incorporated by Reference

Two additional plans are particularly important, because they were adopted specifically to inform the County's comprehensive planning program.

#### ***Land Preservation Parks and Recreation Plan (LPPRP), 2017.***

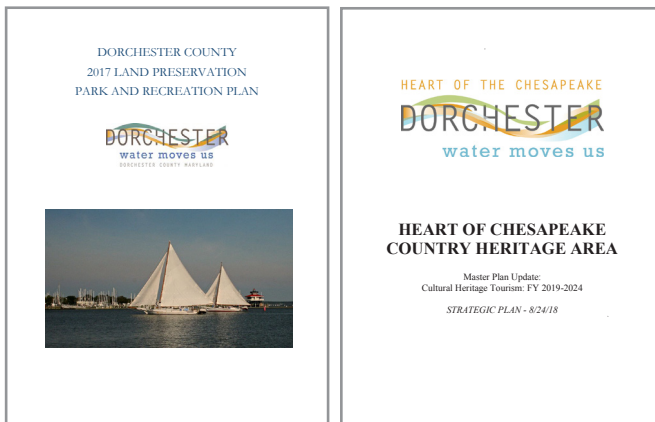
The LPPRP was developed in accordance with guidelines developed in 2015 by the Maryland Departments of Planning and Natural Resources. The main purpose was to identify future needs and priorities for parks, recreation and open space acquisition, facility development and rehabilitation in the County and its eight incorporated towns. These needs and priorities serve as a guide for land acquisitions and capital investments in the County's and towns' Capital Improvements Programs. It is a key component to help both inform and implement the Dorchester County Comprehensive Plan.

#### ***Heart of Chesapeake Country Heritage Area Master Plan, 2002, Updated 2018.***

The Management Plan is a strategic blueprint that presents actions in the Heritage Area that seek to build partnerships, identify and prioritize heritage resources and work toward developing heritage tourism. The Plan is updated every five years. The Heart of Chesapeake Country Heritage Area is a program of the Dorchester

County Office of Tourism under the leadership of the Tourism Director. The Heritage Area Manager serves as the management plan liaison and coordinator of the HCCHA. A 13-member board provides strategic oversight and direction.

These plans and their updates are incorporated by reference into this 2021 Comprehensive Plan.



Cover Pages of Plans Incorporated by Reference

## MUNICIPAL PLANNING AND ZONING

Interjurisdictional coordination is a feature of planning in Maryland and has been practiced in Dorchester County for many years. Dorchester County contains the incorporated municipalities of Brookview, Cambridge, Church Creek, East New Market, Eldorado, Galestown, Hurlock, Secretary and Vienna. While this Comprehensive Plan covers the entire County, it does not apply to the incorporated municipalities that exercise planning and zoning authority through the adoption of their own comprehensive plans. The municipalities of Cambridge, Church Creek, East New Market, Hurlock, Secretary and Vienna have adopted their own comprehensive plans. With the exception of Church Creek, these municipalities oversee their own zoning and subdivision regulations as well as Critical Area review. Brookview, Eldorado, and Galestown do not exercise planning and zoning authority. The County reviews and issues building permits for all the towns except for Cambridge, Hurlock and Secretary. However, because planning issues cross County and town boundaries, and because County policies affect towns, and vice versa, the towns were requested to review this plan as required by the Land Use Article. In addition, the Land Use Articles require coordination between the towns and the County as part of the

municipal growth elements within the municipalities' comprehensive plans.

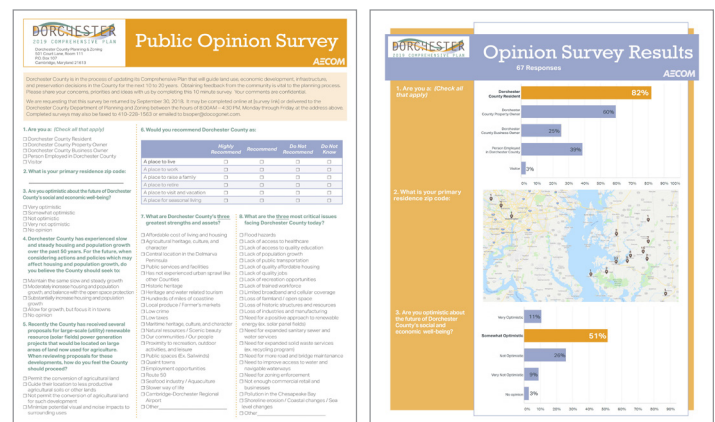
## PUBLIC OUTREACH

The 2021 Plan was developed through an extensive outreach process to identify the priority issues and visions for the future, with the goal to obtain as much community input as possible upfront. The planning team thoroughly evaluated existing conditions and trends and identified and analyzed priority issues and opportunities. This assessment informed subsequent stages in the process to establish a County-wide vision, refine and develop goals and objectives, and create strategies. The goals, overarching policies and recommendations emerged during the planning process, which the planning consultant and Planning and Zoning Department staff then worked with the Planning Commission to refine and build upon.

The preparation of the Plan included County-wide public opinion survey, stakeholder input, public workshops and discussions at Planning Commission meetings.

## Public Opinion Survey

The comprehensive planning team administered a Public Opinion Survey in Fall 2018. The survey was designed to help prioritize the County's strengths, issues, opportunities and threats as well as to gauge support potential strategies. See Appendix A-1, Public Opinion Survey. The questionnaire was made available electronically on the County Planning and Zoning Department website and paper copies were made available at public places throughout the County. There were 62 responses. The results of the survey are provided in Appendix A-2, and are integrated throughout this Plan.



Public Opinion Survey and Results (See Appendix A-2)



## Department and Stakeholder Interviews

To develop a deeper understanding of municipal and stakeholder experiences, issues, concerns and desires, the planning staff and consultant conducted a series of stakeholder and County department interviews. These interviews were mostly held as part of the initial data collection phase of the planning process; however, some conversations were held throughout the process as needed. Stakeholders were selected that represent municipal interests and a broad range of backgrounds. The County Department and stakeholders included:

### County Departments

- Planning and Zoning
- Economic Development
- Tourism
- Emergency Services
- Health
- Public Works
- County Administration



### Stakeholders

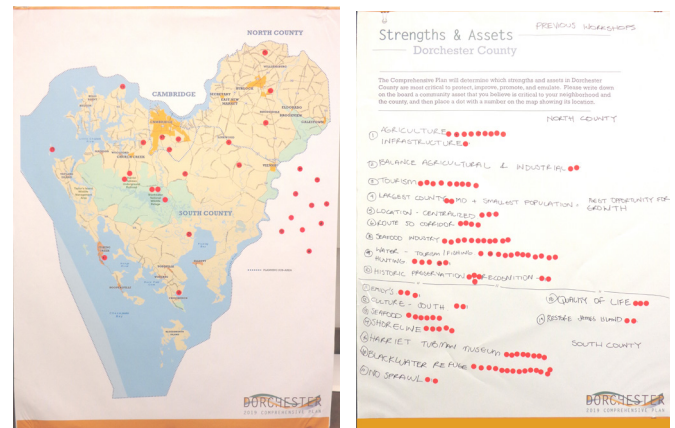
- Chamber of Commerce
- Dorchester Citizens for Planned Growth
- Farm Bureau



They were structured as an open house with interactive workstations:

- Overview of Comprehensive Plans
- Visioning
- Strengths and Assets
- Issues and Challenges

The workstations provided participants the opportunity to engage with the planning consultant (AECOM), Planning Staff and the Planning Commission to help inform the planning process. Participants shared their opinions, experiences, expectations and ideas towards creating a shared vision for Dorchester's future, identifying its greatest strengths and assets, and prioritizing its most pressing issues and challenges. A summary of the public workshops is found in Appendix A-3.



Public Opinion Survey and Results (See Appendix A-2)

## Public Workshops

As part of the planning process for updating its Comprehensive Plan, Dorchester County held three Public Workshops (approximately 50 total attendees). The purpose of the open houses was to provide the community the opportunity to learn about the purpose of the Comprehensive Plan and the update process, as well as to provide input upfront in the planning process. The tasks were to collect input and ideas to develop a vision statement, and to identify priority issues, key strengths and opportunities.



Public Workshop, South Dorchester K8, July 24, 2018

### Planning Commission Meetings

The planning consultant and Planning and Zoning Department staff guided Comprehensive Plan update discussions at numerous regularly scheduled Planning Commission meetings throughout the planning process. The issues, goals, and strategies were discussed and evaluated at the meetings. Planning Commission members and staff were provided an opportunity to ask questions, present concerns and provide direction in the plan development. The meeting minutes are available on the County website.

### Summary of Public Outreach Results

The County has made measurable progress on several key issues identified in the 1996 Plan, particularly in the areas of diversifying the economy, becoming a tourist destination, developing a positive image and branding. Highlights and common themes heard from the outreach process, including the public opinion survey, workshops, County department stakeholder interviews, and the Planning Commission meetings are as follows:

- There is general optimism for the future quality of life in the County
- It is a priority to protect maritime heritage
- It is a priority to preserve rural landscapes, natural resources and farmland
- There is a need to recognize the short- and long-term impacts of shoreline erosion, severe storms, and flood hazards
- There is an opportunity for a more diverse economy, including a growing tourist industry
- There is a need for more job opportunities and better trained workforce
- There is a need for broadband and cellular service expansions
- There is need of public sewer extensions, particularly in the Neck District
- There is need to control locations and designs (setbacks, landscaping, etc.) of solar farms

## PRIORITY ISSUES AND THEMES

### 1996 Priority Issues

The 1996 Comprehensive Plan was developed with considerable public input. The Dorchester County Comprehensive Plan Committee, working with the public during a series of public meetings, developed a list of key issues facing the County. The top 10 issues in order of importance were:

- Lack of ability to attract/keep industry
- Lack of public water/sewer availability
- Need to improve County revenue base
- Young people leaving the County because of a lack of opportunities
- County lacks a positive image
- Need for more diversified economy
- Strip residential development in rural areas
- Lack of development of tourism potential
- Coordination between Town/County/State agencies
- Decline of incorporated towns

### 2021 Major Themes

The 2021 County Comprehensive Plan contains several major planning themes that help to form and guide the future of the County. Based on the existing conditions analyses, common themes heard from the extensive outreach process, and comments from the Planning Commission meetings, eight major themes emerged. These themes reflect an overall comprehensive direction for the County to capitalize on the key opportunities and overcome the priority issues.

#### ***City of Cambridge, small towns and village growth areas***

- Dorchester County is characterized by its rural environment, its natural resources, the City of Cambridge and its small-town America and maritime way of life. Dorchester's municipalities and northern villages offer opportunities for growth, redevelopment and infill development that is of consistent density and that makes a positive contribution to the existing town character. These areas are most prepared for growth, as they provide the most efficient investment for infrastructure, public safety and schools and generally offer logical extensions of roads, sidewalks, infrastructure and public services.



- The villages along the coastal areas of the County are areas that contain many seafood industries and thus contribute to the County's rich maritime economy and culture. Due to their inherent locations, coastal villages are also areas most vulnerable to coastal change and other flooding hazards. It is the objective of this plan to allow limited growth in the coastal village areas, primarily through infill and redevelopment on lots of record, while protecting the maritime heritage from coastal hazards.

#### ***Sector Planning for the northern county area***

- There is an opportunity to enhance the area along the Highway 16 corridor and between the Towns of Hurlock, Secretary and East New Market. A sector area plan in this area would evaluate and define development patterns, transportation patterns and growth opportunities as well as consider design criteria to promote growth while protecting the rural and small-town communities.

#### ***Sea level rise, high hazard and flood mitigation areas***

- Dorchester County is currently one of the most vulnerable areas to flooding on the eastern seaboard.
- Planning for the protection of sensitive areas requires an understanding of both the present day and the long-term threats. Such concerns are eroding shorelines, increasing precipitation events and intensity, expanding high tide areas and floodplains, and increasing storm surge and flood hazards. The County's land use policies generally guide growth away from flood prone areas and low-lying wetland areas, and therefore enhance the region's resilience to sea-level rise and climate change. The County will need to conduct cost/benefit analyses when planning for repetitive loss properties and when maintaining and investing in public infrastructure and facilities. A cost/benefit analysis will help to evaluate alternatives to infrastructure investment and mitigation options. There are numerous studies and plans that evaluate sea level rise vulnerabilities within Dorchester County, and that set forth adaptation strategies towards improving the area's physical, economic and ecological resiliency. These plans are integrated and carried forward in this 2021 Comprehensive Plan. The County will need to continue to review, evaluate, update and

implement County studies/plans that address sea level rise resiliency, and coordinate with Federal, State, and non-profit organizations to ensure consistency in adaptation and mitigation efforts.

#### ***Utility grade solar power supply opportunities***

- Dorchester County generally supports renewable energy sources to lessen dependence on fossil fuels or to reduce energy costs. The County further supports the need for a balanced, positive approach to renewable energy to protect productive farmland and forest land and minimize conflicts with adjacent properties arising from the placement of solar farms. The County should develop requirements and approval processes that would guide solar farms to appropriate places and minimize potential visual and noise impacts to surrounding uses, such as perimeter landscaped screening and buffers.

#### ***Rails-to-trails recreational development***

- There is an enormous opportunity to convert inactive rail lines into multi-modal trails resulting in long-term, major recreational facilities as well as an alternative mode of transportation. In 2018, Dorchester County received a \$220,700 Transportation Alternatives (TA) grant from MDOT to renovate 1/3 of a mile of rail line in the City of Cambridge into a multi-modal trail. The trail is one part of the overall Cannery Park Master Plan which could serve as the trail-head for a County-wide rails to trails system. A comprehensive rails-to-trails plan would establish funding sources, roles and responsibilities relative to rail acquisition and leasing, trail extents, co-usage opportunities and trail design standards.

#### ***Shared facilities and the extension of public sewer service***

- There are a significant number of shared sewer facilities within the County many of which are bermed infiltration ponds (BIPS). Several of these shared facility BIPS are in a state of failure and/or pose unique institutional problems relative to maintenance. This Plan recommends an extensive evaluation of potentially failing shared facilities and BIPS to determine the feasibility of extending public sewer service from the City of Cambridge.

### ***Economic development of the seafood industry***

- Dorchester's economic health depends upon maintaining a strong commitment to conserving rural and natural areas that resource-based industries rely upon. Specifically, the County should be committed to supporting the watermen who preserve the Chesapeake culture, advance sustainable seafood harvesting and processing, and improve local economies. A healthy seafood industry will contribute to Dorchester County's economy while also protecting and reinventing its maritime heritage which is key to its cultural identity.

### ***Economic development of the forest products industry***

- Forestry is good for the economy and good for the environment. The County is committed to the forest products industry which provides markets, equipment, and expertise to landowners ensuring that sustainable forest management is available. Large and small scale wood processing facilities that utilize timber from on-site and regionally are encouraged. Without a viable forest products industry, the 30% of the county that is forested will become more prone to fragmentation, land use change, and mortality.
- Use of forest products for future improvements or additions to county infrastructure should receive consideration. Examples include bridge construction, and Combined Heat and Power (CHP) systems utilizing woody biomass for public buildings.

### ***Eco-tourism***

- Dorchester County is rich in attractive destinations and scenery that benefit from an emphasis in active tourism and desirable amenities to attract travelers, cyclists, boaters, hunters and fishermen. While Dorchester's trails, bike routes, water access and natural resources are a great strength, there remains opportunity to improve and expand the facilities and opportunities. Moreover, these eco-tourism attractions can be a tool for economic development when aligned with maritime culture and heritage tourism. The County should continue to dedicate resources towards improving, expanding and advertising eco-tourism and heritage tourism, and promote them as viable and sustainable economic activities within the County.

## **VISION AND GOALS**

Visioning is the process of developing consensus about what future a community wants. A Visioning Workshop was held in May 2018 to provide residents and stakeholders the opportunity to share in a visioning exercise for the future of the County. The purpose of the workshop was for community members to learn about the Comprehensive Plan and how its elements work, the work the Dorchester County Planning Commission and Board of County Council has been doing with support from the consultant team, and to provide input and feedback on the draft community vision, assets, needs and opportunities, and priorities.

To develop the vision statement, key phrases were first collected from the Dorchester County Planning Commission that they believed best characterized the County, and what they envision it to be 20 years from now. These key words/phrases were presented at the visioning workshop and participants were asked to choose the words/phrases they most agree with by placing sticky dots next to the statement. A facilitator listened to the participants input and guided them through the exercise. Through this exercise, a vision statement was drafted. The resulting vision statement is provided below.

### **Vision Statement**

***Dorchester County will enhance the quality of life enjoyed by its residents by preserving the County's rural character, rural lifestyle and natural beauty and by guiding growth and development to municipalities and designated growth areas.***

### **Goals**

Dorchester County will achieve the vision by the following goals:

- *Encouraging maritime heritage and natural resource-based tourism as part of a diverse economy and that promote employment opportunities.*
- *Protecting the County's rural and agricultural setting, its small towns and coastal villages, and the Chesapeake Bay cultural heritage.*

- Conserving waterways, forests by encouraging good forest management practices, farmland, open space, natural habitats, scenic areas, and recreational and cultural opportunities.
- Guiding growth and higher density development near municipalities, while preserving agricultural and rural character.
- Strengthening town centers as social, cultural and economic hubs
- Providing housing opportunities for families and residents of all ages and incomes.
- Creating resilient communities that are prepared for natural hazards.
- Preparing and planning for future mitigation efforts related to natural hazards, particularly flooding, coastal erosion and sea level rise.
- Providing a transportation system that facilitates safe, convenient and efficient movement of people, goods and services.
- Ensuring growth areas have the public facilities, services and infrastructure to accommodate population and business expansion in an orderly, efficient and environmentally sustainable manner.
- Creating an educated and skilled workforce through quality schools and training.
- Cooperatively working with the municipalities and rural villages to ensure a sustainable and high quality of life in communities and rural areas.



Public Workshops





## 2 | COMMUNITY PROFILE

The Community Profile chapter analyzes demographic factors related to the County's socio-economic conditions. The demographic factors analyzed in this chapter are: Population • Age • Race and Ethnicity • Housing • Income, Poverty and Benefits • Employment • Commute

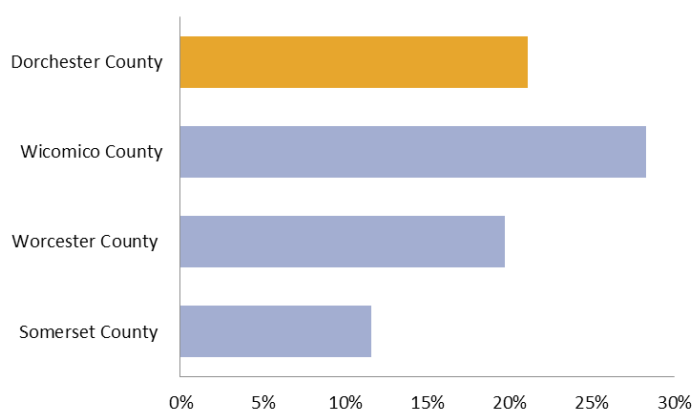
Though these factors constantly change, analyzing patterns over time help identify trends, changes and needs. In addition, demographic analysis provides insights regarding future conditions enabling informed judgment on many important County strategies, such as investments and services, infrastructure needs, resource allocation, land use changes and economic incentives. This Community Profile provides valuable insight about the County. For this reason, some of the information presented in this chapter will be further discussed in other chapters.

## POPULATION

As of 2010, Dorchester County's population was estimated to be 32,618 people. Since 1970, the State's population steadily increased while Dorchester County's population fluctuated. From 1970 to 1980, the County gained 1,218 residents, and then lost 387 residents from 1980 to 1990. Since 1990, the County's population has only increased. The largest increase was experienced between 2000 and 2010, gaining 1,994 new residents, an increase of 6%. Altogether, the County gained 3,213 residents from 1970 to 2010, increasing its population by 11% over 40 years which is relatively low when compared to the State. During the same 40 years, the State experienced a 47% population increase. According to the Maryland Department of Planning State Data Center, this trend will shift in the upcoming decades. The agency has projected that the County will experience a 21% population increase between 2010 and 2040, while the State will experience an 18% increase during the same years. Based on these projections, the County's population will reach approximately 39,500 people by 2040. **Table 2.1** shows State and County populations from 1970 to 2040. As of 2018, the County's population was estimated to be 32,261 people, which indicates that the County has lost residents since 2010. According to the MDP population projections, the County is projected to gain 4,372 residents between 2010 and 2030. As of 2018, the County does not appear on track with the State projections. As such, the County may not reach the 2040 population projection.

Within the Lower Eastern Shore Region, Dorchester County is projected to have the second highest population growth between 2010 and 2040, behind Wicomico County who was projected to experience 28% growth. Overall, the average growth rate for the region from 2010 to 2040 is 20%. See **Figure 2.1** for more detailed information on the projected population growth for each county within the Lower Eastern Shore Region.

**Figure 2.1 2010 - 2040 Lower Eastern Shore Region Projected Population Growth**



Source: Maryland Department of Planning, Projections and State Data Center, 2020 - 2040

**Table 2.1 Population**

	CENSUS					PROJECTIONS		
	1970	1980	1990	2000	2010	2020	2030	2040
<b>DORCHESTER COUNTY</b>								
TOTAL POPULATION	29,405	30,623	30,236	30,674	32,618	34,300	37,350	39,500
POPULATION CHANGE	N/A	1,218	-387	438	1,944	1,682	3,050	2,150
% CHANGE	N/A	4%	-1%	1%	6%	5%	9%	6%
<b>MARYLAND</b>								
% CHANGE	N/A	7%	13%	11%	9%	6%	6%	5%

Source: U.S. Census Bureau, Decennial Census, 1970 - 2010  
Maryland Department of Planning State Data Center, 2017, Projections 2020 - 2040

Between 1970 and 2018, an average of 48% of the County's population lived in municipalities and 52% lived in unincorporated areas. The municipalities that experienced the highest population increase within these years were Hurlock, East New Market and Secretary, while Brookview, Church Creek and Eldorado lost population. Within the upcoming years, the majority of the population might shift to live within the municipalities. As shown in **Table 2.2**, since the year 2000, the population living in municipalities has increased while the population living in unincorporated areas has decreased. In 2018, Dorchester County's municipal population was 50% of the County's total population. This is the second highest percentage of population living within municipalities compared to all State counties. Talbot County had the most with 52%. In 2018, Cambridge ranked second with the highest County population living within a municipality at 38%, behind Easton which had 45% of the Talbot County's population.

## AGE

Between 2000 and 2018, both the County and the State had a similar distribution of age groups. In 2000, the median age for the County was 41 years and 36 in the State. By 2018, the median age increased to 44 years in the County and 39 years in the State. In the same period, there has been a decline in the number of school-age children of 5 to 19 years, while the number of citizens 55 and over has increased. The 60 to 64 age group increased the most with a 49% increase in the County and a 84% increase in the State. See **Table 2.3**.

**Table 2.2 Municipal Population**

						% CHANGE
	1970	1980	2000	2010	2018	1970 - 2018
BROOKVIEW	95	78	65	60	45	-53%
CAMBRIDGE	11,595	11,703	10,911	12,326	12,401	7%
CHURCH CREEK	130	124	85	125	105	-19%
EAST NEW MARKET	251	230	167	400	453	80%
ELDORADO	99	93	60	59	41	-59%
GALESTOWN	123	142	101	138	123	0%
HURLOCK	1,056	1,690	1,874	2,092	2,327	120%
SECRETARY	352	487	503	535	439	25%
VIENNA	358	300	280	271	351	-2%
TOTAL MUNICIPALITIES	14,059	14,847	14,046	16,006	16,285	16%
% OF COUNTY	48%	48%	46%	49%	50%	2%

Source: U.S. Census Bureau, Decennial Census, 1970 - 2010  
U.S. Census Bureau, American Community Survey, 5 Year Estimates 2014-2018



**Table 2.3 Age**

AGE				% OF POPULATION	COUNTY % CHANGE	MD % CHANGE
	2000	2010	2018	2018	2000-2018	2000-2018
<b>DORCHESTER COUNTY</b>						
UNDER 5 YEARS	1,650	2,037	1,857	6%	13%	4%
5 TO 9 YEARS	2,017	1,902	1,799	6%	-11%	-5%
10 TO 14 YEARS	2,166	1,855	1,993	6%	-8%	-4%
15 TO 19 YEARS	1,954	2,035	1,747	5%	-11%	8%
20 TO 24 YEARS	1,434	1,803	1,612	5%	12%	24%
25 TO 34 YEARS	3,457	3,537	4,007	12%	16%	11%
35 TO 44 YEARS	4,760	3,872	3,320	10%	-30%	-16%
45 TO 54 YEARS	4,343	5,181	4,380	14%	1%	13%
55 TO 59 YEARS	1,885	2,401	2,569	8%	36%	57%
60 TO 64 YEARS	1,585	2,224	2,360	7%	49%	84%
65 TO 74 YEARS	2,872	3,186	3,781	12%	32%	60%
75 TO 84 YEARS	1,922	1,829	2,139	7%	11%	20%
85 YEARS AND OVER	629	756	697	2%	11%	62%
TOTAL POPULATION	30,674	32,618	32,261	-	-	-
COUNTY MEDIAN AGE	41	43	44	-	-	-
MARYLAND MEDIAN AGE	36	38	39	-	-	-

Source: U.S. Census Bureau, Decennial Census, 2000 and 2010  
U.S. Census Bureau, American Community Survey, 5 Year Estimates 2014-2018

## RACE AND ETHNICITY

Dorchester County's population slightly diversified between 2000 and 2018. The white population decreased by 3%. Two races or more racial groups increased by 3%. Throughout the same years, the Hispanic or Latino ethnic group had the highest percentage increase in the County and State as indicated in **Table 2.4**. The County's Hispanic or Latino population increased by 4%, and the State experienced a 6% increase. As of 2018, the County's population was still not as diverse as the State's. White and black were the predominant races accounting for 94% of the County's population. These same racial groups represented 86% of the State's population.

**Table 2.4 Race and Ethnicity**

	2000	2010	2018
<b>DORCHESTER COUNTY</b>			
WHITE	69%	68%	66%
BLACK OR AFRICAN AMERICAN	28%	28%	27%
AMERICAN INDIAN OR ALASKA NATIVE	0%	0%	0%
ASIAN	1%	1%	1%
NATIVE HAWAIIAN OR OTHER PACIFIC	0%	0%	0%
OTHER	0%	1%	2%
TWO RACES OR MORE	1%	2%	4%
HISPANIC OR LATINO	1%	3%	5%
NOT HISPANIC	99%	97%	95%
<b>MARYLAND</b>			
HISPANIC OR LATINO	4%	8%	10%
NOT HISPANIC	96%	92%	90%

Source: U.S. Census Bureau, Decennial Census, 2000 and 2010  
U.S. Census Bureau, American Community Survey, 5 Year Estimates 2014-2018

## HOUSING

This section analyzes two demographic factors: housing units and households. The U.S. Census defines housing units as a "house, an apartment or other group of rooms, or a single room... when it is occupied or intended for occupancy as separate living quarters". A household can generally be defined as an occupied housing unit.

### Households

From 1970 to 2010, the County and State experienced a household increase, 39% and 84%, respectively. Both geographies had the highest household increase between 1970 and 1980 with an increase of 16% in the County and 24% in the State. From 1980 to 2000, the household growth rate declined in both the County and the State. The County experienced a 1% increase in households from 2000 to 2010, despite the State experiencing a 4% decrease. The Maryland Department of Planning has projected an increase of 3,405 households in the County from 2010 to 2040, equating to an increase of 25%. Similarly, the Maryland Department of Planning has projected households statewide to increase by 23% over the same period.

The average household size in both the County and the State experienced a slight decrease between 1980 and 2010. The Maryland Department of Planning estimated that the average household size will continue to slightly decrease between 2010 and 2040 in both geographies. **Table 2.5** shows State and County data from 1970 to 2040.

**Table 2.5 Households**

	CENSUS					PROJECTIONS		
	1970	1980	1990	2000	2010	2020	2030	2040
<b>DORCHESTER COUNTY</b>								
TOTAL HOUSEHOLDS	9,725	11,329	12,117	12,706	13,522	14,374	15,802	16,927
HOUSEHOLDS CHANGE	N/A	1,604	788	589	816	852	1,428	1,125
% CHANGE IN DECADE	N/A	16%	7%	5%	6%	6%	10%	7%
AVERAGE HOUSEHOLD SIZE	N/A	2.7	2.5	2.4	2.4	2.4	2.3	2.3
<b>MARYLAND</b>								
% CHANGE IN DECADE	N/A	24%	20%	13%	9%	8%	8%	6%
AVERAGE HOUSEHOLD SIZE	N/A	2.8	2.7	2.6	2.6	2.6	2.5	2.5

Source: U.S. Census Bureau, Decennial Census, 1970 - 2010  
Maryland Department of Planning, Projections and State Data Center

### Housing Units

There were approximately 16,741 housing units within Dorchester County as of 2018. These units had the same renter/owner occupied ratio as the State, about 67% owner occupied and 33% renter occupied. See **Table 2.6**. Compared to the State, the County's vacancy rate was two times greater and the median property value was almost a third lower.

Per the 2018 American Community Survey, it was estimated that 74% of the County housing units were single family detached, 16% were multi-family units, and 6% were mobile homes.

**Table 2.6 2018 Occupancy and Tenure Characteristics**

	DORCHESTER COUNTY		MD
OCCUPIED	13,264	79%	90%
OWNER-OCCUPIED	8,944	67%	67%
RENTER-OCCUPIED	4,320	33%	33%
VACANT	3,477	21%	10%
TOTAL HOUSING UNITS	16,741		2,437,740
MEDIAN PROPERTY VALUE	\$179,300		\$305,500

Source: U.S. Census Bureau, American Community Survey, 5 Year Estimates 2014-2018

## INCOME AND POVERTY

As indicated in **Table 2.7**, household income in Dorchester County is more evenly distributed among all levels than it is throughout the State. Approximately half of the County's households earn less than \$50,000 per year as compared to approximately 30% of the State's households. In addition, only 20% of the County's population earn more than \$100,000 compared to 41% of the State's households. The 2018 median household income for the County is \$52,145 compared to \$81,868 for the entire State. Additionally, 15% of the County's households fall below the poverty line compared to 9% of the State's households. Finally, the County has a higher percentage (23%) of households receiving Food Stamps/Snap benefits than the State (11%).

## COMMUTE

In 2018, the vast majority of County and State employed residents drove alone to work. The remaining carpooled, worked from home or walked. Very few employed County residents, 1%, took public transportation to work. Public transportation was significantly higher at State level, where 9% of employed residents chose this method. The average commute time for County residents was 27 minutes, six minutes shorter than the average State commute. See **Table 2.8**.

**Table 2.9** represents the County's inflow and outflow of jobs. In 2017, there were 10,621 people employed within Dorchester County. Of these employed people, 5,576, or 53%, lived outside and 5,045 were residents in the County. Also in 2017, there were 15,629 employed residents of Dorchester County. Of these employed residents, 10,584, or 68%, commuted out of the County for employment.

**Table 2.8 2018 Commute**

	DORCHESTER COUNTY		MD
DRIVE ALONE	11,478	77%	74%
CARPOOL	2,242	15%	9%
PUBLIC TRANSPORTATION	148	1%	9%
WALK	297	2%	2%
OTHER MEANS	238	2%	1%
WORK AT HOME	445	3%	5%
MEAN TRAVEL TIME (MIN)	27		33

Source: U.S. Census Bureau, American Community Survey, 5 Year Estimates 2014-2018

**Table 2.9 2017 Job Inflow and Outflow**

	#	%
EMPLOYED IN COUNTY	10,621	
LIVED OUTSIDE COUNTY	5,576	53%
LIVED IN COUNTY	5,045	48%
EMPLOYED RESIDENTS IN COUNTY	15,629	
COMMUTED OUTSIDE OF COUNTY	10,584	68%
EMPLOYED AND LIVED IN COUNTY	5,045	32%

Source: U.S. Census Bureau's Center for Economic Studies, 2017

**Table 2.7 2018 Household Income and Poverty**

	DORCHESTER COUNTY		MARYLAND	
LESS THAN \$24,999	3,248	24%	298,901	14%
\$25,000 TO \$49,999	3,263	25%	364,515	17%
\$50,000 TO \$99,999	4,104	31%	636,624	29%
\$100,000 OR MORE	2,649	20%	892,478	41%
TOTAL HOUSEHOLDS	13,264	100%	2,192,518	100%
MEDIAN HOUSEHOLD INCOME	\$52,145		\$81,868	-
POVERTY LEVEL <sup>1</sup>	1,926	15%	199,436	9%
HOUSEHOLD RECEIVING FOOD STAMPS AND SNAP BENEFITS	3,078	23%	232,090	11%

Source: U.S. Census Bureau, American Community Survey, 5 Year Estimates 2014-2018

Note: 1. Percentage of people whose income was below the poverty level.



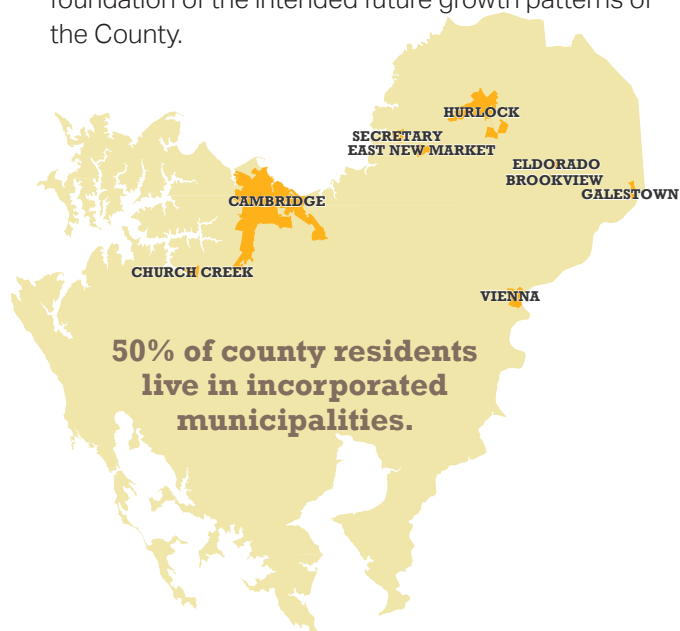
## 3 | LAND USE

The Land Use Plan describes the existing land uses and past trends in Dorchester County, and then sets forth the proposed land use strategies to implement the visions for future growth and conservation. Generally, this pattern is strongly influenced by existing land use patterns of incorporated municipalities, villages, farmland, forests and wetlands. This plan also incorporates the municipalities' growth areas identified in their land use plans and Municipal Growth Elements (MGE), where available. It also contains County designated growth areas that extend beyond the municipal growth areas. The ongoing coordination between County and municipal planning efforts should facilitate future proposals for annexation.

## OVERVIEW

As development increases and population continues to grow throughout other areas of the State, Dorchester County continues to be defined by its rural and agricultural setting, its natural resources, and its small towns and villages, as well as the City of Cambridge. The County's rich natural and cultural landscape consists of bay and river coastlines on the western and eastern borders; marshes, forests and maritime villages in the south; and agriculture and rural villages in the north. As the County seat, Cambridge is Dorchester's social, cultural, and economic hub. The future of Dorchester County depends on the general trend to conserve rural and natural areas and to maximize efficient use of public investments by strongly encouraging moderate infill development and redevelopment within the municipalities and other designated growth areas.

There are nine incorporated municipalities in Dorchester County. Six maintain their own planning and zoning authority: Cambridge, Church Creek, East New Market, Hurlock, Secretary and Vienna, while Brookview, Eldorado, and Galestown do not. Dorchester County ranks second in Maryland only to Talbot County in the number of people who reside within a municipality as a percentage of the total County population. In 2018, 50% percent of Dorchester County's population lived within a municipality.<sup>1</sup> This reliance on concentrating growth in and around the municipalities and the preservation of agricultural, forests and wetland areas form the foundation of the intended future growth patterns of the County.



## EXISTING LAND USE

Maryland Department of Planning provides a view of where people, jobs and industries in Dorchester County are located. It shows a number of significant trends when compared to data from earlier years, including the rate at which land is being consumed and the dispersion of development across the County. According to the 2010 Land Use-Land Cover data, over one-third of the physical geography of the County is forested, approximately one-third is agricultural, and approximately one-quarter is wetland.<sup>2</sup> Just over 23,000 acres in Dorchester County was developed land in 2010, which was about 6.5% of the County's total land area. Seventy-percent of these developed lands are low-density and very low-density residential uses, which are areas defined by MDP as lot sizes between one-half acre and 20 acres. See **Map 3.1** and **Table 3.1** for the breakdown of land use/land cover types.

**Table 3.1 Existing Land Use/Land Cover, 2010**

Existing Land Use/Land Cover	Acres	Square Feet (in millions)	% of County
Agriculture	114,887	5,004	32%
Very Low Residential	6,233	271.5	2%
Low Density Residential	9,975	434.5	3%
Medium Density Residential	1,904	82.9	1%
High Density Residential	431	18.8	0.1%
Commercial	1,244	54.2	0.4%
Institutional	1,082	47.1	0.3%
Industrial	993	43.3	0.3%
Open Urban Land	772	33.6	0.2%
Bare Ground	228	10.0	0.1%
Extractive	346	15.0	0.1%
Transportation	175	7.6	0.0%
Forest	126,706	5.5	36%
Wetland	90,267	3,932	25%
<b>Total Land Area</b>	<b>355,243</b>	<b>15.5M</b>	<b>100%</b>
Water	258,791	5.0	-
<b>Total</b>	<b>614,034</b>		

Source: Maryland Department of Planning, Land Use Land Cover dataset, 2010

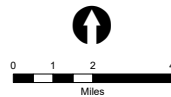
Note: The acreage shown includes land uses within the incorporated municipalities.

<sup>1</sup> U.S. Census Bureau, American Community Survey, 5 Year Estimates 2014-2018.

<sup>2</sup> Per the MDP 2010 Land Use Land Cover dataset, wetlands are about 90,000 acres. Per the National Wetlands Inventory, wetlands are 144,000, which is about 40% of the County land area.



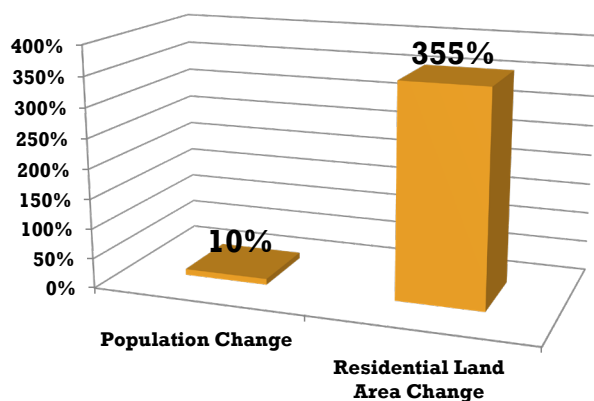
**MAP 3.1 - EXISTING LAND USE, 2010**  
**2021 COMPREHENSIVE PLAN**  
 DORCHESTER COUNTY, MARYLAND



### Land Use Change (1973 – 2010)

Using aerial photography and satellite imagery, the Maryland Department of Planning has prepared Land Use/Land Cover datasets for the years 1973, 2002, and 2010. Using these datasets, the County is able to analyze the changes in land use over this time period. As shown in **Map 3.2 - Land Use Change, Figure 3.2** and **Table 3.2**, Dorchester County's land use distribution has remained generally the same over the years in that forest, agriculture and wetlands continue to dominate the landscape. However, the acres of residential land use have more than quadrupled (+355%) since 1973, which has significantly outpaced the County's population growth of 11%. See **Figure 3.1**. The majority of this development has been low to very low-density residential development.

**Figure 3.1 Change in Population and Residential Developed Land (1973-2010)**



The County saw its greatest development between 1973 and 2002. Much of this development was low-density residential in the Neck District and along Route 16 from the northernmost County boundary to Cambridge to Taylors Island. In 1973, there were about 6,300 acres of developed land and a population of approximately 29,400, which equals about 0.2 acres of developed land per person. As of 2002, the developed area more than tripled to 15,000 acres at a rate of about 500 acres a year. However, the County's population only increased to 30,700 and the developed area per person increased to 0.7 acres. Between 2002 and 2010, this outward land consumption slowed significantly to 250 acres per year and held at approximately 0.7 acres per person. The loss of agricultural and forest lands is related to this low-density, rural development. Between 1973 and 2010, Dorchester had lost a total of 17,000 acres

of agricultural and forest lands. Between this same period, developed lands increased by approximately 17,000 acres. In correlation with the increase of developed land, the rate of the loss of agricultural and forest land had significantly slowed by 2002. Between 1973 and 2002, Dorchester has lost a total of 15,000 acres of these resources. It has lost 2,000 acres between 2002 and 2010. While the County has lost some of these resources, it continues to be defined by its rural and agricultural setting, the water, and its natural habitats, which are among the most important in the nation.

### Protected Lands

Of Dorchester County's 355,000 acres of total land area, approximately 260,000 acres (about 3/4) are protected public lands or wetlands. About 187,000 acres of the protected lands are areas that are permanently protected through conservation easements on agricultural or forested lands or as parks, open space, other public lands. About 144,000 acres are regulated wetlands, including tidal and freshwater wetlands. See **Map 3.3 - Protected Lands**. The protected lands are anticipated to expand through Maryland's Rural Legacy Program, which targets investments and public-private partnerships to protect the most ecologically valuable properties that most directly impact Chesapeake Bay and local waterway health. It is important to note that not only are forest management and agricultural uses allowed on protected lands they are encouraged to contribute to the rural economy and preserve the historic heritage of working lands in Dorchester County.

### Summary of Land Use Trends

- The rate of development increase was faster than population increase, but has become more aligned in recent years.
- Large lot development continues to be the predominant type of development, comprising 70% of developed lands.
- While the County has lost resource lands over the years, the rate of loss has decreased in recent years.
- Three quarters of the County's total land area are protected lands or wetlands.





**MAP 3.2 - LAND USE CHANGE, 1973-2010**  
**2021 COMPREHENSIVE PLAN**  
 DORCHESTER COUNTY, MARYLAND



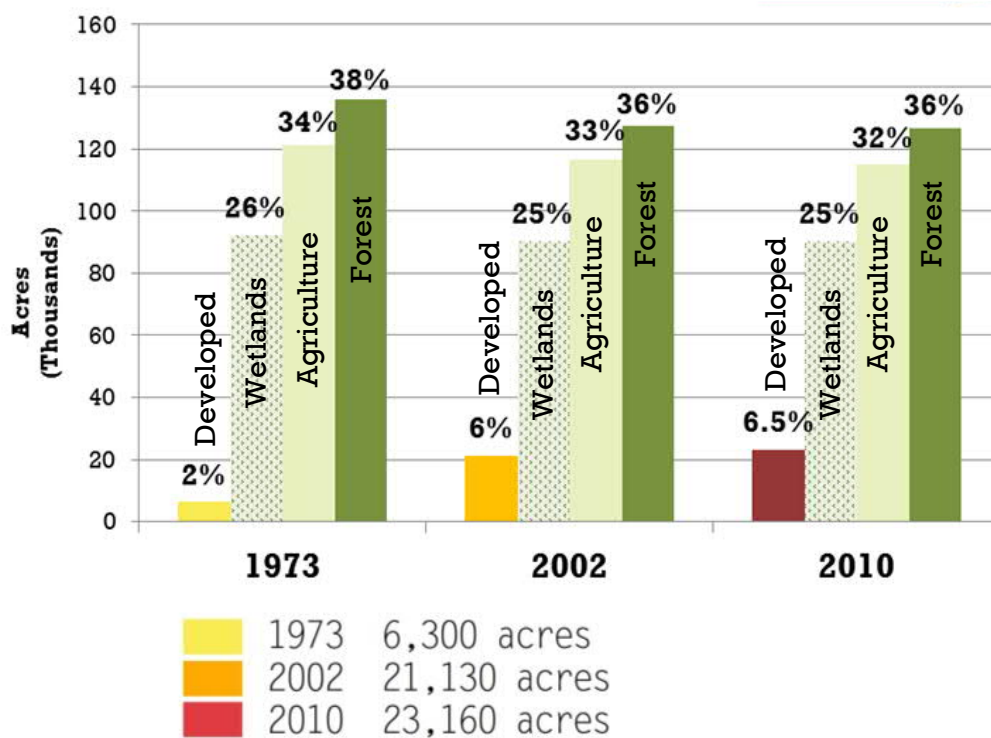
**Table 3.2 Land Use Change, 1973-2010**

	1973		2002		2010		CHANGE 1973-2002		CHANGE 2002-2010		CHANGE 1973-2010	
	ACRES	% OF TOTAL LAND	ACRES	% OF TOTAL LAND	ACRES	% OF TOTAL LAND	ACRES	% CHANGE	ACRES	% CHANGE	ACRES	% CHANGE
VERY LOW TO LOW-DENSITY RESIDENTIAL <sup>1</sup>	4,076	1%	14,706	4%	16,208	5%	12,796	314%	1,502	10%	14,467	355%
MEDIUM TO HIGH DENSITY RESIDENTIAL <sup>1</sup>			2,166	1%	2,335	1%			169	8%		
NON-RESIDENTIAL	2,215	1%	4,257	1%	4,612	1%	2,042	92%	355	8%	2,397	108%
<b>TOTAL DEVELOPED</b>	<b>6,291</b>	<b>2%</b>	<b>21,129</b>	<b>6%</b>	<b>23,155</b>	<b>7%</b>	<b>14,838</b>	<b>236%</b>	<b>2,026</b>	<b>10%</b>	<b>16,864</b>	<b>268%</b>
AGRICULTURE	121,178	34%	116,426	33%	114,886	32%	-4,752	-4%	-1,540	-1%	-6,292	-5%
FOREST	135,748	38%	127,209	36%	126,705	36%	-8,539	-6%	-504	-0%	-9,043	-7%
WETLAND	92,118	26%	90,325	25%	90,267	25%	-1,793	-2%	-58	-0%	-1,851	-2%
BARE GROUND / OTHER	26	0%	151	0%	228	0%	125	481%	77	51%	202	777%
<b>TOTAL RESOURCE</b>	<b>349,070</b>	<b>98%</b>	<b>334,111</b>	<b>94%</b>	<b>332,086</b>	<b>93%</b>	<b>-14,959</b>	<b>-4%</b>	<b>-2,025</b>	<b>-1%</b>	<b>-16,984</b>	<b>-5%</b>
<b>TOTAL LAND</b>	<b>355,361</b>	<b>100%</b>	<b>355,240</b>	<b>100%</b>	<b>355,240</b>	<b>100%</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

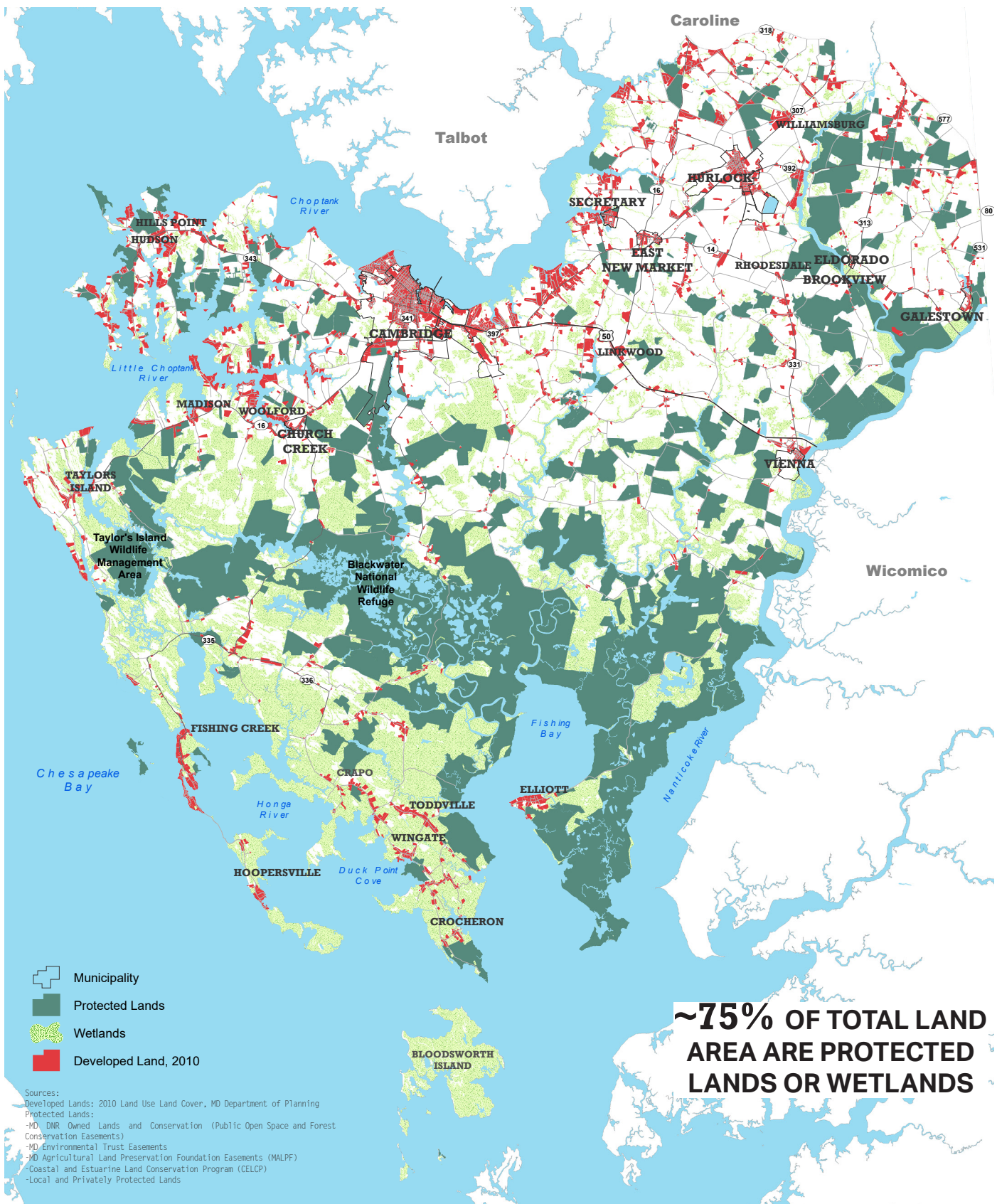
Source: Maryland Department of Planning Land Use / Land Cover datasets summary for Dorchester County.

Notes:

1. MDP created the first Land Use/Land Cover map in 1973, however new land use categories were added in 2010 and associated adjustments were made to 2002 data. Similar adjustments were not made to 1973 data. These changes redefined low and moderate development. For this reason, this Plan Update combines each type of residential land use for 1973.

**Figure 3.2 Land Use Change, 1973-2010**





**MAP 3.3 - PROTECTED LANDS**  
**2021 COMPREHENSIVE PLAN**  
 DORCHESTER COUNTY, MARYLAND



## LAND USE PLAN

Development on large lots consumes land at a significantly faster rate than other more concentrated land use types. With much of the County's land area identified for resource protection, coupled with the anticipated continued loss of physical land to coastal erosion<sup>3</sup>, how we use the land is critically important for the social, economic and environmental well-being of present and future generations. Per the Maryland State Data Center,<sup>4</sup> Dorchester's population is projected to grow to 39,500 between 2010 and 2040, adding about 6,900 people and 3,400 households. If large lot, low-density development were to consume the limited developable land, the County will become increasingly decentralized, having many social, environmental and economic impacts. Some of these specific impacts include:<sup>5</sup>

- Increases the need for infrastructure investment to reach areas further from development centers.
  - Infrastructure costs to serve low-density residential development are higher than to serve high-density residential development per unit.
  - Increases vehicle miles traveled, congestion, air pollution and demand for new roads.
  - The proliferation of septic systems from low-density development reduces water quality and threatens biodiversity.
- Results in the loss of natural environment and natural resource based economies.
  - Results in the loss and fragmentation of forest land which decreases ecological diversity, economic benefits and recreational value.
  - Converts agricultural land and diminishes the viability of operating agricultural uses by inserting incompatible uses nearby.
  - Water quality and biodiversity decrease as impervious surface increases with the conversion of resource lands.

This Land Use Plan provides for development to locate in designated growth areas and establishes the policy basis for more compact development that uses the land efficiently and that will help reduce the long-term impacts of unmanaged growth on infrastructure investment and on a natural resource-based economy. This Plan divides the County into different land use areas for purposes of establishing public policies and for recommending implementation strategies to achieve the desired land use goals. See **Map 3.4 - Future Land Use**. These areas are generally classified as "Growth Areas" and "Conservation Areas". The designated Growth Areas comprise approximately 6% of the County's total land area and the Conservation Areas encompass approximately 94% of the County's land area. See **Table 3.3 - Future Land Use**.

**Table 3.3 Future Land Use**

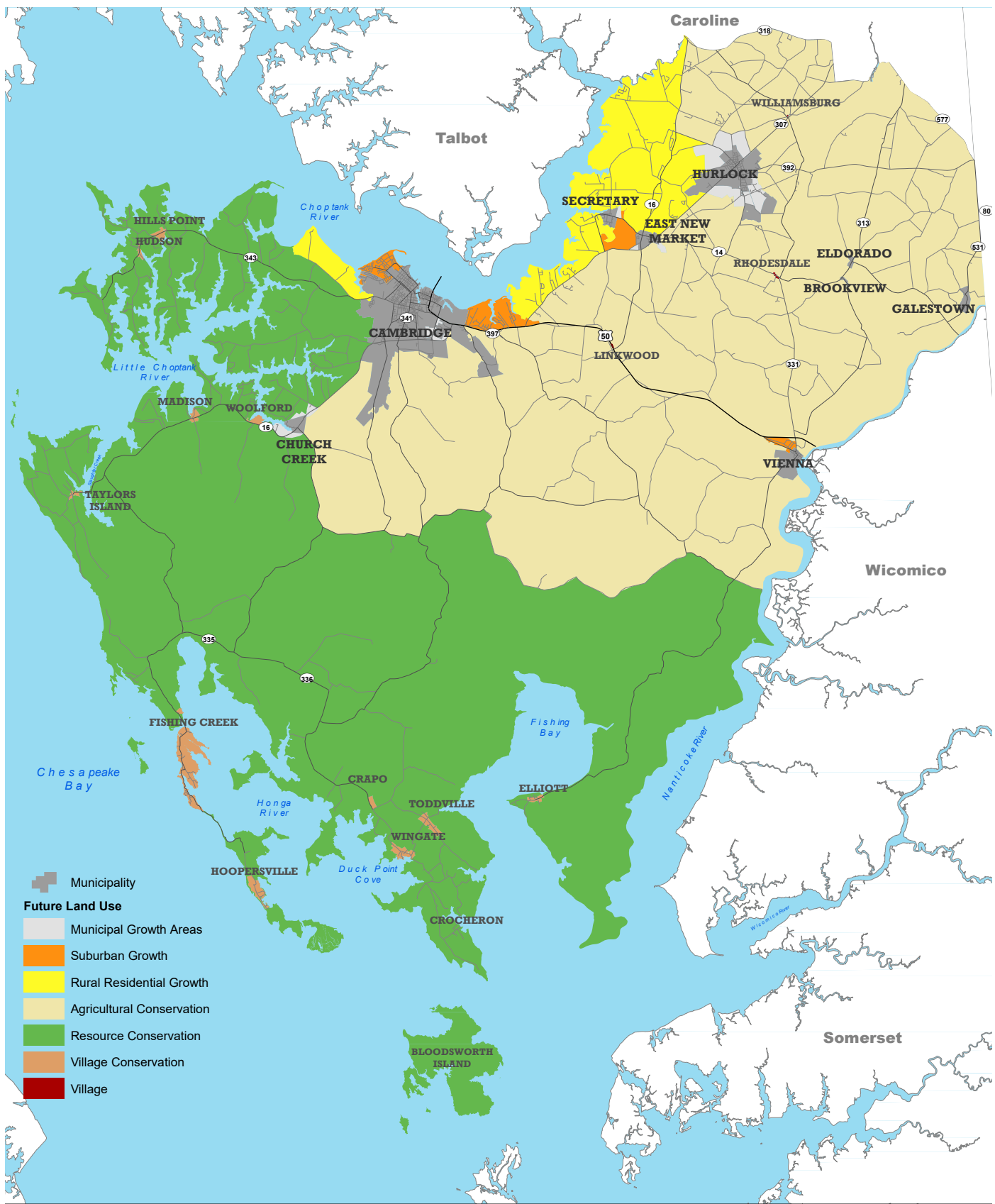
FUTURE LAND USE		
GROWTH AREA	ACRES	% OF COUNTY
MUNICIPAL GROWTH AREAS	1,990	0.6%
SUBURBAN GROWTH	1,970	0.5%
RURAL RESIDENTIAL GROWTH	16,415	5%
VILLAGE	20	0.01%
<b>TOTAL GROWTH AREAS</b>	<b>20,395</b>	<b>5.7%</b>
CONSERVATION AREA		
AGRICULTURAL CONSERVATION	158,043	44%
RESOURCE CONSERVATION	179,175	50%
COASTAL VILLAGE	1,945	0.5%
<b>TOTAL CONSERVATION AREAS</b>	<b>339,162</b>	<b>94.3%</b>
<b>TOTAL</b>		<b>359,557</b>

<sup>3</sup> Dorchester County Inundation Study, June 15, 2006.

<sup>4</sup> Maryland Department of Planning (MDP) State Data Center, Population Projections, July 2017.

<sup>5</sup> "A Summary of Land Use Trends in Maryland; The Maryland Department of Planning 2010 Land Use/Land Cover product"; <https://planning.maryland.gov/Pages/OurWork/landuse.aspx>.

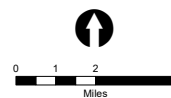




**MAP 3.4 - FUTURE LAND USE**

2021 COMPREHENSIVE PLAN

DORCHESTER COUNTY, MARYLAND



The Land Use areas considered to be **"Growth Areas"** include the following:

- **Municipal Growth** – Areas where municipal annexation is expected. Municipal Growth Areas are ultimately expected to be connected to municipal public water and sewer.
- **Suburban Growth** – Areas of medium-density residential, low to moderate intensity non-residential, and mixed-use development. Suburban Growth Areas are near municipalities and development corridors where public infrastructure can be extended and where public services can be efficiently provided. These areas may ultimately be served by public water and sewer systems.
- **Rural Residential Growth** – Areas of low to medium-density residential development near municipalities and development corridors where public services can be efficiently provided. The County does not anticipate extensions of public water or sewer systems for these areas except for the need to mitigate failing shared septic systems.
- **Village** – Existing villages in the northern part of the County where the predominant land use will primarily consist of existing low-density residential and limited low intensity infill and redevelopment.

The **"Conservation Areas"** include:

- **Agricultural Conservation** – Areas in the northern portion of the County where agricultural and forest lands dominate. The preferred land uses are continued agriculture, forestry and agribusiness.
- **Resource Conservation** – Areas in the southern and western portion of the County generally dominated by forest and wetland areas, maritime industries and very low-density residential development.
- **Village Conservation** – Existing villages along the coastal areas of the County where the County desires to protect the maritime heritage from coastal hazards. The predominant land use will primarily be existing low-density residential and limited low intensity infill and redevelopment.

## Growth Areas

### Municipal Growth Areas

#### Goals

- Concentrate growth in and around the County's municipalities.
- Help the municipalities grow to increase their tax base.
- Reduce costs of supplying government services.
- Ensure efficient use of existing and planned infrastructure.
- Coordinate growth management policies and implementation strategies.

The County's Comprehensive Plan covers the entire County, but does not address specific issues within the incorporated municipalities of Cambridge, Church Creek, East New Market, Hurlock, Secretary and Vienna since they exercise their own planning and zoning authority and have adopted a comprehensive plan. Each municipality may designate growth areas within their comprehensive plans where they anticipate annexation in currently unincorporated areas. Brookview, Eldorado, and Galestown do not exercise their own planning and zoning authority.

Municipalities offer opportunities for redevelopment and infill development. Municipal Growth Areas are areas that are designated for annexation in the respective municipality's comprehensive plan. Cambridge, Hurlock, East New Market and Secretary each have designated growth areas in their respective comprehensive plans. The Church Creek Comprehensive Plan includes a "Planning Area", which is intended for annexation in the long term. The future growth areas in Vienna's 2003 Comprehensive Plan have been annexed into the town.

The County anticipates that future zoning should be of density and character consistent with the respective town to facilitate annexation, such that the town would not need to seek a rezoning "waiver" as part of the annexation process.<sup>6</sup> The designation of the Municipal Growth Area is consistent with Resolution 515 adopted by the Dorchester County Council on January 17, 2012, which officially recognized these Municipal Growth Areas.

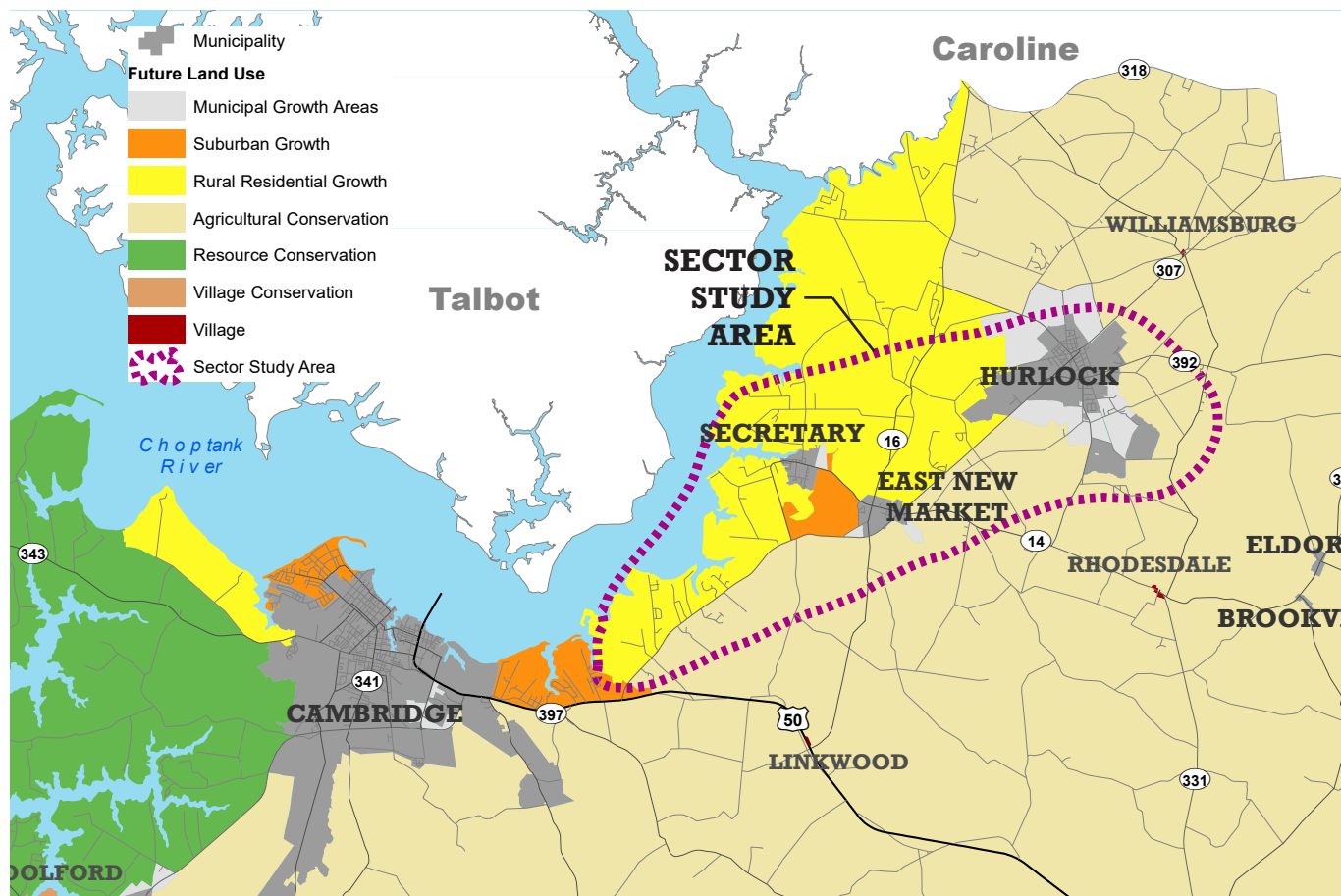
<sup>6</sup> County zoning varies in Town Growth Areas. Hurlock: RR, I-1. East New Market: B-2, AC. Secretary: SR, SR-RCA.

These areas are most prepared for growth, as they provide the most efficient investment for infrastructure, public safety and schools. They offer logical extensions of roads, sidewalks, infrastructure and public services, and are ultimately expected to be connected to municipal public water and sewer. Maryland state investments, policies and growth management encourage new development and reinvestment in these municipalities and growth areas.

Typically, the main barriers to growth in the municipalities are lack of public water and sewer and the increased cost of developing housing in municipalities versus the County. To attract development, the municipalities must also offer amenities and attractions so that they become places where people wish to live. Although rural subdivisions have become attractive to many people, many others would like to live in a small town environment where they can be part of a more established community. Dorchester's municipalities offer an excellent opportunity for attractive small town development.

Inter-jurisdictional coordination between the municipalities and the County is extremely important for the mutual success in effectively managing growth and resources. House Bill 1141 establishes minimum requirements for interjurisdictional coordination. While the legislation places much of the impetus for planning coordination on the municipalities, it also encourages municipalities and counties to participate in joint planning processes and agreements to address topics of mutual interest. Coordination issues include development impacts (e.g., traffic, schools, police and emergency services, etc.), zoning, resource protection and economic development. For example, the County needs assurances that the municipality is prepared to implement its municipal growth plans within a reasonable planning period. The municipalities need assurances that their planned future expansion will not be pre-empted by low-density development at their borders, such as may occur under current County zoning.

**Figure 3.3 Sector Study Area**



Dorchester County can further assist these northern county communities by developing a regional growth “sector plan” for the lands adjacent and between the Towns of Hurlock, Secretary and East New Market. This area, as shown in **Figure 3.3 - Sector Study Area**, should be studied further to consider ways to enhance these areas, establish and define development patterns, consider design criteria and ways to further allow for growth in this area of the County while protecting the rural and small town communities. It should consider a mix of urban growth potential and suburban growth opportunities and extension of public sewer and water facilities. It should also include an analysis of transportation patterns and the potential for zoning changes based on community input in the planning process. Future sector planning would also be influenced by Rural Legacy Areas and Growth Tier Areas (see **Appendix B**). Conversely, the sector planning could influence the Growth Tier Map designation by, for example, proposing different future land use designations and/or sewer service designations.

### Strategies

- Zone Municipal Growth Areas consistent with the adjacent municipal zoning to facilitate annexation.
- The County and municipalities should consider establishing forums for regular meetings (e.g. a Council of Governments, or the Maryland Department of Planning) to facilitate communications and understanding among the jurisdictions. Where important policy agreements regarding capacity and services are reached, they should be adopted in formal agreements such as memorandums of understanding or intergovernmental agreements.
- Encourage coordination between County and municipal staffs to ensure coordinated interjurisdictional land use planning and capital needs programming.
- Enter into a Memorandum of Understanding with municipalities for reciprocal notification and coordination on land use and development activities within the Municipal Growth Areas and lands adjacent to municipal boundaries.
- The County and municipalities should establish appropriate policies and procedures for the use of Critical Areas Growth Allocation for those municipalities that are within the Critical Area.

These policies should ensure that Growth Allocation is allotted proportionately to the municipalities and used efficiently and, when awarded, results in a substantial public benefit. For example, awarding growth allocation may be contingent on purchasing development rights from designated rural areas in the County. The value of the benefits to the public should reflect the value added to development projects by the growth allocation award.

- Consider future zoning changes based on the results of a regional sector plan study for the northern county area.

### Suburban Growth

#### Goals

- Encourage and concentrate medium-density residential and mixed-use development near municipalities and development corridors where public infrastructure can be extended and where public services can be efficiently provided.
- Encourage a range of housing types and densities to accommodate a diverse population of ages and incomes.
- Zoning should extend and mimic the built environment of municipalities to the greatest extent feasible.
- Encourage appropriate infill and redevelopment near the municipalities and development corridors.
- Ensure efficient use of existing and planned infrastructure.
- Ensure coordinated growth management policies and implementation strategies

Suburban Growth Areas encompass areas adjacent to Cambridge, East New Market, Secretary and Vienna, as well as some development corridors that connect the municipalities. Developments in these areas are anticipated to be medium-density residential (such as duplex and townhouses) and low to moderate intensity non-residential, as well as mixed use development.

New developments in these growth areas should provide a mix of housing options and densities to accommodate a diverse population of age groups and income levels, as well as neighborhood scale retail and civic uses, where applicable. Additional development



standards and review criteria may be necessary to achieve the desired mixed uses and mixed housing types as well as to extend and emulate the built environment of the municipalities. Development standards may include requirements for open space, environmental protection, recreation/community amenities, street and sidewalk connections, among other things. Development standards should be flexible and support innovative, mixed use projects that make use of the land efficiently while protecting the natural resources. Areas within the Suburban Growth Area may ultimately be served by public water and/or sewer systems.

This Plan envisions development to extend the character of municipalities with orderly growth and has the following objectives and design principles for these areas:

- Be compact with density and bulk standards similar to municipal standards.
- Make a positive contribution to the existing municipal character.
- Accommodate a mix of residential housing types.
- Extend the existing grid street and pedestrian pattern, if applicable.
- Consider future zoning changes based on the results of a regional sector plan study for the northern county area.

### **Strategies**

- Evaluate development standards, review criteria, and/or incentives to achieve the desired mixed uses and mixed housing types.
- Evaluate development standards in the Zoning Ordinance to ensure new developments extend and emulate the built environment of the municipalities.
- Consider the Tier Map designated Tier II or IIA areas for major subdivisions as appropriate.
- Encourage densities of at least 3.5 dwelling units per acre to qualify as Priority Funding Areas.

## ***Rural Residential Growth***

### **Goals**

- Allow low to medium-density residential development near municipalities and development corridors where public services can be efficiently provided.
- Encourage a range of housing types to accommodate a diverse population of age groups and income levels.

Rural Residential Growth Areas are areas of the County that will accommodate rural-residential development at low to medium densities. These areas are generally north of Route 16 between the City of Cambridge and the Towns of East New Market and Secretary where a pattern of low-density development already exists. To reduce sprawl, preserve agricultural or natural resource conservation areas, and meet other Comprehensive Plan goals, the County plans to limit rural-residential development to areas best suited to accommodate it. Existing agricultural uses in these areas will not be discouraged, but could convert to residential use. These issues should be studied further in the regional sector plan study previously mentioned. Due to concerns of adverse environmental impacts and maintenance issues, private or shared water and sewer systems are not recommended, but opportunities for extension of public utilities should be analyzed for the northern county in conjunction with further planning studies.

### **Strategies**

- Remove the cluster option from future zoning to the extent that private or shared water and/or sewer systems are necessary.
- Continue to recognize the right-to-farm for those land owners that wish to remain in agriculture.
- Include Rural Residential Growth areas as part of the northern county sector planning study.
- Consider the Tier Map designated Tier III areas for major subdivisions as appropriate.

## ***Village***

### **Goals**

- Encourage appropriate infill and redevelopment in the Villages.

Villages are unincorporated communities without public water and sewer in the northern part of the County. These villages include Linkwood, Rhodesdale and Williamsburg. The predominant land use will primarily consist of existing low-density residential and limited low intensity infill and redevelopment. Portions of these villages are zoned “Village” and permit higher density development than the surrounding areas. The Village zoning district currently allows for a mix of residential at medium to high residential density and commercial and maritime/agricultural service uses at low to moderate non-residential intensity. They are also designated Maryland Priority Funding Areas. Other portions of the villages are zoned RR, and it is the intent of this Plan to maintain the existing zoning. Extensions of public water and/or sewer may be considered to allow the attainment of residential densities and non-residential intensities as currently permitted under existing zoning or to address failing wells and/or on-lot sewage systems.

### **Strategies**

- Permit infill development and redevelopment on existing lots of record, as allowed under the current zoning regulations.

### **Conservation Areas**

#### ***Agricultural Conservation***

#### **Goals**

- Preserve agriculture and forestry as viable industries.
- Increase farm values.
- Minimize conflicts between agricultural and residential uses.
- Accommodate appropriate non-agricultural uses.
- Prevent sprawl development.

**Agricultural Uses.** Agriculture is a key industry for Dorchester County. Agriculture’s importance to the County goes beyond the monetary: it represents tradition and a way of life, and is key to the image of the County held by residents and non-residents. The agricultural character contributes to the County’s natural, open landscape and makes the County attractive to employers, residents, and visitors. Approximately one-third of the County’s land is in farmland, of which 75% is cropland. As the mid-

Atlantic region continues to develop, Dorchester’s wide open spaces will become an increasingly valuable economic and social asset. Protecting agricultural land is, therefore, an important economic goal for the County. The key to preserving agriculture is maintaining an adequate land base to support the industry and related businesses, such as machinery dealers, agriculture inputs (seed, fertilizers), etc. There are a number of existing programs, the objective of which is to preserve agriculture land. These programs, as discussed more fully in Chapter 4 – Environmental Resources and Protection, include the Maryland Rural Legacy Program and the Maryland Agricultural Land Preservation Foundation Program (MALPF). In addition, programs administered by other non-government organizations such as the Maryland Environmental Trust, Nature Conservancy, Chesapeake Wildlife Heritage and the Eastern Shore Land Conservancy can play an important role in land conservation. Over the past 20 years, the County has taken steps to conserve farmland and to encourage agricultural activities, thereby ensuring that commercial agriculture will continue as a long-term land use and viable economic activity within the County. The County’s Right-To-Farm ordinance, adopted in 1998, limits the circumstances under which agriculture operations may be deemed to constitute a nuisance. The intent of the Agricultural Conservation Area is to conserve farmland and to encourage agricultural activities thereby ensuring that commercial agriculture will continue as a long-term viable land use. Agricultural uses are the preferred use, and protected from development that might adversely affect them. A wide range of uses related to agriculture are permitted, including agriculture-related commercial and industrial uses. Very low-density residential development is permitted where it is located and designed to minimize impacts on natural environments and the rural landscape. The Agricultural Conservation District is not planned to be served with public water and/or sewer except to abate failing wells or on-lot sewage systems. Residential densities should be compatible with agricultural uses and minimize impacts on natural environments and the rural landscape. Future zoning should continue with similar densities and other protective measures to encourage and promote agriculture and associated agri-businesses.

<sup>7</sup> Based on the current permitted density of 1 dwelling unit per 15 acres in the Agricultural Conservation zoning district. The estimated 49,000 developable acres in the Agricultural Conservation Area nets out protected lands, wetlands, and lands that are already developed.

The Agricultural Conservation Area comprises approximately 160,000 acres. Although extensive residential development is not envisioned in the Agricultural Conservation Area, even at the residential densities proposed in this Plan, vacant and developable lands in this area alone could yield an estimated 3,200 additional residential lots at build out.<sup>7</sup>

In setting land use policy for Dorchester's Agricultural Conservation Area, the value of farmland as an economic asset to the landowner is a prime concern. Farmland has an agricultural value, but also, potentially, a residential development value. The residential development value of most farmland in Dorchester County is low. One of the County's goals is to increase farm values. The value of land in Dorchester's agricultural areas will increase over the long-term by creating predictability for the farmer with respect to development around existing farmland. Incentivizing the use of a transfer of development rights (TDR) program should be considered that would allow a landowner to transfer development rights at a higher density than would be permitted if developed. No rezoning of land in the agricultural area that would permit higher density residential development than is contemplated in this plan should be permitted.

**Non-Agricultural Uses.** Agriculture, agri-business, silviculture, forest-based industries and other compatible non-residential uses should be permitted in this area. Other non-residential land uses may be compatible with the agricultural or natural resource area goals provided appropriate site development performance standards are met. An example would be the Delmarva Power and Light power plant. More problematic, because of smaller site size, might be economic development opportunities afforded by uses such as a large warehouse, trucking company, or mineral extraction operation. Such uses have been attracted to North Dorchester, particularly to the Hurlock area, because of location and land availability. To the degree the County desires to accommodate or encourage such uses, the County may utilize the Economic and Employment District (EE) floating zone.

### **Strategies**

- Maximize use of agriculture preservation programs.
- Continue the existing Agricultural zoning.

- Explore implementation of a transfer of development rights (TDR) program with bonus density incentives as long-term strategy for agriculture preservation.

### **Resource Conservation**

#### **Goal**

- Preserve the Resource Conservation Area's open, natural, unspoiled character. Resource Areas are portions of the County where the preferred uses are:
  - Conservation of natural resources such as tidal and non-tidal wetlands and forests as well as agriculture.
  - Natural resource based industries (farming, forestry, fishing, hunting, trapping and tourism).
  - Very low-density residential development on lands that are not environmentally sensitive or permanently protected.

The Resource Conservation Area totals about 179,000 acres, which is over 50% of the County's land area. These areas are located mostly in South Dorchester County, with additional areas along the Choptank, Marshyhope and Nanticoke Rivers.

The intent of the Resource Conservation Area is to conserve natural environments (wetlands and forests) and to encourage resource development activities (agriculture, forestry and fisheries), thereby helping to ensure that resource development continues as a long-term land use and a viable economic activity in the County. Residential development at very low density should be permitted where it is located and designed to respect existing features of the natural landscape. The Resource Conservation District is not planned to be served with public water and/or sewer except to abate failing wells or on-lot sewage systems, including community systems, as described below. Due to its coastal characteristics and its abundant inland waterways, the "Neck District" is included in the Resource Conservation Area even though it includes numerous residential developments. These residential developments are served by on-lot or community sewage disposal systems that may be failing. As will be seen in the Water Resources Element, this Plan recommends a comprehensive evaluation of these sewage disposal systems and the feasibility of extending public sewer.

### Strategies

- Continue to pursue economic development and tourism strategies to promote ecotourism activities.
- Perform a comprehensive evaluation of the on-lot and shared community sewage systems in the Neck District to determine the need for public sewer extensions.
- Encourage voluntary land conservation programs to protect sensitive areas and prime natural resources.
- Explore transfer of development rights programs so that property owners can realize their property value while developing in less vulnerable areas.
- Extend public sewer service to areas with failing individual or shared sewage systems, including failing BIPS, and provide land use and development restrictions for these areas so as not to foster unintended growth such as limitations on lot sizes or equivalent dwelling unit connections as a future threshold for service.
- Additional strategies for protecting natural resources are discussed in **Chapter 4 - Environment**.

### Village Conservation

#### Goals

- Protect the County's maritime heritage and historic resources.
- Allow infill development while recognizing high-risk, hazard areas and encourage risk mitigation.

Coastal Villages are unincorporated communities without public water and sewer in the Resource Conservation Areas. The Coastal Villages include Crapo, Crocheron, Elliot, Fishing Creek, Hills Point, Hoopersville, Hudson, Madison, Taylor's Island, Toddville, Wingate and Woolford. These areas contain many of the County's seafood industries and thus contribute to the County's rich maritime economy and culture. In some cases they also contain important community services such as a church, post office, fire hall or country store. Some villages also contain important historic resources. Due to their inherent locations, Coastal Villages are also areas most vulnerable to coastal change and other flooding hazards.

While parts of these Villages currently have zoning that encourages growth and development, they are not suitable for higher density development because of environmentally sensitive areas, including soil constraints, surrounding wetlands, flood hazards, coastal erosion and subsidence. Increasing the number of homes would exacerbate the issues and put more people and property in high hazard risk areas. Soil and wetland conditions already preclude higher densities. As such, it is the objective of this plan to limit growth in the Coastal Village areas, primarily through infill and redevelopment on lots of record. The Village Conservation District is not planned to be served with public water and/or sewer except to abate failing wells or on-lot sewage systems. Such development should be consistent with the unique maritime and coastal character of the particular Village, and should recognize the environmentally sensitive and high hazard risk area

### Strategies

- Limit development to existing lots of record.
- Ensure compatibility of infill development with the unique character of the particular village.
- Explore transfer of development rights programs so that property owners can realize their property value while developing in less vulnerable areas.
- Partner with FEMA and MEMA to participate in the voluntary "buy-out" program.
- Tighten existing Village zoning boundaries to the built environment and outside areas that face environmental constraints, such as periodic flooding and coastal erosion and subsidence.
- Ensure that the Village's waterfront is reserved for low-impact maritime businesses and associated uses.
- Encourage development that conserves and enhances the area's maritime and recreational character and connection to the Bay.
- Recognize the vulnerabilities and sensitivities of the unique coastal environment and reinforce appropriate safeguards to minimize risks to flood hazards and coastal changes.



## Other Land Use Recommendations

### ***Critical Area***

The County Zoning Ordinance embeds the Critical Area land use designations as “base zones”. These include the AC-RCA, RR-RCA and SR-RCA zoning districts. This factor complicates on-going implementation of the County zoning regulations by having to revise each zoning category when the Critical Area requirements are revised at the State level. It is recommended that the Critical Area designations be severed from the base zoning designations and re-created as overlay zones.

### ***Non-Residential Uses***

There are numerous non-residential uses dispersed throughout each Land Use Area. These non-residential uses are on parcels currently zoned for commercial business, institutional and industrial purposes. Given the broad nature of the Land Use Areas and the dispersed nature of the non-residential uses, individually classifying these uses is not warranted in this Plan. However, it is not the intent of this Plan to render these uses as non-conforming resulting from future zoning ordinance or map amendments to implement the recommendations of this Plan. Also, to support resourced-based industries, the County should ensure that adequate land is zoned to accommodate the uses that provide for the production and/or manufacturing of products. The locations of said zoning should not cause nuisances to surrounding properties. Zoning text amendments should also be considered that would permit such uses across a wider array of zoning categories while also requiring appropriate performance standards, e.g., setbacks, buffers, etc., to mitigate any potential negative impacts of such uses on nearby properties. Examples of uses that would support forestry include sawmills, shavings mills, drying facilities, planing mills, piling, chipping, mulching and pallet operations, and other uses that could also utilize wood from offsite, such as woody biomass-fueled Combined Heat and Power projects.

### ***Growth Tier Maps***

In 2012, the Maryland General Assembly passed the Sustainable Growth and Agricultural Preservation Act (SB 236). As stated in the legislation, the purpose of the law is to limit the spread of large lot subdivisions served by on-lot septic systems thus reducing the amount of nutrients entering groundwater, streams

and ultimately, the Chesapeake Bay. SB 236 requires local jurisdictions to adopt Growth Tier Maps (Tiers I, II, III and IV) that are based on areas currently served or planned to be served with public sewer and areas that are intended for conservation and preservation. Once created and adopted, the Tier Maps will designate how and where growth can occur on septic systems or with public sewer. **Figure 3.4** depicts the sewer service areas and other land classification categories that determine how the Tier Map should be created. See Appendix B for more detail and Tier Area classifications.

### ***Extensions of Public Sewer***

As described above, the Rural Residential Growth, Agricultural Conservation, Resource Conservation, and Village Conservation Land Use Districts are not intended to be served with public water or sewer. Within each of these land use districts, however, there are areas that are experiencing failing on-lot, community or shared sewage systems. This is especially true in portions of the Resource Conservation District (see Chapter 5 - Water Resources Element). Certain areas within the Resource Conservation District are already served with public sewer that was previously extended to address failing systems and it is anticipated that additional areas will need to be served within the life of this Comprehensive Plan. As stated in the Water Resources Element, it is the intent of this Plan to take measures which will abate the discharge of raw sewage onto the surface of the ground or into the groundwater from existing bermed infiltration ponds (BIPS) or other on-lot or community sewage systems that are in a state of failure and create a threat to public health and safety and are a potential harm to the environment and water quality. Nothing in this Land Use Chapter should be interpreted to prevent or discourage the extension of public sewer into or within the Rural Residential Growth, Agricultural Conservation, Resource Conservation, or Village Conservation Land Use Districts to address failing systems as described above and as described in the Water Resources Element. In addition, this Land Use Chapter recognizes and adopts the policy as stated in the Water Resources Element regarding the connection of lots of record to sewer lines extended to serve problem areas to permit one single family dwelling or one equivalent dwelling for non-residential uses.

**Appendix B** includes the draft Growth Tier Map to be adopted as part of this Comprehensive Plan. Said Growth Tier Map only addresses those areas outside the corporate limits of the municipalities. The following criteria apply to the various Tier designations indicated on the map:

**Tier I.** Those areas currently served with public sewer and located within a Municipal Growth Area or Suburban Growth Area as indicated on Map 3.4, Future Land Use Plan.

**Tier IA.** Those areas currently served with public sewer and not located within a Municipal Growth or Suburban Growth Area as indicated on Map 3.4

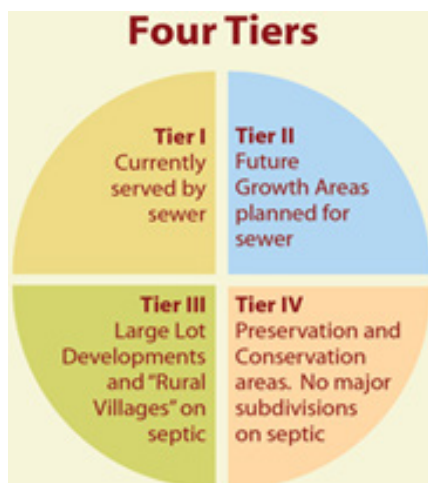
**Tier II.** Those areas currently planned for sewer and located within a Municipal Growth Area or Suburban Growth Area as indicated on Map 3.4, Future Land Use.

**Tier IIA.** Those areas not currently served or planned to be served with public sewer and located within a Municipal Growth or Suburban Growth Area as indicated on Map 3.4.

**Tier III.** Those areas not currently served or planned to be served with public sewer and located within portions of the Rural Residential Growth District and all areas within the Village District or Village Conservation District as indicated on Map 3.4. (Portions of the Rural Residential Growth District are within a Rural Legacy Area and are therefore designated Tier IV.)

**Tier IV.** Those areas not currently served with sewer and located within the Agricultural Conservation District or Resource Conservation District as indicated on Map 3.4, Future Land Use. Tier IV areas also include any areas not currently served with public sewer and located within a Rural Legacy Area.

**Figure 3.4 General Sewer Service and Land Use Categories That Determine Tier Map Classification**



Source: Maryland Department of Planning, <https://planning.maryland.gov/pages/ourwork/SB236Implementation.aspx>



### ***Land-Based Solar Installations***

An issue facing Dorchester County is the increasing number of applications for land-based solar installations. The purpose of this section is to undertake a comprehensive evaluation of the nature and extent of the solar applications in Dorchester County relative to various Goals and Strategies contained in this Comprehensive Plan. It is also the intent to consider appropriate strategies to accommodate solar installations that will advance Maryland's renewable resource goals while acknowledging and advancing the goals of this Comprehensive Plan. Before considering specific issues related to land-based solar installations in Dorchester County it is first necessary to briefly describe the statutory and regulatory framework of solar energy in the State. More specifically, it is necessary to understand the legislative mandates associated with the Maryland Renewable Energy Portfolio Standard and the role of the Maryland Public Service Commission relative to local land use authority.



### ***Maryland Renewable Energy Portfolio Standard***

In 2004, the Maryland General Assembly amended the Maryland Code, Public Utilities § 7-702, which recognized economic, environmental, fuel diversification, and security benefits from obtaining electricity from renewable resources and established Maryland's Renewable Energy Portfolio Standard (RPS). In general, the RPS requires larger electricity suppliers to meet a prescribed minimum portion of their retail electricity sales with various renewable energy sources. Since the original legislation took effect in 2006, the Maryland RPS has been amended 11 times, with the most recent amendment occurring in 2019 with the Clean Energy Jobs Act (CEJA) (SB

516). As of 2021, the Maryland RPS requires that 50% of retail energy sales come from renewable resources by 2030, including 14.5% from in-state solar. Considering the projected State energy needs in 2030, the amount of energy supplied from existing solar installations (e.g., rooftop installations), and the amount of energy to be supplied from solar installations other than land-based installations, it is estimated that an additional 25,500 acres of new land-based solar panels will be needed by 2030. Of that 25,500 acres, it is estimated that 15,000 acres of land based solar panels will be installed on agricultural lands.<sup>8</sup> Given the predominance of undeveloped agricultural lands in the northern part of the County (See **Map 3.1 Existing Land Use**) and the proximity to electrical transmission mains, the County should anticipate an increase in the number and extent of land-based solar applications.

### ***Role of the Public Service Commission***

The Maryland General Assembly established the Maryland Public Service Commission (PSC) in 1910 to regulate public utilities doing business in the State. The PSC acts as an independent commission with commissioners appointed by the Governor for set terms. The PSC, whose jurisdiction and powers are enumerated in the Code of Maryland, regulates gas, electric, telephone, water and sewage disposal companies. Most importantly, for this Plan's goals, the PSC is responsible for the issuance of a Certificate of Public Convenience and Necessity (CPCN) for power generating stations that generate more than 2 megawatts (MW) of power, including solar installations. The application process and procedures for considering a CPCN by the PSC are established in the Code of Maryland Regulations. While local land use regulations must be taken into consideration, there is natural friction associated with the authority granted to the PSC in the siting of power generating facilities and the role of local land use in regulating the same. Land use concerns have become more prominent as the number of large-scale solar projects deployed or proposed across Maryland has increased in recent years. Some stakeholders have expressed concern that siting solar projects on agricultural land will have adverse impacts on local industry and culture. In Board of County Commissioners of Washington County, *Maryland v. Perennial Solar LLC* in 2019, the Maryland

<sup>8</sup> Governor's Task Force on Renewable Energy Development and Siting Final Report; August 14, 2020,



Court of Appeal held that the PSC has implied preemption over local zoning and use requirements regarding the siting of utility grade solar installations. However, per the State Code, the Perennial case does not change the fact that the PSC *must give due consideration to the consistency of the application with the comprehensive plan and zoning of each county or municipal corporation where any portion of the generating station is proposed to be located.*<sup>9</sup> Notwithstanding, in at least one recent case, the PSC has granted a CPCN for utility grade solar facility even after recognizing inconsistency of the project with both the town and county comprehensive plans. (See Items 125 and 131, respectively under PSC Case Number 9439).

### **Impacts of Land-Based Solar Installations on Dorchester County**

As mentioned above, Dorchester County has seen an increase in the number of land-based solar applications. See **Table 3.4**. From 2014 to 2018, five applications were filed in the County that included parcels totaling 966 acres with 801 acres of panels. Between 2019 and 2020, four applications were filed that included parcels totaling 1,867 acres and involving approximately 400 acres of panels. See **Map 3.5**. Again, given the State's RPS, it is expected that the County will continue to experience requests for land-based solar installations. Given the environmental constraints in other parts of the County and the location of existing substations and transmission mains, it is expected that the number of land-based solar applications will continue to increase in the Agricultural Conservation District. There is growing concern among County citizens and County officials that the proliferation of land-based solar installations has a negative impact on its rural landscape, agricultural resources, and historic and cultural resources.

As stated on page 3-14 of this Plan, the primary Goal of the Agricultural Conservation District is to **Preserve agriculture and forestry as a viable industries**. The agricultural industry within the Agricultural Conservation District obtains its vitality from the prime farmland soils in the northern portion of the County. **Map 3.6** shows the location of prime farmland soils with the Land Use Districts. Nearly all of

the prime farmland soils are located in the Agricultural Conservation District. A continuing proliferation of land-based solar installations in the Agricultural Conservation District on prime farmland soils could have a detrimental impact on the ability of the County to **Preserve agriculture and forestry as viable industries**.

Chapter 10 of this Comprehensive Plan discusses the significant positive economic impact of resource-based industries in the County, including agriculture. As stated in Chapter 10 of this Plan, according to the BEACON Report Agriculture contributed \$176.5 million to the State's economy (12% of the County's RBI total), supported 944 jobs (17% of the County's RBI total), and generated nearly \$4.3 million in State and County tax revenue (8% of the County's RBI total). Given the economic significance of agriculture in Dorchester County, page 10-3 of this Comprehensive Plan includes Goals relative to agriculture including **Preserve and promote the County's agricultural heritage** and **Support resource-based industries, including agriculture, forestry, mining, natural gas, seafood and aquaculture**. A continuing proliferation of land-based solar installations in the Agricultural Conservation District could also deprive the County (and the State) of the significant economic contributions of the agricultural industry.

Chapter 6, Historic and Cultural Preservation and Chapter 10, Economic Development, discuss the importance of the County's cultural and historic resources and the growing economic significance of Heritage Tourism. The goals of Chapter 6, Historic and Cultural Preservation, are related directly to the protection and preservation of historic and cultural resources. A goal in Chapter 10, Economic Development is to **Preserve and enrich the County's natural beauty and cultural heritage while strengthening the economy through increased nature-based and heritage tourism opportunities**. As described in Chapter 10, most of Dorchester County is part of the certified Heart of the Chesapeake Country Heritage Area. A recent land-based solar application is proposed immediately adjacent to the Town of East New Market, which is designated on the National Historical Places. If not properly located, land-based solar installations could negatively impact historic and cultural resources and negatively impact the economic benefits of Heritage Tourism in the County.

<sup>9</sup> Maryland Code, Public Utilities § 7-207



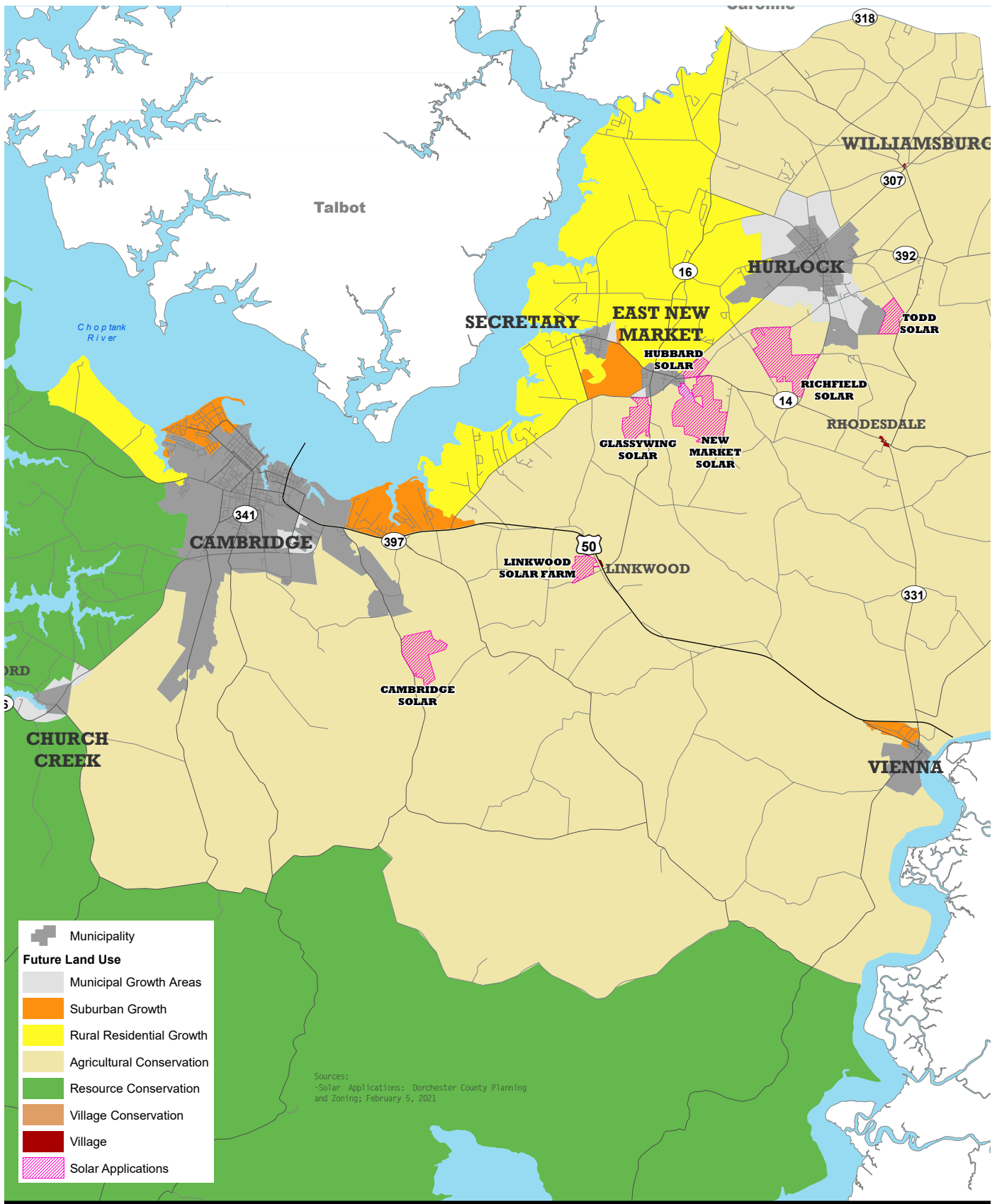
**Land-Based Solar Policies and Strategies**

- The County should amend the Zoning Ordinance and/or pass legislation that sets an aggregate acreage cap on the amount of land converted from forest or agriculture to solar installations.
- The County should amend the Zoning Ordinance to establish a limit on the overall size of solar installations.
- The County should amend the Zoning Ordinance to require solar installations to preserve a majority of prime farmland soils on parcels subject to the installation. In such situations, the preserved prime farmland soils would be prohibited from future development for the life of the solar installation.
- The County should amend the Zoning Ordinance to require setbacks and landscape buffers for solar installations adjacent to roads and residential districts. The setbacks and landscape buffers should be significant where the solar installations are adjacent to a Scenic Byway or Historic District.
- The County should encourage the PSC and/or the Maryland Department of the Environment to conduct an independent environmental assessment of the potential long-term environmental impacts of solar installations on soil, water, and other natural resources.
- The County should encourage the PSC to independently verify the salvage value of the solar equipment to the extent the salvage value is used to lower the restoration bond required for the issuance of the Certificate of Public Convenience and Necessity (CPCN).
- The County should utilize the payment in lieu of taxes (PILOT) program to incentivize solar installations that meet or exceed County zoning requirements.
- Zoning regulations that address site-specific mitigation of solar installation projects should be crafted to be applied even if the PSC grants a CPCN to a solar installation that was “disapproved” by the County or found to be inconsistent with the County’s Comprehensive Plan.

**Table 3.4 Land-Based Solar Applications**

Project Name	Acres of Land	Acres of Panels	Mega Watts
Cambridge Solar	365	25	2
Linkwood Solar, LLC	107	85	15.5
Todd Solar, LLC	143	111	20
Richfield Solar, LLC	263	91	50
Richfield Solar, LLC	102	88	50
Richfield Solar, LLC Expansion	79	79	50
Glassywing Solar, LLC	196	20	2
Hubbard Solar	74	8	1.5
New Market Solar	624	286	50
Total	1,574	782	241

Source: Dorchester County Planning and Zoning; February 5, 2021



**MAP 3.5 - LAND-BASED SOLAR APPLICATIONS**  
 2021 COMPREHENSIVE PLAN  
 DORCHESTER COUNTY, MARYLAND

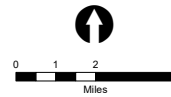




## MAP 3.6 - PRIME FARMLAND & FUTURE LAND USE

2021 COMPREHENSIVE PLAN

DORCHESTER COUNTY, MARYLAND



# 4 | ENVIRONMENTAL RESOURCES AND PROTECTION

This Chapter serves as a foundation for the County's environmental protection regulations and further integrates the growth and resource protection strategies set forth in Chapter 3 - Land Use. This chapter addresses the sensitive areas listed above as well as watersheds, groundwater, sea level rise, shoreline erosion, and the Chesapeake Bay Critical Area programs.



## INTRODUCTION

Dorchester County is characterized by a pristine, natural setting with environmental features that serve many important ecological, social, recreational and economic benefits. The fluvial, nutrient rich soils provide some of the best agricultural lands in Maryland. The wetlands are the richest and most biodiverse regions in the nation and provide habitats for a host of both common and rare and threatened species of terrestrial and aquatic plants and animals. With 1,700 miles of shoreline, numerous rivers and bays, farm and forest lands, the County has a long history of protecting and managing its natural resources. This chapter brings together those multiple efforts and programs in an outline of activities and strategies.

Dorchester's natural resource protection strategies herein are established to encourage conservation of natural resources and support for sustainable natural resource-based industries such as farming, forestry, fishing, hunting, trapping and eco-tourism. The future of Dorchester County depends on the conservation of natural areas and resources by guiding growth to the municipalities and designated growth areas, and through minimal resource conservation standards, such as those required by State and Federal law, that address the threats to the County's natural resources. With much of the County's land area either consisting of natural resource areas or susceptible to sea level rise and shoreline erosion, the County's land use and environmental policies, as well as Federal and State Natural Resource Conservation Programs, become even more important for the social and economic well-being of present and future generations.

The Maryland Economic Growth, Resource Protection, and Planning Act of 1992 required that jurisdictions adopt measures to protect environmentally sensitive areas. As such, per the MD Land Use Article, § 3-104, the County is required to develop goals objectives, principles, policies and standards to protect the following sensitive areas from the adverse impacts of development:

- Streams and buffers
- 100-year floodplains
- Habitats of threatened and endangered species
- Steep slopes
- Other sensitive areas the County wants to protect

## GOALS AND OBJECTIVES

The overall goals of this Comprehensive Plan are to preserve Dorchester County's open and rural character, support natural resource-based industries, protect maritime cultural heritage, and ensure safety from natural hazards. These goals are dependent on the conservation of sensitive natural areas and the presence of abundant natural resources including farmland, forest, wetlands and open water.

### Goals

- Protect the quality of the air, water and land from the adverse effects of development and growth.
- Protect the diversity of natural resources, with special attention given to habitats of threatened and endangered species and other unique ecosystems.

### Objectives

To help ensure the protection of natural resources the County has established the following objectives:

- Define, identify and protect sensitive and other environmentally significant areas as part of the comprehensive planning and zoning process.
- Direct growth away from sensitive areas so that impacts are avoided altogether.
- Establish a network of streams and other natural areas which connect and protect sensitive areas and other environmental features determined to be of importance.
- Integrate and coordinate sensitive areas protection with other locally adopted environmental and growth management programs such as stream valley protection, forest conservation, Chesapeake Bay Critical Area protection, watershed management and protection, rural conservation, economic development, greenways, open space and

recreation, water and sewerage, transportation and community design.

- Discourage random-pattern and sprawl development to enhance sensitive areas and other environmental resource protection capabilities in rural areas.

## **SENSITIVE AREAS**

Natural systems are vulnerable to significant degradation at the most sensitive points. Realizing this, the Maryland General Assembly passed the 1992 Maryland Planning Act which requires that jurisdictions adopt measures to protect environmentally sensitive areas. Under the Planning Act, environmentally sensitive areas include: 1) streams and their buffers; 2) 100-year floodplains; 3) habitat of threatened and endangered species; and 4) steep slopes. These environmental features have been regulated in the Chesapeake Bay Critical Area since the late 1980s. The Planning Act of 1992 extended protection for these features throughout the State.

### **Streams and Buffers**

Rivers and streams are valuable to the County in many ways. For example, streams are used for irrigation and for industrial uses; provide important spawning grounds for finfish and shellfish and help support other kinds of wildlife. Streams also support commercial and recreational fishing and attract outdoor enthusiasts such as hunters, boaters and birdwatchers. Stream managers categorize streams based on the balance and timing of the stormflow and base flow components. 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 manmade disturbances. Buffers are a "best management technique" that reduces sediment, and nitrogen,

phosphorus and other runoff pollutants by acting as a filter, thus minimizing damage to streams. Stream buffers also improve habitat for fish and other stream life.

The effectiveness of buffers depends on their width and other factors such as steep slopes, soil erodibility and wetlands. The basic structure of a stream buffer is broken up into three zones which differ in functions, width, vegetative target and allowed uses. In the eastern and northwestern U.S., the streamside zone is often maintained as mature forest, with strict limitations on all other uses. The streamside zone also produces the shade and woody debris that is so important to stream quality and biota. The middle zone is typically a 50 to 100 feet wide forested area that is managed to allow some clearing. The outer zone, usually about 25 feet wide, is ideally forest but also can include turf. The three-zone buffer is variable in width and should be increased to allow for protection of special areas such as wetlands and the floodplain.

For managing forest harvest operations, the Maryland Forest Service defines adequate buffer width as at least 50 feet forested on each side of a stream, with an increase of four feet for each percent slope.

Some jurisdictions have developed complex "systems" approaches to defining adequate stream buffers. Others have adopted a standard buffer width, such as 50 or 75 feet, which they require to remain undisturbed. Within Dorchester County's Chesapeake Bay Critical Area (50% of Dorchester County's land area), existing regulations require an undisturbed minimum buffer of 100 feet, although the forest service can allow clear cutting down to 50 feet, as part of a buffer management plan.

Currently, Dorchester County's approach to stream buffer protection outside the critical area relies on assisting property owners and developers to comply with current state law governing the protection of wetlands. This law requires an undisturbed 25-foot buffer around non-tidal wetlands. In some cases, wetlands along streams form a natural buffer, and may be more extensive than a standard buffer width of 50 or 75 feet. However, in areas where there are no non-tidal wetlands adjacent to the stream, little or no buffer may be required. Most recent studies recommend some sort of stream buffer, especially in urbanizing areas.

### 100-year Floodplain and Flood Hazards

In Dorchester County, flood origins include riverine flooding from rivers, creeks and streams and coastal flooding from the Chesapeake Bay. Approximately 56% of the County lies within the 1%-annual-chance floodplain (100-year flood) area (see **Map 4.1**). The vast majority of this area is tidal floodplain. Residents are at risk from tidal flooding, strong winds, storm surge, heavy rains and sea level rise that can cause temporary and permanent destructive flooding in both waterfront and inland areas.

Notable recent flood events include Hurricane Isabel in 2003 and Hurricane Irene in 2011, which underscore the significance of the threat of flooding in Dorchester County. Hurricane Isabel was technically downgraded to a tropical storm by the time it hit Maryland, however, its sustained winds (combined with high tides) created a storm surge reaching over eight feet in some areas of Dorchester County. The storm caused extensive damage in Dorchester County, including major damage to the Hoopers Island bridge and approach road, and throughout most of the low-lying communities in the coastal areas of the County. The Maryland Department of Planning determined that 123 properties in Dorchester County incurred damage or loss to structures during the storm. Hurricane Irene was also downgraded to a tropical storm as it made landfall. The County Council of Dorchester County declared a state of emergency, and public shelters were made available. Dorchester County sustained massive power outages, many fallen trees, several damaged roads and a few damaged buildings. The Dorchester General Hospital in Cambridge was evacuated due to wind and water damage.

Dorchester County has participated in the National Flood Insurance Program since 1981. Dorchester County's zoning ordinance contains a supplementary Floodplain Management District (Section 155-37): a zone overlaying the area of the 100-year floodplain as shown on the Flood Insurance Rate Maps published by the Federal Emergency Management Agency (FEMA). Buildings and structures within this zone must be designed to minimize flood damage within the flood prone area. Development within the riverine floodplain is strictly controlled in the ordinance.

Flood insurance is also available to Dorchester County homeowners of property located in the floodplain through the National Flood Insurance Program (NFIP). The NFIP offers flood damage protection to communities, such as Dorchester, that have worked to manage and reduce the dangers of local flooding. To this end, the County is a participant in the Community Rating System which is a flood insurance discount program that rewards higher regulatory standards, public outreach, emergency preparedness and open space preservation to reduce flooding risk and increase resiliency in the County. The program has a rating scale of 1-10, 1 being the highest, and the County is currently a Class 6 rating which equates to a 20% discount on eligible flood insurance policies. Maximizing the potential of this program in conjunction with continued land preservation practices is an integral part of the County's land use and coastal resiliency goals.

Towards addressing current hazards and mitigating future risks, the County and State have prepared numerous plans and studies. In 2017, the County prepared a Hazard Mitigation Plan (HMP) and a Flood Mitigation Plan (FMP). The FMP complements and expands upon the HMP by specifically identifying cost-effective actions that reduce or eliminate the long-term risk of flood damage. While critical facilities and general building stock were the focus of both the overall HMP and the FMP, the 2018 County Historic and Cultural Resources Mitigation and Risk Plan specifically considered flood hazard risk and vulnerability to cultural and historic resources throughout Dorchester County.

The County's land use policies generally guide growth away from flood prone areas and low-lying wetland areas. Where development has already occurred or is unavoidable, the County has adopted techniques that minimize the adverse environmental impacts of development in the floodplain and address safety issues. The Land Use Plan in Chapter 3 guides new development and population to be centered in and around designated growth areas and out of hazard areas including storm surge areas and projected sea level rise inundation areas. However, many existing developed areas and areas in low lying areas along the coast and streams in the growth areas are susceptible to flooding associated with heavy rain events. The Land Use Plan designates nearly all of

the 100-year floodplain area as natural resource or agricultural conservation areas. Current zoning, along with health regulations, also minimize densities in this area reducing the risk of flood damage. The Land Use Plan recognizes that coastal villages are areas most vulnerable to coastal change and other flooding hazards. These areas are not suitable for higher density development because of environmentally sensitive areas, including soil constraints, surrounding wetlands, flood hazards, coastal erosion and subsidence. Increasing the number of homes would exacerbate the issues and put more people and property in high hazard risk areas. Therefore, it is the intent of this plan to limit growth in the Coastal Village Conservation Areas on existing lots of record while recognizing high-risk hazard areas and reinforcing appropriate safeguards to minimize risks to flood hazards, storm surges and coastal changes related to rising sea level and shoreline subsidence. The Coastal Village Conservation Areas are discussed in more detail in Chapter 3 - Land Use.

Habitats of Threatened and Endangered Species

Federal and state laws protect habitats of threatened and endangered species. Since much development activity that affects species habitat is processed through the County, The County has an important role to play in helping property owners comply with federal and state laws. 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 the County and attractive place to live.
- An abundance of animal and plant species support outdoor recreational activities such as hunting, boating, wildlife viewing and hiking.

The Wildlife and Heritage Service Natural Heritage Programs (WHS) tracks over 1,280 native plants and animals that are among the rarest in Maryland and most in need of conservation efforts as elements of our State’s natural diversity. Lists of rare, threatened and endangered animals and plants, including federally listed species are maintained by the WHS, statewide, approximately 541 animals and 741 plants appear on the lists, although not all are listed as threatened or endangered, thereby offering them different levels of legal protections. As of 2019, within Dorchester

County, 19 animals and 65 plants are listed. Of these, three animals and one plant are listed as threatened or endangered by the United States Fish and Wildlife Service, which include the American Burying Beetle, Northern Long-eared Bat and Red-cockaded Woodpecker which are Endangered and Swamp pink which is threatened (See Table 4-1).

Table 4.1 - State Listed Species in Dorchester County\*

CATEGORY	PLANTS	ANIMALS
ENDANGERED	52	8
THREATENED	13	5
IN NEED OF CONSERVATION	N/A	6
TOTAL	65	19

\*State listed aquatic species are not included

In August 2017, NOAA designated Marshyhope Creek and Nanticoke River Critical habitat for the Federally Endangered Atlantic Sturgeon. One of the most significant threats to the Atlantic Sturgeon is poor water quality and dredging of spawning areas.

Degradation and loss of forests, riparian buffers and wetlands, which serve as their habitats, impose a major threat to the survival of these endangered and threatened species. To assist in identifying the potential habitats for these species areas, DNR designates Sensitive Species Project Review Areas (SSPRA). SSPRA represents the general locations of documented rare, threatened and endangered species, and other areas of concern including, but not limited to, Critical Areas, Natural Heritage Areas, Listed Species Sites and Nontidal Wetlands of Special State Concern.

The County Department of Planning and Zoning determines whether a development project might affect a habitat, and if so, then the project applicant is referred to the Maryland Natural Heritage Program. The project applicant then works with the Heritage Program or other appropriate agencies to minimize any project impacts on species habitat. Typically, this involves project design changes affecting features such as access, lot layout or stormwater management.

Map 4.2 shows significant wildlife assessment areas in Dorchester County including SSPRAs, forest interior dwelling species habitats and green infrastructure.



## Steep Slopes

Dorchester County is very flat. According to the Dorchester County Soil Survey (1998), the only mapping unit with over 15% slopes is Evesboro series found on uplands, stream terraces and side slopes of the Mid-Atlantic Coastal Plain. Land mapped as the Evesboro soil series range from 15-30% slopes. This series covers approximately 244 acres of the County, primarily along the Marshyhope River within the Chesapeake Bay Critical Area. Other areas of the unit are small inclusions within other mapping units. Given Dorchester County's topography, detailed regulations governing protections of steep slopes are not necessary.

## Other Sensitive Areas

### Wetlands

A wetland is a low-lying land area that is saturated with water, either permanently or seasonally, and contains hydric soils and aquatic vegetation. Wetlands may be permanently flooded by shallow water, permanently saturated by groundwater, or periodically inundated or saturated for varying periods during the growing season in most years. Many wetlands are the periodically flooded lands that occur between uplands and salt or fresh waterbodies (i.e., lakes, rivers, streams and estuaries). Other wetlands may be isolated in areas with seasonally high-water tables that are surrounded by upland or occur on slopes where they are associated with groundwater seepage areas or drainageways. Wetlands are important natural resources providing numerous values to society, including fish and wildlife habitat, flood protection, erosion control and water quality preservation. Wetlands comprise a range of environments within interior and coastal regions of Maryland.<sup>1</sup>

According to the National Wetlands Inventory survey, the County contains approximately 144,000 acres of tidal and nontidal wetlands<sup>2</sup>, which is about 40% of the total County land area. Per MDE Wetland Conservation Plan Work Group, Dorchester contains over ¼ of all the State's wetlands, which is the highest of all the counties. The County's wetlands are two main types,

estuarine and palustrine. The most abundant type is estuarine wetlands (salt and brackish wetlands) representing 60% of the County's total wetlands, equivalent to 87,054 acres. Palustrine or freshwater wetlands may be either tidal or nontidal, and represent 40% of the County's total wetlands, equivalent to 56,573 acres. These coastal wetlands are extremely important to the Chesapeake Bay ecosystem and the economy of the County.

**Map 4.3** shows the general location of mapped wetlands in the County. While the United States Geological Survey and the Maryland Department of Natural Resources both provide generalized mapping of wetland areas, the specific location and extent of wetlands require a site-by-site analysis. Final delineation of wetlands locations is typically required as part of the development review process.

The United States Army Corps of Engineers and the Maryland Department of the Environment jointly regulate the wetland activities in Dorchester 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.

### Nontidal Wetlands of Special State Concern

In Maryland, certain wetlands with rare, threatened, endangered species or unique habitat receive special attention. They are the best example of Maryland's nontidal wetland habitats and are designated for special protection under the State's nontidal wetland regulations. These wetland sites have exceptional ecological and educational value and offer landowners opportunities to observe and safeguard the beauty and natural diversity of Maryland's best remaining wetlands. Many of these special wetlands contain populations of rare and endangered native plants and animals.<sup>3</sup> Other nontidal wetlands of Special State concern represent examples of unique wetland types and collective habitats for species that thrive in specialized environments. The wetlands of Special State concern are shown on **Map 4.3**.

<sup>1</sup> Overview of the Wetland and Water Resources of Maryland prepared by the Department of the Environment for the Maryland Wetland Conservation Plan Work Group, January 2000.

<sup>2</sup> Maryland Wetlands - National Wetlands Inventory, 1992.

<sup>3</sup> <https://mde.state.md.us/programs/Water/WetlandsandWaterways/DocumentsandInformation/Documents/www.mde.state.md.us/assets/document/WetlandsWaterways/ssc.pdf>

Examples of these special types of wetlands are bogs, Delmarva bays and coniferous swamp forests. Bogs are highly acidic wetlands that lack the nutrients most common plants require and, therefore, provide habitat for specific communities of plants and animals. Dorchester County contains Delmarva bays, which are depressions that occur only on the Delmarva Peninsula that fill with water in the winter and spring, and are dry in the late summer and fall. Because these environments are self-contained, they support many rare and unique species. One example is the Dorchester Pond, which is the largest coastal plain pond in Maryland and possibly on the Delmarva Peninsula. The Nature Conservancy preserves 52 acres surrounding the pond, which includes mostly loblolly pine forest.

The Code of Maryland Regulations (COMAR) Title 26, Subtitle 23, Chapter 06, Sections 01 & 02 identifies these Wetlands of Special State Concern (WSSC) and affords them certain protections including a 100-foot buffer from development.

### **Critical Area**

The Chesapeake Bay Critical Area Program was enacted in 1984 by the Maryland General Assembly out of concern for the decline of natural resources of the Chesapeake Bay. Each jurisdiction around the Bay adopted its own local Critical Area program based on criteria promulgated by the Critical Area Commission. In 2008, the Maryland General Assembly passed HB 1253 concerning the Chesapeake and Atlantic Coastal Bays Critical Area Protection Program Administration and Enforcement Provisions. HB 1253 include:

- Critical Area Mapping
- Lot Coverage
- Erosion Control Measures
- Enforcement
- Growth Allocation
- Regulatory Authority
- 100-foot Buffer and 200-foot Expanded Buffer Requirements
- Variances

The Dorchester County Critical Area Program, adopted in 1988 and most recently went through a comprehensive review and ordinance consolidation

in 2018, is to provide special regulatory protection for the resources located within the County's Critical Area and to foster more sensitive development activity for shoreline areas. Following the adoption of the Dorchester County Critical Area Program in 1988, the County amended zoning and subdivision requirements to implement the requirements of the State law and Critical Area criteria. Approximately 50% of the County's land area, mostly in South Dorchester, is affected by the Critical Area Program.

In 2008, state legislation was passed and signed into law requiring the State to work with local governments to update the Critical Area Maps in all affected jurisdictions. **Map 4.4** shows the current Critical Areas in the County. Dorchester County's are currently being reviewed for the required update.

Land within the Critical Area is categorized by use and development intensity. Lands with 20 or more adjacent acres of residential, commercial, institutional or industrial lands is categorized as Intensely Developed Area (IDAs); lands with low or moderately intense development and areas of natural plant and animal habitat are categorized as Limited Development Areas (LDAs); and lands characterized by natural environmental or where resource utilization activities take place are categorized as Resource Conservation Areas (RCAs).

The goals of the Dorchester County Critical Area Program are:

- Minimize adverse impacts on water quality that result from pollutants that are discharged from structures or run-off from surrounding lands;
- Conserve fish and wildlife and plant habitat; and
- Establish land use policies for development that accommodates growth as well as addresses the environmental impact that the number, movement and activities of persons have on the area.

### **Critical Area Strategies**

- Complete the Critical Area remapping efforts and approve the update maps.
- As recommended in the Land Use Chapter, the Critical Area designations should be severed from the base zone designations and re-created as overlay zones.

### ***Forest and Woodlands***

According to the Maryland Department of Planning 2010 Land Use Land Cover Classification, the County contains approximately 127,000 acres of forest coverage, which represents roughly one-third of the County land mass. In addition to enhancing the rural character of the County, large portions of the forested lands are owned and operated by timber companies making silviculture (the growing of trees) an integral part of industry within the County. Because of 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.

Between 1973 and 2010, more than 9,000 acres of forest land was lost in Dorchester County, mostly to large lot residential developments. Development on large lots consumes land at a significantly faster rate than other more concentrated land use types. It results in the loss and fragmentation of forest land which decreases ecological diversity, economic benefits and recreational value. And, particularly if built using septic systems, it increases the threat of damaging water quality and biodiversity. To mitigate the loss of forested areas while still enabling growth in Maryland, legislation was passed entitled The Forest Conservation Act of 1991 (Natural Resources Article Sections 5-1601-5-1613). This legislation demands that the conditions of forested areas be taken into consideration during the planning and development processes. The Department of Natural Resources has adopted regulations to implement the legislation, and local governments administer and implement its requirements.

Requirements to conserve forest resources in the development review process throughout Dorchester County are governed by Dorchester County Forest Conservation Standards (Chapter 96). These conservation standards are also linked to Chapter 140, The County's Subdivision Ordinance, and to Chapter 100, Erosion and Sediment Control so that any land disturbance over 40,000 square feet is evaluated for impacts on forests and mitigation measures are put into place. These regulations provide special protection of the forest lands and timber resources located within Dorchester County. Development standards and requirements established by the

Forest Conservation Act are intended to foster more sensitive development activity occurring on forested areas, as well as to minimize potential adverse impacts of development activities on water quality (case by case evaluation). The provisions of this Ordinance place limitations on clearing natural vegetation and provisions for preservation of native vegetation, where possible. Also, these provisions establish a ratio of mitigation required for activities on parcels of record if the activities are not exempt from Forest Conservation Law. These regulations are adopted by the County and all the municipalities in the County. The towns of Vienna and East New Market have MOUs with Dorchester County to enforce the Forest Conservation Act.

### ***Maryland Forests Association***

Incorporated in 1976 The Maryland Forests Association, Inc. (MFA) is a state-wide nonprofit 501(c)(3) organization that represents the entire forest community. Membership includes private landowners, foresters and natural resource professionals, recreational clubs, forest products businesses, and conservation minded citizens that want forests to remain forests. MFA envisions a future in which vibrant forests are maintained throughout the State, providing diverse economic and environmental benefits to all. To accomplish this, MFA uses various outreach efforts to increase the awareness of the diverse public benefits of forests. MFA supports and promotes economic opportunities for landowners and advocates to maintain a viable industry. MFA is Maryland's voice for forest, wildlife & natural resource management.

### ***Dorchester County Forest Conservancy District Board***

Commonly referred to as Forestry Boards, the Forest Conservancy District Boards function in all jurisdictions— 23 Maryland Counties and Baltimore City. The 24 boards are joined in a State Association of Forest Conservancy District Boards. The Maryland Association provides a means of communication and exchange of ideas among the local boards and acts as a channel to its parent agency, the Maryland Department of Natural Resources-Forest Service (MDNR). The Forestry Boards were established in 1943 to assist the State's Forest Park and Wildlife Service with the promotion of rural forest management on privately owned woodlands. Their original goal was to help ensure a supply of wood fiber products through scientific forest management. Board members work

closely with their project foresters and primarily serve as advisory, educational, and facilitating bodies. Under the law, the Boards are required to review and pass on all timber harvest plans in the Chesapeake Bay Critical Area and approve all such plans in their counties if requested. They may also be called upon to play a role in the management of forest properties subject to easements acquired by local jurisdictions under the Forest Conservation Act.

#### ***Association of Forest Industries***

The Association of Forest Industries (AFI) represents Maryland's forest products industry in the halls of State and local government on all policy-related matters affecting the standing of this key resource-based industry.

#### ***DNR Forest Service***

The Maryland Forest Service works to protect, restore and manage Maryland's forests and forested ecosystems. The Forest Service not only does this on State owned lands, but works with private landowners as well through the writing of Forest Stewardship plans and guidance on logging operations. The Forest Services also works to educate people on the importance of forest health through good forest management practices to provide not only economic benefits but environmental benefits as well.

#### **Forest Resource Strategies**

- Build economic development opportunities within the County that utilize products from forests.
- Build upon partnerships with Maryland Forests Association, Dorchester County Forest Conservancy District Board, Association of Forest Industries, and the Department of Natural Resources to improve the health of forests.

#### ***Green Infrastructure***

Green infrastructure is the natural support system, providing ecosystem services necessary to people, plants and animals. Modern development fragments the landscape, converting near contiguous forest and wetlands into small, isolated islands of habitat. Statewide efforts began in the late 1990's, using high resolution aerial photography to identify the most ecologically important lands and create a mapped network of large blocks of intact forest and wetlands called "hubs" linked together by linear features such as forested stream valleys, ridges lines and other natural

areas called 'corridors'. Maryland has defined hubs as contiguous forest blocks and wetland complexes of at least 250 acres; rare or sensitive species habitats, biologically important rivers and streams and existing conservation lands and corridors as being at least 1,100 feet wide following the best ecological or most natural route between hubs.

These hubs and corridors provide important, unbroken tracts of forest interior habitat and hubs which enable animals, plants, seeds, water and other valuable processes to move between hubs. Habitat conditions, biological data, connectivity, size and other pertinent information was assessed for each hub and corridor and a score was assigned to assist in prioritizing conservation funding. See **Map 4.2**.

#### **Sensitive Area Strategies**

- Development should avoid impacts on sensitive areas located outside of designated growth areas.
- Direct development away from sensitive areas, thus avoiding impacts altogether in both growth and non-growth areas. Impacts to habitats of threatened and endangered species, or natural systems that are otherwise important and unique, should be avoided altogether.
- Generally, in those Plan designated growth areas where floodplains and stream buffers are largely developed or do not otherwise provide substantial environmental benefits, development should employ best management practices which are aimed at improving environmental quality.
- Development in Plan designated growth areas, as a rule, should employ streamlined flexible development regulations, innovative site design, incentives, best management practices and mitigation measures to protect the natural environment and sensitive areas.
- In recognition of the situation where sensitive areas may constitute all, or nearly all of a property, and where protection may preclude all reasonable uses of the property, environmental protection regulations should provide for transfer of development rights, variances, special exceptions and/or other administrative relief to prevent the taking of private property in violation of the Federal and Maryland constitutions. Exceptions may also be warranted to protect public health and safety and avoid property damage.



- Strategies for hazard mitigation of critical and public facilities are set forth in Chapter 9 - Community Facilities as well as in the HMP (Chapter 12, pg. 129) and in the FMP (Chapter 6).
- Through outreach and education efforts, promote a universal stewardship ethic for the land and water to guide individual and group actions.

### **Sensitive Area Standards**

- As a general rule, in areas which meet Federal or State environmental standards, developers should strive to make the post-development quality of air, land and water as good as pre-development levels.
- For development where Federal or State environmental standards have not been attained, post-development environmental quality should be improved over pre-development levels.
- The quality of stormwater runoff associated with redeveloping sites should be improved over pre-development levels by 10%.
- Buffer widths should vary with the functional classification of the stream and should be expanded for additional protection where steep slopes, highly erodible soils, wetlands and natural nontidal floodplains and other fragile lands that abut the buffer.
- In rural population centers, density zoning or cluster development regulations should be considered to preserve rural character, productive farmland and/or sensitive areas.
- As a general rule, protection of habitats of threatened and endangered species and other unique areas should follow both State and Federal species lists and protection guidelines.
- Where the floodplain is not already largely developed, protection of 100-year floodplains should include environmental protection aspects in addition to traditional safety concerns.

## **WATER RESOURCES**

The Environmental chapter is complementary to the Water Resources chapter of the Comprehensive Plan since the local ground and surface water resources are major factors in determining the amount and location of new development. The Water Resources chapter evaluates the projected future growth and development against the availability of sufficient water supply sources, the capacity of water supply and sewage treatment infrastructure, and the capacity of surface water in the County to absorb the nutrients generated by both point and non-point sources. In addition, the WRE contains a description of the major aquifers used to supply potable water.

### **Watersheds**

Located in the Atlantic Coastal Plain, Dorchester County is low lying, with a maximum elevation of 50 feet in the northeastern section of the County. The land north of Route 50 is generally well drained. The land south of Route 50 is generally poorly drained and includes extensive tidal marsh or fresh swamp land, making up about one-quarter of the County's land area. Around two-thirds of the County drains into the Nanticoke River watershed (see **Map 4.5**). The other major watershed is the Choptank River watershed.

The Nanticoke River Watershed contains over one-third of all the State's wetlands and is one of the most pristine and ecologically significant watershed basins in the Chesapeake Bay region. The 725,000-acre watershed supports a wide variety of plant and animal species, including more rare plants than any other landscape on the Delmarva Peninsula. Approximately two-thirds of the County's land area is in the Nanticoke River Watershed and faces issues that are agriculture and forest related. An estimated 20% of the watershed, including farmland, forests, wetlands and natural habitats, have been protected through the work of the Nature Conservancy and its partners.<sup>4</sup>

The Choptank Watershed covers approximately 700 square miles including portions of Caroline, Talbot, Dorchester and Queen Anne's County. The predominant land use in the watershed is agriculture and forest, with growing urban areas of Cambridge,

<sup>4</sup> <https://www.nature.org/>

<sup>5</sup> A TMDL (Total Maximum Daily Load) is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source(s) of the pollutant. According to the Clean Water Act, each state must develop TMDLs for all the waters identified on their Section 303(d) list of impaired waters, according to their priority ranking on that list.

Easton, Denton and Trappe. The watershed contends with a wide range of water quality issues associated with agriculture and a growing population, such as non-point agricultural runoff to failing and inefficient residential septic systems, as well as fisheries and habitat concerns. Excessive nutrients from fertilizers and animal waste have led to eutrophication, over-enrichment and algae growth in some areas at various times of the year

The various watersheds in the County were previously served by the Chesapeake Bay Tributary Teams. The mission of the Maryland Tributary Teams was to build consensus and advocate for policy solutions, to promote stewardship through education, and to coordinate activities and projects necessary to protect and restore the Chesapeake Bay's water quality and assure healthy watersheds with abundant and diverse living resources. The Tributary Teams have since been dissolved, and their progress has been continued through collaborative efforts by non-profit agencies, such as Shorerivers, Nanticoke Watershed Alliance, Eastern Shore Climate Adaption Partnership and Envision the Choptank to improve the health of the County's waterways.

The Maryland Department of the Environment (MDE) continues its efforts to implement various pollutant reduction strategies set forth by the Environmental Protection Agency (EPA) in the Chesapeake Bay Total Maximum Daily Load (TMDL) standards for nutrients and sediment.<sup>5</sup> The County should continue to seek ways to address the requirements of the Chesapeake Bay TMDL that are within the administrative capabilities of the County and that do not have a detrimental impact on economic growth. It is important to note that the TMDLs are not literal daily limits. These loads are based on an averaging period that is defined by the water quality criteria (i.e. at least 30 samples). The TMDL's are targets to aim towards for achieving healthy waterways. The implementation requires efforts and funding from all levels of government, non-profit agencies and the private sector. Details on particular stream segment TMDL's can be found at the Maryland Department of Environment web site.

## **Groundwater**

Groundwater is a critical natural resource to Dorchester County. It is the sole source of drinking water and essential for industry and agriculture. Because most of the County's surface waters are brackish, groundwater is likely to remain Dorchester County's sole water source for the foreseeable future. This resource is of limited capability for water supplies because of (1) the County's low relief which is a deterrent to economic surface storage; (2) high salinity in major tidal streams; and (3) drainage basins of small fresh water streams are too small to provide adequate stream flow.

## **Stormwater**

A change in land cover type from vegetated to impervious increases stormwater run-off volumes which can contribute to reduced water quality and increased flooding downstream. The Stormwater Management Act of 2007 developed comprehensive stormwater management and erosion and sediment control programs to minimize the adverse impacts associated with changes in land cover types. The County has a stormwater management regulations<sup>6</sup> which establish minimum requirements and procedures that control the adverse impacts associated with increased stormwater runoff. The goals are to manage stormwater through site design to maintain predevelopment runoff characteristics, to reduce stream channel erosion, pollution, siltation and sedimentation and local flooding, and use appropriate structural best management practices (BMPs) only when necessary. The regulations are intended to restore, enhance and maintain the integrity of streams, minimize damage to public and private property, and reduce the impacts of land development.

## **Water Resources Strategies**

- Build upon partnerships with groups like Shorerivers, Nanticoke Watershed Alliance, Eastern Shore Climate Adaption Partnership and Envision the Choptank to improve the health of the County's waterways.

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<sup>6</sup> A TMDL (Total Maximum Daily Load) is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. A TMDL determines a pollutant reduction target and allocates load reductions necessary to the source(s) of the pollutant. According to the Clean Water Act, each state must develop TMDLs for all the waters identified on their Section 303(d) list of impaired waters, according to their priority ranking on that list.

<sup>7</sup> Horton, R. et al, 2014, Ch.16 Northeast, Climate Change Impacts in the United States: The Third National Climate Change Assessment, U.S. Global Change Research Program, 16-1-11.

- Additional water resource protection strategies are set forth in Chapter 9 - Water Resources, which creates a policy framework to address the impacts of development and population growth in the County's waterways and riparian ecosystems by managing point and nonpoint source water pollution.

## ENVIRONMENTAL FACTORS IMPACTING SENSITIVE AREAS

### Sea Level Rise

Planning for the protection of sensitive areas requires an understanding of the long-term threats facing the natural resources. Such concerns are the rising sea level and more frequent and more intense storms as a result of climate change, as well as shoreline subsidence. These occurrences are eroding shorelines, increasing precipitation events and intensity, expanding high tide areas and floodplains, and increasing storm surge and flood hazards.<sup>7</sup>

As sea level rises, the groundwater table also rises and areas that were once upland transition to non-tidal wetlands; the mean high tide also encroaches further inland and the roadways are flooded more frequently and plant communities' change. This change is most evident where low lying roads are inundated frequently and remain inundated for longer periods of time, and at the interface of emergent tidal marshes and maritime forests where the trees die due to increased moisture and salinity.

The biggest threat from sea level rise is the loss of physical land mass and the associated property values and disruption of emergency service response times. In addition, sea level rise will lead to the failure of conventional septic systems, contaminated drinking water supplies, loss of productive agricultural lands and damage to seafood processing infrastructure (piers, ramps and packing and shipping plants). Impacts to private property will negatively impact the County tax base making it increasingly difficult for

the County to continue to repair vital infrastructure damaged by sea level rise.

Dorchester County is currently one of the most vulnerable areas to flooding on the eastern seaboard. It has been identified as one of the largest populated regions vulnerable to sea level rise due to its low elevation, long narrow peninsulas incised by many creeks, guts, streams and ditches and extensive areas of tidal marsh. There is an increasing risk to the County's residents, property, infrastructure, agriculture and environmental resources.

In 2015 the Maryland General Assembly passed the Maryland Commission on Climate Change Act that codified the membership and responsibilities of the Commission that was originally established by a Governor Executive Order in 2014. The Act also specifically requires that "the University of Maryland Center for Environmental Science (UMCES) shall establish science-based sea-level rise projections for Maryland's coastal areas and update them at least every 5 years." The Act further specifies that these projections shall include maps that indicate the areas of the State that may be most affected by storm surges, flooding, and extreme weather events, and shall be made publicly available on the Internet. As a result of the Act, in 2018, the UMCES updated sea-level rise projections that were previously prepared in 2013. The projections in the "Sea-Level Rise Projections for Maryland 2018" report do not differ substantially from those provided in 2013 report.<sup>8</sup> According to the "2013 Updating Maryland's Sea Level Rise Projections Report", in the Chesapeake Bay, sea level may rise as much as 2.1 feet by 2050. See **Map 4.6**. (The projections from the 2013 report were used in both the 2018 County Hazard Mitigation Plan and the 2018 Flood Mitigation Plan.) The probability distributions in the 2018 report can be useful in planning and regulation, infrastructure siting and design, estimation of changes in tidal range and storm surge, developing inundation mapping tools, and adaptation strategies for high-tide flooding and saltwater intrusion.

<sup>8</sup> The projections in the "Sea Level Rise Projections for Maryland, 2018" report frames sea level rise scenarios based on different probabilities, but further use a method yielding probability distributions of sea-level rise for time periods and under three greenhouse gas emissions pathways that affect the rate of global warming, and thus sea-level rise. Per this study, the "Likely range" (66% probability) of the sea level rise between 2000 and 2050 is 0.8 to 1.6 feet, with about a 5% chance it could exceed 2.0 feet and about a 1% chance it could exceed 2.3 feet if factors affecting sea level rise do not stabilize

<sup>9</sup> Mainstreaming Sea Level Rise Preparedness in Local Planning and Policy on Maryland's Eastern Shore, January 2019, Funded by Eastern Shore Land Conservancy, Eastern Shore Land Conservancy on behalf of the Eastern Shore Climate Adaptation Partnership.

<sup>10</sup> Dorchester County Coastal Flood Vulnerability Study, Michael Scott, Salisbury University.

<sup>11</sup> Preparing for Increases in Extreme Precipitation Events in Local Planning and Policy on Maryland's Eastern Shore, January 2020, Funded by Eastern Shore Land Conservancy, Eastern Shore Land Conservancy on behalf of the Eastern Shore Climate Adaptation.

Per a regional sea level rise study in January 2019 by Eastern Shore Land Conservancy on behalf of the Eastern Shore Climate Adaptation Partnership,<sup>9</sup> approximately 17% of the buildings in the County are currently threatened by a 1% chance flood event, which is projected to rise to 22.6% by 2050. While this is not a substantial increase in the number of buildings, the estimated damage increases significantly, from \$11M to \$66M. In addition, 790 buildings are expected to be constantly wet by 2050, which is the most by 2050 than any other Maryland county.<sup>10</sup>

The Eastern Shore Land Conservancy also produced a report in January 2020 titled "Preparing for Increases in Extreme Precipitation Events in Local Planning and Policy on Maryland's Eastern Shore".<sup>11</sup> The study discusses how climate change is driving precipitation patterns on the Eastern Shore to the extreme. Dorchester County can expect more rain to fall harder as time goes on, exacerbating existing vulnerabilities to flooding across the region. The report recommends strategies to reduce flood risks and improve stormwater management practices. A few strategies include upgrading infrastructure, using green-gray infrastructure, implementing stormwater utility, and restoring unutilized agricultural land to natural ecosystems. An infrastructure cost-benefit analysis would help the County determine options and alternatives for the continuation of reasonable access to the most flood-prone areas.

There are numerous studies and plans prepared by Federal, State and non-profit organization's that evaluate sea level rise vulnerabilities within Dorchester County, and that set forth adaptation strategies towards improving the area's physical, economic and ecological resiliency. Such studies and plans include, but are not limited to:

- Preparing for Increases in Extreme Precipitation Events in Local Planning and Policy on Maryland's Eastern Shore, January 2020
- Mainstreaming Sea Level Rise Preparedness in Local Planning and Policy on Maryland's Eastern Shore, January 2019, Eastern Shore Land Conservancy on behalf of the Eastern Shore Climate Adaptation Partnership
- Dorchester County Coastal Flood Vulnerability Study, Michael Scott, Salisbury University, Funded by Eastern Shore Land Conservancy
- Sea-level Rise: Projections for Maryland, 2018, University of Maryland Center for Environmental Science
- Dorchester County Historic & Cultural Resources Hazard Mitigation & Risk Plan, 2018
- Dorchester County Hazards Mitigation Plan, 2018
- Dorchester County Flood Mitigation Plan, 2017
- Maryland Coastal Resiliency Assessment, 2016, The Nature Conservancy and the Chesapeake and Coastal Services
- Blackwater 2100, A Strategy for Salt Marsh Persistence in an Era of Climate Change, 2013, The Conservation Fund and Audubon Maryland-DC
- Saving the Salt Marshes of Blackwater National Wildlife Refuge: The Final Report on Assessing Sea Level Rise Impact and Recommending Comprehensive Strategies for Marsh Management and Migration in Southern Dorchester County, 2013; prepared by the Conservation Fund and Audubon Maryland-DC with guidance from the US Fish and Wildlife Service and Maryland Department of Natural Resources
- Sea Level Rise: Technical Guidance for Dorchester County, 2008, Maryland Eastern Shore Resource
- Conservation and Development Council
- Dorchester County Inundation Study: Identifying Natural Resources Vulnerable to Sea Level Rise Over the Next 50 Years, 2006, Angie Carlisle, Caleb Conn, and Steven Fabijanski

The land use and sensitive area strategies set forth in this Comprehensive Plan aim to conserve natural resources and mitigate impacts from flooding and erosion, and therefore generally support Federal, State and non-profit organization's efforts to enhance the region's resilience to sea-level rise and climate change.

### ***Sea Level Rise Strategies***

- Work with communities, as requested, to prepare a Community Assessment to evaluate sustainable shoreline protection measures, where appropriate, and identify funding sources for implementation.
- Work with State and Federal agencies to identify appropriate funding sources for planning and implementation of appropriate programs and/or shoreline protection measures.



- For the most vulnerable communities, identify appropriate resources to assist in the documentation and/or preservation of the community's cultural heritage.
- Evaluate the potential use of conservation easements as a direct tool for supporting coastal resiliency. By restricting development along shorelines that are vulnerable to sea level rise, man-made infrastructure is kept out of high-risk areas. This would eliminate the need to protect homes and other structures from impacts of future storms and flooding. An undeveloped shoreline allows both natural marshes and agricultural land to adapt and migrate in response to sea level rise. It also provides a buffer for human communities from tidal and wind driven water surges. One example is a transfer of development rights program that would allow a property owner to transfer a development right from a lot of record that is vulnerable to sea level rise and/or coastal change to another parcel to allow for additional development that would otherwise be prohibited by the base zoning and/or Critical Area requirements.
- Continue to review, evaluate, update and implement County studies/plans that address sea level rise resiliency, and coordinate with Federal, State and non-profit organizations to ensure consistency between the various studies/plans.
- Evaluate cost versus benefits in planning for repetitive loss properties, including infrastructure and public facilities.
- Evaluate the alternatives to short-term and long-term infrastructure investment and mitigation options
- Continue to participate in the Eastern Shore Climate Adaption Partnership (ESCAP) and partner with the Eastern Shore Land Conservancy to carry out shared goals and strategies set forth in existing plans.
- Seek opportunities to work with State and Federal partners and local citizens on shared responses to the challenges caused by sea-level rise.

### **Shoreline Erosion**

Maryland's tidal zone consists of unconsolidated sands, silts and clays making it relatively easy for water to erode the shoreline. Dorchester County has over 1,700 miles of shoreline, of which nearly 50% is susceptible to erosion by natural causes such as ebb and flow of the tide and storm surges and by manmade causes such as excessive upland runoff, adjacent harden shorelines and boat wake. These factors, along with predicted acceleration of sea level rise, will accelerate the County's shore erosion. The loss of susceptible unprotected shoreline results in reduced property values; increased response times for emergency services; increased capital budget expenses; loss of historic properties and cultural sites; loss of recreational lands including beaches and loss of productive farmland and forests. In addition, the sediment degrades water quality and aquatic resources. Priority Shoreline Areas have been identified by DNR as those areas where protection and restoration of natural habitats has the greatest potential to reduce coastal hazards such as shoreline erosion.

The Living Shorelines Protection Act was passed during the 2008 Legislative Session requiring marsh creation or other nonstructural shoreline stabilization measures to protect against shoreline erosion and preserve the natural environment.

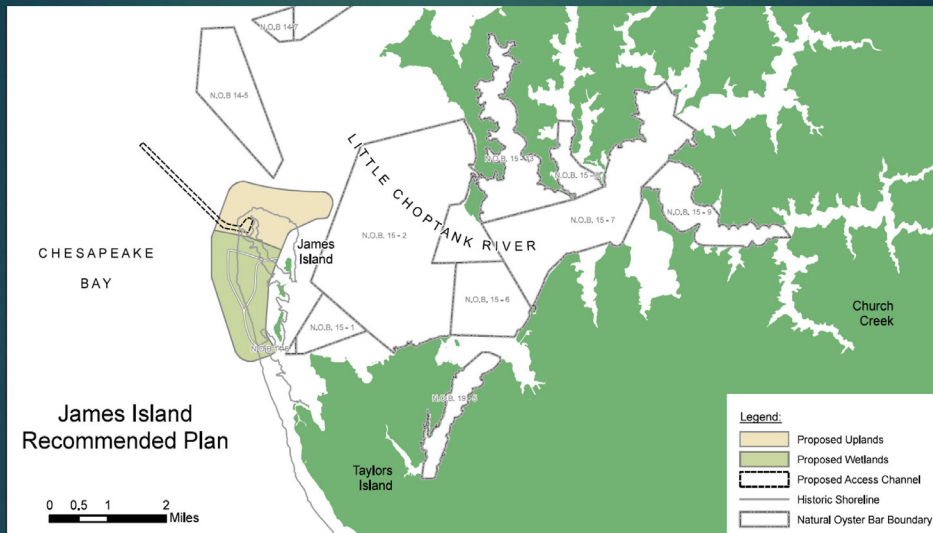
### ***Mid-Chesapeake Bay Island Restoration Project***

In 2005, the US Army Corps of Engineers determined that there was insufficient capacity for dredged material placement to meet Federal and State of Maryland dredging needs in the next 20 years. In September 2008, the U.S. Army Corps of Engineers, Baltimore District released the Mid-Chesapeake Bay Island Ecosystem Restoration Integrated Feasibility Report & Environmental Impact Statement (EIS). The purpose of the study was to determine the feasibility of protecting and restoring aquatic, intertidal wetland, and upland habitat for fish and wildlife at James and Barren Islands utilizing dredged material from the federal Chesapeake Bay approach channels serving the Port of Baltimore and the Chesapeake and Delaware Canal. James and Barren Islands are located close to the eastern shore of the Chesapeake Bay and within Dorchester County.

<sup>132</sup> Section 2.2.2 of EIS.

**Figure 4.1 James Island Ecosystem Restoration Project - Recommended Plan**

## James Island – Recommended Plan



- Approximately 2,072 acres with ~55% wetlands and 45% uplands
- Final wetland percentages and design will be updated through the Preconstruction Engineering and Design (PED) process

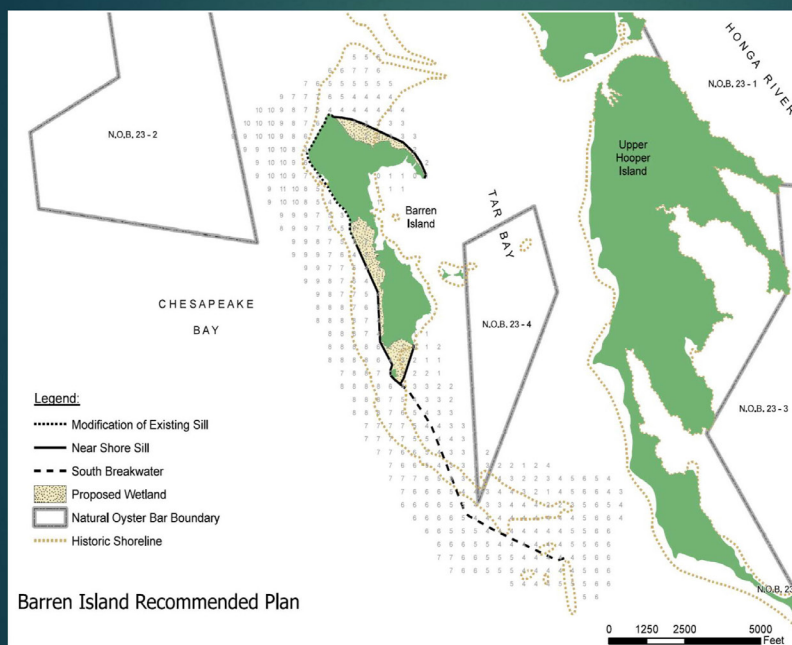
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Source: Presentation to Dorchester County Council on December 17, 2019 by the Maryland Port Administration, Maryland Department of Transportation and the U.S. Army Corps of Engineers.

**Figure 4.2 Barren Island Ecosystem Restoration Project - Recommended Plan**

## Barren Island – Recommended Plan



- Approximately 72 acres of wetlands restored and SAV
- Modification of Existing Sill
- Breakwater installation to the south
- Final design will be updated through the PED process

5



Source: Presentation to Dorchester County Council on December 17, 2019 by the Maryland Port Administration, Maryland Department of Transportation and the U.S. Army Corps of Engineers.



The EIS stated that land subsidence, rising sea level, and wave action were causing valuable remote island habitats to be lost throughout the Chesapeake Bay and that “no action” would cause the complete loss of both islands. The restoration of James and Barren Islands would be able to provide 90-95 million cubic yards of dredge material placement capacity over 45 years.

In addition to providing the much needed dredge material placement capacity, restoration of the islands would provide important upland, wetland and aquatic habitat including approximately 1,000 acres of submerged aquatic habitat (SAV). Most importantly, perhaps, as it relates to shoreline erosion in Dorchester County, the restored islands would provide shoreline protection of the mainland and reduce impacts from storms.<sup>12</sup>

After careful review and consideration of technical, economic, and environmental factors, as well as stakeholder input, it was determined that the 2,144-acre restoration of James Island and Barren Island was feasible and the preferred alternative. As of the writing of this Plan, the Mid-Chesapeake Bay Island Restoration Project is currently in preliminary design. While this an important island restoration project, it should not be considered a panacea for the increasing loss of shoreline in Dorchester County. The County supports the restoration project while evaluating and pursuing long-term solutions to the negative impacts of sea level rise and shoreline erosion. See **Figures 4.1 and 4.2** for locations of Islands and restoration recommendations.

#### ***Shoreline Erosion Strategies***

- Require best management practices as a requirement for any public assistance with shore erosion costs.
- Continue to provide incentives to property owners to install appropriate shore erosion protection measures.
- Restrict the construction of structural erosion control measures in areas mapped as suitable for non-structural measures, wetland mitigation, and natural shore erosion control.
- Encourage replacement of engineered shoreline structures with adaptive, resilient shoreline stabilization measures such as living shorelines,

marsh edging and living breakwaters.

- Preserve High Priority shoreline reaches, particularly forested and natural marsh habitat.
- Limit the placement of new structures immediately adjacent to High Priority shoreline reaches to preserve forested and marsh habitat and to allow adequate space for natural marsh retreat.
- Create an erosion buffer beyond the Critical Area buffer width in areas experiencing greater than 2 feet of erosion per year.
- Encourage the Maryland Department of Transportation, Maryland Port Administration, the US Army Corps of Engineers and the Maryland Department of the Environment to fund and implement the Mid-Chesapeake Bay Island Restoration Project.

### **NATURAL RESOURCE CONSERVATION PROGRAMS**

Many of the ecologically important lands discussed above are protected through wildlife refuges, estuarine reserves, private conservation lands and agricultural preservation. In addition to substantial land acquisitions by State and Federal agencies for land conservation, several resource conservation programs are at work in Dorchester County, helping to conserve natural resources. The County primarily relies on State, Federal and non-governmental programs designed to support natural resource conservation and agriculture preservation. See **Map 4.7**. The following provides a description and goals of the programs and, where applicable, accomplishments to date.

#### **Agriculture Land Preservation Programs**

Key to preserving agriculture is maintaining an adequate land base to support the industry and related industries, e.g., machinery dealers, agriculture inputs (seed, fertilizers), etc. Preserving agricultural land has the double benefit of preserving natural resources and supporting an important natural resource-based industry. The following discusses programs intended to preserve the agricultural land base.

#### **Priority Preservation Areas**

The Agricultural Stewardship Act of 2006 authorizes counties to include Priority Preservation Areas (PPA)

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<sup>13</sup> MALPF FY 2018 Annual Report

<sup>14</sup> <https://dnr.maryland.gov/land/Pages/RuralLegacy/home.aspx>



in their comprehensive plan, and the requirements are mandatory for counties with State-certified programs. Dorchester County does not currently have a State-certified program and does not intend to seek certification for the foreseeable future. As such, this Comprehensive Plan does not officially designate Priority Preservation Areas.

### **Maryland Agricultural Land Preservation Foundation Program**

The Maryland Agricultural Land Preservation Foundation (MALPF) was established by the Maryland General Assembly in 1977 and is part of the Maryland Department of Agriculture. The Foundation works with County governments and private citizens to preserve agricultural lands by purchasing the "development rights" of the landowner and placing an easement on the preserved land. Such easements prohibit or limit development to insure opportunity for continued farming.

At the end of FY 2017/2018, the program has permanently preserved land in each of Maryland's 23 counties, representing 2,302 properties, about 312,800 acres, and a public investment of over \$728M.<sup>15</sup> In Dorchester County, as of June 30, 2018, MALPF has acquired 91 easements totaling 14,476 acres. The County's Planning and Zoning Department works with landowners throughout the application process and after they have easements established. The Maryland Agricultural Land Preservation Program is one of the most successful programs of its kind in the nation. Maryland has preserved, in perpetuity, more agricultural land than any other state in the country.

### **Maryland Rural Legacy Program**

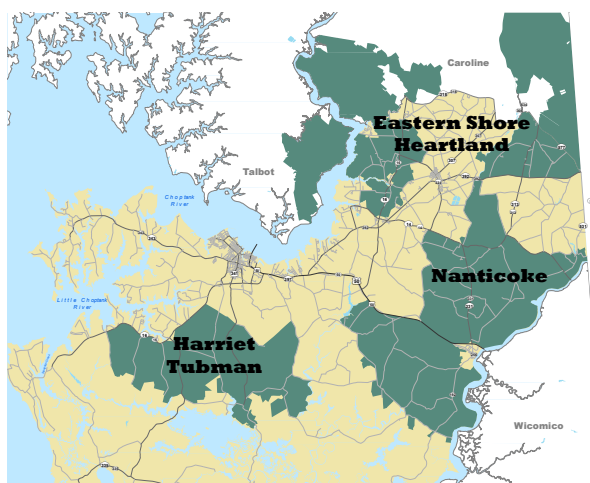
The Maryland Rural Legacy Program was created in 1997 and provides funding to land trusts and local governments to preserve large, contiguous tracts of Maryland's most precious cultural and natural resource lands. The program's goals are to enhance natural resource, agricultural, forestry and environmental protection while supporting a sustainable land base for natural resource-based industries. There is at least one Rural Legacy Area

in every county of the state and the total acreage designated in all Rural Legacy Areas is 920,694 acres. Maryland's Rural Legacy Program has dedicated over \$305.6M to preserve 86,103 acres of valuable farmland, forests, and natural areas.<sup>14</sup>

Funding from the State helps protect land through conservation easements limiting the amount of development on priority properties. The easements, used in conjunction with other protection methods, help create greenbelts with protected forests, wetlands, natural habitats and farms around waterways and communities.

The Nanticoke Rural Legacy Area, sponsored by the Nature Conservancy and The Conservation Fund, is comprised of 52,396 acres located in the Nanticoke watershed in Dorchester County.<sup>15</sup> This watershed contains over one-third of all the State's wetlands and is one of the most pristine and ecologically significant watershed basins in the Chesapeake Bay region. Because of concerted efforts over time by the Conservancy, the States of Maryland and Delaware, and other public and private partners, a 50-mile corridor exists along the western shoreline of the Nanticoke River, permanently protected from intensive development through conservation easements.<sup>16</sup> The Nanticoke Rural Legacy Area links the Fishing Bay Wildlife Management Area, the USFWS Blackwater National Wildlife Refuge, the State of Delaware's Nanticoke Wildlife Area, and the existing Agriculture Security Corridor – Eastern Shore Heartland Rural Legacy Area.

**Figure 4.3 Rural Legacy Areas**



<sup>15</sup> <https://dnr.maryland.gov/land/Pages/RuralLegacy/All-Rural-Legacy-Areas.aspx>

<sup>16</sup> The Nature Conservancy, <https://www.nature.org/en-us/about-us/where-we-work/united-states/maryland-dc/stories-in-maryland-dc/nanticoke-river-watershed/>

<sup>17</sup> The Conservation Fund is a non-profit organization which has received accreditation from the Land Trust Accreditation Commission. The Conservation Fund works with public, private and other non-profits to protect land and water resources through land acquisition, sustainable community and economic development, and leadership training, emphasizing the integration of economic and environmental goals.

The Eastern Shore Heartland Rural Legacy Area (formerly Marshyhope Focus Area) located in the northwestern corner of the County, was one of three focus areas that comprised an Agriculture Security Corridor that spanned Caroline, Cecil, Dorchester, Kent and Talbot Counties. The corridor concept was developed in 1994 to focus local, regional and national efforts on one of the largest, contiguous blocks of highly productive farmland in the rapidly developing mid-Atlantic. The Marshyhope Focus Area of the Agricultural Security Corridor was located in Dorchester and Caroline Counties. In January 2020, the Eastern Shore Land Conservancy expanded the Marshyhope Focus Area in Dorchester and Caroline Counties and into Talbot County by 44,365 acres to create the Eastern Shore Heartland Rural Legacy Area. The Eastern Shore Heartland Rural Legacy Area, which now totals approximately 91,000 acres is defined by an important river corridor, prime farm soils, a concentration of stable farm support businesses and an extensive public investment in farm preservation easements. As part of the Agriculture Security Corridor, it serves as an anchor for agricultural production and investment, and buffering and enhancing the region's natural, cultural and open space priorities.

The Harriet Tubman Rural Legacy Area was funded through Maryland's innovative Program Open Space, led by the Conservation Fund.<sup>17</sup> The 28,300-acre rural legacy area will protect and conserve the natural, cultural and historic landscape of Harriet Tubman's life and legacy. Working in partnership with the Maryland Department of Natural Resources (DNR) and Dorchester County, the Conservation Fund will lead conservation efforts by working with willing land owners to acquire easements to protect key historical sites and the landscape that tell the story of the celebrated abolitionist's work facilitating the Underground Railroad. The Rural Legacy Area serves as one of the last remaining examples of a 19th century agrarian landscape. It encompasses the Harriet Tubman Underground Railroad State Park and Visitor Center and is adjacent to the 28,000-acre Blackwater National Wildlife Refuge. The newly designated rural legacy area will bolster visitation to this area.

## **Maryland Environmental Trust**

The Maryland Environmental Trust (MET) is a statewide local land trust governed by a citizen Board of Trustees. MET's goal is the preservation of open land, such as farmland, forest land and significant natural resources. The primary tool for doing this is the conservation easement, a voluntary agreement between a landowner and MET that is often coordinated through local land trusts such as Chesapeake Wildlife Heritage or the Eastern Shore Land Conservancy. A conservation easement is an effective tool for landowners to protect natural resources and preserve scenic open space. The landowner who gives an easement limits the right to develop and subdivide the land, now and in the future, but remains the owner. The organization accepting the easement agrees to monitor it forever to ensure compliance with its terms. No public access is required by a conservation easement.

As of May 2019, MET preserved a total of 13,376 acres in Dorchester County through donated and purchased conservation easements, protecting woodland habitat, farmland, scenic views and tidal wetlands.

## **Conservation Reserve Enhancement Program**

The U.S. Department of Agriculture (USDA) and the State of Maryland have partnered in implementing a voluntary Conservation Reserve Enhancement Program (CREP) to enroll up to 100,000 acres of agricultural land situated in Maryland. With CREP, high-priority conservation goals are identified by the state, and then federal funds are supplemented with non-federal funds to achieve those goals. Through the Maryland Chesapeake Bay CREP, federal and state resources are made available to program participants to voluntarily enroll in CRP for 10- to 15-year contracts. Participants remove cropland and marginal pastureland from agricultural production and convert the land to native grasses, trees and other vegetation or restore wetlands. This will improve water quality by reducing soil runoff, increasing groundwater absorption and reducing stream sedimentation and nutrient loading from crop fields entering the Bay. It will also enhance and restore plant and wildlife habitats. In addition to keeping farmable crop and pastureland available to farmers, participating landowners receive

rental payment based on the land offered and the practice installed. Participation also makes the landowner eligible to receive other benefits. To be eligible, land must be in the project area and be either cropland or marginal pastureland. Cropland must meet cropping history criteria and be physically and legally capable of being planted in a normal manner to an agricultural commodity. Marginal pastureland along streams may also be eligible for enrollment. Land adjacent to channelized intermittent streams and infield constructed drainage ditches may also be eligible if devoted to a grass filter strip.

### Coastal & Estuarine Land Conservation Program

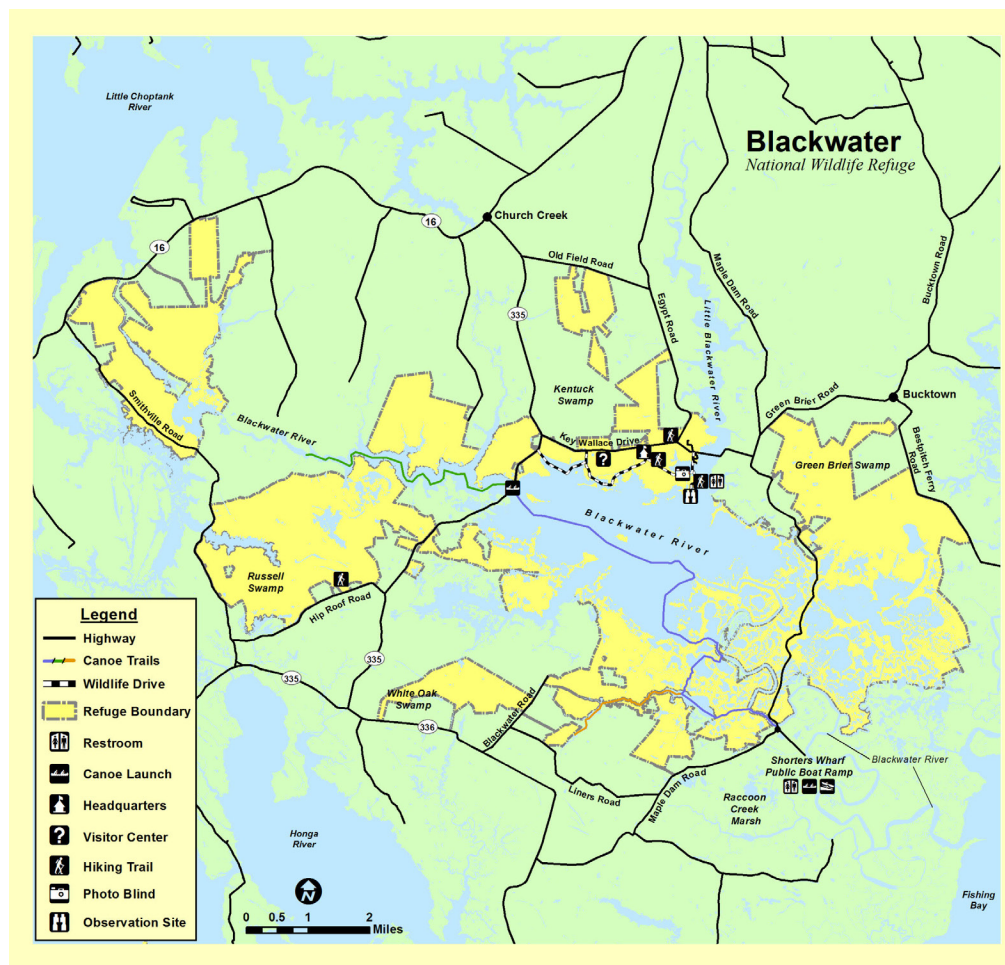
The Coastal & Estuarine Land Conservation Program (CELCP) is a nationally-competitive land conservation program through NOAA that was established to protect important coastal and estuarine areas that have significant conservation, recreation, ecological, historical or aesthetic values. Each year, Maryland's

Chesapeake & Coastal Program can submit up to three project proposals each with a requested funding of \$3M per project and 1:1 match. Project proposals support coastal land conservation goals outlined in the State's CELCP plan. Since 2008, Maryland has received approximately \$16,482,100 from CELCP. Maryland is using CELCP funding to protect important coastal and estuarine areas with significant conservation, recreation, ecological, historical or aesthetic values that may be vulnerable to conversion.

### Coastal Communities Initiative

The Coastal Communities Initiative provides federal funding through NOAA Coastal Zone management Program, administered by MD DNR Coastal and Watershed Services Division. This initiative provides financial and technical assistance to local governments to promote the incorporation of natural resources and/or coastal management issues into local planning and permitting activities.

**Figure 4.4 Blackwater National Wildlife Refuge**



Source: Blackwater National Wildlife Refuge Brochure, U.S. Fish and Wildlife Service, September 2019

### **U.S. Fish and Wildlife Service - Blackwater National Wildlife Refuge**

The U.S. Fish and Wildlife Service manages the Blackwater National Wildlife Refuge (NWR) which was established in 1933 as a waterfowl sanctuary for birds migrating along the Atlantic Flyway. It is home to an incredible amount of plant and animal diversity in its three major habitats – forest, marsh and shallow water. The refuge is home to the largest natural population of formerly endangered Delmarva peninsula fox squirrels and is also home to the largest breeding population of American bald eagles on the East Coast, north of Florida.

The refuge contains one-third of Maryland's tidal wetlands, which makes it an ecologically important area within the State. These wetlands also provide storm protection to the County, including Cambridge. Blackwater NWR is recognized as a "Wetland of International Importance" by the Ramsar Convention and was named a priority wetland in the North American Waterfowl Management Plan. In addition, Blackwater NWR has been designated as an Internationally Important Bird Area. The refuge has been referred to as the "Everglades of the North," and has been called one of the "Last Great Places" by the Nature Conservancy.

### **Research Centers**

The Wye Research and Education Center (WREC) of the University of Maryland serves the State of Maryland through its work as an innovative research, extension, and education center focusing on cattle breeding and genetics, integrated pest management, plant breeding and genetics, energy development, usage and conservation, and interaction of land and water agriculture/aquaculture.

The University of Maryland Center for Environmental and Estuarine Studies serves the eastern shore of Maryland providing education and outreach services for better management of natural resources and the protection and restoration of the Chesapeake Bay. The center engages in research in oceanography, water quality, restoration of sea grasses, marshes and shellfish, ecosystem modeling, agronomy, commercial horticulture, and forestry and wildlife management.

### **Nanticoke Watershed Alliance**

The mission of the Nanticoke Watershed Alliance (NWA) is to conserve the natural, cultural and recreational resources of the Nanticoke River Watershed for the benefit of present and future generations. Membership is diverse and composed of representatives from groups such as the Friends of the Nanticoke River, Wicomico Environmental Trust and Nanticoke River Watershed Conservancy. They work toward accomplishing their mission by fostering public support through education, outreach and advocacy. They develop partnerships between landowners, private organizations, businesses and all levels of government in Maryland and Delaware. They promote the protection of wildlife and recreational greenways on both sides of the Nanticoke River, and seek to improve river water quality and encourage appropriate development and land use patterns throughout the watershed.

### **Friends of the Nanticoke River**

An organization of concerned landowners and citizens who wish to protect the Nanticoke River and its surrounding lands, and in doing so, preserve the unique quality of life enjoyed in this area. Their goals include the improvement of agricultural preservation programs, the enforcement of existing land use regulations, and the encouragement of recreational, educational, and low impact activities on, and around the river. Friends of the Nanticoke River work with communities to develop land use policies that preserve and protect precious natural resources. They work with all levels of government to maintain the natural beauty, solitude, peace of mind and sense of community the Nanticoke River provides.

### **The Eastern Shore Land Conservancy (ESLC)**

The ESLC is a private, nonprofit organization started by eastern shore conservationists and farmers out of a concern that the unique beauty, productivity and character of the eastern shore were being lost to sprawling, unplanned development. To achieve its land preservation mission, the Conservancy works with willing landowners to help find ways to preserve their land. In addition, ESLC conducts estate planning workshops and educational programs for attorneys and farm families. The ESLC also has been working on



developing a program to aid young farmers expanding their operation or getting started in the industry. In Dorchester County, the Conservancy has preserved farms and has focused its efforts on preserving land in the Nanticoke and Marshyhope River watersheds and within the prime farming regions of central northern Dorchester County.

### **Natural Resource Conservation Programs Strategies**

Dorchester County leadership in agriculture preservation and natural resources conservation are cognizant of the importance the industry plays in our overall economic wealth, sustainability and resiliency. It is imperative the County continues programs that help to elevate the support and priority of farming, forestry and conservation of environmentally sensitive areas. Dorchester County relies primarily on State and Federal funds and resources and encourages partnerships with non-governmental organizations to do so.

- Continue to support the efforts of State, Federal and non-profit organizations to preserve natural resources, including productive agricultural land.
- Continue to partner with the Eastern Shore Land Conservancy to carry out shared goals and strategies set forth in existing plans.
- Collaborate with Economic Development Department and leaders to develop assistance programs for the agricultural and forest product industries.
- Maximize use of MALPF funds to purchase farmland development rights to preserve farms in perpetuity.
- Purchase development rights on farms near other protected farms in agricultural communities to encourage the preservation of agriculture as a business.
- Prioritize and support preservation efforts in Rural Legacy Areas.



## MAP 4.1 - FLOOD HAZARDS

2021 COMPREHENSIVE PLAN

DORCHESTER COUNTY, MARYLAND





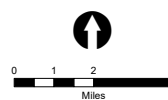
**MAP 4.2 - SENSITIVE SPECIES RESOURCE AREAS**  
2021 COMPREHENSIVE PLAN  
DORCHESTER COUNTY, MARYLAND







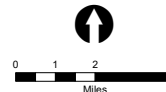
**MAP 4.3 - WETLANDS**  
2021 COMPREHENSIVE PLAN  
DORCHESTER COUNTY, MARYLAND





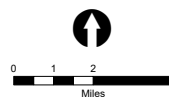


**MAP 4.4 - CRITICAL AREAS**  
 2021 COMPREHENSIVE PLAN  
 DORCHESTER COUNTY, MARYLAND



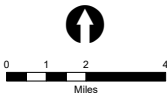


**MAP 4.5 - WATERSHEDS**  
 2021 COMPREHENSIVE PLAN  
 DORCHESTER COUNTY, MARYLAND

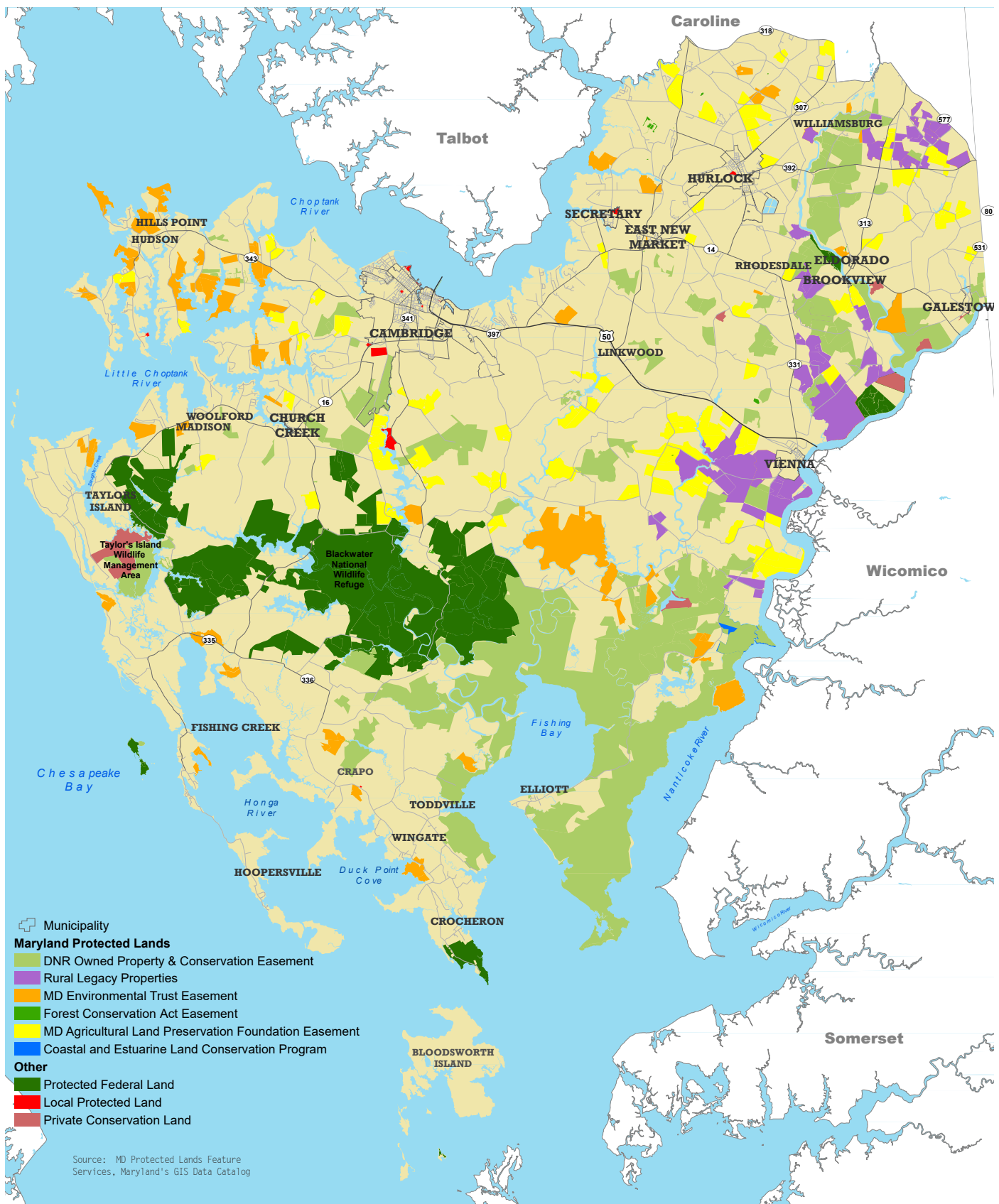




**MAP 4.6 - SEA LEVEL RISE 2050**  
**2021 COMPREHENSIVE PLAN**  
DORCHESTER COUNTY, MARYLAND







## MAP 4.8 - CONSERVATION PROGRAMS

2021 COMPREHENSIVE PLAN

DORCHESTER COUNTY, MARYLAND





## 5 | WATER RESOURCES

The Water Resources Element creates a policy framework for sustaining public drinking water supplies and protecting Dorchester County's waterways and riparian ecosystems by addressing nonpoint source water pollution caused by failing on-lot and shared facility sewage disposal systems as well as increases in impervious surfaces. It complies with the requirements of the Land Use Article of the Annotated Code of Maryland—as modified by Maryland House Bill 1141, passed in 2006. Since each municipality with land use authority is responsible for their own Comprehensive Plan and, therefore, their own Water Resources Element, this Element only addresses County water and sewer facilities and nonpoint impacts from the County's Future Land Use Plan outside the municipalities. The Towns of Cambridge, East New Market, Hurlock, Secretary and Vienna each own and operate their own public water systems. The same is true for public wastewater systems except that East New Market and Secretary both utilize the Twin Cities wastewater treatment plant located in Secretary. It is noted that Dorchester County does not own or operate any public water or sewer facilities. Such facilities, including shared sewer facilities, that are operated by the Dorchester County Sanitary Commission are the subject of this Element.<sup>1</sup> Finally, this Element is not intended to replace the County Master Water and Sewer Plan which is the primary document for describing existing facilities and determining future capacity and service area needs as well as the commensurate improvements to meet those needs. Where appropriate, this Element will make recommendations to revise the County Master Water and Sewer Plan to address problematic existing conditions and/or to address future needs.

## DRINKING WATER

### Goal

- Ensure that an adequate drinking water supply is available for existing and future land uses.

The Dorchester County Sanitary Commission (Sanitary Commission) is responsible for providing water service to two unincorporated areas of the County: the Bonnie Brook development located just east of Cambridge along Route 50, also known as Sanitary District (SD) #2; and a portion of the Algonquin area immediately adjacent to Cambridge along the Choptank River, also known as SD #6.

### Water Service Sanitary Districts

**SD #2:** According to the 2004 County Master Water and Sewer Plan, the Bonnie Brook development contains 117 approved lots and is served by two wells and a 10,000 gallon hydropneumatic storage tank. According to recent information provided by the Maryland Department of the Environment (MDE), the groundwater appropriation permit (GAP) allows for an average daily withdrawal of 26,000 gallons per day (gpd) with a maximum daily withdrawal of 42,000 gpd. The annual average daily withdrawal in 2018 was 23,000 gpd. The water is withdrawn from the Piney Point Aquifer, which is a confined aquifer that does not outcrop at the surface and is, therefore, not directly recharged by precipitation.<sup>2</sup> The 2016 Annual Drinking Water Quality Report for the Bonnie Brook water system did not indicate any violations of drinking water standards. In 2017, the County Master Water and Sewer Plan was amended to include improvements to the Bonnie Brook water system to provide redundancy of equipment and to modernize controls. These improvements were completed in 2018. The Bonnie Brook development is essentially built-out and the water system appears adequate to meet future needs.

**SD #6:** This District serves approximately 103 residences west of Cambridge in Algonquin. This area was previously served by a private water system known as the Hales Water System which utilized centralized wells. The Hales Water System was taken over by the Sanitary Commission and became

known as the Lodgecliff Water System. In 2012, the Lodgecliff Water System was abandoned and the Sanitary Commission began to purchase water from the Cambridge Municipal Utilities Commission via a bulk purchase agreement. The water system includes approximately 3,600 feet of 8-inch water main, 6,000 feet of 6-inch water main and 10 fire hydrants which are adequate for fire flow according to the 2004 County Master Water and Sewer Plan. The Sanitary Commission still owns and operates the Lodgecliff distribution system. The 2016 water quality data for the Lodgecliff Water Distribution System, published by MDE, indicated no water quality violations. SD #6 is built-out and the agreement between the City and the Sanitary Commission is sufficient to meet the future needs of the area.

**Map 5.1** indicates the location of the above-described water service districts.

## WASTEWATER

### Goals

- Ensure that adequate sanitary sewer treatment and disposal is available for existing and future land uses.
- Address areas of failing on-lot systems and/or shared facilities by extensions of public sewer where financially feasible.

As mentioned above, this Element will focus on those water and sewer facilities owned and/or operated by the Sanitary Commission.<sup>3</sup> The Sanitary Commission does not own a wastewater treatment plant, but does own and operate collection and conveyance facilities outside the City of Cambridge that transport sewage from various Sanitary Districts to the City's sewer system for eventual treatment at the Cambridge Wastewater Treatment Plant (WWTP). According to information provided by the Sanitary Commission, the Cambridge WWTP serves approximately 1,300 Sanitary Commission customers located outside the City. The Cambridge WWTP treats the sewage to Enhanced Nutrient Removal (ENR) standards and is currently permitted for 8.1 million gallons per day (MGPD) of capacity. According to the Final Summary Report and Fact Sheet issued by MDE on March 3,

<sup>1</sup> The Dorchester County Sanitary Commission governs the Sanitary Districts. Sanitary Commission members are appointed by the Dorchester County Council to six-year terms.

<sup>2</sup> Source Water Assessment for the Community Water Systems Using Confined Aquifers in Dorchester County, Maryland – MDE January 2004.

<sup>3</sup> It is noted that two areas within the County are served with public sewer that are not within a Sanitary District. The University of Maryland Center for Environmental Science located on Horn Point Road is served directly by the City of Cambridge and small area adjacent to Vienna is served by the Town of Vienna's sewer system.

2016, the 3-year average flow from the years 2013 to 2015 was 2.5 MGD. In addition, according to the 2011 City of Cambridge Comprehensive Plan Water Resources Element, the City estimates additional flow of approximately 0.7 MGD by the year 2030, thus leaving approximately 5.0 MGD of unused capacity in the WWTP in the year 2030. The Sanitary Districts served by the Cambridge WWTP are Sanitary Districts #1, #3, #4 and #7.

In addition to sewer service areas described above, the Sanitary Commission has approved numerous "shared facilities" which are collectively known as SD #5, which is described in more detail below.

### ***Sewer Service Sanitary Districts***

**SD #1:** This District includes the unincorporated area northwest of Cambridge, generally known as Algonquin. Sewer service to parts of this area were previously provided by a lagoon treatment system owned and operated by the Sanitary Commission. The lagoon treatment system was decommissioned in the 1980's and the sewage redirected into the Cambridge sewer system. The Sanitary Commission owns and operates the collection and conveyance system serving SD #1, which consists of gravity lines, pump stations and force mains that convey the sewage to the Cambridge sewer system for treatment at the Cambridge WWTP.

**SD #3:** This District consists of lots generally along Route 16 west of Cambridge to Church Creek. This area represents lots previously served with on-lot systems that failed, including the Town of Church Creek. The area is served by a combination of individual grinder pumps, low pressure small diameter force mains and pump stations and larger force mains, which convey the sewage to the Cambridge sewer system for treatment at the Cambridge WWTP.

**SD #4:** This District is generally known as Jacktown and Lovejoy east of the Cambridge City limits. The area was originally served with on-lot septic systems that failed. In 1984, the area was retrofitted with grinder pumps and low-pressure small diameter force mains which convey the sewage to the Cambridge sewer system for treatment at the Cambridge WWTP.

**SD #7:** This District is west and north of Church Creek. Similar to SD #3, this area represents lots previously served by on-lot systems that failed. Also, sewage is conveyed via individual grinder pumps, low pressure small diameter force mains and pump stations, and larger force mains to the Cambridge sewer system (through SD #3) for treatment at the Cambridge WWTP.

In total, the Sanitary Commission serves approximately 1,300 customers in SD's #1, #3, #4 and #7 with all the sewage being conveyed to the Cambridge WWTP.

**SD #5:** This District is comprised of all the "shared facilities" in the County, mostly of which occur in the Neck District.

Shared facilities in Dorchester County are expressly permitted by §9-672, et seq. of the Environmental Article. This subtitle relates only to Dorchester County. That is, no other County or municipality has similar authority. A shared facility is defined as a:

*.... water system or sewerage system that serves:*  
*(1) More than 1 lot;*  
*(2) More than 1 single family residence or its equivalent; or*  
*(3) A series of water systems or sewerage systems that each serve 1 lot.*

In addition, the law states that shared facilities may not serve more than 14 single family residences or their equivalents.<sup>4</sup> The Sanitary Commission is the approving authority for shared facilities upon petition by property owners, subject to review by the County Council for any proposed shared facility rejected by the Sanitary Commission. The law provides that the Sanitary Commission is to build the shared facility following approval and to determine a "benefit assessment" to be charged to each lot owner served by the facility. The purpose of the benefit assessment is to recoup the costs of the shared facility construction. It does not appear that the Sanitary Commission currently imposes benefit assessments. This may be because the shared facilities were built by the petitioners and, therefore, a benefit assessment levied by the Sanitary Commission to recoup costs is not necessary. The Sanitary Commission does assess an annual minimum charge, which is discussed in more detail below.

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<sup>4</sup> §9-674 of the Environmental Article.

Each shared facility is approved by a Resolution of the Sanitary Commission and an Indenture signed by the property owner.<sup>5</sup> The Indentures, which are recorded in the Land Records, require the shared facility to be constructed, owned and operated by the property owners served by the facility. The Indentures also allow for the collection of an annual minimum charge per lot to contribute to a “common fund”. The “common fund” may be used for “ministerial, clerical, legal or accounting expenses” incurred by the Sanitary Commission and for “curing any common-system default” by the property owners. A “common system default” is defined in the Indenture as “... a malfunction which effects the shared facility as a whole”. Easements are granted to the Sanitary Commission and its agents for the purposes of inspections. Should a common system default occur, the Sanitary Commission or its agents have the “... unconditional right but not the obligation ...” to enter upon the easement for the purposes of curing the system default. As such, based on the language of the Indentures, it does not appear that the Sanitary Commission considers itself to be responsible for ensuring that the property owners are properly operating and maintaining the facilities. More importantly, perhaps, it does not appear that the Indentures mandate that the Sanitary Commission make necessary repairs in the event the property owners fail to do so.

Shared facilities are also addressed in the Code of Maryland Regulations (COMAR). COMAR requires the establishment of a Controlling Authority which is defined as a governmental body empowered by the county or municipality to provide for management, operation, and continuous preventive and corrective maintenance of a shared facility. While COMAR does not require that shared facilities be operated by a Controlling Authority, it does require that the Controlling Authority ensure that all shared facilities are operated and maintained properly and to take the necessary actions to repair and/or replace the facilities if the owners fail to do so (COMAR §26.04.05.02). Given the statute for shared facilities unique to Dorchester County and the Indentures described above, it does not appear that the Sanitary Commission officially serves as the Controlling Authority.

It should be noted that all of the shared facilities operated by the Sanitary Commission are bermed infiltration ponds (BIPS). Whether serving one lot or more than one lot (shared facility) a BIP is a system consisting of a septic tank, pumping chamber, pump and the bermed infiltration pond. The pond is an excavated area that exposes a water-bearing substratum with the excavated material forming the berm. Water from the substratum rises and falls in accordance with seasonal fluctuations in the water table. Septic tank effluent is discharged into the bottom of the BIP and biological treatment occurs as water moves into the near surface groundwater.<sup>5</sup> Due to the high groundwater levels in parts of Dorchester County, BIPS have been an acceptable form of on-lot sewage disposal by the Environmental Health Department and the Maryland Department of the Environment. While BIPS are still officially an acceptable form of on-lot sewage disposal, a myriad of factors, such as non-tidal wetland regulations, Critical Area requirements, and Forest Conservation Regulations have made the development of new BIPS impractical, if not virtually unfeasible.<sup>7</sup> In all, there are approximately 39 BIPS/shared facilities in Dorchester County serving approximately 287 lots. Approximately 230 of the lots served are improved.

This history, nature and on-going management of shared facilities is unique to Dorchester County. While Indentures have been established that provide for some oversight by the Sanitary Commission, it does not appear that the Sanitary Commission acts as the Controlling Authority for the shared facilities. While a common fund has been accrued by the Sanitary Commission for replacement of the facilities in the case of default by the property owners, it is not clear if enough funding is available. In addition, given the other environmental constraints and regulations mentioned above, it is unlikely that replacement BIPS would be feasible. As the facilities age, it is likely that on-going maintenance will become more problematic and that additional system failures will occur. Given the ambiguities associated with the Sanitary Commission's role in managing the shared facilities, the future disposition of shared facilities could pose to be one of the most complex and pressing wastewater issues facing the County now and into the future. The shared facilities maintained by the Sanitary

<sup>5</sup> For the purposes of this section, two separate Indentures were reviewed and it is assumed that other Indentures contain similar provisions.

<sup>6</sup> Individual Septic Systems and Wells Program – Site Evaluation Training Manual for On-Site Sewage and Disposal Systems, prepared by the Maryland Center for Environmental Training, February 1994.

<sup>7</sup> Some information regarding shared facilities obtained from Christopher Drummond, Esq. in his memo to the Dorchester County Planning Commission dated May 6, 2019.



Commission are also collectively known as Sanitary District 5 and are shown on **Map 5.1** along with the other sanitary sewer service areas of the Sanitary Commission.

### ***Expansion of Sanitary Sewer Districts***

The 2004 Master Water and Sewer Plan identified several Septic System Problem Areas and categorized these areas as Type 1 Areas and Type 2 Areas. Both Type 1 and Type 2 Areas are characterized by a concentration of small lots and soil conditions that make continued septic system repairs impractical. Type 1 Areas were areas where a sanitary survey had been conducted, which generally identified the nature and extent of the problems. In Type 2 Areas, no formal surveys had been conducted, but due to lot size and soil conditions, it was presumed that problems existed. Since the 2004 Master Water and Sewer Plan, some of the problem areas have been served with public sewer; most recently being the Madison and the Susquehanna Road and Parson Drive area. Given the time that has elapsed since 2004, the County should undertake additional sanitary surveys to determine the need for public sewer extensions to address problem on-lot areas including areas served by individual BIPS or shared facility BIPS. Given the extent of failed areas identified in the past, the predominance of BIPs and the predominance of shared facility BIPS, the Neck District and the Route 16 corridor should be the focus of further study and is shown on **Map 5.1**. Any study to identify areas in need of public sewer extension should be conducted in a format consistent with MDE requirements for Bay Restoration Fund (BRF) eligibility. One of the requirements for BRF eligibility for sewer extensions to address failing on-lot or shared systems is that the sewage must be treated at a wastewater treatment plant that meets ENR effluent standards established by MDE. The Cambridge WWTP meets ENR standards and according to the 2011 City Comprehensive Plan has significant excess capacity to provide service to failing system areas in the County.<sup>8</sup>

### ***Denied Access Lines and Priority Funding Areas***

Based on the Land Use Plan described in Chapter 3, any public sewer extensions to service failing on-lot sewer systems or failing shared facilities encompass areas within the Resource Conservation, Agricultural Conservation, Village Conservation and/or Rural Residential Growth Land Use Districts. This would most likely be the case with the actual sewer collection and conveyance piping as well as the area of failing on-lot systems to be served. None of these land use districts are intended to be served with public sewer and are most likely not designated as Priority Funding Areas (PFAs). Given the fact that State funds, through the traditional State Revolving Loan Program and/or the Bay Restoration Fund, would be used as a funding source for these types of projects, a PFA exception from the Governor's Smart Growth Coordinating Committee is required as a condition of funding. The PFA law explicitly recognizes the need to use State funding for projects outside PFAs to address public health and safety issues for drinking water system improvements and sewer system improvements. In the past, land use policies related to resource and/or agricultural land use districts within County Comprehensive Plans have been impediments to the granting of PFA exceptions even when a clear public health and safety issue exists. However, a recently approved PFA exception was granted to Dorchester County in 2019 to allow for funding and assistance to connect 12 lots in the McKeil Point subdivision, currently served by a failing bermed infiltration pond, to public sewer.

It is the express intention of Dorchester County that the land use policies contained in this Comprehensive Plan not prevent the granting of a PFA exception to address public health and/or safety issues associated with failing individual on-lot or shared facility systems. In addition, it should be noted that the County Zoning Regulations allow for the development of a single-family dwelling on an undeveloped lot of record provided that approval can be obtained from the Environmental Health Department. Since connection to an ENR WWTP (Cambridge) provides considerably more sewage treatment than an on-lot system, it is also the express intent of Dorchester County that residential undeveloped lots of record be allowed to connect to sewer lines extended to serve a problem area for the development of one single-family dwelling. In addition to the water quality benefits

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<sup>8</sup> See Table 3.10 Impacts to Sanitary Sewer, 2001 Cambridge Comprehensive Plan.

of ENR treatment versus on-lot system treatment, additional connections to a sewer line extension provide economic benefits by spreading project costs over more customers. It is the intent of this Plan to take measures which will abate the discharge of raw sewage onto the surface of the ground or into the groundwater from existing BIPS or other on-lot or community sewage systems that are in a state of failure and create a threat to public health and safety and are a potential harm to the environment and water quality.

### **Master Water and Sewer Plan**

Chapter 3, Land Use and **Appendix 3** include the Growth Tier Map as required by The Sustainable Growth and Agricultural Preservation Act (SB 236) which seeks to designate where minor and major subdivisions can occur in the County and the type of sewage systems that can serve them. During the course of the development of the Growth Tier Maps, it was discovered that inconsistencies exist between the location and extent of some of the future land use districts in the Future Land Use Plan and the water and sewer service areas. For example, areas outside of the Town of Hurlock that are designated as Municipal Growth Areas (based on the Town's adopted Municipal Growth Element) on **Map 3.4**, that are not designated for sewer service in the County's Master Water and Sewer Plan. The same is true for areas designated as Suburban District on **Map 3.4** between the Towns of Secretary and New Market that are not designated for sewer service. Both of these areas are within the proposed Sector Plan Study boundary and would, therefore, be subject to more focused planning as recommended in the Land Use Chapter. As part of that focused planning, the Towns and the County should ensure there is alignment with the goals of the future land use designation and the water and sewer service area designations.

### **Drinking Water Strategies**

- Encourage the continued cooperation between the Sanitary Commission and the City of Cambridge regarding water service to SD #6.
- Engage in discussions with the Towns of Secretary, East New Market and Vienna regarding the possible availability of municipal water service to serve the Suburban Growth District adjacent to the respective Towns.

### **Wastewater Strategies**

- Encourage the continued cooperation between the Sanitary Commission and the City of Cambridge regarding water service to Sanitary Districts # 1, #3, #4, and #7.
- In conjunction with the Sanitary Commission, evaluate the feasibility of the Sanitary Commission becoming the "Controlling Authority" over existing and any future shared facilities.
- Prepare a preliminary engineering report of the area shown on **Map 5.1** on the extent of failing on-lot systems and the feasibility of extending sewer service from the City of Cambridge to said areas. Given the uncertainties surrounding the long-term management and environmental viability of shared facilities, said study should evaluate the feasibility of extending service to shared facilities whether technically in a state of failure or functioning as originally intended.
- Extend public sewer service to areas with failing individual or shared sewage systems, including failing BIPS, and provide land use and development restrictions for these areas so as not to foster unintended growth such as limitations on lot sizes or equivalent dwelling unit connections as a future threshold for service.
- Engage in discussions with the Towns of Secretary and/or East New Market regarding the possible availability of municipal sewer service to serve the Suburban Growth District adjacent to the respective Towns.
- The County and the municipalities should ensure that the County Water and Sewer Plan is in alignment with the Municipal Growth Areas and other Growth Areas as designated on the Future Land Use Plan.

## **STORMWATER**

### **Goals**

- Ensure that runoff from new development does not cause adverse impacts to adjacent waterbodies.

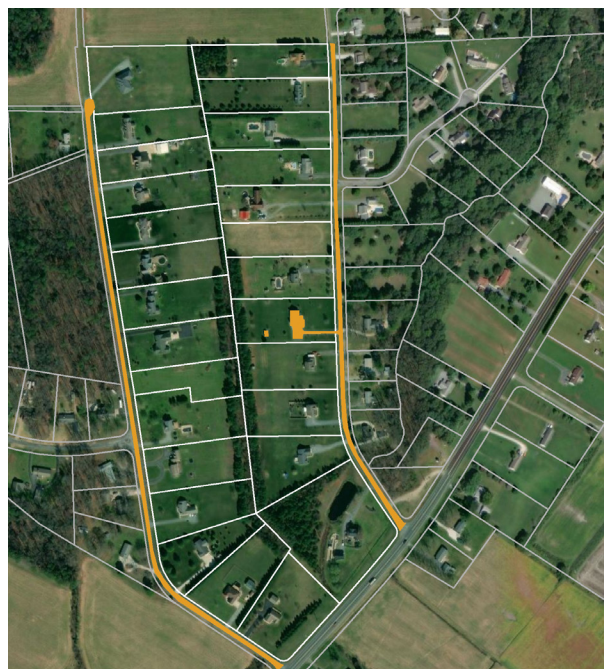
As described earlier, each municipality is responsible for their own Water Resources Element and, as such, this County Element only addresses water and wastewater facilities and issues within the

unincorporated areas of the County. The same is true for the stormwater component of this Element. That is, it is intended to address only those stormwater issues outside the incorporated limits of the municipalities. More specifically, this portion of the Water Resources Element will address the stormwater impacts of runoff from new development in accordance with the Future Land Use Plan.

Typically, a Water Resources Element would evaluate runoff caused from impervious surfaces. While the Suburban Growth and Village land use districts do envision more development potential as described in Chapter 3 of this Plan, said districts only comprise 0.5% and 0.01%, respectively, of the total County land area. As such, it is not envisioned that future development in these areas will have any appreciable impact from additional impervious surfaces. For the purposes of this Water Resources Element, various land use alternatives were not evaluated. As described in Chapter 3, the vast majority of the County (approximately 94%) is designated as either Agricultural Conservation or Resource Conservation in the Future Land Use Plan. Both of these land use designations envision very low-density developments and as such, it is not envisioned that future development in these areas will have any appreciable impact from additional stormwater runoff caused by additional impervious surfaces. The only other significant future land use category that could impact water quality of receiving waters from runoff from new development is Rural Residential Growth. Rural Residential Growth areas represent only approximately 5% of the County. Its location and extent were established due to the existence of existing low-density development in the area, as well as its location along the Route 16 corridor. The Rural Residential Growth category does not anticipate new development to be served with public water and/or sewer, and therefore would require lot sizes large enough to accommodate wells and septic systems along with the appropriate isolation distances. As of the writing of this Plan, no impervious surface coverage exists in GIS format for the County. As such, a desktop analysis of a typical existing development in the Rural Residential Growth area, including internal roadways serving the lots, indicated an impervious surface coverage of approximately 13%. See **Figure 5.1** and **Appendix C**. According to the Center for Watershed Protection's Impervious Cover

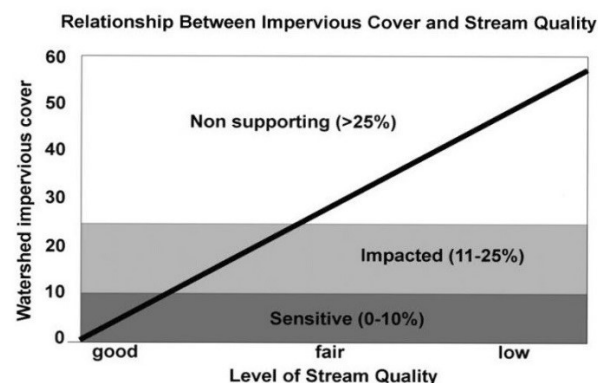
Model, most stream quality indicators decline when watershed impervious cover exceeds 10% with severe degradation expected beyond 25% impervious cover. Looking at a sample neighborhood yields a figure of approximately 13%. Other more rural areas in the County would likely have even less lot coverages and are also limited by wetland vegetation and the Chesapeake Bay Critical Area lot coverage limitations.

**Figure 5.1 Representative Subdivision in Rural Residential Growth Area Showing Impervious Surface at 13%**



In addition, the threshold beyond 10% is not a sharp breakpoint, but instead reflects the expected transition of a composite of individual indicators in that range of impervious surfaces contributing to a waterbody. See **Figure 5.2**. Thus, it is virtually impossible to distinguish real differences in stream quality indicators within a few percentage points of a watershed.

**Figure 5.2 Center for Watershed Protection Impervious Cover Model (1998)**

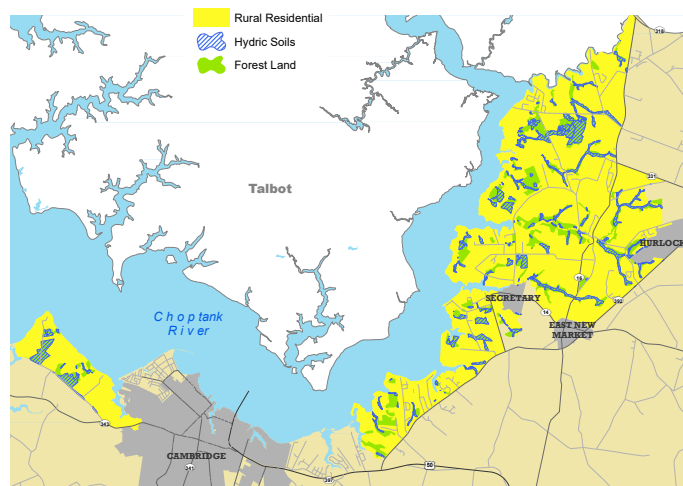


It should be noted that such a development as indicated in **Figure 5.1** would have to adhere to the Dorchester County Stormwater Management Regulations and the impacts from the increase in impervious surface would be to mitigate through best management practices.

The above described example, assumes “full buildout” of the Rural Residential Growth area. The Rural Residential Growth area contains Critical Area Resource Conservation Areas and Tier IV Growth Areas that would limit development to less than assumed build-out described above. See **Figure 5.3**. These factors, in addition to the presence of undevelopable sensitive areas, existing protected lands and potential open space requirements in new development, would all combine to cause the impervious surface coverage of a theoretical build-out of the Rural Residential Growth District to be lower than the 13% and, therefore, it is not projected that the Future Land Use Plan as described in Chapter 3 will have a negative impact on the water quality of receiving waters. The low lot coverages in Dorchester County reflect the extensive environmental conservation lands, wetlands, bays and marshes mixed in with agriculture and Rural Residential Growth areas and farms.

Of the 2,600 acres of forest within the Rural Residential Growth District, approximately 1,100 acres are associated with hydric soils and, therefore, would not be suitable for development and would most likely be

**Figure 5.3 Analysis of hydric soils and forest land in the Rural Residential Growth Area**



undisturbed along the perimeter of the development. Finally, new development within Dorchester County must adhere to the forest mitigation requirements of the Critical Area when within 1,000 feet of tidal water and the Forest Conservation Regulations when located elsewhere. There is not expected to be any significant change in forest cover over the life of this Comprehensive Plan.

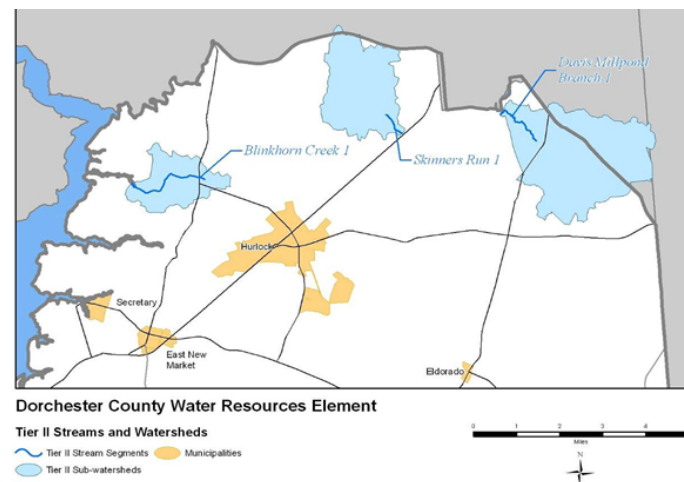
### Antidegradation

Maryland's antidegradation policy significantly limits new discharge permits (and expansions of existing permits) that would degrade water quality in Tier II (high quality) waters, as defined by the US Environmental Protection Agency (EPA) (MDE 2008). In these areas, new nutrient discharges can be permitted as long as they do not degrade existing water quality. Maryland does not have any waters designated for Tier III, but Dorchester County has three stream segments designated as Tier II waters as shown on **Figure 5.3**: Blinkhorn Creek, Skinners Run and Davis Millpond Branch. None of the County's public WWTPs discharge to Tier II waters.

### Stormwater Strategies

- Continue to enforce the County's Stormwater Management Regulations on new development.
- Continue to enforce the forest mitigation requirements of the Critical Area Regulations and Forest Conservation Regulations where appropriate.

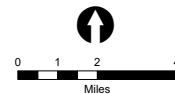
**Figure 5.4 Tier II Streams and Watersheds**







**MAP 5.1 - SANITARY COMMISSION DISTRICTS**  
2021 COMPREHENSIVE PLAN  
DORCHESTER COUNTY, MARYLAND



## 6 | HISTORIC & CULTURAL PRESERVATION

Dorchester County has rich cultural archaeological deposits of Native American settlements and other history and heritage that is marked by significant places and people that are important to the local and regional story as well as National history. As the birthplace of Harriet Tubman, Dorchester has strong ties to the historical figure and the risks she took to escape slavery and assist in leading to freedom approximately 70 enslaved people by way of the Underground Railroad. In the past decade, the County has worked to educate residents and visitors on Tubman's life and legacy by establishing the Harriet Tubman Underground Railroad National Monument and National Historic Park, which also includes a visitor center with exhibit space, as well as the Harriet Tubman Underground Railroad Byway - a 125-mile self-guided driving tour through Caroline and Dorchester Counties with 30 historic sites along the route. These sites not only commemorate Tubman, but also promote the diversity of Dorchester County's landscape, from the urban streets of Cambridge to the tidal reaches of Blackwater.

## OVERVIEW

It is the approximately 590 square miles of a diverse cultural landscape that sets Dorchester apart from neighboring counties. The County is comprised of mainly rural communities, the City of Cambridge and small towns that have deep connections to the area's agricultural and maritime history. With over 1,700 miles of shoreline and a deep channel commercial port in Cambridge, the maritime history is an essential part of the County's heritage. While this is one of Dorchester's greatest assets, it is also starting to become one of the largest threats to historic and cultural resources. In recent years, there has been a steady increase in severe weather bringing heavy rainfall causing increased coastal and riverine flooding. This increase in the frequency and intensity of severe storms, coupled with sea-level rise, threatens historic resources in a number of ways. Over time, continuous saturation can cause building materials to deteriorate, ultimately compromising the materials and structure. In severe cases, moving forces of flooding and storms could cause structural collapse, especially to those already in a state of decay. It is important to note that potential impacts are far reaching including structures – singular or a group, landscapes like cemeteries and parks, and possibly an entire community.

Dorchester County has already taken proactive steps to address threats against its historic and cultural resources, most notably in the preparation of the *Dorchester County 2018 Historical and Cultural Resources Hazard Mitigation and Risk Plan* which identifies historical and cultural resources threatened by coastal change and recommends strategies to mitigate the risks.

## GOALS

- Advocate for and support the protection and preservation of historically and culturally significant buildings, sites and landscapes.
- Support the preservation, development and promotion of Dorchester's maritime and agricultural history.
- Promote historic and cultural resources as an economic development tool.
- Work with non-governmental organizations and citizen groups to identify, recognize and preserve historically significant buildings and sites.
- Maximize preservation and promotion of historic and cultural resources associated with Harriet Tubman including the National Park and Byway, as well as the Chesapeake County Byway.
- Identify and advocate for preservation of threatened and vanishing places, practices and stories.
- Improve cross-agency coordination to identify and prioritize historic preservation projects.

## ISSUES IN HISTORIC PRESERVATION

### Lack of Resources

One of the challenges the County is dealing with is the lack of resources to preserve, restore and maintain historic structures and sites. There are hundreds of historic and cultural resources throughout Dorchester County that have been inventoried through the Maryland Inventory of Historic Places. These resources likely range in their condition of stable to severe deterioration. As these sites and structures continue to age and see additional impacts, including environmental and economic, these places will start to disappear altogether. Currently, the County's Office of Tourism promotes the importance of preserving Dorchester's heritage. Important resources include governmental agencies and nonprofit organizations. It would be beneficial to continue these partnerships to preserve Dorchester County's historic and cultural resources.

### Flooding and Sea Level Rise

Bounded by the Chesapeake Bay, Choptank River and Nanticoke River, Dorchester's waterfront is one of its greatest assets and is important to the local maritime history. However, being surrounded by water is becoming an increasing threat to the County's historic and cultural resources. Historic sites are already vulnerable, especially those in a state of deterioration, and due to the County's geographic location, sea level rise and flooding events have the potential to impact a large portion of the County's historic resources. Singular structures to an entire community could be negatively impacted. This threat of riverine and coastal flooding has the potential to alter Dorchester's historic and cultural landscape.

The County has recognized this issue and, in response, published the Dorchester County 2018 Historic & Cultural Resources Hazard Mitigation and Risk Plan, an addendum to the County's 2017 Hazard Mitigation Plan. As the title states, this plan solely focuses on the County's historic resources. This detailed plan includes a community profile, risk assessment, identification of areas of concern, gap analysis, discussion on other historic resources, and mitigation strategies. The risk assessment chapter is crucial to understanding how to determine flood risk and vulnerability. There is also a subsection in that chapter that addresses impacts due to hurricanes. Dorchester has already been affected by hurricanes including Isabel in 2003 and Irene in 2011. Maps within the chapter show National Register listed sites and locations in the Maryland Inventory of Historic Places and as they relate to FEMA's high-risk flood zone and storm surge threats. The Plan also dedicates a chapter to other historic resources – cemeteries and monuments. Often, potential flooding is discussed in terms of impacts to structures, however, the effects of excessive storm events and flooding can have equally harmful effects on landscapes. Storms with high winds can cause vegetation, debris and even structures to damage grave markers and monuments. In severe rain events or flooding, where the ground becomes saturated, it is possible for burials to float to the surface.

The Mitigation Strategies chapter addresses how to move forward in protecting the County's historic and cultural resources. Specific floodproofing strategies are discussed, such as improving drainage around a building to divert water away from structures, protecting mechanical and utility equipment, and the use of flood resistant materials. The chapter also provides goals and objectives as well as recommendations. Overall, the goal is to use sensitive mitigation measures to preserve and protect the County's historic resources without the loss of historic fabric. Given the continuing threat of storm surges and many sea-level rise models, many of the recommendations center around the importance of documentation such as completing Maryland Historical Trust Architectural Survey Forms for Hazard Mitigation Planning in flood prone areas, completing forms for unsurveyed sites in flood hazard areas, and completing additional surveys in the identified areas of concern (Toddville, Wingate, Bishops Head, Crocheron, Hoopersville and Fishing Creek).

## HISTORIC RESOURCES

### Historic Parks

In March 2013 the Harriet Tubman Underground Railroad National Monument was established marking Dorchester County's historical landscape and its association with Harriet Tubman and the Underground Railroad. A year later the Harriet Tubman Underground Railroad National Historical Park was created. This Park preserves the landscapes where Harriet Tubman lived while enslaved and where she carried herself and others to freedom. The Visitor Center was open to the public in March 2017. Aside from the Park, visitors can experience Harriet Tubman's legacy through informative exhibits and a research library. The Park sits on the trailhead for the Harriet Tubman Underground Railroad Byway.

### National Register of Historic Places

The National Park Service's National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. The program supports public and private entities to identify, evaluate and preserve historic and cultural resources throughout the country. Within Dorchester County, there are 27 historic resources listed on the National Register. Since Dorchester's 1996 Comprehensive Plan, there have been six additional properties listed, including the Annie Oakley house which was a pending listing when the 1996 Comprehensive Plan was adopted. Those properties listed below with an asterisk (\*) also have a Maryland Historic Trust Preservation Easement. See **Map 6.1**.

***Rehoboth (Eldorado) (Listed 1972):*** This 2 ½-story Flemish bond brick house has historic significance for its architecture and residents. The property has an association with two signers of the Declaration of Independence, Richard Henry Lee and Francis Lightfoot Lee. There is also the significance of the interstate relationship between the Lees of Virginia and Lees of Maryland. The property descended through Thomas Sim Lee, the second elected Governor of Maryland.

***Friendship Hall (East New Market) (Listed 1973)\*:***

As one of the best examples of post-Revolutionary dwellings, this site is significant architecturally and for its association with the prominent Sulivane family. Since constructed in c. 1790, the house has seen little



change to the exterior or interior. The house was built for a family that first settled in Maryland in 1695 and who played an important role in Dorchester County history throughout the 18th century.

**Brinsfield I Site (Cambridge) (Listed 1975):** This site was first identified by Perry S. Flegel of the Sussex Society of Archaeology & History in 1955. A concentration of ceramics and oyster shells were located within 300 feet of a river. The site produced shell-tempered pottery and triangular projectile points. The site is undisturbed and could allow for surface collections and excavations to determine house and community type settlement patterns, subsistence activities, and other culturally related aspects to prehistoric life during the Late Woodland period, c. A.D. 900-1500.

**Willin Village Archeological Site (Eldorado) (Listed 1975):** Between 1951 and 1953 this site was extensively excavated by amateur archaeologists from the Sussex Society of Archaeology and History. The group found a number of subsurface features, including grooved axes and stemmed points, associated with three components of the Late Woodland period ca. A.D. 900-1500. The presence of storage pits, stained earth, and dense occupational debris suggests permanent occupation over an extended area.

**Stanley Institute (Cambridge) (Listed 1975)\*:** Constructed in 1867, the structure is a rectangular 1-story, gable front frame building with a small one-bay, one-story entrance vestibule. The building, also known as Rock School, was moved to its current location from a site near Church Creek. The materials date to the mid to late 19th century, however, it is unclear if the building was moved intact or disassembled and materials reused. The building was used as a church and school until the Rock Methodist Church was constructed. The Rock School is one of Maryland's oldest schools organized and maintained by a black community making it significant to the development of African American social history at the local and State level.

**East New Market Historic District (East New Market) (Listed 1975):** The East New Market area was first settled in the mid-to-late 17th century and prospered throughout the 18th and 19th centuries. The more sizable houses were built in the last quarter of the 18th century, a reflection of economic growth and stability. A second period of growth occurred in the late 19th century, possibly attributed to the opening of the nearby railroad. By the 1930s, while the Town still had residents, the commercial activity had greatly decreased. The historic district consists of about 75 buildings of varying architectural styles from the 18th to 20th centuries.

**Glasgow (Cambridge) (Listed 1976):** This Federal style building has a date of construction c. 1792-1822. It is a 2 ½-story brick building with gable front and a 1 ½-story frame wing which dates to the early 20th century. The building has several unusual features including the main entrance location at the gable end and a cornice with triangular modillions as opposed to square. The interior retains woodwork, including mantels, which represents detailing work associated with the Federal period.

**Ridgeton Farm (Taylor's Island) (Listed 1977):** Constructed c. 1857-1860, this Italianate style mansion was the center of a prosperous farm. The house is 2-stories, above grade resting on a brick foundation. The roofline includes a hip roof with center gable and two chimneys flanking a widow's walk. The interior floorplan is composed of a central stair hall with two rooms on each side. The hall and parlor maintain plasterwork and a ceiling medallion. The property also includes a 19th century barn and sheds.

**Yarmouth (Cambridge) (Listed 1978):** Having retained much of its original detail, specifically interior woodwork, Yarmouth is considered the most important dwelling existing in Dorchester County representing the second quarter of the 18th century. The 2-story brick structure is laid in Flemish bond above a chamfered water table with English bond below. The interior floor plan is not found elsewhere in Dorchester County, with the exception of LaGrange in Cambridge, however, that floorplan has been altered. The property also has an 18th century granary on brick piers with a catslide roof. This property is also known as White House Farm, Brick House Farm and Eccleston's Hill.

***K.B. Fletcher Mill (East New Market) (Listed 1978):*** This Mill is the only water-powered grist mill that remains in Dorchester County. The mill retains well-preserved mill machinery dating from the 1850s to the early 20th century. The Mill was constructed in the 1850s and consisted of a 2-story gabled-roofed structure. Around 1900, a third floor was added along with other alterations. Despite the deteriorating condition, the majority of structural members are still intact.

***Dale's Right (Cambridge) (Listed 1979):*** This house is one of few that falls under the definition of a telescope house – each section is narrower and shorter than the previous one. Each of the three sections appear to date c. 1830s. The few alterations were made to the roof including materials and alterations in the late 1920s. The site also includes a privy and shed built in the 1930s.

***Bethlehem Methodist Episcopal Church (Taylor's Island) (Listed 1979):*** This brick church was constructed in 1857 and serves as Dorchester County's best example of a mid-19th century Methodist church. The Church retains its original interior features including the light fixtures. The site represents the first connection with the Methodist denomination in Dorchester County. The Church also split from the main church during the division over slavery, reflecting Eastern Shore conservatism at the time.

***Grace Episcopal Church Complex (Taylor's Island) (Listed 1979):*** As one of the most complete complexes of churches in Dorchester County, this site includes three structures – a schoolhouse, chapel of ease and Grace Episcopal Church. One of few surviving examples, the Chapel dates to c. 1820. The Church dates c. 1873 and is considered a Carpenter Gothic structure, typical of small parish churches built in the U.S. in the second half of the 19th century. The schoolhouse, which sits south of the Chapel was moved from Mulberry Grove. The plaque on the building reads, "The first school house in Dorchester County and was built and used on Taylor's Island. Given to the Grace Foundation 1955".

***LaGrange (Cambridge) (Listed 1980)\*:*** Also known as the Meredith House, this 2 ½-story Flemish bond brick house was built c. 1760. This is one of few

remaining houses in Cambridge that represent the Georgian period. The brick work includes a watertable which is a rarely seen design feature on the lower Eastern Shore. Most important, this 18th century structure is an example of a house that has changed over time with alterations and additions made throughout the 19th and 20th century contributing to the significance of the house. LaGrange was also home to several prominent Cambridge families.

***Dorchester County Courthouse and Jail (Cambridge) (Listed 1982):*** The Italianate influenced Courthouse was constructed in the 1850s and was expanded and remodeled with Georgian Revival decorative detailing in the 1930s. The County Jail was built next to the Courthouse c. 1882 but has since been demolished. The Courthouse and Jail are significant as a symbol of government and law in Dorchester County since the 19th century. They also hold architectural significance. Richard Upjohn designed the Courthouse in 1851. Upjohn designed several churches in Maryland, but this was his only courthouse. The Jail was designed by Baltimore architect Charles L. Carson in the Queen Anne style, making it one of few governmental buildings on the Eastern Shore designed in that style.

***Glen Oak Hotel (Hurlock) (Listed 1983):*** One of the first buildings constructed in Hurlock, the 3-story framed hotel was built c. 1890. The initial motivation for the development was the establishment of a line and station for the Dorchester and Delaware (D & D) Railroad in 1867. Hurlock began to develop in 1890 when the Baltimore, Chesapeake and Atlantic Railroad crossed the D & D in the Town. The hotel served as a commercial and social center for salesman that traveled by rail. The interior retains its original layout – central hall on each story, public lobby and dining room, owner's quarters, and 20 guest rooms.

***Christ Episcopal Church and Cemetery (Cambridge) (Listed 1984):*** An example of late Victorian Gothic Revival architecture, the church was built between 1883 and 1884 by prominent Baltimore architect Charles Cassell. The church is built of green serpentine stone with an interior cruciform plan. The most prominent feature is the tower with steeply pitched spire. There is an adjoining cemetery with gravestones that date from 1674 to the present. Largely unchanged from its original appearance, Christ Episcopal has made one addition to the building,

Barber Memorial Hall, using the same building materials to not detract from the original design. The Church also installed stained-glass windows in the 1950s.

***PATRICIA, log canoe (Cambridge) (Listed 1985):***

Built in 1942 by noted log canoe builder Oliver Duke, the PATRICIA is a 27'-4" sailing canoe and was part of a racing fleet. This canoe represents Duke's later work. Some modifications were made in 1984. The significance of the vessel is one of the last surviving traditional Chesapeake Bay racing long canoes. The tradition of racing on the Eastern Shore dates to the 1840s. The log canoe is also a representation of the oldest indigenous type of boat on the Bay, which was first developed in the 17th century by early European settlers from the aboriginal dugout canoe.

***Sycamore Cottage (Cambridge) (Listed 1988):*** This structure was built in the 18th century, possibly as early as c. 1765. It is one of few surviving examples in Dorchester County of an 18th century gambrel-roofed building. The structure was moved to its current location in 1840 with a rear addition completed in that same year. The building is also noted for its Greek Revival interior detailing. Since 1922, the Cambridge Women's Club has used Sycamore Cottage as their headquarters. The organization is also important to local history having founded cultural and civic groups like the Dorchester County's historical society, the library, and Red Cross chapter.

***Goldsborough House (Cambridge) (Listed 1988):***

This c. 1790s house represents the distinctive characteristics of the Federal style which was popular in Maryland, particularly on the Eastern Shore with few remaining examples in Dorchester County. The house is 2 ½-story painted brick and includes features typical of Federal style – brick construction, watertable, wooden exterior cornice, service wing, and architrave interior trim.

***Cambridge Historic District, Wards I and III***

***(Cambridge) (Listed 1990):*** This district represents Cambridge's history during the 18th, 19th, and 20th centuries. The significance of this area includes important architecture, commerce as a trade center, contributions to Maryland's maritime heritage, and its role as a political center. As one of Maryland's two port cities, the district grew as a result of the shipping and food processing industries. What remains are

rows of look-alike houses built at the turn of the 20th century in response of housing needs for the packing and canning industry. There are other architecturally significant buildings including commercial buildings designed by local designer J. Benjamin Brown. Also, of note is the number of governmental buildings, a result of Cambridge being the county seat, and the historic district being the home of five Maryland governors.

***Annie Oakley House (Cambridge) (Listed 1996):***

The 1 ½-story brick and frame, Colonial Revival influenced bungalow was constructed in 1913 as a retirement home for Annie Oakley and her husband Frank Butler. They lived at the residence until 1917. This house is the only surviving property in the nation that was owned or occupied by the internationally renowned sharpshooter as a primary and permanent residence. The house retains much of its interior architectural design features, including built-in shelves originally intended to display shooting trophies.

***Hoopers Island Light Station (Hooperville)***

***(Listed 2002)\*:*** The Light Station was designed by the Toomey Brothers of Guilford, Connecticut and constructed in 1902. The significance of the lighthouse is its association with federal governmental efforts to provide an integrated system of navigation and to provide safe maritime transportation in the Chesapeake Bay. The caisson lighthouse represents the distinctive design and construction method found on the Bay during the late 19th and early 20th centuries. This particular light station is the only cast-iron caisson lighthouse in Maryland with a watch room and lantern surmounted on the tower.

***Handsell (Vienna) (Listed 2008)\*:*** The c. 1770 brick house is also known as the Webb House in the Maryland Inventory. The land grant for the original 484 acre property was the homestead of the prominent Steele family who built the original 2-story Georgian brick manor house. Shortly after it was built, it suffered a devastating event (possibly a British attack) which caused a partial collapse of the structure. It was rebuilt in 1837 by John Shehee using the front facade and basement of the Steele house. Currently a 1 ½-story, it still contains the cooking fireplace and remnants of an interior bake oven from the 18th century. The property is rich in archaeological deposits and is being preserved by the Nanticoke Historic Preservation Alliance.

***Pine Street Neighborhood Historic District***

**(Cambridge) (Listed 2012):** This District is historically significant for its association with Cambridge's African American community. The primarily African American neighborhood started in the first quarter of the 19th century as a segregated section of the City inhabited by free black citizens. Architecturally, the District retains Victorian style houses representing the success of area businessmen in the late 19th century as well as housing originally occupied by workers of the canning industry. A number of commercial buildings and churches represent the economic, religious and social life of the community. Two of the City's most significant African American churches are located within the Historic District. Waugh Christ United Methodist Church is the oldest African American Methodist church in the City. It was established by free men in 1826, the same time period the neighborhood was established. Twenty years later, in 1847, Bethel AME Church was founded by free African American residents. To accommodate their growing congregation, the church rebuilt in 1870 and 1903. The Gothic Revival style church is the oldest African American church structure in Cambridge. While both of these churches are within the District, and have been surveyed by MHT, they have not been individually nominated for the National Register. It should also be noted this neighborhood, potentially the Second Ward voting district, was the first Eastern Shore jurisdiction to elect an African American councilman, Joseph I. Collins, in 1882. H. Maynadier St. Clair, a second black representative and resident of Second Ward, served as county councilman from 1894 to his retirement in 1946.

***Rock Methodist Episcopal Church (Cambridge)***

**(Listed 2014)\*:** The period of significance for this church spans from 1875 to 1911. The building was completed in three stages – the initial timber frame Gothic Revival structure built in 1875, a modification in 1889, and a second modification in 1910-1911. The Church is one of the oldest surviving post-Civil War African American churches on the lower Eastern Shore. Many of the modifications were influenced by the principles and recommendations of the Methodist Episcopal denomination nationally. The building was used for religious services from establishment until the 1990s.

***Hughes A.M.E. Chapel (Cambridge) (Listed***

**2018):** The significance of this c. 1894 church is a representation of the type of religious structures that characterized rural communities on the Eastern Shore in the late 19th and early 20th centuries. The structure is a simple rectangular one-story gable front meetinghouse of frame construction on a brick pier foundation. The Chapel remains largely unchanged – original form, massing, exterior and interior features, and finishes – allowing the building to maintain its integrity. The significance of the historic site also comes from its association with the history of the Bucktown area, where bi- and tri-racial people, descendants of Native, African and European Americans, survived as distinct and interrelated communities into the 21st century. The Chapel was used by persons that identify with these groups. The building has been continuously occupied, including by ancestors of the Nause-Waiwash Band of Indians. The Chapel is also known as the Nasue-Waiwash Longhouse.

**Maryland Historical Trust Preservation Easements**

The Maryland Historical Trust currently holds 706 easements statewide with similar protections on 924 properties. An easement ensures that the historic and cultural value of a property will be protected in perpetuity and may also provide limited public access. It is the highest form of protection available to historic, archaeological, and cultural sites in Maryland. An easement can be conveyed in a number of ways including gift easements by private owners, as part of a transfer of state or federal property into private ownership, or as a condition of state or federal grant or loan funding to protect investment of public dollars. Within Dorchester, there are 15 properties that have a preservation easement and of those sites, six are also listed on the National Register which were previously described above. See **Map 6.1**.

***Customs House (Vienna) (1979):*** This single-story, one-room frame building was built c. 1825-1840. Local oral tradition identifies this building as Vienna's customs house, however, there is no record of the land being owned by the town or county, or its use as a port-of-entry's custom house. The importance of this building is the representation of 19th century river commerce that has since ceased on the Nanticoke River.



**Tavern House (Vienna) (1980):** The owner of the property during the first quarter of the 19th century was Hannah Douglas. Based on the sophisticated Federal period woodwork and cut-nail construction, it is believed the structure was built during Douglas' ownership. The provided construction date is c. 1815-1820. The building is 2-stories with a four-room plan. The property was eventually sold to the Webb family in the 1850s and remained in the family until 1980.

**Trading Post (East New Market) (1984):** A rare example on the Eastern Shore, it is believed this single-story framed structure was constructed c. 1840s during the formation of a crossroads village. Often, this type of small commercial building was replaced. The building's significant features include exposed beaded tie beams and beaded horizontal board walls.

**Richardson Maritime Museum (Cambridge) (1995):** The period of significance for this former Dorchester National Bank spans from 1889 to the mid-20th century. Under the guidance of builder J. Benjamin Brown, the brick bank building was constructed in 1889 in the Romanesque Revival style. The building was renovated to enlarge the footprint and raise to 2-stories in 1908. The modifications were completed in the neoclassical style which was popular in the early 20th century. Over the years, the bank merged with others, and eventually the building was sold in 1996 to the James B. Richardson Foundation for a new maritime museum.

**Bucktown Store and 4305 Bucktown Road (Cambridge) (2007):** Based on construction techniques, the store dates to c. 1860-1870. The building is an example of a rural store that has mainly survived intact, especially interior. It is believed that the location of the store, or within the area, is the site where Harriet Tubman was struck with an iron weight as a bystander during an altercation with an overseer and another slave.

**Nathan Furniture Building (Cambridge) (2008):** The 3-story furniture store was built in 1882. The building was designed so the storefront combined with the adjacent 3-story townhouse residence. It is believed J. Benjamin Brown, Cambridge's most prolific builder during the late 19th and early 20th centuries, designed and built the store. There are distinctive round or bulls-eye windows on the third floor that are found in other local structures designed by Brown. Meyer Nathan, the owner of the store, started as a travelling peddler in Cambridge around 1870 and by his death in 1911, his furniture store was one of the largest on the lower Eastern Shore.

**J. Benjamin Brown House (Cambridge) (2010):** The original building, constructed c. 1790, served as a law office. A number of prominent residents owned the property, including several judges. In the early 20th century the building was converted into a private residence, maintaining a law office on the first floor. While the house is one of the oldest on the street, it has been extensively renovated. In the early 20th century the house was renovated by J. Benjamin Brown, a prominent local builder.

**Wallace Office Building (Cambridge) (2014):** This single-story stuccoed brick office building was built in 1849-1850 for Colonel James W. Wallace. Based on historic newspaper records, Wallace opened his law office in 1850. Colonel Wallace served in Maryland's State legislature during the 1850s and played an active role in helping to organize a local regiment to aid in the defense of the Eastern Shore during the Civil War.

**East New Market Passenger Depot (East New Market) (2014):** This building is the only one that remains of the Dorchester and Delaware Railroad's East New Market Passenger Depot. The period of significance spans from 1882 to 1956. While the structure remains largely unchanged, in 1956 it was moved approximately 1/10 of a mile from the tracks as part of the MD 392 construction project. The passenger depot is significant as an example of a 19th century small town railroad passenger station and its association with local rail transportation.

## HERITAGE TOURISM

The Heart of Chesapeake Country Heritage Area resides entirely within Dorchester County. The mission of the Heritage Area is to assist individuals, organizations and government entities to preserve and promote the County's unique historic, cultural and natural resources while broadening and deepening the local economy through new and existing tourism.

Recognizing the importance of the Heritage Area for tourism development, the Maryland Heritage Area Authority granted Dorchester County certification status in 2002 for the Heart of Chesapeake Country Heritage Area. Per County Resolution #351, adopted September 24, 2002, the Heart of Chesapeake County Management Plan was incorporated by reference into the 2009 Comprehensive Plan, and is hereby incorporated into this Comprehensive Plan update. The implementation of the Management Plan will enhance the County's position in the State as a tourist destination and encourage economic development as Dorchester County - rich with its waterfront, natural resources, history and traditions - has an excellent opportunity to capitalize on tourism through its heritage.

The Heritage Area includes the municipalities of Cambridge, Church Creek, East New Market, Hurlock, Secretary, Vienna and Handsell Historic Site, as well as the fishing communities of Taylor's Island, Hooper Island and Elliott's Island. The extensive marsh and wildlife areas of central and southern Dorchester County provide important ecological and recreational resources to the Heritage Area as well.

While Dorchester County has been a major destination for outdoor sportsmen for many years, the implementation of the Heritage Area Plan has provided many opportunities to introduce visitors to the traditions and heritage of the County. The Heritage Area has been awarded, from 2005 to 2012, \$1.3 million in 30 MHAA grants and leverage matches from non-state resources resulting in a total of \$3.3 million for projects in Dorchester County. In addition, the Heritage Area managed a small matching grant program that awarded over 37 grants to local organizations and municipalities from 2007 to 2012. Over these five years, the small matching grants

totalled approximately \$50,000 and leverage matches from non-state resources resulted in a total of about \$158,000 for projects in Dorchester County.

These grants and matches from non-state resources have been used for museum renovations and building improvements, creation of events and programs that embrace local history and arts, installation of interpretive signs at historic sites, development of Harriet Tubman exhibits for three museums, creation of many driving and walking tours throughout different municipalities and the County in general. The grants have also provided for the design and production of a website and numerous brochures for County attractions as well as the initiation of an annual awards program that recognizes the accomplishments of local individuals and organizations.

The Heritage Area 2013-2018 goals continue to seek the enhancement of heritage resources, raise visibility, strive for compatible economic redevelopment, and the practice of stewardship. Also, the heritage area aims to continue supporting local organizations through small grants, provide technical advice on grant opportunities, recognize noteworthy contributions to heritage preservation, and produce goods and services that market local resources, history and arts. All these efforts intend to create a dynamic, multi-faceted, heritage tourism infrastructure that results in economic development.

The Heritage Area Master Plan Update (2018) was completed to note progress from the previous plan, realign priorities and opportunities, increase community outreach, and identify threats to the County's heritage tourism landscape. Through an extensive community outreach planning process, eight key findings were established, all of which present opportunities and challenges. All the findings touch on the importance of Dorchester's rich cultural landscape, but two findings in particular – Preserving Places and African American History and Culture in the 20th Century – are worth additional discussion as they relate to historic resources.

The Plan notes Preserving Places as an essential component to heritage tourism. Dorchester is already making efforts by assuming ownership of historically significant buildings and in turn creating new economic opportunities. One example is the

County's ownership of Governor Holliday Hicks home and the current development of a preservation and interpretation plan. The major threat in preserving historic sites within the County is the environmental and natural disaster impacts. The County is already working to combat this threat through an action plan in a hazard mitigation plan developed specifically for historic and cultural resources discussed earlier in this chapter. The Plan also identifies the need to create strategies to identify and prioritize stable and stressed structures and sites, as well as to foster a stronger and coordinated cross-agency approach.

The Plan also discusses the importance of increasing heritage tourism as it relates to African American history and culture in the 20th century. Much of the existing African American heritage tourism in Dorchester County centers around the area's association with Harriet Tubman and the Underground Railroad. The Plan, however, points to the importance of African American history separate from Harriet Tubman. Of importance is specifically preserving 20th century history and culture. There is already movement towards increasing this experience through the National Register listing of the Pine Street Neighborhood District and the successful Reflections on Pine event held in 2017. To work on promoting Dorchester County's African American history and culture in the 20th century, the County supports initiatives that further stewardship of the African American experience.

## **HISTORIC PRESERVATION PROGRAMS, NONPROFITS AND RESEARCH ORGANIZATIONS**

### **Dorchester Historical Society**

First formed in 1953, this organization has been preserving the history and heritage of Dorchester for over 60 years. Shortly after establishment in Cambridge, the group purchased a historic house to operate out of. Today, the Historical Society operates from the Heritage Museum and Gardens of Dorchester. The overarching goals of the organization include preservation, interpretation and appreciation, management and operations, and need-driven growth.

### **Eastern Shore Network for Change (ESNC)**

This organization was founded in 2012 with the motto "Where the status quo is not an option." As noted on their website, the mission is to "raise awareness of issues in Dorchester County and creatively work with the community to inform, educate and foster change that leads to social and economic empowerment." With that, the group hopes to be a resource for other organizations such as social service institutions, public schools, and the department of corrections. Recently, ESNC received an 'Excellence in Community Engagement' award from Maryland Historical Trust for "Reflections on Pine," a community event to mark the 50th anniversary of the Civil Rights movement in Cambridge.

### **Eastern Shore Land Conservancy (ESLC)**

The organization was founded in 1990 in response to the increasing concern that the Eastern Shore's farmland and wildlife habitat was being impacted by development. They are dedicated to ensuring the preservation of Eastern Shore farmland and natural areas through various preservation techniques. ESLC has assisted a number of towns throughout Dorchester County including two current projects in Cambridge – the Packing House and Cannery Park – and Friendship Park in East New Market in 2012.

### **Maryland Historical Trust (MHT)**

The MHT was founded in 1961 and is the State agency tasked with preserving and interpreting the legacy of Maryland's past. Operating within the Maryland Department of Planning, MHT serves as the State Historic Preservation Office (SHPO) which oversees the implementation of federal preservation programs at the state level. In an effort to make more resources available, MHT launched an online version of Medusa, the State's cultural resource information system. The online mapping program allows users to search the State's 45,000 architectural and 15,000 archaeological known resources.

### **Maryland Inventory of Historic Places (MIHP)**

The MIHP was established shortly after the establishment of the Maryland Historical Trust. The MIHP is a repository of information on communities, sites, structures and objects that are of, or have potential, value to the history of Maryland. The inventory includes 13,000 archaeological sites and

43,000 historic resources. Within Dorchester County, there are over 800 historic resources, including structures, sites and historic districts, that have been identified and surveyed by MIHP. There are three historic districts within the County – East New Market, Cambridge and Pine Street Neighborhood – and of the County's total resources, approximately 300 are within those three districts.

### **Main Street Maryland**

Created in 1998 by the Maryland Department of Housing and Community Development, the program strives to strengthen the economic potential of the State's traditional main streets and neighborhoods. The program provides assistance with economic planning, marketing, and training and education. There are currently 30 designated communities. To be designated, a community must show its commitment to economic revitalization through a five-point approach that includes design, local organization, promotion, economic development and sustainability. Within Dorchester, Cambridge is the only town in the Main Street Maryland program.

### **Preservation Maryland**

As Maryland's oldest preservation organization, this group has been working to preserve the State's heritage since 1931. They focus on three specific strategic efforts – advocacy, outreach and education, and funding. The organization is a resource to individuals and grassroots organizations. Preservation Maryland provides technical assistance, capacity building, strategic visioning and establishing effective partnerships.

### **National Register of Historic Places**

Authorized by the National Historic Preservation Act of 1966, the National Park Service's National Register of Historic Places is the official list of the Nation's historic places worthy of preservation. The program supports public and private entities to identify, evaluate and preserve historic and cultural resources throughout the country. Benefits of being listed on the National Register include potential federal and state tax benefits and grant opportunities. Within Dorchester, the Hughes A.M.E. Church, which was listed in 2018, is the most recent property to be included on the National Register.

## **CURRENT PRESERVATION EFFORTS**

### **Maryland Heritage Structure Rehabilitation Tax Credit**

This program provides competitive tax credits for commercial, small commercial and homeowners. The program supports the efforts of Maryland's communities that are revitalizing their cities, towns and rural areas through rehabilitation and reuse of historic properties. Over 4,600 homes and 690 commercial structures have benefited from this tax credit program. Recently, the Hearn Hardware Company (Cambridge) received a \$1,080,000 tax credit award. Originally constructed in 1914, the building saw major deterioration due to vacancy. Dorchester County, City of Cambridge, and a private developer partnered to stabilize the building and plan to restore the building for mixed-use.

### **Maryland Heritage Area Programs**

This program is governed by the Maryland Heritage Areas Authority (MHAA) and administered by the Maryland Historical Trust. The purpose of the program is to provide financial and technical assistance within 13 locally designated areas that each represent Maryland's historic, natural and cultural character. For 2018, there were three applications and awards within Dorchester County. The Eastern Shore Land Conservancy received assistance for the Packing House, Smokestack stabilization project, and the Heart of Chesapeake Country Heritage Area received assistance for marketing and management grants.

### **African American Heritage Preservation Program Grants**

This program supports the preservation of buildings, sites and communities of historical and cultural significance to the African American experience in Maryland. It is sponsored by the Maryland Commission on African American History and Culture and the Maryland Historical Trust. The program began in 2010. The Friends of Stanley Institute received funding to help rehabilitation efforts for the Stanley Institute School (1867), a National Register listed property and one of the oldest schools for African American education in Dorchester County.



## Historical Markers Program

Since 1933, this program has assisted in providing roadside historical markers to commemorate places, people and events. The program is administered by the Maryland Historical Trust and the Maryland Department of Transportation State Highway Administration.

## ANALYSIS OF PRESERVATION PROGRAMS

### Historic Preservation District

Dorchester County's current zoning code includes a Historic Preservation (HP) overlay district. Through the preservation of structures, the intent of the district is to safeguard the County's heritage, stabilize and improve property values, foster civic beauty, strengthen the local economy, and promote preservation for the education and enjoyment of Dorchester's residents. The Code allows for, but does not require, the creation of a historic district commission and sets forth review standards for the commission to follow. Regulations include consideration of only exterior features, review of applications for additions, alterations, moving and demolition of structures, and certificate of approval process. It is important to note that these regulations would only apply to a property within a HP overlay district.

Having the option to utilize a historic preservation overlay district can be an important and useful preservation planning tool in protecting historic structures and landscapes. While there are currently no HP Districts within Dorchester, the County has already laid the groundwork for moving forward to identify and regulate areas of historic value throughout the County if and when staff resources become available to implement such a program. Another important task would be identifying any potential historic areas within the County. As stated in the County Code, "the Maryland Historical Trust may be designated by the Historic District Commission to make an analysis of any recommendation concerning the preservation of structures of historic and architectural value within the area served by the Historic District Commission."

## HISTORIC PRESERVATION STRATEGIES

- Incorporate a screening process into the subdivision process that identifies potential adverse impacts on historic resources.
- Increase awareness of financial and other programs that offer incentives for preservation and/or protection of historic resources.
- Encourage adaptive reuse of historic structures for uses that are compatible with the surrounding neighborhood.
- Utilize the 'Strategic Plan: Action Steps' from the Heart of Chesapeake Country Heritage Area Master Plan, 2018 as a guide for preserving and promoting historic sites.
- Use sensitive flood hazard mitigation measures to preserve and protect the County's historic and cultural resources without the loss of historic fabric as set forth in the County's 2018 Historical and Cultural Resources Hazard Mitigation Plan.
- Continue to revisit programs, coordinate with state agencies and stakeholders, and help provide outreach/education of historic and cultural resources.

Bucktown Store, c. 1860-1870



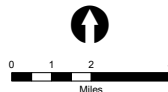
Stanley Institute, c. 1867



Photo Source: Dorchester County Office of Tourism



**MAP 6.1 - HISTORIC RESOURCES**  
 2021 COMPREHENSIVE PLAN  
 DORCHESTER COUNTY, MARYLAND



## 7 | HOUSING

Housing is a basic need and plays an important role in developing and maintaining successful, sustainable living environments. Quality and affordable housing is important to the long-term economic and social vitality of the County. It encourages residents to take pride and ownership in the well-being of their properties and their neighborhoods, which helps to build a stable community of long-term residents and helps to create a stronger sense of place, community identity and civic pride. Housing opportunities for both owner and rental-occupied units can be positively affected by effective community development policy, which should stress the provision of a wide variety of housing opportunities for all ages, incomes and abilities. This chapter sets forth overarching housing goals and discusses existing housing conditions, needs and trends in Dorchester County. It then recommends strategies and policies towards creating better housing opportunities.

## GOALS

- Create a variety of housing types that are affordable to residents at all needs, ages and income levels.
- Direct housing development to the Towns and designated growth areas.
- Encourage rehabilitation and renovation of existing older substandard housing units.

## HOUSING TRENDS, ISSUES AND NEEDS

### Housing Stock, Occupancy and Tenure

#### Housing Stock

Between 2000 and 2010, the number of housing units in Dorchester County increased from 14,681 to 16,554. Per the 2018 American Community Survey, the total number of housing units in Dorchester County was 16,741 units. Half (50%) were within incorporated municipalities of the County, mostly Cambridge. Of the total number of units in 2018, 13,264 were occupied (79%) and 3,477 were vacant<sup>1</sup> (21%). Between 2000 and 2018, the mix of housing units in the County changed slightly. The share of single family detached units continued to consist of 73% of the total County share. The share of single family attached units doubled to 4.5% of the total units in the County. The share of multi-family housing units

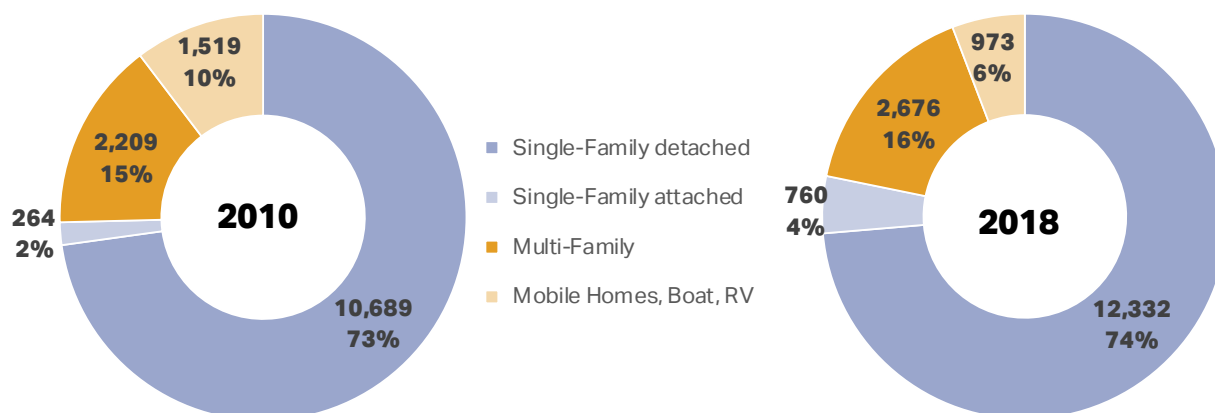
(apartments and townhomes) increased from 15% to 16%. The share of mobile homes, boats, RVs and similar units decreased from 10% to 5.5% of total units in the County. See **Figure 7.1**.

#### Occupancy and Tenure

Between 2000 and 2018, occupied housing units decreased from 87% to 79%. The homeownership rate (i.e. owner-occupied housing units) declined from 70% in 2000 to 67% in 2018. Renter-occupied units increased from 30% to 33%. See **Figure 7.2** for the values in 2018.<sup>2</sup> Also, the average household size has been getting smaller; decreasing from 2.65 people per household in 1980 to 2.37 in 2010; a trend that is projected to continue and be 2.29 by 2040.<sup>3</sup>

In 2018, 3,477 vacant housing units comprised 21% of the total housing units in the County up from 1,975 units or 13% of the total housing units in 2000. In comparison, the vacancy rate for the State in 2018 was 10%. The highest amount and highest percentage of vacant units was in the western part of the County, in census tracts 9709, which had 359 vacant units and 36% of the total number of housing units being vacant in that tract. Tract 9708.04 also had a relatively high number of vacant housing units of 424 units, which was 32% of the housing units vacant in the tract. See **Map 7.1** for the number and percentage of vacant housing in each census tract.

**Figure 7.1 Housing Type (2000 and 2018)**



<sup>1</sup> Per the U.S. Census Bureau, a housing unit is vacant if no one is living in it at the time of the interview, unless its occupants are only temporarily absent. A vacant unit may also be one which is entirely occupied by persons who have a usual residence elsewhere. New units not yet occupied are classified as vacant housing units if construction has reached a point where all exterior windows and doors are installed and final usable floors are in place. Vacant units are excluded if they are exposed to the elements, or if there is positive evidence (such as a sign on the house or block) that the unit is to be demolished or is condemned. The ACS provides estimates of vacant units by type of vacancy and calculates estimates of rental and homeowner vacancy rates for most areas included in the decennial census.

<sup>2</sup> Homeownership Rate is the proportion of occupied housing units (households) that are occupied by the owners. It is computed by dividing the number of households that are occupied by the owners by the total number of occupied housing units.

<sup>3</sup> Maryland Department of Planning, Projections and State Data Center.



In 2018, approximately 38% of the vacant units in the County were temporarily occupied for seasonal, recreational or occasional uses. This is double the amount of seasonal, recreational or occasional uses in 2000 and may be indicative of a growing market for vacation rentals and second houses in the County. About 11% of the vacant units were units that were not occupied for reasons that they were in transition by being for sale or for rent.<sup>4</sup> The remaining 48% were vacant for other reasons, such as an extended absence, are abandoned or possibly to be demolished or condemned. See **Figure 7.2**.

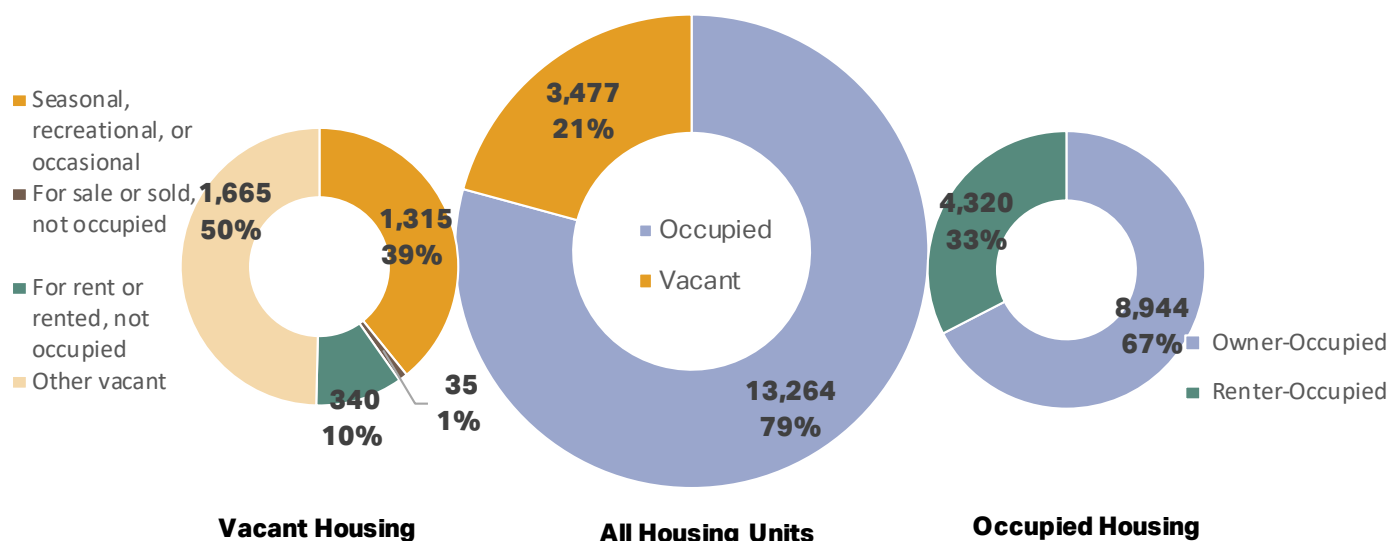
**Table 7.1** summarizes 2000 and 2010 census housing data and American Community Survey estimates for 2018. Additional housing figures are provided in Chapter 2 – Community Profile.

According to Maryland Department of Planning (MDP), the County was projected to gain 852 households for a total of 14,374 households between 2010 and 2020 and continue to increase by 2,553 households for a total of 16,927 households between 2020 and 2040<sup>5</sup>. Based on the ACS 2018 household estimate of 13,264, the County does not appear on track to reach this household projection.

### Aging Housing Stock

Given the modest increase in new housing development over the last decade, statistically-speaking, the overall existing housing stock has been aging. The median year housing structures are 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. In 2018, 19% of the housing units within the County were built before 1939. The median year that a housing unit was built in the County was 1974. The oldest housing stocks are within the Cambridge waterfront area and the Neck District, with median years built of 1953 and 1969, respectively. The youngest housing stocks are within the northern part of the County around Hurlock, with a median year built of 1986.

**Figure 7.2 Occupancy Status and Tenure (2018)**



Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates

<sup>4</sup> U.S. Census Housing Definitions and Explanations, <https://www.census.gov/housing/hvs/definitions.pdf>

<sup>5</sup> Maryland Department of Planning, Projections and State Data Center

## Household Income and Value

Dorchester County does not appear to have housing affordability issues as whole; however, the County is encountering an increasing gap between household incomes and housing costs/values as well as a high number of foreclosures. The primary measure of housing affordability is the share of the household's income spent on housing. In general, housing costs that are more than 30% of the household's annual income are defined as unaffordable. Owner and renter households paying in excess of 30% of their income on housing costs are considered cost burdened. Related to the need for affordable housing, is the need for workforce housing. Workforce housing can address the needs of households making somewhat less than the Area Median Income (AMI)<sup>6</sup> or somewhat more than the AMI. For example, workforce housing could meet the needs for households making between 60% to 120% of the AMI.

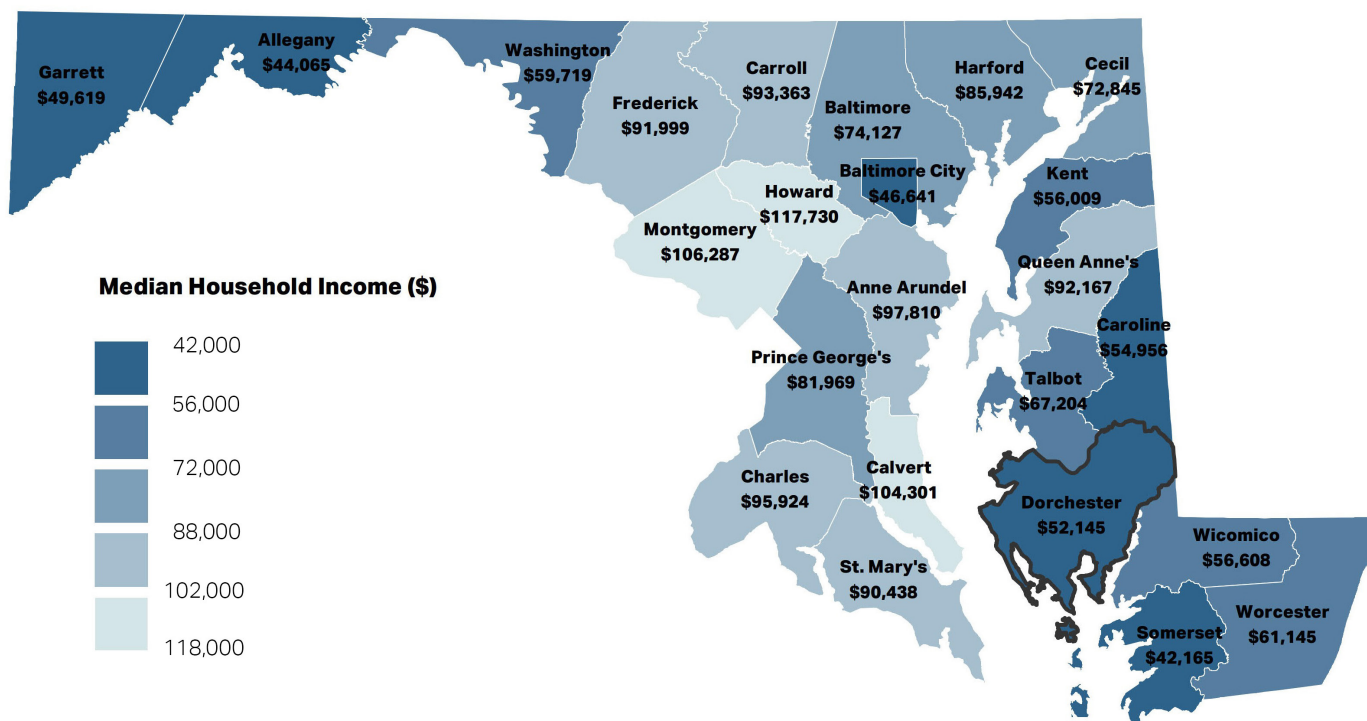
The median household income in Dorchester County in 2018 was \$52,145, which is \$29,723 less than the median household income for the State of Maryland (\$81,868) and the fourth lowest median household

income of all counties in the State.<sup>7</sup> See **Figure 7.3**. Using 2018 ACS estimates, it was estimated that approximately 5,700 households in the County earn between 60% to 120% of the AMI. Median house prices overall are lower in Dorchester County compared to the State median, but this does not mean that housing is more affordable.

A substantial gap has grown between housing value and resident incomes. Between 2000 and 2018, the median housing value almost doubled (94% increase) from \$92,300 to \$179,300. The median household income also increased, but at a much slower rate of 53%, from \$34,077 to \$52,145. See **Figure 7.4**. The State experienced a similar gap increase in the same period where the median home value more than doubled from \$146,000 to \$305,500 and income increased 55%, from \$52,868 to \$81,868.

In 2018, of all owner-occupied housing units in the County's 5,483 units (61%) had a mortgage. Monthly owner household costs with a mortgage were significantly higher than owner-occupied households without a mortgage. The median monthly

**Figure 7.3 Median Household Income by County (2018)**



Source: 2014-2018 American Community Survey 5-Year Estimates

<sup>6</sup> For the purposes of this plan, AMI refers to the Median Household Income of the County

<sup>7</sup> 2012-2016 American Community Survey 5-Year Estimates.

owner cost with a mortgage was \$1,389 compared to \$525 for owners without a mortgage. 2,476 owner-occupied housing units (28%) spent more than 30% of their household income on housing. 76% of these households had a mortgage. See **Figure 7.5** for household costs as a percentage of income for Maryland counties.<sup>8</sup>

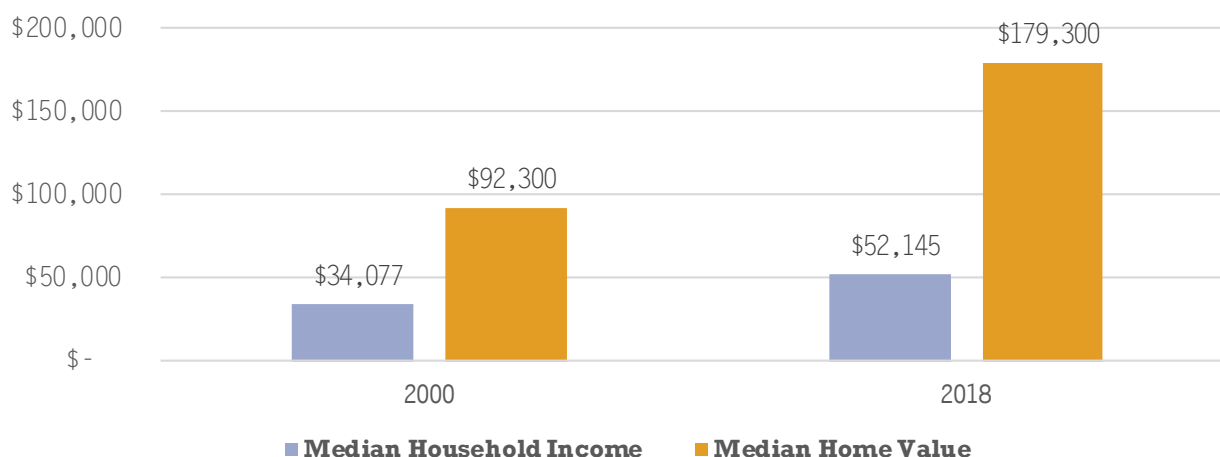
Although the median rent almost doubled between 2000 and 2018, from \$465 to \$869, it is the second lowest on the Eastern Shore. Still, Dorchester County renter households have experienced affordability issues with respect to the amount of household income spent on monthly housing costs. In 2018, 2,272 renter households (58%) spent 30% or more of their household income on monthly housing costs. In 2017 and 2018, the Maryland Department of Housing and Community Development (DHCD) published a report entitled Maryland Housing Beat that provided a myriad of housing statistics and indices. To assess housing affordability, the publications utilized the Single-Family Housing Affordability (HA) Index that...*predicts the financial ability of a typical family residing in a Maryland jurisdiction to qualify for a mortgage loan on a typical home, given that month's mortgage rate and the jurisdiction's median home price and median income.*<sup>9</sup> An index above

100 indicates that a median income household has more than enough income to qualify for a mortgage loan on a median-priced home. As of March 2017 and September 2018 (the dates of the respective publications), Dorchester County ranked 6th (with 1st being the most favorable ranking for affordability) of all Counties in the State in the HA Index for both first-time home-buyers and repeat buyers. The median home price was \$127,075 and the homeownership affordability index for first time homebuyers was 103.6 which is classified as affordable. The State index was 85.5 with a median home price of \$244,544. (Affordability Indices for First Time Homebuyers in Local Jurisdictions, September 2018). It is also noted that the Maryland Housing Beat reported new foreclosure filings in September 2018 increased by 233.3% in the County since September 2017 levels.

### Aging Population

The share of income spent on housing is a primary concern for the County's senior population, many of whom live on fixed incomes and thus have less ability to afford increasing housing costs. As discussed in Chapter 2 – Community Profile, Dorchester County has a large and increasingly elderly population. The number of residents that are over 60 years has significantly increased since 2000. The 60 to 64 age

**Figure 7.4 Median Household Income and Home Value (2018)**



<sup>8</sup> Selected monthly owner costs are calculated from the sum of payment for mortgages, real estate taxes, various insurances, utilities, fuels, mobile home costs and condominium fees. When combined with income, a new item is created -- Selected Monthly Owner Costs as a Percentage of Household Income, for computed units. This item is used to measure housing affordability and excessive shelter costs. Many government agencies define excessive as costs that exceed 30% of household income.

<sup>9</sup> Maryland Housing Beat, Maryland Department of Housing and Community Development, 2018.

group, which the most common age to retire<sup>10</sup>, has increased the most with a 49% increase between 2000 and 2018. An increasingly older population will mean a greater demand for modestly priced housing that serves the special needs of the elderly. An aging population will place new demands on housing in terms of affordability, size and proximity to community facilities and services. The population of residents over 60 years is projected to increase over the next 20 years in the County, on the Eastern Shore and Statewide.<sup>11</sup>

## Manufactured Housing

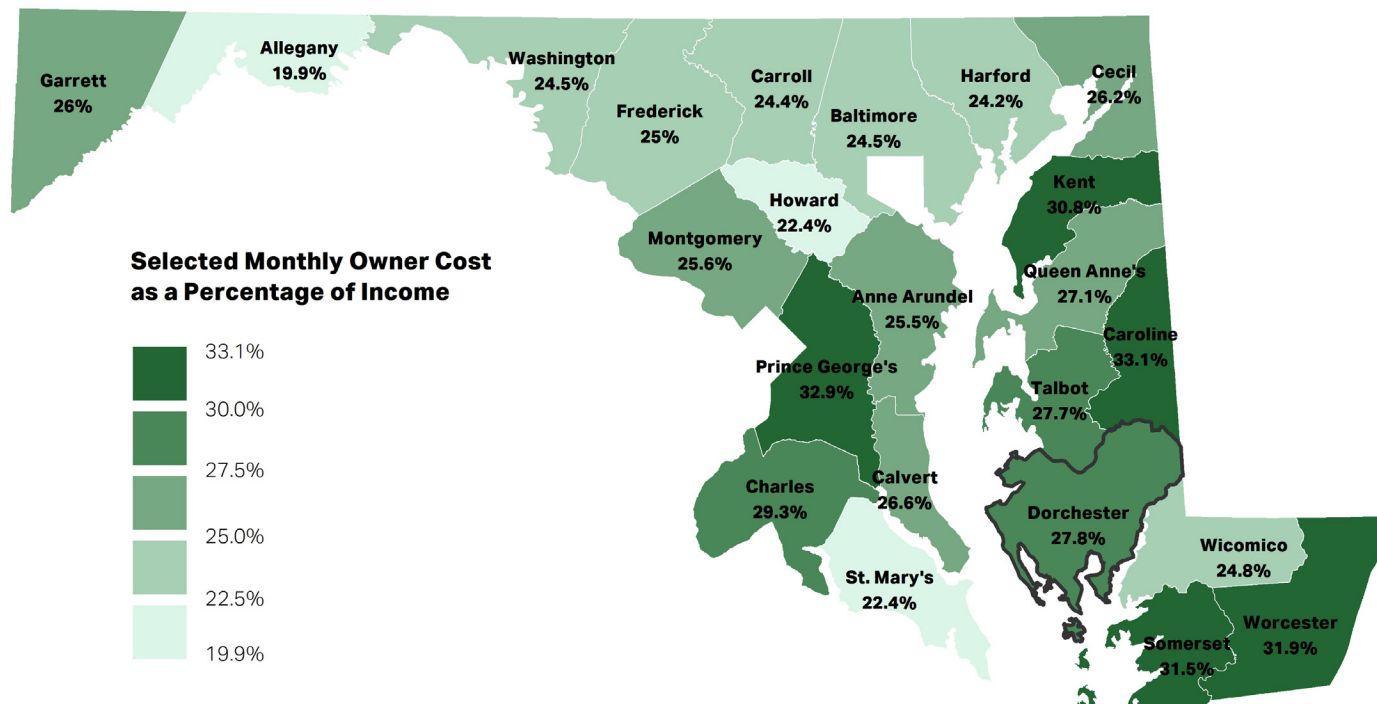
Manufactured housing policies are another consideration important to the topic of affordable housing. The County currently permits manufactured housing meeting basic criteria to be located anywhere a detached single-family unit is permitted. The County also permits manufactured home parks. Pre-existing manufactured and mobile homes in certain locations are allowed and may be replaced.

According to the 2018 American Community Survey,

approximately 5.5% of the County's housing stock was manufactured or mobile homes, about 4.5% less (as a percentage of total housing stock) than the amount counted in the 2010 Census. The number of mobile or manufactured homes in the County was 1,410 in 2010, compared to 921 in 2018 which continues the decreasing trend in this type of housing. The County's Zoning Ordinance includes a Manufactured Home Overlay District (MH) that recognizes the areas of the County where concentrations of older manufactured homes exist. Because of these concentrations, certain categories of manufactured homes are permitted in the MH that are not permitted in other districts. In areas outside of the MH, manufactured homes are permitted as replacements for existing mobile homes, or must meet criteria for looking like site-built homes. Criteria include double-wide size, permanent foundation, and a minimum roof pitch of 4:12.

## Summary

**Figure 7.5 Selected Monthly Housing Costs as a Percentage of Income (2018)**



Source: 2014-2018 American Community Survey 5-Year Estimates

<sup>10</sup> <https://dqydj.com/average-retirement-age-in-the-united-states/>

<sup>11</sup> Household Projections, Maryland Department of Planning, Projections and State Data Center, August 2017.



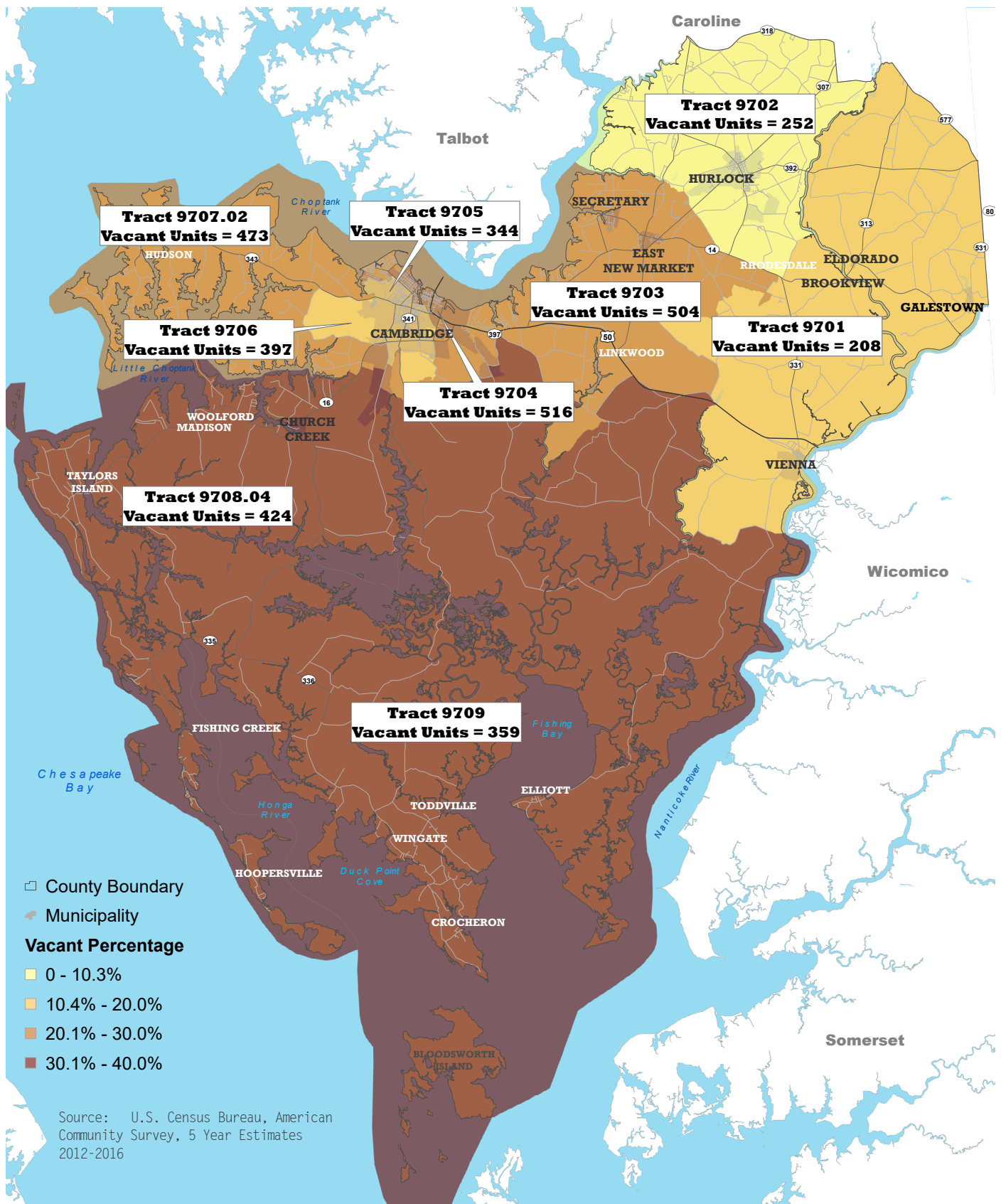
While the County received a satisfactory affordability index per the DHCD Housing Beat report(s), the number of foreclosures and the increasing gap between incomes and home values is a concern. If the trend continues, a large percentage of housing stock in the County could become out of financial reach of low to moderate income residents. With rising home values as a percentage of income, an aging population and housing stock, a lack of variety of housing types, many County residents many find it difficult or impossible to obtain housing to meet their needs.

**Table 7.1 Housing Data Summary**

	Dorchester County			Maryland 2018
	2000	2010	2018	
# HOUSING UNITS	14,681	16,554	16,741	2,437,740
OCCUPIED HOUSING UNITS	12,706	13,522	13,264	2,192,518
% OCCUPIED <sup>1</sup>	87%	82%	79%	90%
VACANT HOUSING UNITS	1,975	3,032	3,477	245,222
% VACANT <sup>1</sup>	13%	18%	21%	10%
OWNER-OCCUPIED	8,906	9,263	8,944	1,463,941
% OWNER-OCCUPIED <sup>2</sup>	70%	69%	67%	67%
RENTER-OCCUPIED	3,800	4,259	4,320	728,577
% RENTER-OCCUPIED <sup>2</sup>	30%	31%	33%	33%
SINGLE FAMILY DETACHED	73%	75%	73%	53%
MEDIAN HOUSEHOLD VALUE	\$92,300	\$205,000	\$179,300	\$305,500
MEDIAN RENT	\$456	\$704	\$896	\$1,357
OWNER COSTS OF HOUSEHOLD >30%	27%	35%	28%	24%
MEDIAN YEAR STRUCTURE BUILT	N/A	1968	1974	1976
STRUCTURE BUILT BEFORE 1939	23%	24%	19%	12%
MOBILE OR MANUFACTURED HOMES	1,519	1,410	1,054	27,316

1. As a percentage of total number of housing units.

2. As a percentage of the total number of occupied households.

**MAP 7.1 - VACANT HOUSING UNITS**

2021 COMPREHENSIVE PLAN

DORCHESTER COUNTY, MARYLAND



## HOUSING PROGRAMS

This section discusses the work of agencies and organizations that help provide affordable and workforce housing in Dorchester County.

### **USDA Rural Development**

The USDA Rural Development's Rural Housing Service aids first-time low-income homebuyers through various loan programs:

#### ***Single-Family Home Loan Program (Section 502):***

Also known as the Section 502 Direct Loan Program, this program assists low- and very-low-income applicants obtain decent, safe and sanitary housing in eligible rural areas by providing payment assistance to increase an applicant's repayment ability. Payment assistance is a type of subsidy that reduces the mortgage payment for a short time. The amount of assistance is determined by the adjusted family income.

#### ***Guaranteed Single-Family Home Loan Program:***

This program assists approved lenders in providing low- and moderate-income households the opportunity to own adequate, modest, decent, safe and sanitary dwellings as their primary residence in eligible rural areas. Eligible applicants may build, rehabilitate, improve or relocate a dwelling in an eligible rural area. The program provides a 90% loan note guarantee to approved lenders to reduce the risk of extending 100% loans to eligible rural homebuyers.

### **Maryland Department of Housing and Community Development**

The Maryland Department of Housing and Community Development (DHCD) offers a wide array of homeownership and rental housing programs designed to help families find, rehabilitate, maintain and keep affordable and livable housing in communities throughout the state, including Dorchester County. These programs work to revitalize communities and are used by a mix of state, local and non-governmental organizations.

***Maryland Mortgage Purchase Program:*** Home mortgages provide 30-year fixed-rate home loans to eligible homebuyers purchasing in Maryland. Loan terms are competitive with other home loan products on the market, and the program provides a range of associated financial incentives and other assistance, such with discounted interest rates and limited down payment assistance for moderate income households. Special Loans Program: Home improvement loans for low- and moderate-income home owners.

#### ***Low-Income Housing Tax Credit Program:***

Awarded to qualified developers of low-income rental to invest in the construction and rehabilitation of rental housing for low- and moderate-income families. Independent Living Tax Credit. State income tax credit applied against home improvements to increase accessibility for homeowners, family members or a rental property.

***Rental Housing Works:*** Designed to create jobs and strengthen the state economy by providing gap financing for the creation and preservation of affordable rental housing financed through the DCHD's Multifamily Bond Program and Low-Income Housing Tax Credit.

***Partnership Rental Housing Program.*** Deferred loan program to local governments and qualified nonprofits to develop affordable rental housing for low income households. Projects financed typically involve a partnership between State and local governments.

#### ***Housing Choice Voucher Program (HCVP).***

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.

#### ***Community Development Block Grants (CDBG):***

The CDBG program that is intended to benefit persons of low and moderate income, eliminate slum or blight and/or meet an urgent need of recent origin that threatens public health and safety. CDBG funds can apply to housing, community facilities or economic development projects.

### Habitat for Humanity

Habitat for Humanity is a non-profit, Christian housing ministry dedicated to eliminating substandard housing and homelessness worldwide and making decent, affordable shelter available to residents. Using volunteer labor and tax-deductible donations of money and building materials, Habitat for Humanity constructs and renovates homes with the assistance of the homeowner/partner families. Upon completion, these homes are sold to partner families at no profit and financed with affordable no-interest loans. Habitat for Humanity Choptank, located in Trappe, MD works with qualifying families in Dorchester and Talbot Counties.

### Community Services, Inc.

The Delmarva Community Services, Inc. (DCS) began operation in May 1974 in Dorchester County serving adults who were developmentally disabled. The DCS, which is located in Cambridge, has been working in the Mid-Shore area since then to offer persons with developmental disabilities, the elderly and others opportunities to grow through effective care, education and employment. Relative to meeting housing needs of Dorchester County residents, DCS has senior centers in Hurlock and Cambridge which provide a variety of classes and activities. DCS also provides foreclosure counseling assistance.

## HOUSING STRATEGIES

- Coordinate with the municipalities to ensure that zoning and other infrastructure needs are in place to provide for higher density development in designated growth areas, while recognizing individual community character, environmentally sensitive areas and hazard areas that are vulnerable to flooding and sea level rise.
- Coordinate with the municipalities to increase municipal water and sewerage capacity that will increase supply of land for development at higher densities where it is encouraged and supported.
- Evaluate zoning and development codes to ensure they permit and encourage a variety of housing types to meet varying needs.
- Continue to support and build partnerships with the Maryland DHCD, USDA Rural Development, Habitat for Humanity and other small developers in their affordable housing development efforts focusing on home ownership and senior housing, not rental properties.
- Increase the supply and variety of housing through new construction and conservation and rehabilitation of the existing housing stock. Focus new construction on in-fill and building on existing developments that were started before the 2008 financial crisis.
- Coordinate with social service providers to expand transportation, medical and social services access to the elderly population to support aging in place. Work with the Transportation Development Plan team to ensure recommended enhancements are implemented.
- Work with the Maryland DHCD, municipalities and communities to target implementation of appropriate homeownership and home rehabilitation programs as well as programs to locate senior housing projects in town centers near service establishments.
- Coordinate with municipalities and communities to publicize and promote information to residents and realtors about State home ownership, rehabilitation and renovation programs.
- Provide housing, property maintenance code guidance to residents, including flood protection measures in vulnerable communities.
- Remain vigilant in enforcing the County's building, property maintenance and flood protection codes.
- Consider reestablishing the Dorchester County Housing Task Force that consists of a coalition of representatives from municipalities, community organizations, private business owners, builders and developers, and individuals tasked to assess and recommend affordable housing policies.
- Evaluate the possibility of creating a Dorchester County housing authority, or equivalent, that would promote and facilitate housing programs, forge partnerships with State and local agencies, assist County residents, and guide resources to implement affordable housing objectives and programs including the creation of a multi-government Land Bank.
- Coordinate housing efforts with the Local Management Board to ensure efforts are aligned with the Poverty Initiative, their work with the homeless shelters and with incarcerated individuals needing housing when released.



## 8 | TRANSPORTATION

The Transportation Element focuses on preserving the capacity of the County's primary roads, providing enhanced roads and other transportation services in County growth areas and other areas important for economic development and for serving existing communities while protecting historic sites and environmentally sensitive areas. The Transportation Element also forges a link with land use initiatives. This land use/transportation relationship supports internal circulation patterns while enhancing mobility along the transportation system. The Transportation Element is intended to address the mobility needs of County residents for the next 20 years. It is a guide by which state, regional, County, local and other public and private agencies can base their respective planning and development decisions. It sets no precise timetable for the realization of the transportation goals, but rather gives rational forethought to the continued development of the County transportation system.

## GOALS

- Maintain US Route 50 and MD 16 as the primary County transportation corridors.
- Encourage transportation alternatives such as public transit, bikeways and pedestrian systems which reduce the dependency on individual automobiles.
- Maximize the potential of the Cambridge-Dorchester Municipal Airport.
- Integrate land use and transportation policies to make them mutually supportive.
- Protect existing communities and the environment by making improvements compatible with natural surroundings.
- Ensure appropriate transportation resources and opportunities are available to all citizens of Dorchester County including vulnerable populations such as the elderly, physically challenged and low-income.

## ROADS

### System Description

The County's existing transportation system's main roadways are US Route 50 and MD 16. US Route 50 is the primary east-west thoroughfare for the County carrying regionally oriented traffic along with some local traffic. US Route 50 is primarily a non-signalized roadway, except where it traverses the City of Cambridge. Although US Route 50 is owned and maintained by the Maryland Department of Transportation State Highway Administration (MDOT SHA), it is part of the National Highway System (NHS) and is, therefore, eligible for Federal Aid.

MD 16 is divided into two distinct roadways: MD 16 north and MD 16 south. MD 16 north carries traffic, generally locally oriented, from Caroline County to US Route 50. MD 16 north links the Town of Secretary, East New Market and Hurlock with the City of Cambridge and the southern portion of the County. It provides important access for established and emerging residential and commercial areas and is an important roadway for school bus movement and public transit. MD 16 north also provides access to Caroline County, including Denton and destinations in Delaware. MD 16 south is the main roadway used

by County residents to reach the Taylor's Island area from US Route 50. MD 16 north and south are offset, requiring motorists traveling along MD 16 north-south to briefly use US Route 50.

The County is served by several other state highways that generally act as the major roadways throughout the County and which also serve as thoroughfares through the municipalities and the main access points in and out of the County. The majority of the roads in the County are County roads which are maintained by the County Highway Department. Except for the state highways and private streets, the roads within municipalities are maintained by the respective municipality. As of January 2019, there are 787 miles of publicly maintained roads of which 136 miles are maintained by MDSHA, 568 miles by the County and 83 miles by the various municipalities.<sup>1</sup>

### Existing Roadway Classification

The functional classification of roadways defines the role each element of the roadway network plays in serving the travel needs of the community as well as the surrounding region. The 1996 Comprehensive Plan recognized the existence of the Federal Highway Functional Classification System, but adopted a separate classification system in recognition of a particular roadway's function in implementing the land use policies as described in said Plan. That is, a roadway's function may change over time as growth continues in accordance with the land use policies of the Comprehensive Plan. For the purposes of this Comprehensive Plan, the Federal Highway Functional Classification System will be used to define roadway function. For state highways, the functional classification, as assigned by the MDSHA, will be used. For County roads, a roadway classification will be assigned based on the road's existing and future function. Given the modest growth projections and modest growth areas as defined in Chapter 1 and 2 of this Comprehensive Plan, there will be little, if any, difference between a County road's existing function and future function. This is not to say that improvements to County roadways will never be necessary to meet safety or maintenance needs, or even to increase capacity, but that the basic function of the road will not change as a result of growth in accordance with this Comprehensive Plan. It should be noted that some existing zoning and subdivision regulations are based on the adjacent roadway's

<sup>1</sup> 2018 MDOT SHA Mileage Report.

classification as defined in the 1996 Comprehensive Plan. **Map 8.1** in this Comprehensive Plan includes roadway classifications not previously used in the 1996 Plan, such as Principal Arterial and Minor Arterial. Until such time as the Subdivision Regulations and Zoning Ordinance are updated, any roadway designated as Minor Arterial on Map 8.1 shall be considered a Major Collector for the purposes of interpreting said regulations. In addition, the Principal Arterial Road (US Route 50) on Map 8.1 shall be considered a “Limited Access” road as used in the regulations. The 1996 Comprehensive Plan also refers to a memorandum of understanding between the County and MDSHA, dated September 19, 1989, that applies access controls to parcels along Route 50. The County and MDSHA should revisit this memorandum to ensure that its application is still valid and/or to determine if more formal access control measures have been or can be, put in place.

**Map 8.1** indicates the various functional roadway classifications in the County (as noted above, the functional classifications for state highways are determined by MDSHA):

**Principal Arterial** – Principal arterial roads are typically the primary roads within a city or county which serve regional and interstate traffic. The primary function of principal arterials is to move traffic, with the provision of access to abutting properties being a secondary function. The only principal arterial within Dorchester County is US Route 50 for its entire length through the County.

**Minor Arterial** – Minor arterials collect and distribute traffic from principal arterials to lesser-classified streets, or allow for traffic to directly access their destination. As defined by MDSHA, MD 392, 331, 307 and portions of MD 343 and 16 serve as minor arterials within Dorchester County.

**Major Collector** – Major collectors are intended to carry traffic from local roads and minor collectors and are intended to serve a primarily mobility function while also balancing direct access to destinations. As indicated on **Map 8.1**, the only major collectors in the County are state highways and include MD 343, 341, 336, 335, 313 and portions of MD 16 and 14.

**Minor Collectors** – Minor roads are located throughout the County and are intended to serve both

mobility and access needs of County residents. These roadways carry less traffic than major collectors or arterial roads. All minor collectors are County roads.

**Local Roads** – Local roads are the lowest order road and are intended to carry low traffic volumes. These roads are dispersed throughout the County and expected to carry traffic from residences to the collector network.

### **State Transportation Planning**

The Consolidated Transportation Program (CTP) is Maryland’s six-year capital budget for transportation projects. The Capital Program includes major and minor projects for the Maryland Department of Transportation (MDOT) business units; the Transportation Secretary’s Office (MDOT TSO), the Maryland Aviation Administration (MDOT MAA), Maryland Port Administration (MDOT MPA), Motor Vehicle Administration (MDOT MVA), Maryland Department of Transportation State Highway Administration (MDOT SHA), Maryland Transit Administration (MDOT MTA) – and related authorities to the MDOT, including the Maryland Transportation Authority (MDTA) and the Washington Metropolitan Area Transit Authority (WMATA).

Relative to state-maintained highways, the FY 2019 – 2024 contains the following projects in the County:

- MD 16 – Church Creek Road from MD 335 to Brannocks Neck Road, drainage improvements
- Pavement resurfacing and rehabilitation at various locations in Dorchester County

### **State Highway Needs Inventory**

The Highway Needs Inventory (HNI) is a listing of projects developed by MDOT to address transportation needs throughout the State over the long-term (20 years). Funding for the majority of the projects on this list has not been identified by the State. Typically, projects on this list are eligible for inclusion as part of the aforementioned CTP. The HNI is also updated by MDOT every four to six years. Dorchester County projects in the HNI include the following:

- US 50 The Ocean Gateway – MD 16 north to Old Ocean Gateway access control improvements
- MD 14 Rhodesdale Eldorado Road - MD 331 at Rhodesdale to MD 313, 2 lane reconstruct

- MD 16 Church Creek Road – US 50 to MD 392 at East New Market, divided highway reconstruct
- MD 16 Easter New Market Ellwood Road – North limits of E. New Market to 0.7 miles south of MD 331, 2 lane reconstruct

### **County Highway Priorities 2019**

Each year, MDOT requests that every County develop a list of priority transportation projects to be considered in the pending CTP. In August 2019, the Dorchester County Council submitted the following list of potential transportation improvements for inclusion in the FY 2020-2025 CTP:

- Extension of guardrail at US 50 at Vincent Road, both east and west bound over Higgins Mill Pond
- Review of intersection of Beaver Neck Village and Route 50 due to amount of accidents in this area
- Extend west bound turn lane on US 50 to MD 16 to Church Creek
- Full controlled signal at Bucktown Road due to limited visibility issues as a result of the turn/guardrails
- Traffic calming measures, i.e. circle, lights for Route 392/Route 14 intersection at Dockins
- Swap of Visitors Center and Woods Road
- Open the cross over to traffic to west bound US 50 with an acceleration/merge lane heading west at the intersection of Airey's Road spur (cemetery end) and US 50
- Study to address traffic issues at Crusader Road and Washington Street

### **Dorchester County Highway Division**

The Highway Division is divided into several activities and functions. Among the many jobs of the Highway Division are road building, blacktopping of roads (new and overlay), surface treatment, ditching – outlet and roadside, bushing – outlet and roadside, roadside mowing, boat dock maintenance, boat ramp construction, bridge maintenance, snow removal, ice control, signage of all County roads, line stripping of all County roads, and operation of a maintenance/repair shop. According to information provided by the County Highway Division, maintenance of County roads in the southern portion of the County is becoming increasingly difficult/costly due to more frequent nuisance flooding (flooding at high tide) and storm surges. Additional maintenance is required for

debris removal to keep the roads passable. In addition, efforts to elevate roads to avoid or minimize inundation are proving to be unsuccessful due to localized subsidence of the roads most likely due to unsuitable subgrade caused by rising groundwater from sea-level change. Providing adequate and safe passage across County roads is especially important in the southern portions of the County since County roads provide the initial link to the primary evacuation routes. In addition, it should be noted that maintenance difficulties are exacerbated in the southern portion of the County in areas of low density due to the disproportionate maintenance costs relative to residents served. The County is also responsible for the Ferry Crossing Bridge (aka Hoopersville Bridge) which provides the sole vehicular access to Hoopersville. The Bridge, which was built in 1980, is a 21 span, prestressed concrete bridge and is approximately 1,500 feet in length. The north and south approaches to the bridge are elevated causeways with asphalt paving. Given their location at the confluence of the Honga River and the Chesapeake Bay, the bridge and causeways are particularly susceptible to natural hazards. In 2030, the bridge will be 50-years old and nearing the end of its serviceable life. While there may be other bridges of this age and vulnerability in the County, none would have the replacement costs of this prominent structure. The County should consider conducting an evaluation of the structural condition of the bridge and estimate its serviceable life-expectancy and replacement costs. Goals and strategies for hazard mitigation, adaptation and resiliency are set forth in Chapter 9 - Community Facilities, Chapter 4 Environmental Resources and Protection, as well as in the County Hazard Mitigation Plan (HMP) and in the Flood Mitigation Plan (FMP).

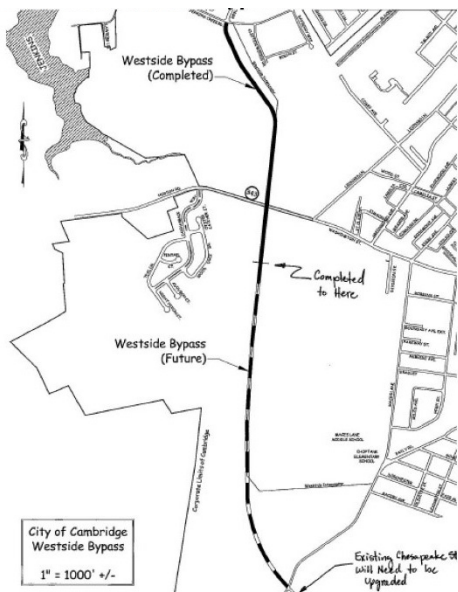
### **West Cambridge Bypass**

The 2011 Cambridge Comprehensive Plan describes plans for a westside bypass of the City: *This major street will provide a connection between U.S. Route 50 (over existing Route 16) and the northwest quadrant of the City. As shown on the plan map, the first 2,500 feet of the proposed highway is nearly completed. The later phases of the project extend due south to align with Chesapeake Street. The City will upgrade Chesapeake Street to the full road section of the bypass design. The route will then connect with MD Route 16. The design of the bypass will include a bicycle lane in the right-of-way. It will help resolve traffic congestion on Washington Street.*



In addition to the portion that has been completed, the remainder of the right-of-way of the bypass to Bayly Road has been acquired by the City. Although the entirety of the West Cambridge Bypass falls within the incorporated limits of the Cambridge, Dorchester County is in support of the project. Once the bypass is completed, it may have an effect on traffic in the County and updates to the network should be monitored.

**Figure 8.1 West Cambridge Bypass**



Source: Maryland Transit Administration

## Congestion

The average commute in Dorchester County is between 22 – 26 minutes, while the average commute time across the State of Maryland is 32.3 minutes. MDOT has identified only two congested areas in Dorchester County by 2040, both near Cambridge.<sup>2</sup> This does not account for peak travel times for tourists. These roadway facilities should be monitored for potential improvement needs.

Furthermore, the County should ensure that permitted land use intensity along County roads is based on the existing capacity of the road system. Any anticipated improvements in high growth areas should be identified in a County Capital Improvement Program with a projected source of funding.

## Growth Impacts

Future development areas in Dorchester County are located primarily along MD 16 and US 50 corridors

between the City of Cambridge in the south and generally to the Town of Hurlock in the north (see Chapter 2 - Land Use). The MDSHA collects data on the number of trips over their roadways in the form of annualized average daily traffic (AADT). **Appendix D** includes a table that indicates the AADT data from the years 2015 through 2018 for various segments of all of selected state highways within the County. Based on this data, the County's major road network (state highways) is generally not experiencing significant increases in traffic volumes. Of particular note, however, is MD Route 16 from US 50 to MD Route 14, which has experienced a 9% increase in AADT over this four-year period. While the overall increase in AADT (977) is not substantial for a state highway, it is the largest increase in traffic not associated with US Route 50 for a state highway in the County. This increase in traffic is consistent with the Route 16 corridor serving as the historic growth corridor of the County. This land use pattern and trend is expected to continue under this Comprehensive Plan with Route 16 traversing the Suburban Growth and Rural Residential Growth Land Use Districts identified in Chapter 2. The County should work with MDSHA to continue to monitor traffic volumes on Route 16 to ensure that it maintains an acceptable level of service.

## OTHER TRANSPORTATION FACILITIES

### Bus Service

Delmarva Community Transit (DCT) provides a variety of transportation services for the community, including fixed route shuttle services in the Cambridge area, flexible routes linking Dorchester County to other areas of the Eastern Shore, and specialized service for senior citizens and persons with disabilities. One-way fares top out at \$3.00, and seniors and persons with disabilities can ride for \$1.50 each way. All buses are fully equipped to accommodate wheelchairs, power scooters and individuals who cannot climb stairs. Service is currently offered between 4:15 am – 8:30 pm Monday – Friday, and 8:35 am – 8:30 pm on Saturdays. With an increasingly aging population, demand can be expected to grow. If this occurs, DCT will need to receive financial support from other sources. The County should continue to coordinate with the DCT to assess funding needs to support the DCT needs in future years.

<sup>2</sup> 2040 Maryland Transportation Plan.

The Maryland Upper Shore Transit (MUST) is a collaborative agency that provides bus schedule printing and call center support for Limited English Proficient (LEP) customers for DCT and Queen Anne's County Ride, which cover Caroline, Dorchester, Kent, Queen Anne's and Talbot Counties. MDOT MTA makes a significant investment in transit in Dorchester County each year. In FY19, MDOT provided \$786,000 in operating and capital grants to support the local transit operation. This funding includes the replacement of two gasoline engines, two gasoline transmissions and on-going preventive maintenance. Additionally, \$195,000 in funding was provided to nonprofits that serve the transportation needs of seniors and people with disabilities in the County.<sup>3</sup>

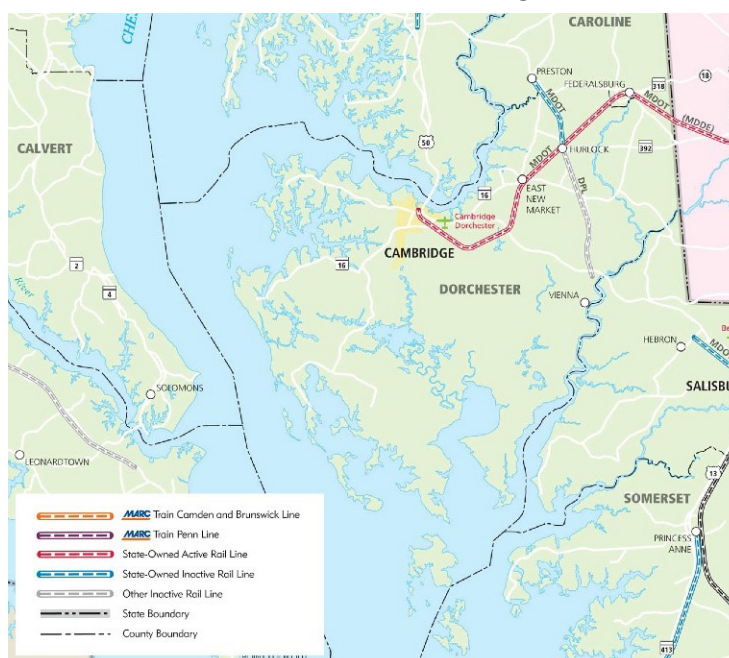
### Rail Service

The Maryland-Delaware Railroad Company provides the only freight service in Dorchester County. The physical track extends northeast from Cambridge through Hurlock and Federalsburg into Delaware where it connects with the Norfolk Southern line. Citing concerns over the deterioration of the ties and ballast, MDOT closed the rail line north from Cambridge to Hurlock. Currently, the Maryland-Delaware Railroad provides direct rail access to several active and inactive industrial sites in Hurlock and Federalsburg. MDOT also owns approximately 6.4 miles of inactive rail line between the Town of Preston in Caroline County and the Town of Hurlock. The Eastern Shore Scenic Railroad, a volunteer group that owns and operates an engine and two restored passenger cars, has expressed interest in leasing the abandoned rail line from MDOT for occasional recreational use to promote tourism and to educate passengers on the historic importance of rail service on the Eastern Shore. Currently, the Eastern Shore Scenic Railroad provides train rides between Hurlock and Federalsburg every year as part of the Hurlock Fall Festival. Delmarva Power and Light owns approximately 10 miles of abandoned rail between Hurlock and Route 50 near Vienna which is currently used for overhead power transmission lines. Commuter rail transportation is not available in the County and is not included in the MDOT CTP. See **Figure 8.2** for the location of existing rail lines and rights-of-way in the County. (As noted above, the line between Cambridge and Hurlock is inactive.)

### Rails to Trails

In 2018, Dorchester County received a \$220,700 Transportation Alternatives (TA) grant from MDOT to renovate 1/3 of a mile of rail line in the City of Cambridge into a multi-modal trail. The trail is one part of the overall Cannery Park Master Plan for 6.6 acres of land which also includes a mixed-use redevelopment of the former Phillips Packing House, recreational amenities and a stream restoration project. The Cannery Park trail, which is currently under design, could serve as the trail-head for a County-wide rails to trails system on the inactive rail lines described above. A comprehensive rails to trails plan could be prepared that establishes funding sources, roles and responsibilities relative to rail acquisition and leasing, trail extents, co-usage opportunities and trail design standards. The comprehensive rails to trails plan should also include an extensive community outreach program to obtain input and feedback on trail features and design. The plan could be phased to first obtain community input on the feasibility and acceptance of a rails to trails system and, if deemed feasible and acceptable, the second phase would include more detailed evaluation of the trail features. Prior to the onset of any rails to trails planning, the County should coordinate with MDOT to confirm that the subject rails are no longer needed for freight and goods movement or that contingency plans are put in place to reinstate the rail system in the future, if warranted, to provide for such movement.

**Figure 8.2 Rail Lines**



<sup>3</sup> MDOT October 16, 2018 News Release regarding Annual Tour Meeting between the Transportation Secretary and County Officials.

Source: Cambridge Comprehensive Plan, 2011

## Air Transportation

Dorchester County has one general aviation airport and is near two other general aviation airports in neighboring Wicomico and Talbot Counties. Located three miles southeast of Cambridge is the Cambridge-Dorchester Regional Airport (FAA identifier - CGE). CGE is a publicly-owned, public use general aviation airport owned by the Dorchester County Council. The Airport occupies approximately 345 acres of land. The Airport is included in the FAA's National Plan of Integrated Airport Systems (NPIAS) as a Regional General Aviation Airport. This designation defines CGE as an airport "which supports regional economies by connecting communities to regional and national markets". Classification within the NPIAS allows the Airport to receive federal funds for eligible projects. The Airport maintains a 4,481-foot long by 75-foot wide asphalt/grooved runway (Runway 16-34) with non-precision approach capability with a full parallel taxiway. An Airport Protection Overlay Zoning District that includes special development limitations to protect airport operations applies to within an approximately 3-mile radius of the airport.

The Airport Capital Improvement Program (2019-2024) includes the following improvements:

- Construction of airfield perimeter fencing;
- Preparation of a Pavement Management Plan;
- Adherence to 14 Code of Federal Regulations Part 77, including acquisition of navigation easements on land containing obstructions, environmental permitting and mitigation, and removal of obstructions;
- Preparation of a runway length justification analysis;
- Preparation of environmental documentation in accordance with the National Environmental Policy Act of 1969 for a runway extension; and
- Design and construction of an extension of Runway 16-34, including the relocation of Cordtown Road and demolition of the railroad.

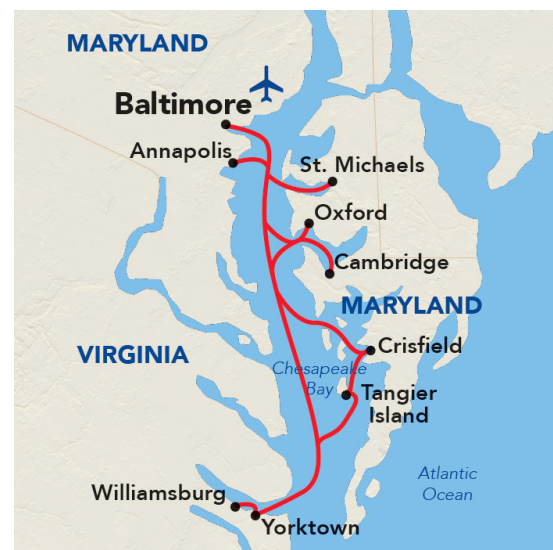
## Water Transportation

The County has more than 1,700 miles of shoreline along the Chesapeake Bay and its tributaries which provides abundant opportunities for water transportation, shipping and recreation. While the Port of Cambridge has discontinued commercial barge and tanker traffic, the channel is 25 feet deep and commercial port facilities remain in place. The Cambridge port serves as a port of call for the Chesapeake Bay Cruise offered by the American Cruise Lines. See **Figure 8.3**.

The County also has 13 designated soft launches designed for kayaks, canoes and Stand up Paddle Boards (SUPs), as well as over a 1,000 boat slips and 28 boat ramps, which usually have concrete ramps.<sup>4</sup> Visit Dorchester highlights four popular water trails: Blackwater National Wildlife Refuge; Transquaking River Loop; Island Creek Trail; and Chicone Creek. See **Map 9.3** for locations of water access.

According to the 2017 Dorchester County Land Preservation Park and Recreation Plan (LPPRP), access to the Chesapeake Bay and its tributaries is generally good, but enhanced access to the Marshyhope Creek and Nanticoke River is recommended. The largest marinas in the County are located on major roads in the City of Cambridge, or on state roads throughout the County. Given the inextricable link between the Chesapeake Bay and the County's cultural heritage and tourism economy, the County should continue to focus on maintaining adequate road access to the various boat ramps throughout the County.

**Figure 8.3 Cruise Lines**



Source: American Cruise Lines

### SHA Park and Ride

One Park & Ride lot is located at the corner of MD 16 and MD 335. Twelve spaces are available with only a 4% utilization rate. An upgrade to this facility is not warranted at this time.

### Bikeways and Pedestrian System

The 2040 Maryland Transportation Plan (MTP) sets a long-range course for investing in the State's transportation system that will help ensure Maryland remains a great place to live, work and do business. The MTP examines the State's most critical transportation needs and challenges, provides a framework for statewide goals and objectives, and identifies strategies to help MDOT meet the goals. The MTP lays out the following goals:

- Ensure safe, secure and resilient transportation system
- Facilitate economic opportunity and reduce congestion in Maryland through strategic system expansion
- Maintain a high standard and modernize Maryland's multimodal transportation system
- Improve the quality and efficiency of the transportation system to enhance the customer experience
- Ensure environmental protection and sensitivity
- Promote fiscal responsibility

Maryland's Bicycle Pedestrian Master Plan (BPMP) is coordinated with the MTP, which presents a 20 year vision for addressing all transportation needs across the State. Biking and walking are integral parts of how MDOT approaches the core mission of connecting customers to life's opportunities. The goals mentioned above are also echoed in the BPMP as priorities. Maryland stakeholders have access to a wide variety of state, federal and local programs to support the improvement of infrastructure for biking and walking. This includes several discretionary programs administered by MDOT that are key elements of this process and include hosting annual workshops and webinars to assist potential partners in project development. This plan includes several measures intended to strengthen the effectiveness of these

limited resources, while also highlighting the on-going need to identify new funding sources to achieve plan outcomes.

### Tourism

Dorchester County is rich in attractive destinations and scenery that benefit from an emphasis on active tourism and desirable amenities to attract and protect cyclists and pedestrians. The relatively flat topography and the wide range of natural and heritage resources create a strong basis for continued strategic investment in trail connectivity, sidewalks and main streets. Dorchester County produces a cycling guide (<https://visitdorchester.org/wp-content/uploads/DorchesterCyclingGuide.pdf>) that identifies six routes throughout the County: Cambridge to Neck District – Out and Back; IRONMAN Loop; Blackwater Wildlife Refuge – Out and Back; Cambridge Waterfront – Out and Back; Layton's Chance Winery Loop; and Vienna to Elliotts Island – Out and Back. Each of the trails highlights a different asset of Dorchester County. While Dorchester's trails and bikeways are a great strength, there remains opportunity to improve and expand across the current trail system. Moreover, trails can be a tool for economic development when aligned with ecotourism and cultural heritage tourism. The County should continue to dedicate resources towards improving, expanding and advertising pedestrian and bicycle trails.

### Safety

Pedestrian safety is a growing concern and a critical challenge in Maryland. After a decline between 2008 and 2010, Maryland witnessed a 21% increase in pedestrian-involved crashes between 2011 and 2016, with pedestrians accounting for 21% of Statewide fatalities.

The Maryland State Strategic Highway Safety Plan (SHSP) provides a tool to identify and implement engineering, enforcement and educational safety improvements, and this work is integral to the safety aspect of the Plan. The planning processes involved in both the SHSP and the BPMP are collaborative and complementary, with many of the same stakeholders informing both discussions. While the SHSP and Highway Safety Plan (HSP) focus on analyzing and introducing countermeasures to reduce the scope

<sup>4</sup> 2017 Dorchester County Land Preservation Park and Recreation Plan (LPPRP).



and severity of crashes, the BPMP shapes policies and projects to encourage more pedestrian activity across the state, and guide investments to improve connectivity, access and safety. In addition, safety-related campaigns such as “Look Up. Look Out” were developed by MDOT to raise awareness between pedestrians and drivers in curbing serious injuries and deaths throughout Maryland.

One high frequency pedestrian crash hotspot was identified in Dorchester County between 2012 and 2016, around Cambridge. A medium level hotspot was also identified near Federalsburg.

Tourists can be especially vulnerable individuals because they are not familiar with traffic patterns or blind-spots. Elderly can also be especially vulnerable as they may be more likely to have visual or physical challenges. AARP has developed a toolkit for Age-Friendly Communities<sup>5</sup> that addresses pedestrian safety, convenience and comfort for all by focusing on addressing the needs of the elderly. AARP’s report Planning Complete Streets for an Aging America suggests that communities consider the needs of older people in their multimodal street planning and adopt local Complete Streets policies. Not only should Dorchester County adopt a Complete Streets Policy, but it should actively implement improvements to make transportation infrastructure (e.g., crosswalks, signalization, illuminated walkways, more visible signage, streetscaping amenities, connectivity).

### Chesapeake Bay Bridge Crossing

The Maryland Transportation Authority and the Federal Highway Administration are in the process of conducting a two-tiered National Environmental Policy Act (NEPA) process to evaluate alternative locations for a new Chesapeake Bay Bridge crossing to provide additional capacity and improve mobility, travel reliability and safety. The Tier 1 NEPA study evaluated 14 corridors to determine each corridor’s ability to meet certain criteria related to travel times. Four of these corridors directly impacted Dorchester County. As of October 2019, a draft of the Tier 1 NEPA study has been completed which has narrowed down the 14 corridors to three corridors (including a no-build alternative) for further study (Tier 2 study). See **Figure 8.4**. The three corridor alternatives do not directly impact Dorchester County, but may have

regional transportation impacts that effect the County. The County should continue to monitor the project for progress and identify and provide input on the most advantageous alternative, if any, to the County.

### TRANSPORTATION STRATEGIES

- Continue to partner with MDSHA in recognizing US Route 50 and MD 16 as the primary County transportation corridors and monitor safety and capacity issues to ensure both roads function as planned.
- Update US Route 50 limited access policies with MDSHA as appropriate.
- Promote the Cambridge-Dorchester Municipal Airport and encourage the development of related industries.
- Amend Airport Overlay District, as appropriate, if and when the runway is extended.
- Plan improvements to the County roadway network to avoid deterioration of the road network to unacceptable levels.
- Ensure that planning and traffic management efforts, at State and County levels, are properly coordinated to achieve maximum efficiency of the transportation network. Assign high priority to improvements located within designated growth areas. Priority should also be given to the maintenance and enhancement of existing roadways as opposed to new construction.
- Conduct and evaluate the structural condition of the Ferry Crossing Bridge and causeways and estimate their serviceable life-expectancy and replacement costs.
- Continue close coordination between Dorchester County, Maryland Department of Transportation State Highway Administration, the Maryland Transit Administration and neighboring counties in order to better integrate planning policies and initiatives.
- Evaluate alternative methods of County road repairs and maintenance to minimize local subsidence and improve resiliency against sea-level change.
- Include those roads as identified in the 2017 Hazard Mitigation Plan Update that were ranked “high” for repetitive flooding in the County Capital

<sup>5</sup> <https://www.aarp.org/livable-communities/network-age-friendly-communities/>

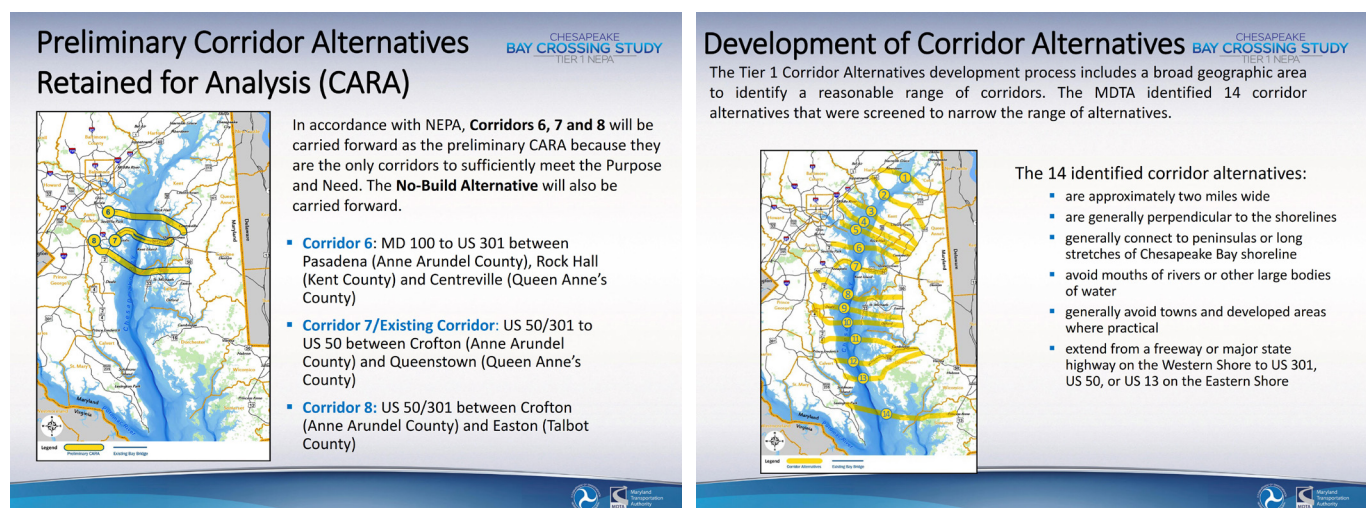
Improvement Program for improvements to mitigate flooding.

- Determine the County's legal obligation to continue to provide maintenance on County roads in areas of very low density.
- Prioritize capital improvements and preventative maintenance for those roads that provide access to the various boat ramps throughout the County.
- Evaluate opportunities to provide additional water access to the Marshyhope Creek and Nanticoke River.
- Consider hazard risks, both from extreme storm flooding and sea level rise, while designing and siting of any new public roads or upgrading existing roads.
- In the implementation of the hazard mitigation, adaptation and resiliency action items set forth throughout this Comprehensive Plan, the 2017 Hazard Mitigation Plan and the 2017 Flood Mitigation Plan, ensure ongoing coordination and collaboration of Dorchester County Departments including Emergency Management Division, Planning & Zoning, and Public Works.
- Consider the preparation of a Comprehensive County-wide Rails to Trails Plan.
- The County should coordinate with MDOT Mass Transit Administration to explore strategies such as Mobility As A Service (MaaS) and transportation

network companies' service (e.g., Uber or Lyft) to improve demand-response public transportation service to elderly, physically challenged, and low-income population.

- If physically feasible, and if funding is available, the County should consider installing and/or the paving of shoulders along County roads for bicycle use.

**Figure 8.4 Chesapeake Bay Crossing Corridor Alternatives**



Source: <https://www.baycrossingstudy.com/>



**MAP 8.1 - ROAD CLASSIFICATIONS**  
**2021 COMPREHENSIVE PLAN**  
 DORCHESTER COUNTY, MARYLAND



## 9 | COMMUNITY FACILITIES

The Community Facilities Element guides the establishment and programming of facilities and services that will serve the County's current and future population as efficiently as possible. This chapter addresses key issues related to providing adequate public facilities and services over the life of this Plan. This Element addresses: Water and Sewer; Solid Waste and Recycling; Education; Library System; Police, Fire and Emergency Services; Social and Human Services; Parks and Recreation; and Hazard Mitigation of Critical and Public Facilities. The land use development policy advocated by this Comprehensive Plan provides a rational basis for effectively providing community facilities and services. By directing future development towards designated growth areas, existing facilities can be maximized and new and improved facilities provided. County growth areas include the municipalities, adjacent areas and development corridors, which may reasonably benefit from enhanced facilities and services.



## WATER AND SEWER

As required by Maryland House Bill 1141, Dorchester County adopted a Water Resources Element (WRE) in 2009 as a stand-alone plan. Chapter 5 of this Plan provides an update to the 2009 WRE. While the 2009 WRE addresses the future water and sewer needs of the municipalities in the County, it is the responsibility of each municipality to adopt their own WRE. The WRE update discusses the existing water and sewer capacities of the municipal facilities, and addresses the future needs as they relate to unincorporated areas.

As discussed in Chapter 3 - Land Use, extensions of municipal water and sewer facilities may be needed to serve new development adjacent to municipalities as well as to address current issues of unincorporated areas near municipalities. For instance, the WRE recommends evaluating the feasibility of extending public sewer to the Neck District in order to address failed on-lot sewage systems. This Plan recognizes that additional, similar areas may be identified in the future. As such, the County reserves the right to extend public water and sewer to these areas with the acknowledgement that said extensions may be accomplished with "denied access" lines and to areas not identified for growth in the Land Use Plan. It is the intent of this Plan to take measures which will abate the discharge of raw sewage onto the surface of the ground or into the groundwater from existing bermed infiltration ponds (BIPS) or other on-lot or community sewage systems that are in a state of failure and create a threat to public health and safety and are a potential harm to the environment and water quality.

## SOLID WASTE AND RECYCLING<sup>1</sup>

The Dorchester County Department of Public Works is responsible for managing the County's solid waste disposal through implementation of the County's 10-Year Solid Waste Management Plan. The current plan, which was approved by the Maryland Department of the Environment on December 13, 2017, covers the period 2017 to 2026. The plan is reviewed periodically and updated as necessary to reflect growth and development in the County, the changing waste disposal and recycling needs of County residents,

and to respond to new statutes issued by the State of Maryland.

Solid waste generated in Dorchester County is disposed of at the Beulah Municipal Landfill (commonly referred to as New Beulah Landfill to differentiate it from the closed Old Beulah Landfill located at the same facility). The landfill is located off Maryland Route 16 north of Hurlock and is operated by the Solid Waste Division. The landfill has been operational since 1996 and is permitted by the Maryland Department of the Environment (Permit No. 2014-WMF-0628A, issued September 22, 2017 with expiry date September 21, 2022). There are presently five permitted disposal cells with a total design capacity of about 2.6 million cubic yards. The fill area is 26 acres on a 59-acre sub-parcel at the Beulah site. The landfill through the year 2017 was at 70% capacity with an estimated service life through 2022 at current disposal rates. Disposal rates have risen over time, reflecting population growth and development in the County. In 1992, the solid waste disposal rate was 37,105 tons while the projected rate for 2018 was over 60,000 tons. However, the peak disposal rate occurred prior to the great recession in 2006, when the landfill received over 66,000 tons of waste.

To continue providing cost-effective waste disposal to County residents and businesses as a public service after the existing New Beulah Landfill is filled to capacity, the County plans to develop a new landfill, Dorchester County Municipal Landfill, at the Beulah site such that they can continue to use much of the existing on-site infrastructure (e.g., access controls, truck scales, etc.). A permit application for the new landfill has been submitted and is currently under review by the Maryland Department of the Environment. The proposed eight-cell landfill has a design area of about 65 acres and total capacity of approximately 5.13 million cubic yards, which is projected to provide waste disposal capacity for the County from 2022 through about 2065.

Adjacent to the Beulah facility on a separate property is a closed former Waste Management rubble landfill. The landfill is known as the Hunting Ridge Rubble fill, which operated from 1990 to 1993. The Hunting Ridge site is most easily identifiable from Route 16.

<sup>1</sup> Dorchester County Solid Waste Division website.  
<http://www.dorchestercountymd.com/departments/public-works-2/solid-waste-division-2/>

In addition to the New Beulah Landfill, which is the only operational municipal solid waste landfill in the County, there are three other older, closed sites under the responsibility of the Solid Waste Division. These are the Secretary, Golden Hill and Old Beulah landfills, all of which are final capped and certified closed by the Maryland Department of the Environment. Semi-annual groundwater monitoring, gas monitoring and maintenance of the landfill cover are provided by the County in conformance with State regulations.

In addition to the disposal sites, the Solid Waste Division operates four convenience centers with roll off containers and recycling bins. Three are located at the Beulah, Golden Hill and Secretary sites for use by County residents with the aim of reducing trash vehicle traffic. A fourth manned convenience center, operating only two days per week, is located at the Neck District Volunteer Fire Department parking lot to serve residential customers in the Neck District. In 2013, the combined tonnage collected at these four facilities averaged 164 tons per month.

Currently, New Beulah Landfill accepts the sewage sludge from the Cambridge Wastewater Treatment Plant at no charge. In return, the City of Cambridge accepts landfill leachate at their wastewater plant at no charge.

In 2019, the Solid Waste Division consisted of one landfill manager, one landfill supervisor, four scale attendants, six heavy equipment operators and two CDL truck operators.

## Goal

- Provide environmentally sound solid waste collection, recycling and disposal services/facilities within fiscal guidelines and in accordance with applicable laws and regulations.

## Soild Waste and Recycling Strategies

- Continue filling in New Beulah Landfill.
- Complete permitting of the new Dorchester County Municipal Landfill, such that disposal operations can move to this facility prior to exhausting disposal capacity in New Beulah.
- Continue to monitor the use of the residential trash and recycling drop-off facilities, adding a new facility and/or designing a more permanent facility for the Neck District if deemed necessary.

- Maintain compliance of operations and environmental monitoring at the Beulah site in accordance with State Regulations.
- Monitor tonnage of waste received and revenues generated to assure consistent revenue flow over the next five years.
- Implement long-range planning for the future, including periodic review and revision of the 10-Year Solid Waste Management Plan as necessary.
- Provide post-closure maintenance and monitoring at the Secretary, Old Beulah and Golden Hill landfills in accordance with State Regulations.
- Monitor long-term on-site soil borrow availability at the Beulah site in relation to soil usage in landfill operations, and identify alternative borrow sources as a contingency measure.
- Seek alternative disposal options for landfill leachate as a contingency in the event that the Cambridge Wastewater Treatment Plant is not able to continue accepting leachate in the future.
- Extend public sewer service to areas with failing individual or shared sewage systems, including failing BIPS, and provide land use and development restrictions for these areas so as not to foster unintended growth such as limitations on lot sizes or equivalent dwelling unit connections as a future threshold for service.

## EDUCATION

### Public Schools

The public school system in Dorchester County consists of one early childhood center, one pre-kindergarten (pre-k) through 8th grade school, six elementary schools, two middle schools, two high schools, and one technical school. In 2018, approximately 4,800 students were enrolled in the County's public elementary, middle and high schools. Altogether, the school system has 15 building sites and 17 portable classrooms totaling 1,074,000 square feet of building space. The County also has 15 stadiums/fields, eight playgrounds, 356 acres of open fields and 31 parking lots. **Map 9.1** shows the locations of public schools.

**Table 9.1** depicts the 2018 enrollment of the various public schools in Dorchester County in relation to the State Rated Capacity (SRC). The SRC is defined as "the maximum number of students that can be reasonably

accommodated in a facility without significantly hampering delivery of the educational program”.<sup>2</sup> In addition, the SRC is often used as the metric to determine if a school is over-capacity if a county were to adopt an Adequate Public Facilities Ordinance to ensure that facilities are not overburdened by new growth. As can be seen in **Table 9.1**, Vienna Elementary School, Warwick Elementary School and Maple Elementary School are over capacity. According to the Dorchester County Board of Education Capital Improvement Program, a feasibility study for a renovation and addition to the Maple Elementary School is planned for FY21 with design and construction to occur over the ensuing four years. Additional educational facilities and programs located in the County are:

- The Chesapeake College Cambridge Center
- The Multi-Service Community Center
- Partners for Success Resource Center
- The Dorchester/Caroline Summer Migrant Program

### Projected Public School Enrollment

According to the Maryland Department of Planning public school enrollment projections, the school enrollment patterns in Dorchester County will not change significantly between 2018 and 2027. It was estimated that the highest school enrollment would be in 2024 with 5,010 students. When comparing this figure to the 2018 enrollment, it can be estimated that the maximum increase will continue to be 6%. Dorchester County’s School District Facilities Planning Department supports these estimates in the 2019 Educational Facilities Master Plan. These enrollment projections are consistent with the modest growth projections described in Chapter 2 of this Plan.

### Capital Improvements

The Dorchester County Public Schools Capital Improvement Plan for Fiscal Year 2020 was completed in 2018. As part of the preparation of the Plan, the Dorchester County School District conducted a district-wide adequacy assessment using approved school district and State standards as measurement

**Table 9.1 School Enrollment and State Rated Capacity (SRC)**

SCHOOL NAME	TYPE	GRADES	SRC	2018 ENROLLMENT	2018 PERCENT OF SRC
CHOPTANK ELEMENTARY	ELEMENTARY	PreK-5	459	392	85%
JUDY CENTER ELEMENTARY <sup>1</sup>	ELEMENTARY		70	NA	NA
MAPLE ELEMENTARY	ELEMENTARY	PreK-5	435	478	110%
SANDY HILL ELEMENTARY	ELEMENTARY	PreK-5	470	410	87%
HURLOCK ELEMENTARY	ELEMENTARY	PreK-5	457	415	91%
VIENNA ELEMENTARY	ELEMENTARY	PreK-5	167	180	108%
WARWICK ELEMENTARY	ELEMENTARY	PreK-5	249	341	137%
SOUTH DORCHESTER ELEMENTARY/ MIDDLE	ELEMENTARY	PreK-5	230	215	93%
MACE'S LANE MIDDLE	MIDDLE	6-8	770	558	72%
NORTH DORCHESTER MIDDLE	MIDDLE	6-8	595	484	81%
CAMBRIDGE/SOUTH DORCHESTER HIGH SCHOOL	HIGH	9-12	1190	816	69%
NORTH DORCHESTER HIGH SCHOOL	HIGH	9-12	723	496	69%
DORCHESTER CAREER & TECHNOLOGY CENTER <sup>2</sup>	VOCATIONAL TECHNICAL	9-12	360	NA	NA

SRC Source: Maryland Department of Planning

2018 Enrollment: Dorchester County Board of Education

<sup>1</sup> Enrollment not tracked by BOE

<sup>2</sup> Enrolled students counted in their respective high schools

<sup>2</sup> Administrative Procedures Guide for Maryland's Public School Construction Program.

tools. The Plan includes priority improvement recommendations for the following public school facilities:

- Cambridge-South Dorchester High School and Mace's Lane Middle School: Build and implement a security vestibule at the main entrance of the schools. Currently, the school's staff is not able to monitor the main entries except via remote camera. The lack of vestibules provides an opportunity for unauthorized visitors to access the entire school upon entry of the buildings.
- Vienna Elementary: Replacement of all roof and ancillary systems.

The Dorchester County Public Schools Capital Improvement Plan also includes future improvement recommendations for the following schools:

- Sandy Hill Elementary School, Cambridge-South Dorchester High School and Choptank Elementary School: Replacement of roof system.
- South Dorchester School: Replacement of HVAC and Fire alarm systems, including electric and plumbing systems associated to the HVAC. This recommendation is made in a multi-year phased project.
- Warwick Elementary School, Sandy Hill Elementary School and Maple Elementary School: Replace open instructional spaces with dedicated classroom spaces, either through renovations/additions or complete replacements. Lastly, all sites will be redeveloped to support the newly renovated facilities.
- Vienna Elementary School: Replacement of the entire existing facility, including portable classrooms on the existing site.

It should be noted that the new North Dorchester High School in Hurlock will be opened for the 2019-2020 school year.

### **Goal**

- Create an education system that prepares the individual student for the future and contributes to the County's economic development.

### **Education Strategies**

- Assist the Board of Education in planning for growth and development in the North Dorchester Development District.
- Encourage the continued use of school facilities for cultural, recreational and civic activities.
- Support the growth and development of the Chesapeake College Cambridge Center for all citizens.
- Seek ways to increase a trained, skilled workforce to occupy the growing restaurant and tourism service industry,
- Support links between the Chesapeake College Cambridge Center, Dorchester Career and Technology Center and other training centers and County employers.
- Support the County Board of Education in seeking funding for intensive support services that address the diverse challenges experienced daily at each school. These services include, but are not limited to counselors, social workers, conflict resolution professionals and medical professionals.
- Support the use of woody biomass as a fuel source to for new schools using Combined Heat and Power (CHP) technology.
- Support the County Board of Education in their efforts to help English learning students achieve English language proficiency.

### **LIBRARY AND INFORMATION SERVICES**

The Dorchester County Public Library system consists of the Cambridge central and Hurlock branch libraries. Library services include the Adult Services Department and Children's Department, both of which provide public access to computers with internet, online databases and word processing programs. The libraries also offer free income tax assistance, covering state and federal tax preparation. High speed internet and Wi-Fi access are provided at both branches. Children's programs are available to the public throughout the year, including preschool story times, school class visits, teen programs, a summer reading program, and other special events. Due to budget constraints, the Bookmobile, which provided service to elementary schools, child day care and children's service centers, senior centers and residential facilities, and rural communities in the north



and south areas of the County ended its service on June 17, 2011.

The libraries are ADA accessible. Handicapped parking spaces, automatic door operators and accessible restrooms are available at both branches. There is also a Braille collection for children, and special children's books with both print and Braille text. Services to the deaf community include a telecommunications device (video phone), and an assistive listening device in the library's meeting room. A signer can be provided upon request for any library-sponsored program, such as story times.

The County Public Library continues to make the library more accessible to those who speak Spanish. More books, magazines and newspapers are available in Spanish. In addition, the library facilitates programs completely in Spanish, such as English classes, library orientation, crafts, presentations in Spanish, and cultural events specifically for the Hispanic community.

The library automated its catalog and circulation system in 1996. Public internet access stations and upgrades have been added, many of which were funded through Gates Foundation grants. Current staffing and hours of operations are sufficient to meet the demand for services.

### **Future Library Needs**

A feasibility study for a new Hurlock Branch Library is currently near completion. The current building is approximately half the size needed for the population that it serves. The new building would include a children's room, Maryland Room,<sup>3</sup> and a meeting room that would be made available for public use. More long-term needs include necessary renovations for the Cambridge Branch. Both libraries generally have a demand for technologically-based services and larger collections including digital formats. There also appears to be an opportunity to increase citizen access to library and information services by linking library and County automated systems.

### **Goal**

- Integrate library services into the County's overall development planning.

## **Library and Information Service Strategies**

- Involve the Library Board in comprehensive planning for economic development, tourism, social and human services, and technology.
- Enhance citizen access to library and information services by linking library and County automated systems.
- Assess the needs of user groups, including new residents and homeowners.
- Support library needs for new facilities and renovations.

## **POLICE, FIRE AND EMERGENCY SERVICE**

### **Police**

The Dorchester County Sheriff's Office provides police services for all Dorchester County, including some supplemental services to two local municipalities who have their own police department. The Dorchester Sheriff's Office is located in Cambridge and employs 39 staff members, 32 are sworn law enforcement officers.

This office has five divisions:

- Administration: This division is composed of the Sheriff, Chief Deputy and Chief of Operations.
- School Resource Officers: Two police officers serve the Dorchester County High Schools.
- S.T.A.R. Team: A highly trained and skilled tactical team utilized in incidents considered to be of a critical or high-risk nature. The intent of the STAR Team is to substantially minimize the potential for the loss of human life or serious bodily injury to citizens, law enforcement officers and suspects.
- K-9 Unit: This division maximizes law enforcement efforts in the location of specific evidence while reducing work hours required in accomplishing an investigation.
- Judicial Protection: The Sheriff is responsible for judicial protective duties concerning the Circuit Court for Dorchester County. This entails scrutinizing persons seeking entrance to the facility, patrolling corridors, attending to courtrooms during hearings and maintaining a Detention Command Center to house inmates who have been scheduled for court appearances.

<sup>3</sup> Maryland Room to include resources specific to the history of Hurlock, Dorchester County and the State of Maryland.

The Department also operates a number of community policing initiatives, including neighborhood watch programs, project lifesaver, public presentations on crime prevention, and a prescription drug turn-in program.

Dorchester County is served by the Maryland State Police Department. The State Police assist with investigation of high profile crimes such as narcotics and homicide. Cambridge and Hurlock have their own police department. The Cambridge Police Department employs 52 staff members, 48 of them being sworn law enforcement officers. The Cambridge Police Department is the largest police agency in the County. The Hurlock Police Department employs eight police officers.

The Sheriff's Office also provides the necessary services afforded to the courts and citizens of the County as mandated in the Maryland State Constitution. The Sheriff's Office is an active participant in the Dorchester County Narcotics Task Force, and since September 11, 2001, the Sheriff's Office has assumed and participates in all activities of the Department of Homeland Security. In the past, the Maryland State Police provided assistance to the Sheriff's Department with crime investigations as needed; however, in recent years, the level of State Police support has been reduced. The Sheriff continues to provide these services with reduced support from the Maryland State Police.

The Sheriff's Office building is located on Fieldcrest Road in Cambridge. On April 1, 2016, The Dorchester County Sheriff's office opened a substation in Vienna. The substation's building, repairs, and furniture were all donated by Vienna community members. Now the Sheriff's Office has a permanent presence in Vienna and in the south region of the County. This new substation increased efficiency for the Sheriff's Office. Police officers are now able to stay within their patrol areas, instead of having to constantly return to Cambridge. In the long-term, this has saved a significant amount of fuel, time and increases police presence in Vienna and surrounding areas.

The Dorchester Sheriff's Department is working in limited space. The Department is finding it increasingly difficult to maintain its level of service for the following reasons:

- An ever-increasing population in unincorporated areas of the County.
- Lack of additional work force in relation to growth.
- An increase in calls for service.
- Increased court service responsibility.
- Homeland Security activity.
- Same office space with additional staff members.

The Sheriff's Department needs additional law enforcement officers and support staff to meet the needs of a growing population. The Sheriff's Office also requires a new headquarters or additional substations throughout the County that would adequately accommodate projected staff increases for the next 10 to 15 years.

## Fire Departments

Dorchester County's size and scattered population present a challenge to fire and emergency service. Fire service in the County is provided by 13 volunteer companies. The companies work on a mutual aid basis whereby each company assists others in responding to calls. The various volunteer fire departments are listed in **Table 9.2** and shown on **Map 9.2**.

**Table 9.2 Fire Departments**

STATION #	NAME	LOCATION
1	Rescue Fire Company	Cambridge
6	Hurlock Volunteer Fire Company	Hurlock
11	Vienna Volunteer Fire Company	Vienna
16	Secretary Volunteer Fire Company	Secretary
21	East New Market Volunteer Fire Department	East New Market
26	Eldorado-Brookview Volunteer Fire Company	Rhodesdale
31	Neck District Volunteer Fire Company	Neck District
41	Lakes and Straits Volunteer Fire Company	Wingate
46	Church Creek Volunteer Fire Company	Church Creek
51	Hoopers Island Volunteer Fire Company	Fishing Creek
56	Madison Volunteer Fire Company	Madison
61	Linkwood Salem Volunteer Fire Department	Linkwood
66	Taylor's Island Volunteer Fire Company	Taylor's Island
71	Elliott's Island Volunteer Fire Company	Vienna

## Emergency Services

The Dorchester County Department of Emergency Services is comprised of three Divisions: Emergency Communications, Emergency Medical Services (EMS) and Emergency Management.

The Emergency Communications Division is responsible for operating the County-wide 911 Center and the public safety radio system. In this capacity, the Division of Emergency Communications is responsible for managing the emergency communications for the 13 volunteer fire companies, the Dorchester County Emergency Medical Services Division, the County Sheriff's Department, the City of Cambridge Police Department and the Town of Hurlock Police Department.

The Emergency Medical Services Division is a combination full-time and volunteer service with five 24/7 advanced life support ambulance units in four stations across the County, which include: Station 100 in Cambridge with two units; Station 200 in Eldorado-Brookview with one unit; Station 500 in Madison with one unit; and Station 600 in Hurlock with one unit. Volunteers maintain the various ambulance units.

The Emergency Management Division is responsible for the mitigation, preparedness, response and recovery from natural and man-made disasters that may affect residents and visitors. The Emergency Management Division is also responsible for the staffing, training and operations of the Emergency Operations Center, which is a facility where allied government and community organizations can come together to coordinate different aspects of a disaster response. The Director of Emergency Services serves as the Governor-appointed, sworn Emergency Manager and is supported by a full time emergency planner.

**Map 9.2** shows the locations of Public Safety facilities including police stations, fire stations and EMS facilities.

## Hospital

Dorchester County is currently served by the University of Maryland Medical Center in Cambridge, formerly known as the Dorchester General Hospital, which provides a full range of inpatient and outpatient services. The existing facility currently provides both emergency room and acute patient services with 47 in-patient beds and 18 emergency room beds. In July 2016, the University of Maryland Regional Shore Health filed an application with the Maryland Health Care Commission to replace the existing facility with a new campus offering 24/7 emergency care and short stay observation, an outpatient surgery center, diagnostic services, outpatient specialty medical care, chronic disease management services, telemedicine and enhancements to outpatient behavioral health programs and services. The new facility would be located approximately one mile from the existing facility in the Cambridge Marketplace located at the intersection of Route 50 and Woods Road. Patients in need of more intensive medical, surgical or critical care will be transferred to the University of Maryland Medical Facility in Easton, Maryland. Depending on State approval and funding, it is anticipated that the new facility would be open by mid-2021.

## Goal

- Provide paramount police, fire protection and emergency response services to all citizens of Dorchester County.

## Police, Fire and Emergency Service Strategies

- Dorchester County will provide additional staff and new headquarters to the Sheriff's Office. These provisions will enable the Sheriff's Office to provide better police services throughout Dorchester County.
- Fire and emergency procedures should be reviewed to ensure adequate service is provided to all citizens.
- Study ways to better coordinate and fund emergency response services throughout the County.
- The Planning Commission should consider the needs of the Volunteer Fire Companies when reviewing new projects. On-site water supply should be provided by the developer where

feasible. Dry hydrants are one source of water supply. Access for fire equipment to water supply should be designed and considered a public improvement.

- Encourage homeowner covenants in large subdivisions/planned developments to establish an annual per dwelling unit contribution to the local volunteer fire, rescue and emergency service providers.

## SOCIAL AND HUMAN SERVICES

Working with the Maryland Department of Human Resources and Department of Aging, the Dorchester County Department of Social Services oversees a number of programs that serve the human and social needs of County residents, particularly those that are disadvantaged. Programs include:

- Elderly Assistance Programs: including in-home aide services, food stamps, medical assistance, energy assistance and additional support adult care services. Assists functionally disabled adults with activities of daily living in their home.
- Cash, Food and Energy Assistance Programs
- Emergency and Transitional Housing Programs
- Child Care and Parenting Programs: including fatherhood programs, childcare assistance, child support program, adoptions and foster care, homelessness prevention and child protective services.

A number of measures show that social problems are serious in the County and contribute to the labor force problems and lagging incomes discussed in other chapters of this plan. Dorchester has a higher proportion of low and moderate-income households and of persons living in poverty. In the 1990 U.S. Census, 14% of the population was below the poverty level. The 2018 American Community Service estimated that the percentage is 15%. The child poverty rate (under 18 years) and female-headed households were estimated to be 26% and 30% respectively, which were higher than the child poverty rate of 18% and 13%, respectively, in the State. In addition, the County's percentages of families below poverty and households receiving Food Stamps/Snap benefits were double the State percentage.

Approximately 15% of adults aged 20 and above in the County have been diagnosed with diabetes, which is the highest value of any county in Maryland.<sup>4</sup> Approximately 17% of adults in the County are reported to be currently smoking, which is the third highest value of any county in Maryland.

In addition, the 2018 American Community Service estimates revealed that Dorchester's elderly and vulnerable population was growing rapidly. The annually increasing percentage of the County's senior and elderly population indicates that social services needs for the older segment of the population are likely to increase in the County, in the form of Section 202 housing, medical services, mental health, transportation services and other assistance programs. It is noted that many of the County residents that utilize the services, facilities and programs described in this section rely on transit for access to the same. See Transportation Chapter for a Goal and Strategy that addresses transportation resources for vulnerable populations

### Goal

- Ensure adequate delivery of human and social services in the County, and make the most efficient use of public expenditures.

## PARKS AND RECREATION

### Federal and State Land

Approximately 62,000 acres of land in South Dorchester County has been acquired by the Federal and State Government to be preserved. The land is comprised mostly of the Blackwater National Wildlife Refuge (BNR), the Fred W. Besley Demonstration Forest and the Fishing Bay, and LeCompte and Taylors Island Wildlife Management Areas. See **Map 9.3**.

**Blackwater National Wildlife Refuge.** Located approximately 12 miles south of Cambridge. Blackwater was established in 1933 as a refuge for migratory birds with a few thousand acres. As of 2017, the refuge was almost 29,000 acres. Blackwater continues to be a refuge for migratory birds, but it has expanded to the protection and propagation of fish and wildlife. This refuge is comprised of wetlands, freshwater ponds, marshlands, mixed evergreen and

<sup>4</sup> 2017 County Health Rankings, <https://datausa.io/profile/geo/dorchester-county-md/>



deciduous forests, small amounts of cropland and open water. About 250,000 people visit the refuge annually for bird watching, photography, biking, canoeing, kayaking, fishing, hiking or hunting.

**Fred W. Besley Demonstration Forest.** Purchased in 2010 with Program Open Space Funds, the area was officially renamed in 2012 by the Maryland Board of Public Works to honor the father of Maryland forestry. The forest consists of five parcels, totaling 1,040 acres - lands originally owned and worked by Besley.

**Fishing Bay Wildlife Management Area.** At slightly over 30,000 acres, Fishing Bay is the State's largest wildlife management area, as well as the largest parcel of publicly owned tidal wetlands in Maryland. The area is open to public fishing, hunting, crabbing and hiking.

**LeCompte Wildlife Management Area.** Located south of Vienna, is comprised of 485 acres of mature oak and loblolly pine forests set aside to provide a refuge for the Delmarva fox squirrel. Trails through LeCompte are open to the public for hiking. Hunting is also permitted.

**Taylors Island Wildlife Management Area.** Encompassing approximately 1,120 acres, Taylors Island WMA consists of a mix of marsh, forests and fallow fields. The area is host to a wide variety of wildlife and is open to both hunters and non-hunters

For other Federal and State parkland and recreational facilities within Dorchester County, see **Table 9.3**.

### **Dorchester County and Municipal Land**

An inventory of parks, pools and athletic complexes in the different Dorchester County regions is listed in **Table 9.3**. In addition, several community organizations provide County residents additional recreational opportunities. The Dorchester County Recreation and Parks Department, along with several private and community organizations including the Dorchester County Family YMCA, Dorchester Center for the Arts, the Tri-City Little League, the Dorchester County 4-H Club, Pleasant Day Medical Adult Day Care and others offer adult and seniors recreation programs, youth activities, sports programs, clinics and camps. The recreational facilities in the North and South regions of the County include multi-purpose fields, baseball fields, tennis, basketball and

volleyball courts, tot lots, playgrounds for children and youth, pavilions, picnic tables, outdoor grills, benches, lawns, walking paths, restrooms, concession stands and parking areas. The Vienna Nature Park, located in the South Region, also offers access to the Nanticoke River for boats and kayaks. The Cambridge Area has more diverse parks and amenities. These facilities include Sailwinds Park, which also serves as the County's Tourism Office and Visitor Center, and the only County swimming pool. The remaining community and neighborhood parks in Cambridge include similar amenities to the parks located throughout the other County regions.

Nineteen out of the 24 parks and recreational lands in Dorchester County are located in the northern regions of the County. The predominance of sensitive areas in the southern half of the County prevents broad scale development of recreation facilities, so the County depends on existing parks and school sites to serve the recreation needs of this portion of the County. The County has a joint use agreement with the Board of Education to use public school facilities, equipment and play areas, which are available at the end of normal school days and on weekends. These facilities support the majority of indoor recreation programs and activities in the Southern County region.

### **Trails**

Miles of trails exist in the County, including extensive walking and water trails. For walking, Dorchester has many amenities for locals and tourists to enjoy such as the Bill Burton Fishing Pier State Park, Blackwater Refuge Wildlife Drive, Blackwater Tubman Road Trail, Blackwater Wildlife Refuge, Chesapeake Ghost Walks, Frank M. Ewing/Robinson Neck Preserve, the Historic Cambridge Walking Tour and Sailwinds Park East, among many others. Dorchester is known for its rich natural beauty and one of the best ways to experience several of these undeveloped habitats is by canoe, kayak or paddleboard. Some of the finest water trails are located in Blackwater Wildlife Refuge, Farm Creek Trail, Fishing Bay Water Trails and Taylor's Island Passages. Dorchester also offers biking trails in Blackwater, Vienna and Cambridge.

Goals, strategies and recommended improvements for future greenways and trails are set forth in the 2017 Land Preservation, Parks and Recreation Plan (LPPRP), discussed in this later in this Chapter.

**Table 9.3 Public Parks and Recreational Facilities**

	Map ID*	Name	Type	Acreage	Region
County and Municipal Land	1	Secretary Park	Community Park	3.9	North
	2	Secretary Veterans Park	Community Park	0.5	North
	3	East New Market Park	Community Park	3.1	North
	4	Friendship Park	Community Park	2.9	North
	5	Hurlock Town Park	Community Park	1.5	North
	6	Prospect Heights Community Park	Community Park	0.6	North
	7	Prospect Heights Community Park	Community Park	—	North
	8	North Main County Park	Community Park	19.3	North
	9	Hurlock Athletic Complex	Community Park	14.6	Cambridge
	10	J. Edward Walter Park	Community Park	5.8	Cambridge
	11	Great Marsh Park	Community Park	5.7	Cambridge
	12	County Swimming Pool	Community Park	3	Cambridge
	13	McCarter Park	Community Park	2.6	Cambridge
	14	Meadows Park	Community Park	1.1	Cambridge
	15	Sailwinds Park	Community Park	11.8	Cambridge
	16	School Street Athletic Complex	Community Park	21.7	Cambridge
	17	James G. Busick Tennis Courts	Community Park	5.66	Cambridge
	18	Christ Rock Park	Community Park	10.4	Cambridge
	19	Cornish Park	Community Park	0.8	Cambridge
	20	Cannery Park	Community Park	6.6	Cambridge
	21	Long Wharf Park	Community Park	7	South
	22	Church Creek Park	Community Park	2.3	South
	23	Crapo Community Center	Community Park	6.7	South
	24	Vienna Town Park	Community Park	6.5	South
	25	Gay Street Town Park	Community Park	0.6	South
	26	Vienna Nature Park	Community Park	6.5	North
	27	Galestown Playground	Community Park	—	North
	28	Egypt Road Regional Park	Regional Park	96	Cambridge
Federal and State Land	29	Bill Burton Fishing Pier	State Park	0.5 mile	Cambridge
	30	Harriet Tubman Underground Railroad	National Historic Park	480	South
	30	Harriet Tubman Underground Railroad Visitor Center	State Park	17	South
	31	Key Wallace Hiking Trail	Federal Trail	2.7 miles	South
	32	Fred W Besley Demonstration Forest	State Forest - Demonstration Forest	1,043	South
	33	Chesapeake Forest Lands	State Forest - Chesapeake Forest	12946	North
	34	Church Creek	State Forest - Fire Tower	4	South
	35	Shiloh	State Forest - Fire Tower	1	North
	36	Chicone Creek	State Wildlife Management Area	234	North
	37	Linkwood	State Wildlife Management Area	313	North
	38	Nanticoke River	State Wildlife Management Area	470	North
	39	South Marsh Island	State Wildlife Management Area	1	South
	40	Tar Bay	State Wildlife Management Area	12	South
	41	Taylor's Island	State Wildlife Management Area	1114	South
	42	Fishing Bay Wildlife Management Area	State Wildlife Management Area	30,000	South
	43	LeCompte Wildlife Management Area	State Wildlife Management Area	485	South
	44	Cambridge Marine Terminal	State Marine / Communication Facilities	0.9	Cambridge
	45	Blackwater National Wildlife Refuge	National Wildlife Management Area	29,000	South
Public Schools	46	Warwick Elementary School	Public School	10	North
	47	Hurlock Elementary School	Public School	4	North
	48	Vienna Elementary School	Public School	9	South
	49	South Dorchester School	Public School	20	South
	50	Sandy Hill Elementary School	Public School	9	Cambridge
	51	North Dorchester High School	Public School	—	North
	52	Maple Elementary School	Public School	126	Cambridge
	53	Mace's Lane Middle School	Public School	92	Cambridge
	54	Choptank Elementary School	Public School	92	Cambridge
	55	Judy Hoyer Center	Public School	6	Cambridge
	56	Cambridge South Dorchester High School	Public School	126	Cambridge
	57	North Dorchester Middle School	Public School	60	North

\*See Map 9.3 Parks and and Recreational Facilities

## **Heart of the Chesapeake Country Heritage Area**

The Heart of Chesapeake Country Heritage Area resides entirely within Dorchester County. The mission of the Heritage Area is to assist individuals, organizations and government entities to preserve and promote the County's unique historic, cultural, and natural resources while broadening and deepening the local economy through new and existing tourism. The Heart of Chesapeake Country Heritage Area is a program of the Dorchester County Office of Tourism, under the leadership of the Tourism Director.

Certified in 2002, the Heritage Area includes the municipalities of Cambridge, Church Creek, East New Market, Hurlock, Secretary and Vienna, as well as the fishing communities of Taylor's Island, Hooper Island and Elliott's Island. The extensive marsh and wildlife areas of central and southern Dorchester County provide important ecological and recreational resources to the Heritage Area as well.

While Dorchester County has been a major destination for outdoor sportsmen for many years, the implementation of the Heritage Area Plan has provided many opportunities to introduce visitors to the traditions and heritage of the County. The Heritage Area has been awarded, from 2005 to 2012, \$1.3M in 30 MHAA grants and leverage matches from non-state resources resulting in a total of \$3.3M for projects in Dorchester County. In addition, the Heritage Area managed a small matching grant program that awarded over 37 grants to local organizations and municipalities from 2007 to 2012. Over these five years, the small matching grants totaled approximately \$50,000 and leverage matches from non-state resources resulted in a total of about \$158,000 for projects in Dorchester County.

These grants and matches from non-state resources have been used for museum renovations and building improvements, creation of events and programs that embrace local history and arts, installation of interpretive signs at historic sites, development of Harriet Tubman exhibits for three museums, creation of many driving and walking tours throughout different municipalities and the County in general, design and production of a website and numerous brochures for County attractions, and origination of an annual awards program that recognizes the accomplishments

of local individuals and organizations.

The Heritage Area 2013-2018 goals continue to seek the enhancement of heritage resources, raise visibility, strive for compatible economic redevelopment and practice stewardship. Also, the heritage area aims to continue supporting local organizations through small grants, provide technical advice on grant opportunities, recognize noteworthy contributions to heritage preservation and produce goods and services that market local resources, history and arts. All these efforts intend to create a dynamic, multi-faceted, heritage tourism infrastructure that results in economic development.

## **Dorchester County Recreation & Parks Department**

The Dorchester County Recreation & Parks Department's goal is to provide quality programs and attractive recreational facilities for the people of Dorchester County. The Department led collaborative efforts in the development of the 2017 Land Preservation, Parks and Recreation Plan (LPPRP) and the FY2018 Annual Plan for Recreation and Park Program.

The 2017 Land Preservation, Parks and Recreation Plan (LPPRP) was developed through a collaborative effort facilitated by the Recreation & Parks Department, and included the Recreation & Parks Board, the Planning & Zoning Department, County Council staff, and input from citizens, partner organizations and stakeholders.

In addition to the County's land, parks and recreational resources being an engine for tourism and economic development, the LPPRP recognizes that Dorchester County's public parks, recreational areas and open space amenities are key to the quality of life of its citizens. It also recognizes that the stewardship and promotion of the County's natural resources and environmental beauty is imperative to providing recreational activities and building smart conservation efforts.

The 2017 LPPRP suggested that a balanced approach to economic development and land conservation was crucial to the County. Aligned with the goals of the Land Use Plan in this Comprehensive Plan, the LPPRP generally recommends guiding the investment of parks and recreational facilities near population

centers, while preserving natural resources and agricultural areas and providing equitably dispersed recreational opportunities to residents in small municipalities and rural areas.

In order to sustainably maintain and improve the existing resources, the County reassessed the existing open space and recreation assets, evaluated the impact of demographic and geographic changes, determined where gaps in service exist, and set forth goals for growth and development of recreational activities and acquisition of land. Overall, the LPPRP found some small gaps in the County's facilities and services provided. A 15-year development and acquisition plan with short, mid-range, and long-term development goals was created. The LPPRP guides local government policies and procedures to move forward with these goals which aim to leverage capital investments within existing assets, services and programs. The Plan further lists priority investments as well as County, State and other funding sources to implement the improvements. The goals, strategies and capital improvements of the LPPRP are incorporated within this Comprehensive Plan by reference.

The Department's FY 2018 Annual Plan commits to several goals outlined in the LPPRP while considering important guidelines for the County's growth, continued advancement toward acquisition and development projects in the best interest of County citizens. The Department shares the broader goal to provide recreational opportunities while protecting natural resources. The Plan has short-term goals for FY2018 that align with realistic budgetary constraints while leveraging potential partnerships for more growth in the future.<sup>5</sup>

**Map 9.3** shows the locations of Parks and Recreational Facilities.

### Goals

- Achieve a high quality of life through recreation stewardship of the land and water.
- Create a connected, County-wide network of greenways, parks, trails, natural areas, farmland and heritage areas

- Develop Dorchester County's open space, parks and recreation assets for resident use and enjoyment.
- Enhance and promote heritage resources and heritage tourism infrastructure that result in environmental stewardship and economic development.
- Provide public access to all ages and abilities to open space, parks, trails and water trails, wherever possible.

### Parks and Recreation Strategies

- Continue to recognize and support the Heart of Chesapeake Country Heritage Area program.
- Continue to evaluate and implement the strategies and capital improvements of the 2017 Land Preservation, Parks and Recreation Plan (LPPRP).
- Guide the investment of parks and recreational facilities near population centers, while preserving natural resources and agricultural areas and providing equitably dispersed recreational opportunities to residents in small municipalities and rural areas.
- Build upon and establish new greenways and trails along the waterfront, rivers and abandoned railroad lines, as discussed in the LPPRP.
- Expand and connect forests, farmlands and other natural lands as a network of contiguous green infrastructure.
- Ensure on-going collaborative efforts between Dorchester County Departments, including Tourism, Recreation & Parks, Planning & Zoning and Public Works.
- Work to establish a rails-to-trails program throughout the County, including funding, design, development and phasing of improvements over time (See Chapter 10 Transportation).

## HAZARD MITIGATION OF CRITICAL AND PUBLIC FACILITIES

### Hazard Mitigation Plans

The 2017 County Hazard Mitigation Plan (HMP) was developed in collaboration with a broad cross-section of hazard mitigation and resiliency stakeholders. The HMP is compiled into three sections: Introduction,

<sup>5</sup> <http://dorchesterrecreation.org/2017-recreation-parks-plan/>



Hazard Analysis and Mitigation Strategies. Section 2 first identifies and reviews various risks associated with various types of hazards, including coastal events (i.e. coastal flooding, hurricane storm surge and sea level rise), storm events, extreme heat, wildfires and human impacted hazards, among other hazards. It then provides an inventory and details pertaining to the critical and public facilities located in the County. Lastly, Section 2 provides a Vulnerability Assessment and Monetary Loss Estimations pertaining to each hazard type and critical facilities. Section 3 provides Goals, Objectives and Mitigation Actions. Section 3 also provides a Plan Integration chapter, which includes a Safe Growth Audit. The Audit assesses how well the County's existing planning tools, such as the 1996 Comprehensive Plan, address hazard risks and community resiliency and provides recommendations for plan integration.

The planning process for this Comprehensive Plan Update used the Audit as a checklist to integrate the HMP vulnerability assessment and mitigation strategies into various elements throughout this Plan Update. For instance, the updated future land use categories guide growth away from high hazard risk areas that should be conserved as open space and/or wetlands.

The HMP lays the groundwork for other planning initiatives including the 2017 County Flood Mitigation Plan (FMP) and the 2018 County Historic and Cultural Resources Mitigation and Risk Plan. The 2017 County Flood Mitigation Plan complements and expands upon the HMP by specifically identifying cost-effective actions that reduce or eliminate the long-term risk of flood damage. While critical facilities and general building stock were the focus of both the overall HMP and the FMP, the 2018 County Historic and Cultural Resources Mitigation and Risk Plan specifically considered flood hazard risk and vulnerability to cultural and historic resources throughout Dorchester County. Cultural and Historic Resources are discussed in Chapter 6 – History and Culture.

The issues, goals and strategies set forth in the Hazard Mitigation Plans are inextricably linked to the issues, goals and strategies in this Comprehensive Plan Update. The documents are, therefore, briefly summarized below as they pertain to critical and public facilities and are incorporated by reference.

## **Flood Hazard Risks**

Dorchester County is prone to various forms of flooding, including coastal flooding, storm surges, riverine flooding and flash flooding. The Hazard Mitigation Plans used a Digital Flood Insurance Rate Map (DFIRM) Database published by the Federal Emergency Management Agency (FEMA) to depict flood risk areas. The plans identified critical and public facilities located within the FEMA flood hazard zones. Critical facilities are considered essential as they provide services to the community in the event of a disaster. Assessment results indicated that five critical facilities are located within the Zone AE and are vulnerable to flooding. These facilities are the following Volunteer Fire Companies: Taylors Island, Hoopers Island, Lloyds, Madison, and Lake and Straits. Mitigation of flood prone fire departments has been identified within the 2017 Dorchester County HMP.

For a listing of all critical and public facilities within the FEMA Flood Zones and detailed monetary loss estimations, please refer to the 2017 Dorchester County Hazard Mitigation Plan.

## **Sea Level Rise**

According to the 2013 Updating Maryland's Sea Level Rise Projections Report, in the Chesapeake Bay, sea level has risen and land subsidence has been continuously occurring in and around the Bay. Per the Report, sea level may rise as much as 2.1 feet by 2050. Even a couple of feet of sea level rise is concerning for the future of Dorchester County, with its low-lying coastal area, much of which is at or near sea level. Sea level rise vulnerability and resiliency are further discussed in Chapter 4 - Environmental Resources and Protection.

The HMP states that with 60% of the County located within the tidal floodplain and over 50% of the land laying below the elevations of 4.9 feet above sea level, Dorchester County is highly susceptible to sea level rise and shoreline erosion. The HMP includes an analysis to determine the vulnerability of critical and public facilities that are within close proximity to the shoreline. A 100-foot risk zone was placed around the shoreline. Structures within the risk zone may need to implement mitigation measures in order to minimize the effects of shoreline erosion. Table 23 in the HMP lists the critical and public facilities located with the 100-foot risk zone.

As shown on Table 25 in the HMP, six critical and four public facilities are vulnerable to two or more coastal events of storm surges, coastal flooding and within the 100-foot risk zone. Critical facilities affected by all three are Taylors Island Volunteer Fire Company, Madison Volunteer Fire Company and EMS Station 500. These facilities may have been constructed to mitigate flooding; however, surrounding roads may cause evacuation issues. Additional mitigation measures may be necessary to ensure service provided by these facilities is not disrupted, especially during a hazard event.

### Goals

- Goals and Objectives for hazard mitigation of critical and public facilities are set forth in the HMP (Chapter 12, pg. 129) and in the FMP (Chapter 6).

### Hazard Mitigation of Critical and Public Facility Strategies

- Raise or floodproof select public structures to protect those essential to public safety and well-being. High hazard risk facilities are identified in the HMP and the FMP.
- Consider hazard risks, both from extreme storm flooding and sea level rise, while designing and siting of any new public facilities systems or upgrading facilities to protect these facilities during hazard events and for their continued operation after a disaster event.
- Implement mitigation measures to ensure service provided by these facilities is not disrupted, especially during a hazard event.
- Implement the recommendations in the 2017 Hazard Mitigation Plan and the 2017 Flood Mitigation Plan.
  - High priority actions for critical and public facilities identified in the HMP include:
    - Obtain contracts for on-call services and generators for emergency back-up
    - Permanent Emergency Generator
    - Critical Facility Property Protection

- High priority actions for critical and public facilities identified in the FMP include:
  - Encourage property owners to elevate structures (pg. 6-5)
  - Identify potential flood acquisition sites that may be used for open space and community amenities (pg. 6-15)
  - Conduct a sea level rise vulnerability study (pg 6-42) <sup>6</sup>
  - Provide technical assistance and support to encourage municipal participation in the Community Rating System (CRS)
- In the implementation of the action items for hazard mitigation of critical and public facilities, ensure on-going coordination and collaboration of Dorchester County Departments including Emergency Management Division, Planning and Zoning and Public Works.

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<sup>6</sup> There are numerous studies and plans prepared by Federal, State and non-profit organizations that evaluate sea level rise vulnerabilities within Dorchester County, and that set forth adaptation strategies towards resiliency. These plans are discussed in Chapter 4 Environmental Resources and Protection./



## MAP 9.1 - PUBLIC SCHOOLS AND LIBRARIES

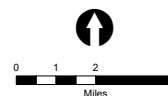
2021 COMPREHENSIVE PLAN

DORCHESTER COUNTY, MARYLAND





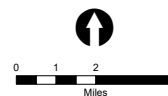
**MAP 9.2 - PUBLIC SAFETY**  
**2021 COMPREHENSIVE PLAN**  
 DORCHESTER COUNTY, MARYLAND







**MAP 9.3 - PARKS AND RECREATIONAL FACILITIES**  
 2021 COMPREHENSIVE PLAN  
 DORCHESTER COUNTY, MARYLAND



# 10 | ECONOMIC DEVELOPMENT

The Economic Development Chapter serves as a guide for future economic development within Dorchester County. This chapter describes the County's current economic conditions and trends, identifies economic issues and opportunities, and outlines goals, policies, and strategies for economic development and for promoting a vibrant and diversified economy.

## OVERVIEW

Dorchester County has been strengthening its economy by building upon its long-established manufacturing, agricultural, forestry, and seafood industries while also moving toward a more diverse, modern economy. While these industries will continue to play a fundamental role in the County's economy, the overall economic development goal is to move toward an economy that strengthens its town centers as social, cultural, and economic hubs while conserving its natural resources and scenic beauty and promoting tourism. Economic gains in recent years have been driven by increases in tourism, accommodations, retail, food services, healthcare, industrial/technology park developments, and education and research.

Dorchester County has unique geographical advantages and cultural assets that provide the opportunity to realize economic prosperity. A key advantage is its location in the "Heart of Chesapeake" with proximity to metropolitan Washington, D.C. and Baltimore and access to over one-fifth of the U.S. population residing in the New York to Richmond mega market. The County also has some of the most affordable real estate and lower cost of living in the region. In addition, the County has advantages due to direct access to U.S. Route 50 and rail, navigable water, and air transportation. Dorchester's proximity to deep water ports and major transportation corridors makes it a strategic location for fulfillment and trucking companies.

The County has the most waterfront coastline of any county on the Eastern Shore, and much remains in its natural condition. Its recreational assets center around water and nature including boating, fishing, hunting, and bird watching, among others. The Choptank River is navigable, and the Cambridge port is the second deepest in Maryland, after Baltimore. Another major asset is the County's increasingly diversified economic base. The economy's foundation in manufacturing, resource-based businesses, retail, and healthcare along with the growing industries in recreation, ecotourism and cultural heritage tourism, education and technology, allows Dorchester to mitigate the impact of negative economic conditions while promoting opportunities for growth. Key industries, employment figures and economic impacts

are discussed in this Chapter.

The County's connected location, pristine environment and natural resources, and diversifying industries are just a few of the economic advantages that the County offers.<sup>1</sup>

The County has also made headway on several critical economic issues identified in the 1996 Comprehensive Plan, and with the many economic development programs in place, substantial economic progress is on the horizon. However, significant factors still exist that continue to make economic development a priority and the economy continues to lag behind the rest of the State in some areas. Critical economic issues facing the County are still largely related to employment and income. Other pressing issues and challenges are limited cellular and broadband access throughout the County, and maintaining road infrastructure, stormwater infrastructure especially during times of nuisance flooding. A major threat to the economy of the County is the negative impacts of flooding including damage to property, transportation, infrastructure and facilities, and the environment. Sea level rise related to climate change is exacerbating these flood related hazards and can cause destructive shoreline erosion, aquifer and agricultural soil contamination with saltwater intrusion, and loss of coastal habitats and ecosystems, which are all vital to the economic strength and quality of life in Dorchester County (see **Chapter 4 – Environmental Resources and Protection** for strategies to mitigate coastal change).

Regarding broadband service, the 2016 Dorchester County Broadband Task Force was formed to identify the areas of Dorchester County lacking broadband as defined by the Federal Communication Commission (FCC). In order to foster and improve economic development, education, and healthcare opportunities, Dorchester County will need to partner with established internet service providers and resources at the State level, particularly the Governor's Office of Rural Broadband to extend broadband to 100% of its citizens. Because reaching much of Dorchester County with broadband is not economically feasible without subsidies, Dorchester County will also need to explore public-private partnerships and supplemental funding to accomplish this task.

<sup>1</sup> <https://choosedorchester.org/dorchester-business-strengths/>

The economic future of Dorchester County depends upon sustaining a healthy and diversified economic base, capitalizing on emerging markets, and producing a trained adaptable workforce that meets the needs of today’s marketplace and connecting them to employers. It depends upon directing development to the municipalities and designated growth areas and ensuring appropriate capacity and expansion of public infrastructure to accommodate the growth. It will depend upon providing attractive and affordable housing with convenient access to jobs and local amenities such as retail, recreation, and entertainment options. It also depends upon maintaining a strong commitment to conserving rural and natural areas that the resource-based industries rely upon. It depends upon supporting the watermen who are preserving the Chesapeake culture as well as advancing sustainable seafood harvesting and processing. It depends upon supporting the County’s longstanding agricultural heritage and promoting the diversification and innovation of farming activities. It depends upon protecting and developing the County’s rich maritime culture and promoting ecotourism and cultural heritage tourism. It will also depend on carrying out an ongoing cooperative branding campaign and promotional activities as well as forging partnerships to share resources and knowledge towards achieving common goals. It will depend on continuing to cultivate and foster an industrious, innovative, and entrepreneurial culture. Lastly, as the County continues to diversify its industry mix, the future of Dorchester County depends upon capitalizing on the County’s many economic assets and advantages that attract both large companies and small businesses alike from a variety of industries.

GOALS

The goals for economic development are intrinsically linked to those set forth in other elements of this Comprehensive Plan. Improving the conditions of housing, community facilities, transportation, and the environment will improve the overall economy and quality of life in Dorchester County. Implementation of the Comprehensive Plan will create an overall context for successful economic development and create a more prosperous, vibrant and sustainable Dorchester County. The County’s economic development goals are:

- Create and retain quality jobs, raise local incomes, and increase tax revenue base.
- Strengthen the town’s economies by encouraging commercial and mixed-use developments in designated growth areas.
- Create economically sustainable communities that serve the diverse needs of County residents, business owners, and visitors.
- Preserve and enrich the County’s natural beauty and cultural heritage while strengthening the economy through increased nature-based and heritage tourism opportunities.
- Preserve and promote the County’s agricultural heritage.
- Support resource-based industries, including agriculture, forestry, mining, natural gas, seafood and aquaculture.
- Continually improve the “quality of place” of Dorchester County communities to encourage businesses and residents to reside and work in the County.
- Strengthen economic resiliency to flood hazards, coastal changes and sea level rise.
- Extend broadband to serve all County residents and businesses.

EMPLOYMENT

In June 2019, per the Bureau of Labor Statistics, there were a total of 15,502 residents in the labor force, of which 14,656 had employed status. The County’s unemployment rate was 5.5%, which is higher than the State’s rate of 4.1% and also higher than the average rate of counties on the Delmarva Peninsula of 4.3%.<sup>2</sup> See **Table 10.1 – Employment Status**. Dorchester County’s unemployment rate was the 2nd highest on the Delmarva Peninsula (see **Figure - 10.1**). However, the County’s unemployment rate has improved significantly since 2010, when the rate was 11.4%.

Table 10.1 - Employment Status

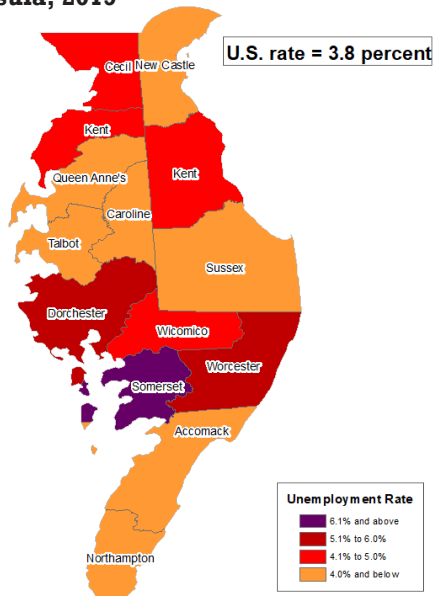
	DORCHESTER COUNTY		MD	DELMARVA
	#	%	%	%
Labor Force	15,502			
Employed	14,656	94.5%	96.1%	95.7%
Unemployed	846	5.5%	4.1%	4.3%

Source: Bureau of Labor Statistics, 2019

<sup>2</sup> [https://www.bls.gov/regions/mid-atlantic/news-release/unemployment\\_delmarva.htm](https://www.bls.gov/regions/mid-atlantic/news-release/unemployment_delmarva.htm)



**Figure 10.1 – Unemployment Rate – Delmarva Peninsula, 2019**



Source: Bureau of Labor Statistics, 2019

In 2017, per the U.S. Census Center for Economic Studies, Dorchester County had 15,629 employed residents and 10,584 persons employed in the County. Approximately 68% of the employed residents commuted outside the County for work, mostly to Easton, Salisbury, and as far as Baltimore, and 32% worked in the County, mostly in Cambridge and Hurlock. Approximately 53% of all people employed in the County came from outside of the County, mostly from Easton, Salisbury, and Federalsburg. **Table 10.2** displays the distribution of job inflow and outflow. Approximately 77% of employed residents drove alone to work with an average commute time of 27 minutes. Approximately 55% traveled less than 25 miles to get to work, and 45% traveled more than 25 miles, with 26% traveling more than 50 miles.

These statistics indicate a high number of residents commuting out of the County and long distances to get to work. There appears to be a need to create a more balanced inflow and outflow of workers by increasing job opportunities for residents and housing opportunities for those employees that commute into the County. There is an opportunity to capture some of those that live outside the City and strive for more connection of people both living and working within the County, and to reduce their commute times.

Employers and communities would benefit from having a stable workforce that are more invested in living in the community, and employees benefit from having more time and less travel expenses with a shorter commute.

**Table 10.2 - Job Inflow and Outflow**

	#	%
Employed in County	10,621	
Lived outside County	5,576	53%
Lived in County	5,045	48%
Employed Residents in County	15,629	
Commuted outside of County	10,584	68%
Employed and Lived in County	5,045	32%

Source: U.S. Census Bureau's Center for Economic Studies, 2017

## Employment Industries

In 2018, the educational, health care and social assistance industries continued to rise in the County and was the industry with largest number of employees, accounting for 25% of all jobs in the County, which surpassed manufacturing as the leading job market sector in the County.<sup>3</sup> Although the manufacturing industry has experienced a 42% decrease in total number of employees between 2000 and 2018; it remains one of the County's leading employers with 11%. There was also a decrease in those employed in the construction industry, which had a 36% decrease. The arts, entertainment and recreation, accommodation and food services industries experienced the highest growth with an 76% increase, and now accounts for 25% of all jobs. See **Table 10.3 - Employment by Industry**.

The highest paying industries in the County included government, financial activities, manufacturing, construction, professional and business services and education and health services.<sup>4</sup> Increasing the number of well-paying jobs would have a ripple effect throughout the County on land sales, the housing market, the retail and commercial sectors, as well as on schools and social services. However, attracting well-paying jobs and workforce development continues to be a major challenge for the County.

<sup>3</sup> U.S. Census Bureau Decennial Census 2000; American Community Survey, 5 Year Estimates 2014-2018

<sup>4</sup> Maryland Department of Commerce – Brief Economic Facts, 2018

**Table 10.3 - Employment by Industry**

EMPLOYMENT SECTOR	2000		2018		2000 - 2018
	#	%	#	%	% Change
Agriculture, Forestry, Fishing and Hunting,	571	1%	570	4%	0%
Mining, quarrying, and Oil and Gas Extraction	16	0%	23	0%	44%
Construction	1335	2%	844	6%	-37%
Manufacturing	2788	21%	1,657	11%	-41%
Wholesale Trade	558	3%	607	4%	9%
Retail Trade	1648	13%	1,632	11%	-1%
Transportation and Warehousing	595	2%	501	3%	-16%
Utilities	120	0%	64	0%	-47%
Information	235	2%	216	1%	-8%
Finance and Insurance	377	4%	399	3%	6%
Real Estate, Rental, and Leasing	172	1%	142	1%	-17%
Professional, Scientific, Management and Administrative	745	2%	1,212	8%	63%
Educational Services	963	9%	1,471	10%	53%
Health care, and Social Assistance	1841	23%	2,376	16%	29%
Arts, Entertainment and Recreation	95	1%	160	1%	68%
Accommodation, and Food Services	724	7%	1,342	9%	85%
Other Services, Except Public Administration	628	4%	817	5%	30%
Public Administration	814	5%	1,189	8%	46%
<b>Total Employed</b>	<b>14,225</b>		<b>15,222</b>		<b>7%</b>

U.S. Census Bureau Decennial Census 2000; American Community Survey, 5 Year Estimates 2014-2018

## Manufacturing

Dorchester County has many manufacturing companies including a dozen metal works companies and two architectural mesh fabricators. Companies include C&K Lord, GKD Metal Fabrics, Metal Arc and Patriot Steel, and Cambridge-Rexnord, who is the world's largest manufacturer of metal and plastic conveyor chains and belts.

While manufacturing has lost 42% of its labor force between 2000 and 2018, it remains one of the County's leading employers with 11% of the workforce. The exodus of manufacturers left behind a labor force of over experienced workers and trained technicians who provide a ready labor pool for new manufacturing businesses moving into the area. The County's central location on the Eastern Shore positions it within reach of skilled labor forces in neighboring counties as well. As of 2018, educational, health care and social assistance industry accounted for 16% of all jobs, which has surpassed manufacturing as the leading job market sector in the County.

## RESOURCE BASED INDUSTRIES

As mentioned above, while Dorchester County's economy has been in a state of transition to a more diverse and modern economy, resource-based industries (RBI's) still play an important role in the economic well-being of the County, the Eastern Shore of Maryland and the State as a whole. Resource based industries are considered to be agriculture, forestry, mining, natural gas, seafood and aquaculture as well as support industries. Much of the economic impact information related to RBI's below is taken from a report entitled *The Impact of Resource Based Industries on the Maryland Economy*, dated January 30, 2018, prepared by the Business Economic and Community Outreach Network (BEACON), at Salisbury University (BEACON Report).<sup>5</sup> The economic impact study measured the impact of resource-based industries (RBI) by county and region to the State's economy. For the purposes of this chapter, it is assumed that a positive impact to the State's economy emanating from an RBI industry in the County is a positive impact to the County's economy.

Given the land-based nature of agriculture and forestry and the obvious linkage to County land use policies as described in Chapter 3 of this Plan, the following sections address the economic impacts of agriculture (and its support industries) and forestry. In addition, given the historical and cultural significance

<sup>5</sup> The BEACON Report is sponsored by, and partially funded by, the Maryland Agricultural and Resource Based Industry Corporation

of “watermen” and the seafood industry to the County’s identity, the following section also addresses fisheries and aquaculture. (See Fisheries Element on page 10-9 for the economic impact of fisheries and aquaculture as an RBI).

## Agriculture

The fluvial, nutrient rich soils Dorchester County provide some of the best agricultural lands in Maryland. Agriculture continues to be a significant contributor to the County’s economy as the fertile land supports both commodity and consumer markets.

According to the 2010 Maryland Department of Planning Land Use and Land Cover dataset, Dorchester County has approximately 115,000 acres of agricultural lands, which makes up approximately 32% of the County’s land mass. The Land Use Plan in this Comprehensive Plan designates large portions of these areas as Agricultural Conservation with goals to conserve farmland and natural resources and to encourage agricultural-based industries as a viable and sustainable economic activity in the County. As part of its economic diversification efforts, the County continues to incorporate agricultural-based industries into its overall economic development program.

The agricultural industry is predominantly grain, corn, soy, and cover crops as well as poultry production. According to the 2017 Census of Agriculture (Ag Census) published by the USDA<sup>6</sup> there were 371 farms utilizing 132,166 acres of land in the County. Almost half (48%) of the farm operations are 100 acres or more and make up 92% of the total farmland in operation. The average land area operated was 356 acres. In 2012, there were 423 farms utilizing 95,197 acres. There was a decrease in the number of farms between 2012 and 2017 while the total acres of farmland in operation and the average size of farms both increased, which may be an indicator of

expansion and/or mergers of existing farm businesses. See **Table 10.4 - Agricultural Census, 2012 and 2017**.

Per the 2017 Ag Census, the total asset value of the farms, including land and buildings was over \$750 million, averaging over \$2 million per operation and \$5,767 per acre. The asset value (including land and buildings) per operated acre increased by 12% between 2012 and 2017, and the asset value per operation increased 30% in the same period.

According to the BEACON Report, in 2015, agriculture contributed \$176.5 million to the State’s economy (12% of the County’s RBI total), supported 944 jobs (17% of the County’s RBI total), and generated nearly \$4.3 million in State and County tax revenue (8% of the County’s RBI total).<sup>7</sup> See **Figure 10.2 - Economic Impact of Resource Based Industries** at the end of this section for agriculture’s proportion of resource-based industries and contribution to the State’s economy.

A recent economic development opportunity and emerging agricultural-related market is the cannabis industry. The changes in the state cannabis laws in recent years provides a potential opportunity for additional marijuana growing and processing facilities in the County. Currently, the County has two pre-approved cannabis growers / processors.

Another emerging market in both the agricultural and tourist industries is agritourism. The term agritourism is commonly used to describe any activity incidental to the operation of a farm that brings members of the public to the farm for educational, recreational, or retail purposes. Agritourism promotes the efforts of farmers to diversify farm related activities and market the products they produce, sell, or exchange for the purpose of creating revenue and tourism. As part of this, there is an opportunity to capitalize on the growing restaurant industry, particularly

**Table 10.4 - Agricultural Census, 2012 and 2017**

Year	Farms	Operated Area (Acres)	Acres Per Operation	Total Asset Value	Asset Value Per Operated Acre	Asset Value Per Operation
2012	423	126,420	299	\$ 658,826,000	\$ 5,211	\$ 1,557,508
2017	371	132,166	356	\$ 750,203,000	\$ 5,676	\$ 2,022,111

<sup>6</sup> United States Department of Agriculture, National Agricultural Statistics Service, 2017 Census of Agriculture

<sup>7</sup> See Appendix E, which include excerpts from BEACON Report, that describe economic impact derivations

evident in Cambridge, such as farm-to-table and farmers markets where farmers sell directly to local restaurants and consumers. Similarly, there is an opportunity for farmers to serve barley, corn, rye, wheat and hops to local craft breweries and distilleries throughout the region.

The market for agricultural tourism has increased with growing popularity across the country, in both supply (farms), and demand (tourists and consumers of agricultural products and services). An increasing number of residents and tourists are looking for opportunities to purchase fresh and locally made products, purchase directly from farmers, and to immerse themselves into a rural/agricultural experience. Promotion of agritourism can capitalize on this growing economic sector, as well as serve to:

- Preserve Dorchester County's agricultural heritage and rural life
- Promote the diversification of farm-related activities
- Expand business with "value-added" products, uses and services on working farms
- Increase direct farm sales opportunities, including access to affordable local, healthy foods

There is an opportunity to allow and promote farmers to integrate such uses into their operations, and a need to control the potential negative impacts to rural character and agricultural practices that may result. As discussed in Chapter 4 - Natural Resources, there is a significant threat to agriculture due to coastal changes and sea level rise. The loss of physical land mass and a rising water table could result in saltwater intrusion affecting agricultural irrigation and the loss of productive agricultural lands in vulnerable areas of the County. It will be imperative for the County and agricultural related industries to continually monitor studies on sea level rise, saltwater intrusion and aquifer quality.

## **Forestry**

According to the 2010 Maryland Department of Planning Land Use and Land Cover dataset, Dorchester County has approximately 127,000 acres of forests, which makes up over one-third (36%) of the County's land mass. The Land Use Plan in this Comprehensive Plan designates large portions of these areas as Resource Conservation with goals

to conserve forests and natural resources and encourage natural resource-based industries, such as forestry, hunting, trapping and eco-tourism, as viable and sustainable economic activities in the County. As part of its economic diversification efforts, the County continues to incorporate forest-based industries into its overall economic development program.

Approximately 14,000 acres (11% of Dorchester County forestland) are part of the state protected Chesapeake Forest Lands, which total 74,000 acres across six counties. The preservation of these forestlands was part of the Chesapeake Forest Project (CFP), which is a sustainable forest management project and aimed at meeting state environmental goals for forestland while supporting the local resource-based economy. The purchase of these lands by the State supported local conservation of the forest industry while providing public access to resource lands. The State Forests are managed and used to promote the coordinated use of varied natural resources and provide opportunities for outdoor recreation and other uses such as hunting. In addition to broadening the economic development impact of the County's forest resources, the CFP protects wildlife habitat and scenic views and preserves and establishes water quality buffers for water entering the Bay. Economically, the result has been a significant increase in the revenues received by the State, and in turn, by the counties, which receive 15% of the revenues from these forests used for timber and fiber supplies as well as private hunting clubs who lease the state forestlands for hunting.

The Heart of Chesapeake Country Heritage Area promotes the County's public lands, including forestland, as venues for nature and eco-tourism activities such as hiking and birdwatching. The State permits hunting, fishing, and trapping on most of these lands, which adds another dimension to the significance of the County's forest resources to the economy. The development and improvement of public trails and other low impact amenities in the County's public forest lands will increase the beneficial utilization of the County's forest resources and ensure their environmental health and sustainability for the future.

Most woodlands are privately owned on farms or owned by other commercial timber companies such as Spicer's Lumber, Dorchester Lumber, Say Uncle, or Glatfelter Pulpwood, Co. The Loblolly Pine is the most



common species grown commercially in Dorchester County. Other species include Sweet Gum, Poplar, and Oak. Many private landowners manage woodlands for timbering and hunting purposes and the State's Forest Service aids landowners regarding forestry management.

Currently there are no operating sawmills left in Dorchester County. The County Economic Development Office supports revitalization efforts of the Forest Products Industry. Dorchester County is committed to protecting forest resources for the timber industry, tourism and natural habitats. The State of Maryland's Forest Conservation Program and Critical Area Program are administered by the Planning and Zoning Office and require afforestation and reforestation under certain conditions when new development results in the loss of forest land. The Maryland Environmental Trust and Forest Land Enhancement Program also provide an important role by protecting forest and agricultural lands as well as environmentally sensitive areas. Through these programs and other efforts, the goal is to preserve contiguous forestlands for current and future generations.

According to the BEACON Report, in 2015, forestry contributed \$126.3 million to the State's economy (9% of the County's RBI total), supported 479 jobs (9% of the County's RBI total), and generated nearly \$4.2 million in state and county tax revenue (8% of the County's RBI total). See **Figure 10.2 - Economic Impact of Resource Based Industries** at the end of this section for forestry's proportion of resource-based industries and contribution to the State's economy.

### **RBI Support Industries**

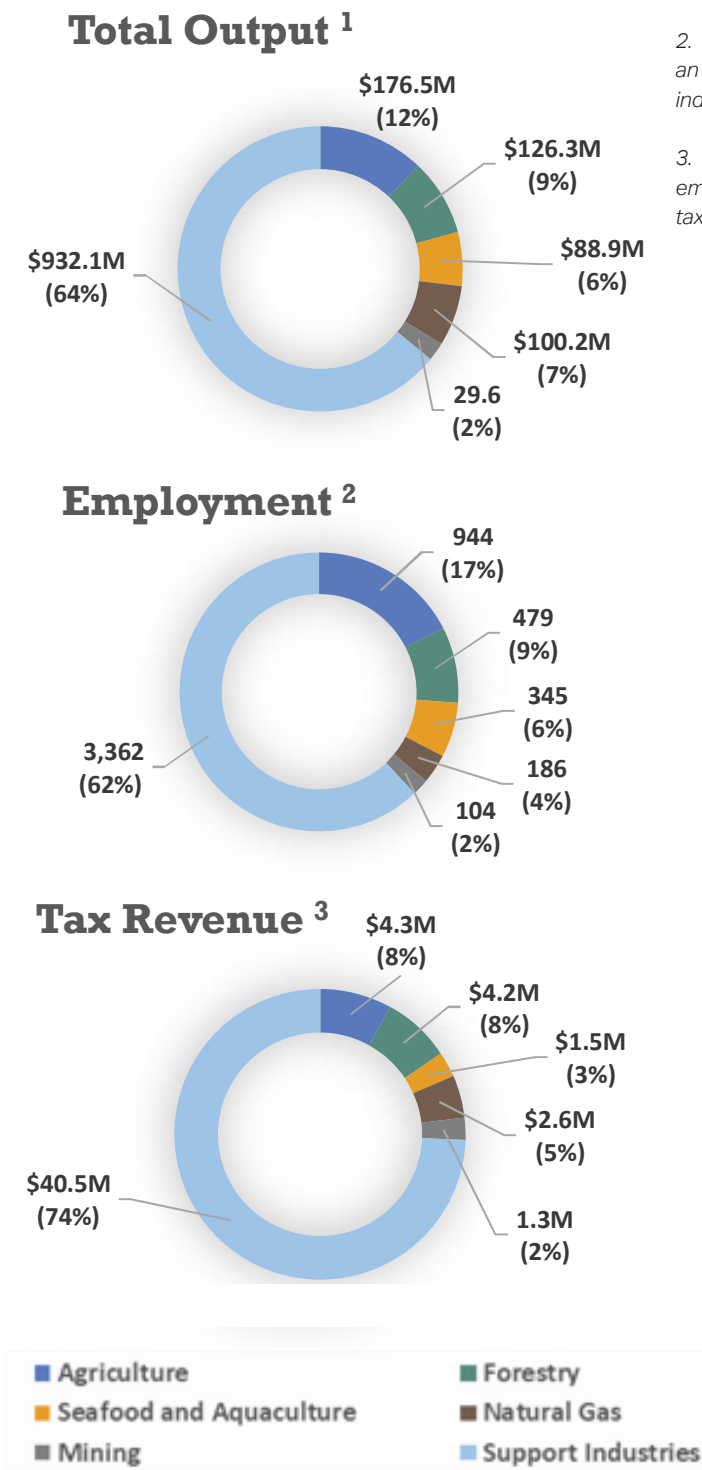
The BEACON Report also addresses the economic impact of "support industries". Support industries are those in-state industries that rely on Maryland's agricultural firms for their supply-chain input (e.g., a Maryland-based canned vegetable manufacturer who relies on Maryland farmers for their fresh vegetable supply). Based on the NAICS codes listed in the referenced BEACON report, support industries include poultry processing but not seafood processing which is included within the fisheries and aquaculture economic data of the report.

Interestingly, according to the Beacon Report, Dorchester County's support industries impact on the State's economy far outpaced the impacts of the other RBI industries. In 2015, support industries contributed \$932 million to the State's economy while all other RBI sectors in the County (including mining and natural gas) contributed \$522 million. The \$932 million contribution to the State's economy is the 4th highest of all County support industries and is most likely attributable to the sizable poultry processing industry in the County which includes Amick Farms, Bloch and Guggenheimer (B&G), Valley Proteins and Protenergy Natural Foods who collectively employ approximately 1500 people. Amick Farms recently expanded its Hurlock facility with a \$13.5 million capital investment resulting in the addition of 50 jobs. In addition, RBI's in Dorchester County supported 3,362 jobs (62% of the County's RBI total) and generated \$40.5 million in state and county tax revenue (74% of the County's RBI total). See **Figure 10.2 - Economic Impact of Resource Based Industries** for support industries proportion of resource-based industries and contribution to the Dorchester County economy.

### **Economic Impact of Resource Based Industries Summary**

The BEACON Report measured the importance of resource-based industries (RBI) to the state of Maryland, as calculated by each county, including Dorchester. The resource-based industries include agriculture, forestry, seafood and aquaculture, natural gas, mining and support industries. The total economic impact to the State of Maryland of these resource-based industries in Dorchester County in 2015 equaled \$1.4 billion, supported over 5,420 jobs, and generated nearly \$54 million in state and local tax revenue. Of these RBI industries, agriculture, forestry, seafood, aquaculture and support industries account for 91% of the economic activity, 95% of the jobs, and 93% of the tax revenue. Dorchester County's total output of resource-based industries was significantly higher than that of other Eastern Shore counties, and resource-based industries activities are crucially important to the overall health of the Dorchester County economy. A breakdown of each resource-based industry on the County's economy, including total output, employment and tax revenue is provided in **Figure 10.2 Economic Impact of Resource Based Industries**.

**Figure 10.2 - Economic Impact of Resource Based Industries, Dorchester County 2015**



1. Dollar value (in millions) contributed to the state economy by an industry sector. Total output includes direct output as well as indirect and induced economic effects, or "ripple effects".

2. Employment values include the number jobs directly supported by an industry sector as well jobs indirectly supported and induced by the industry sector, or "ripple effects".

3. Total tax revenue (in millions) by industry sectors received from employee compensation, household expenditures, corporations, and taxes on productions and imports.

## FISHERIES ELEMENT

The Maryland Land Use Article requires 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 shall be geographically located to facilitate the commercial harvesting of finfish and shellfish and to ensure reasonable access to the waterways by commercial waterman.<sup>9</sup>

Given the historical significance of the seafood industry to Dorchester County's economy and to the very fabric of its culture, there is no shortage of locations that meet the above criteria. **Map 10.1, Fisheries**, indicates the location of seafood processing facilities in the County in 2015. An indicator of the importance that the County places on ensuring and promoting the survival of the seafood industry is the County's Right to Work -Seafood Industry law.<sup>10</sup> Like many "Right to Farm" laws, the purpose of the law is to recognize the importance and primacy of legally and properly operated seafood processing facilities such that nuisance claims can be minimized. The law establishes a Seafood Reconciliation Committee to resolve conflicts that cannot be resolved by the County Health Officer. The law also requires that every contract of sale for any property in the County contain a clause that puts the future owner on notice that they may be subject to discomfort or inconvenience resulting from the normal operations of seafood processing facilities.

Source: The BEACON Report. <sup>8</sup>

<sup>8</sup> See Appendix E for excerpts from the Beacon Report describing the factors included in determining "economic impact" from the various resource-based industries

<sup>9</sup> MD. Code Land Use §3-113

<sup>10</sup> County Code §126

Despite the numerous access points and processing facilities, the County's seafood industry faces series challenges to its ongoing viability as a sustainable business sector in the County. One such threat stems from the lack of seasonal migrant workers due to federal immigration policies and is beyond the purview of this Plan. Suffice to say that the County will continue to work with their State and Congressional delegations to urge the implementation of policies that provide for a sufficient and predictable stream of seasonable migrant workers. The other threat is the extent of dredging necessary to keep vital channels open for access to the Chesapeake Bay for commercial fishing operations. Silted-in channels can prevent access or cause circuitous routes for the commercial boats to access the Bay, raising operational costs. One such example is the federal channel in and around Tar Bar, Fishing Creek and the Honga River (see **Figure 10.3 Honga River Dredging Project Area**) which have not been dredged in over 10 years. These channels provide essential access to the numerous commercial fishing operations and processing facilities in the area (See **Map 10.1, Fisheries**). Federal funding for dredging the channels has not been provided which has caused significant difficulties for the local watermen to efficiently and safely navigate to the Chesapeake Bay. **Chapter 4, Environmental Resources and Protection** discussed the Mid-Bay Project involving the restoration of James Island and Barren Island. The restoration of Barren Island will utilize dredge material from Federal navigational channels in the area which includes the channel that provides access from the Honga River to Tar Bay and the Chesapeake Bay. As of the writing of this Plan, the U.S. Army Corps of Engineers is in the early stages of design of the Barren Island Restoration project and it is not yet been determined to what extent the quantity of dredged material needed to restore Barren Island equates to the quantity of material that must be removed from the Honga River and Tar Bay federal navigational channels to make them functional channels. The County Planning and Zoning Department is currently working with the Maryland Department of Transportation, Maryland Port Administration and the U.S. Army Corps of Engineers to develop an extensive public outreach effort for the Barren Island Restoration Project. The outreach effort should include the Dorchester County Watermen's Association as a primary stakeholder to ensure that the dredging needs of the local watermen are considered to the maximum extent possible

in the restoration of Barren Island as well as in the reservation of future dredge material containment capacity at the island for the Federal channels in the area that support the local commercial fishing industry. It should also be noted that full funding for the Barren Island Restoration Project is not included in the FY20 Consolidated Transportation Plan (CTP).

### Fisheries and Aquaculture

Dorchester County has 26 seafood and aquaculture operations which harvest or process crabs and oysters for restaurants throughout the region.<sup>11</sup> There are more than 2,400 acres of farms that harvest oysters in the County. Of the 15 processing plants in Maryland in 2019, 11 were in Dorchester County. The County also has the oldest continually operating crab house in the world (J.M. Clayton Crab Company) as well as a new generation of aquaculture farmers (Hooper's Island Oyster Company) who are helping to pioneer sustainable seafood production, restore the health of the Chesapeake Bay, preserve the Bay's maritime culture, and create economic and employment opportunities.

Dorchester County and the Chesapeake Bay are known for its crab and oyster industry and the Eastern Shore was once a leading national seafood producer. However, with sedimentation and declining water quality, diseases to crabs and oysters, over-harvesting and restrictions on catches and recent national immigration policies that have reduced the number of seasonal migrant workers, the seafood industry has struggled to sustain yields and meet increased consumer demand. State and local government agencies, non-profit environmental and conservation organizations, and watermen have put forth tremendous efforts and resources to restore the health of the Chesapeake Bay and its crab and oyster populations. As part of this, the maritime industry has been developing alternative methods of harvesting and producing seafood, such as aquafarming of food fish and aquatic plants, which has provided numerous opportunities to reinvigorate and diversify the County's seafood industry.

State programs through the Department of Natural Resources, Department of Agriculture, and Maryland Sea Grant study and report how the aquaculture industry not only produces sustainable food sources,

<sup>11</sup> Maryland Seafood Marketing - Aquaculture Operations, MD Department of Natural Resources and Department of Agriculture, 2017

**Figure 10.3 – Honga River Dredging Project Area**

Source: US Army Corps of Engineers Fact Sheet as of February 2018



but also how they provide environmental benefits and can help improve local economies. For instance, aquaculture helps to restore and balance local ecosystems and water quality, develop biotechnology products for use in medicine, and provide sources of renewable alternative energy through biofuel. All of these will help promote small businesses, create jobs, and contribute to sustaining the long-term viability of the seafood industry. A healthy seafood industry will contribute to Dorchester County's economy while also protecting and reinventing its maritime heritage which is key to its cultural identity.

According to the BEACON Report, in 2015, seafood and aquaculture contributed \$88.9 million to the State's economy (6% of the County's RBI total), supported 345 jobs (6% of the County's RBI total), and generated nearly \$1.5 million in state and county tax revenue (3% of the County's RBI total). See **Figure 10.2 - Economic Impact of Resource Based Industries** for seafood and aquaculture's proportion of resource-based industries and contribution to the Dorchester County economy.

## TOURISM

The County has experienced a boom in tourism since the previous Comprehensive Plan. Tourism has become a major economic engine of Dorchester County as it is a mecca for outdoor recreation and nature enthusiasts and history buffs. Ecotourism is generally considered to be nature-based, low-impact travel to pristine, natural areas. For Dorchester County, it is founded in its nature-based assets that attract people to boat, hike, bike, birdwatch, golf, fish and hunt. Cultural heritage tourism is defined by the National Trust for Historic Preservation as "travel to experience the places, artifacts, and activities that authentically represent the stories and people of the past and present, including cultural historic and natural resources." Heritage tourism also promotes local shops, restaurants, festivals and events that celebrate a region's cultural history.

Ecotourism and cultural heritage tourism typically involve infrastructure and facilities for mobility, interpretation and education. Most of Dorchester County and all of Cambridge lies within the Heart of Chesapeake Country Heritage Area, which has been designated as a state resource by the Maryland State

Heritage Areas Authority. This program is managed by the Dorchester County Office of Tourism. To capitalize on the benefits that ecotourism and heritage tourism can bring, the County Planning and Zoning Department, the Economic Department Office and the Office of Tourism should continue to fully support the tourism and economic development objectives and strategies of the Heart of Chesapeake Country Heritage Area Management Plan.

Significant tourist attractions include the Richardson Maritime Museum, Dorchester Center of the Arts, Sailwinds Park, and Blackwater National Wildlife Refuge and IRONMAN Maryland. The Cambridge Downtown commercial district is managed by a state-designated Main Street program (Cambridge Main Street), with a companion state-designated Arts & Entertainment District. Harriet Tubman's life and legacy are revealed in the Harriet Tubman Underground Railroad National Monument and National Historical Park, which include a museum and visitor center with exhibit space, as well as the Harriet Tubman Underground Railroad Byway - a 125-mile self-guided driving tour through Caroline and Dorchester Counties with 30 historic sites along the route. It is these places that continue to help preserve and promote the natural beauty maritime heritage, rich history, and the arts in Dorchester County and the Chesapeake Bay.

The U.S. Fish and Wildlife Service produced an economic report entitled *Banking on Nature 2017: The Economic Impact Contributions of National Wildlife Refuge Recreational Visitation to Local Communities*. This report examines the local economic contributions of recreational visits to 162 national wildlife refuges and wetland management districts in 47 states and one territory for the fiscal year (FY) 2017 (October 1, 2016 - September 30, 2017). Recreational visits included hunting and fishing (consumptive) as well as car tours, boating, hiking and photography (non-consumptive). Economic contribution reports are also provided for individual national wildlife refuges, which provide a more in-depth examination. For the purposes of the report, the economic area for the Blackwater National Wildlife Refuge is Dorchester and Wicomico Counties. That is, it is assumed that visitor expenditures occur primarily in these two counties. Total expenditures were \$5.8 million with non-residents accounting for \$5.6 million or 95% of total expenditures. Expenditures on non-consumptive activities accounted for 90 percent of all expenditures.

The contribution of recreational spending in the economic area included approximately 63 jobs generating \$2.3 million in employment income. In addition, the refuge generated approximately \$667,000 in total tax revenue, and \$7.8 million in total economic output. In addition to direct economic impacts, the National Wildlife Refuge system also generates many individual and societal benefits, including fish and wildlife conservation, open space, science and education, water quality improvement and flood resilience. This is especially true for the Blackwater National Wildlife Refuge (see **Chapter 4**). One of the County's greatest economic opportunities is to attract a greater proportion of the tourists already visiting or traveling through the County and the Eastern Shore, extending the time they spend in different areas throughout the County, increasing the number of the places they visit, and increasing their opportunities and experiences.

### **ARTS, ENTERTAINMENT, RECREATION, ACCOMMODATION, FOOD SERVICES, AND RETAIL**

The arts, entertainment, recreation, accommodation and food services industry experienced the highest growth of jobs between 2000 and 2018, with an 76% increase, and now accounts for 25% of all jobs in the County. Retail trade remained steady in the same period and accounts for 11% of all jobs. Downtown Cambridge has a diverse mix of uses, including retail, restaurants, business arts and entertainment accommodations and governmental / civic institutions. Businesses and restaurants have re-emerged in Cambridge in recent years and are attracting locals and visitors into the town. Downtown is now characterized by specialty retail stores, boutiques, cafés, galleries and locally-owned restaurants, and the waterfront maintains maritime-related businesses. Also, anchored by the success of RAR Brewery, Cambridge is a fast-growing microbrewery town which has helped to revitalize downtown Cambridge. The Hyatt Regency Chesapeake Bay Resort, which has 400 rooms, a conference center, marina, spa and golf course, has also contributed to strengthening the position of the Cambridge and the County as a tourist destination. The resort has added over 300 new full and part-time jobs in the County (80% of which were filled by County residents) and fueled an increase in tourism and tourism-related expenditures in the County.

### **WORKFORCE DEVELOPMENT**

Connecting an educated and trained workforce that meets the needs of an evolving workplace market sector is a major challenge and need in Dorchester County. The surrounding Counties and proximity to metropolitan Baltimore and Washington D.C. provides significant competition for skilled labor. Ample opportunities for workforce training need to be offered within the County to retain and attract employers. This process starts in the local County school system with both academic and technological training. Technological training programs are offered at the Dorchester School of Technology and the Dorchester Career and Technical Education Center. The Dorchester School of Technology receives students from both of the County's high schools. Training may continue at the Chesapeake College satellite campus in Cambridge, or at one of the many colleges and universities located within commuting distance including Salisbury State University, the University of Maryland Eastern Shore, Wilmington College and others. Specialized training can be obtained at such facilities as the University of Maryland Center for Environmental and Estuarine Studies.

As indicated in **Table 10.3 Employment by Industry** on page 10-5, the majority of the County's workforce is employed in the healthcare, manufacturing, and retail industries. The accommodation and food services industries also employ a significant number of workers. The State's forecast of an increasingly larger percentage of senior citizens and elderly in the County's and the Eastern Shore's population indicates a potential for significant growth in the region's health care industry. The increasing number of retirees with an influx of higher disposable income and time in the region will also have a positive impact on the County. Likewise, the boom in Dorchester County tourism and Downtown Cambridge's revitalization has led to significant growth in the accommodation, food service and arts and entertainment industries. All these trends could increase employment opportunities as businesses and industries expand and develop to serve the needs of these growing segments of the population.

As the County and local businesses have been advancing and investing in innovation and new technology, economic programs and education institutions will need to continue to invest in workforce

education and training programs for skilled workers to take advantage of these advancements and evolving industries. The technical training programs offered in the County at both the School of Technology and the Career and Technical Education Center should continually be evaluated to ensure that graduates of these programs are able to compete as top level candidates for employment in the industries that show the most promise for growth in the County, such as medical services, food services and hospitality. Long-term investment in the County's workforce and would bring the County recognition as a competitive location for new business and industry.

There is also an opportunity to develop a workforce development program to streamline industry and workforce needs within the County. This program could be managed within the County's Economic Development Department and could serve as a point of contact to coordinate workforce development needs within the County. The program should be specifically designed to upgrade the skills of the County's workforce and should offer programs to assist with specific company needs as well, including entry level training, training on manufacturing modernization, and process improvement training. A workforce development program would also provide valuable access to the County's labor pool, ranging from management level professionals to skilled laborers, for potential businesses and employers. Coordinated recruitment efforts on behalf of businesses could include pre-screening and assessment of candidates, and promotion of a company's recruitment initiatives to local educational institutions, partner agencies and other organizations to broaden access to the County's workforce populations. Customized training for potential new hires and ongoing training for existing employees could be developed to meet business needs. A workforce development program should also promote and coordinate efforts of state programs and resources. Two notable state programs that focus on workforce training include Maryland Business Works and Partnership for Workforce Quality.<sup>12</sup> With a shortage in a trained, skilled workforce to occupy jobs, there is a challenge in the County to support large new businesses. There is an opportunity to diversify the County's economy and strengthen the job market by attracting small business growth and further retain and support existing businesses, especially ones with a trained workforce.

## EXISTING ECONOMIC ACTIVITY

Most of the existing commercial activity in Dorchester County is concentrated in the City of Cambridge and the Town of Hurlock. The Land Use Plan in Chapter 3 designates areas around Cambridge, Vienna and between Secretary East New Market and as Suburban Growth Areas. The plan's vision for these areas are medium-density residential with a range of housing types and densities, low to moderate intensity non-residential, and mixed-use development. Key goals for these areas are to extend and mimic the built environment of the municipalities as and ensure efficient use of existing and planned infrastructure. The land use chapter further supports the need for a more detailed "sector plan" for this part of the county to examine potential growth and design issues.

There are currently large-scale development proposals in Cambridge which are indications of an increase in economic momentum health in the County. These developments include large-scale residential developments in Cambridge, the runway extension at the Cambridge-Dorchester Regional Airport, new commercial retail on Cambridge Main Street, Cambridge Marketplace, and the mixed-use redevelopment of the former Phillips seafood plant, among others. The 60,000 square foot Phillips Packing House Building is being revitalized into an active, mixed use center of food-related innovation including a kitchen incubator, retail, a craft brewery, restaurants, and an open atrium space for continuous public programs and private events. Adjacent to the Phillips Building is the future site of Cannery Park, a new 'central park' for the City of Cambridge that will incorporate active and passive spaces for recreation.<sup>13</sup> It could also provide linkages to future "rails-to-trail" recreational facilities in the County.

Another significant economic development opportunity in the County is the redevelopment of land within the City of Cambridge now occupied by the University of Maryland Shore Medical Center and the adjacent Sailwinds Park. The City and County have formed the Cambridge Waterfront Development, Inc., which is a non-profit development corporation under the auspices of the City and County governments. Its goal is to oversee and implement the public/private partnership to redevelop Sailwinds and the

<sup>12</sup> <https://businessexpress.maryland.gov/grow/workforce/workforce-training-grants>

<sup>13</sup> <https://www.thepackinghousecambridge.com/>

hospital property. The land under consideration is approximately 25 acres, as well as the port, the 470-foot wharf and public promenade along the Choptank River. While plans for the redevelopment of the site are still being formulated, the overall concept will be mixed use of the property, preservation of the working waterfront and deep port, and public access.

## **MARYLAND ENTERPRISE ZONES**

A Maryland Enterprise Zone is a specially zoned commercial area in the state where businesses are eligible for income tax credits and real property tax credits in return for job creation and investments made in the zone. Enterprise zones encompass the industrial parks in Cambridge and Hurlock.

### **Dorchester Regional Technology Park**

The Dorchester Regional Technology Park Enterprise Zone in Cambridge is 1,661 acres located on Bucktown Road across from the Cambridge-Dorchester Regional Airport. The Tech Park is a full-service business enterprise zone with 12 competitively priced, builder-ready lots and complete with water, sewer and fiber-optic broadband. The Tech Park is also the home of the state-of-the-art Eastern Shore Innovation Center incubator, which is the Park's anchor tenant. The Innovation Center is the county's flagship business incubator which is open to startups and offers several amenities including 13,000 sq. ft. of office suites, conference and meeting rooms, co-working space, free business advisory services, free Wi-Fi, and other shared amenities. The Dorchester County Economic Development office is also located at the Tech Park. The Park also has a 1,100-square foot commercial wet laboratory available for co-op use by businesses and researchers, which makes it ideally situated for the F<sup>3</sup> Tech Business Accelerator Program. F<sup>3</sup> Tech gives entrepreneurs and startup companies working in the fields of agriculture, seafood, and environmental technology the opportunity to benefit from five months of mentoring, training, and support. F<sup>3</sup> Tech is the only business accelerator program in Maryland dedicated to advancing innovations and technologies in resource-based industries such as agriculture, aquaculture, forestry, bioenergy, and the environment.<sup>14</sup>

### **Hurlock Industrial Park**

The Hurlock Industrial Park and Enterprise Zone is 658 acres within the Town of Hurlock and contains both light and heavy industrial lots. The park's tenant companies include: Delco Packaging, Daystar Manufacturing, Perdue Farms, Worwic Fulfillment Solutions, Worwic Transportation, and various agricultural and start-up businesses.

## **OTHER EMPLOYMENT CENTERS**

### **Chesapeake Industrial Park**

Located in Cambridge just off U.S. Route 50, the 64-acre industrial park is home to GKD Metal Fabrics USA, Safe Chain, Air Liquide, LWRC International, Hoopers Island Oyster Co., Veterans Administration, Marshy Hope Family Services, Fastenal, Hajoca, and the Eastern Shore Area Health Education Center. Chesapeake Drive runs parallel to 50 and has easy access from Woods Road and Route 16.

### **Harbor ShareSpace**

Located in the City of Cambridge, Harbor ShareSpace offers turn-key office space with dedicated desks in a communal area as well as floating workspaces.

### **Cambridge Marketplace**

The Cambridge Marketplace is within the City of Cambridge on Route 50 and consists of the demolition of an outdated strip shopping center and the redevelopment of a 260,000 square foot mixed-use project. The project, which is scheduled to accommodate its first tenants in the summer of 2020 will include new retail tenants, restaurants and build-to-suit space. The project also includes the relocated University of Maryland Shore Medical Center which will replace the existing Medical Center in downtown Cambridge. As mentioned above, the existing Medical Center site is the subject of redevelopment by Cambridge Waterfront Development, Inc. The new medical facility at Cambridge Marketplace will be an 82,000 square foot, two story building with an emergency room, outpatient behavioral health services and a medical pavilion which will offer a myriad of health services (See **Chapter 2 – Community Facilities**).

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<sup>14</sup> <https://choosedorchester.org/f3-tech-business-accelerator-program/>



## ECONOMIC DEVELOPMENT PROGRAMS AND INCENTIVES

### Opportunity Zones

The Maryland Opportunity Zone program is a federal initiative housed in the U.S. Treasury. Each county in Maryland has a designated zone or zones. These zones were created to revitalize economically distressed communities using private investments. Investors can receive capital gain tax incentives in exchange by investing in the zones. There are two Opportunity Zones in Dorchester County, both in and around the City of Cambridge that encompass the majority of the City. See Map **10.2 – Economic Programs**.

### HUBZone

The U.S. Small Businesses Administration has deemed all of Dorchester County as a Historically Underutilized Business Zone (HUBZone). This Program is designed to stimulate economic development and create jobs in urban and rural communities and qualifies small businesses located in the zone for preferential status in competition for federal government contracts. A business obtains HUBZone certification in part by employing workers residing in the zone. A small business must meet all of the following criteria to qualify for the HUBZone program:

- Be a small business by the U.S. Small Business Administration Standards.
- Be located in a HUBZone.
- Be owned and controlled by one or more US Citizens, and have at least 35% of its employees reside in a HUBZone.

As a designated HUBZone, Dorchester County's location and workforce have made it a prime expansion site for technology, contracting, call centers and fulfillment operations like RAMS, Cambridge Federal and Safe Chain Solutions.

### One Maryland Program

The One Maryland Program provides for local property tax credits and state income tax credits for project investments by existing businesses located in Maryland and for start-up businesses that relocate

to Maryland from outside the State. The program is only available in "distressed qualified Counties" and Dorchester is one such County. The amount of tax credit that a business will qualify for depends on the amount of capital investment it makes in the project and the number of new qualified jobs it creates in a 24-month period. The project/investment must be located in a Priority Funding Area.<sup>15</sup>

### Priority Funding Area

Priority Funding Areas (PFAs) are existing communities and places where the County wants to direct state investment—in the form of loans and grants for highways, sewer and water infrastructure, and economic development—to support future growth. PFAs (municipalities, rural villages, and county-designated areas) were established in response to the 1997 Priority Funding Areas Act.<sup>16</sup>

### Heart of Chesapeake Country Heritage Area

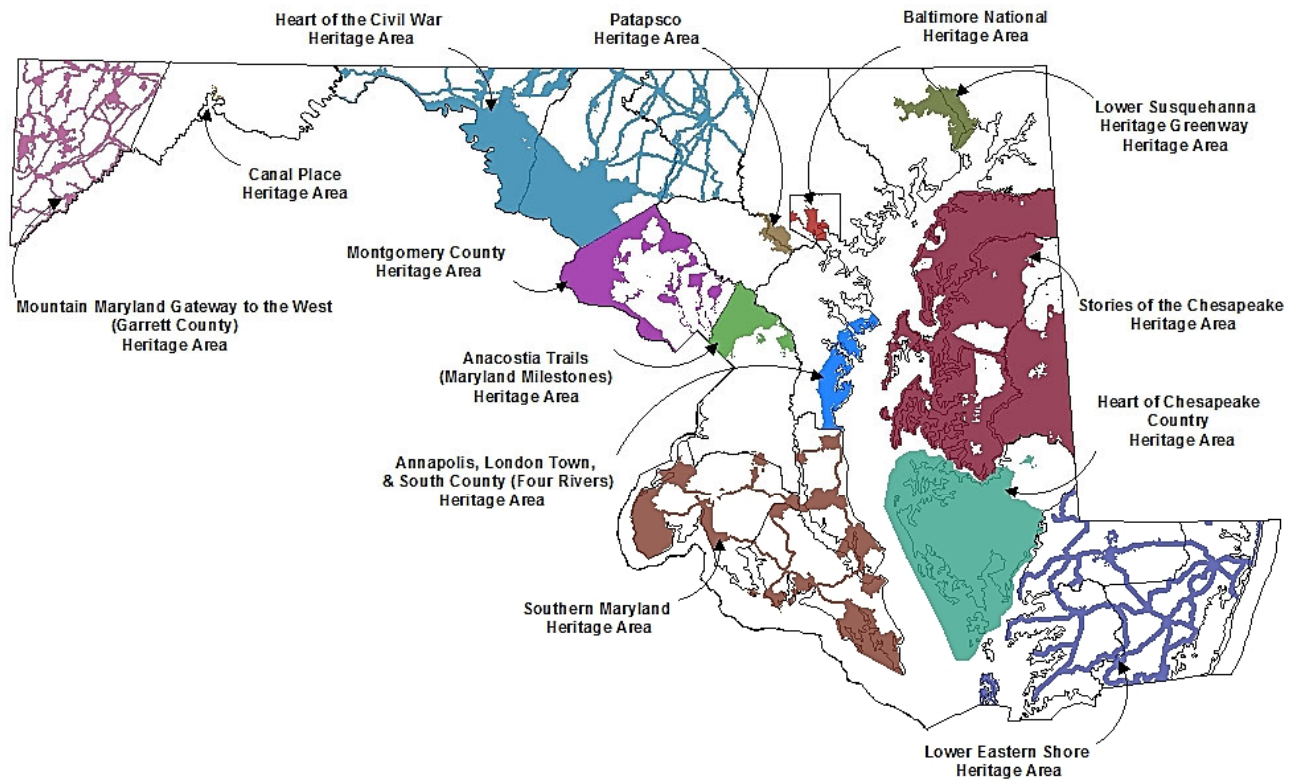
Maryland's Heritage Areas are locally designated and State certified regions where public and private partners make commitments to preserving historical, cultural and natural resources for sustainable economic development through heritage tourism. See **Figure 10.4 - Maryland Heritage Area**. Each of Maryland's Certified Heritage Areas has a distinct focus or theme that represents a unique aspect of Maryland's character. Most of Dorchester County is certified as the Heart of Chesapeake Country Heritage Area. The themes that define this Heritage Area are agriculture, arts and entertainment, outdoor adventure, maritime villages and way of life, the environment, and history, including Harriet Tubman and the Eastern Shore African-American History and Native American Heritage.<sup>17</sup>

The Heart of Chesapeake Country Heritage Area Management Plan is a detailed strategic plan that provides a basis for implementing heritage tourism initiatives to support economic growth and emphasizes the County's strong commitment to its cultural and heritage assets. Attractions within the Heritage Area include, but are not limited to, Cambridge Main Street, Dorchester County Visitor Center, Dorchester Center for the Arts, Vienna Heritage Museum, Vienna River Walk, Bucktown Village, Harriet Tubman Underground Railroad Byway

<sup>15</sup> <http://commerce.maryland.gov/fund/programs-for-businesses/one-maryland-tax-credit>

<sup>16</sup> <https://planning.maryland.gov/Pages/OurProducts/pfmap.aspx>

<sup>17</sup> <http://www.marylandheritageareas.com/heart-of-chesapeake-country-heritage-area/>

**Figure 10.4 Maryland Heritage Area**

and Museum, Chesapeake Country Scenic Byway, and Blackwater National Wildlife Refuge. Also see Chapter 6 Historical and Cultural Preservation for additional discussion on the Heritage Area and the Byway and Museum.

The Heritage Area vision is to create a compelling visitor experience by developing interpretive infrastructures for tailored themes resulting in economic development through heritage tourism. The Heritage Area mission is to assist individuals, organizations, and government entities to preserve and promote Dorchester County's unique historic, cultural, and natural resources while broadening and deepening the local economy through new and existing ways to make a living through increased tourism.<sup>18</sup>

### Job Creation Tax Credit

Maryland businesses that create new jobs are eligible for the Job Creation Tax Credit (JCTC) if they meet the criteria of the program. Businesses can receive an income tax credit of \$3,000 per job for newly created full-time jobs and up to \$5,000 per newly created job if the business locates in a revitalization area (state enterprise zone, federal empowerment zone, or DHCD Sustainable Community). In order to qualify the business must be certified as a qualified business entity eligible for the tax credit and must:

- Create 60 jobs if located anywhere in the state; or
- Create 25 jobs in a Priority Funding Area; or
- Create 10 jobs in counties with (1) annual average employment less than 75,000 or (2) median household income less than two thirds of the statewide median household income

Dorchester County is eligible for the 10 job minimum criteria. Other criteria such as minimum income, nature of the enterprise and time period within which the jobs must be created also apply.

<sup>18</sup> <https://visitdorchester.org/wp-content/uploads/HCCHA-Five-Year-Action-Plan-2012-Final2.pdf>

## ECONOMIC DEVELOPMENT AGENCIES AND PARTNERS

The County benefits from local and regional marketing partnerships with economic development and tourism agencies partners. The County recognizes that local, county, state and federal, stakeholders, and private and nonprofit organizations need to partner and collaborate to achieve common economic and community development goals. There appears to be an opportunity to build upon and expand partnerships between the County, local stakeholders and regional organizations to carry-out economic development efforts. Some of the County's community and economic development stakeholders and partners with whom it is crucial to work with to implement the strategies in this Plan include:

- Dorchester County Economic Development Office
- Dorchester County Office of Tourism
- Dorchester Chamber of Commerce
- Dorchester County Economic Development Advisory Council (EDAC)
- Cambridge Main Street
- Cambridge Arts District
- City of Cambridge Economic Development
- Eastern Shore Entrepreneurship Center
- Upper Shore Workforce Investment Board
- Maryland Economic Development Association

## DORCHESTER COUNTY ECONOMIC DEVELOPMENT OFFICE

The economic and community development goals and strategies in this Comprehensive Plan are aligned with the mission of the Dorchester County Economic Development Office (DCED) to create more prosperous, vibrant and sustainable communities in Dorchester County. DCED works with partners in government, economic development and education to strengthen the County's business and employment climate. DCED offers a range of business development services and resources for entrepreneurs to access to locate new businesses or expand existing ones.

Services include, but are not limited to, strategic planning, site selection, workforce training, technical assistance, and establishing financial incentives.<sup>19,20</sup> Collaborative implementation of this Comprehensive Plan will assist to carry out the DCED's mission.

In January 2013, DCED worked with the County's Office of Tourism and Chamber of Commerce to launch a strategic planning process to develop a cooperative marketing initiative and identity. The signature marketing brand - **"water moves us"** - was adopted as both the tourism marketing and branding campaign and county administrative identity. The brand is the platform for all the offices communications including digital/website, display, public relations, advertising, printed materials, outreach, exhibits, and events. The shared website [www.WaterMovesUs.com](http://www.WaterMovesUs.com) serves as the campaign's portal with information and links to each office.

## ECONOMIC DEVELOPMENT STRATEGIES

The County should continue to identify industries to attract and implement strategies specifically crafted to target such industries. Attracting jobs involves creating an overall economic, physical, and social climate that will make Dorchester County attractive to employers and workers and encourage them to locate in Dorchester rather other counties on the Delmarva Peninsula, which share many of Dorchester County's strengths and assets.

The key components of a successful economic development effort will be to create a more diversified economic base and increase County tax revenues. This can be accomplished by nurturing existing businesses and attracting new employment opportunities for County residents, by promoting existing resources and identifying industry growth opportunities, and being resilient and adaptive to market shifts, such as those seen in the manufacturing sector. The commitment to protect longstanding traditions while diversifying the market and employment opportunities will continue to steer the County towards economic stability and vibrancy.

<sup>19</sup> <https://choosedorchester.org/dorchester-economic-development/>

<sup>20</sup> Chapter 80, Dorchester County Economic Development Ordinance, The Code, Part II, Administrative and General Legislation

Specific strategies include:

**Economic Development**

- Encourage retention and expansion of business sectors already in the County and support recruitment and creation of new businesses and business types that can be successful in the future.
- Identify industry growth opportunities, particularly in the areas of tourism, manufacturing, and resource-based industries.
- Adopt a capital improvements program, which would help to allocate and prioritize the County's investments to those areas most suitable for business location.
- Ensure land use and capital investments of public facilities, infrastructure and amenities are consistent with economic development programs, such as Opportunity Zones.
- Continue to promote business and revitalization incentives, such as HCCHA.
- Partner with established internet service providers and resources at the State level, particularly the Governor's Office of Rural Broadband to extend broadband to 100% of its citizens.
- Explore public-private partnerships and supplemental funding to extend broadband.

**Manufacturing**

- Develop a County strategic plan for economic development that includes short, mid, and long-term goals and strategies for each of the County's strongest industries.
- Continue to actively participate in State federal economic development programs such as One Maryland, Enterprise Zones, and HUBZones to remain competitive in the ability to attract manufacturing industries and other large-scale employers to the County.
- Review the condition and make improvements as necessary to the County's existing, vacant industrial buildings and sites, and increase marketing efforts to attract potential businesses to the County to occupy these buildings and sites.

**Resource-Based Industries (Agriculture, Seafood and Aquaculture, Forestry)**

- Expand and diversify the County's resource-based industries to capitalize on emerging markets such as farm to table markets, barley, corn, rye, wheat and hops for breweries and cannabis for the emerging marijuana market.
- Explore the potential for a transfer of development rights (TDR) program and a purchase of development rights (PDR) program as potential long-term agricultural preservation strategies.
- Promote State and County agricultural forest conservation programs.
- Link maritime industries into the County's overall economic development program including boating, tourism, and seafood and aquaculture.
- Support maritime industries such as aquaculture that innovates and advances sustainable practices.
- Encourage stewardship of the Chesapeake Bay, its tributaries and watersheds by supporting federal, state and local initiatives designed to protect important aquatic resources and the longevity of the seafood industry.
- Support forest industries by exploring ways to link forest and forest industry with economic development strategies that promote the industry as well as the conservation efforts.
- Increase beneficial utilization of forest resources on public lands to promote use by hunters, fishermen, naturalists, and tourists.
- Support forest-based industry initiatives that promote stewardship and sustainability of the County's forest lands, such as the Chesapeake Forest Project.
- Explore ways to link forest and forest-based industries into the County's overall economic development program including value-added, niche markets for wood products, agricultural product production and tourism.
- Ensure that adequate land is appropriately zoned that could be used by the County's resource-based industries to strengthen the local economy.



- Consider zoning text amendments that would allow uses that utilize resource-based industry products across a wider array of zoning districts while also requiring standards to mitigate potential negative impacts from such uses on nearby properties
- Coordinate with the Maryland Department of Transportation, Maryland Port Administration to ensure that the dredging needs for the local commercial fishing industry is considered to the maximum extent possible in the construction and long-term operation of Barren Island.
- Encourage the Maryland Department of Transportation to include full funding for the Barren Island Restoration Project in the next Consolidated Transportation Plan (CTP).

### **Tourism**

- Support the economic development objectives and strategies of the Heart of Chesapeake Country Heritage Area Management Plan through funding, business development initiatives, land acquisition/ redevelopment projects, and representation on the Heritage Area Management Board.
- Support and encourage development and redevelopment of the small businesses that support tourism in the County such as community general stores, restaurants, bed and breakfasts, farmers markets, and craft, gift and antique shops.
- Support the acquisition, landscaping and creation of public places throughout the County for on-site interpretation, scenic overlooks and public accommodations.



*Dorchester Regional Technology Park, Eastern Shore Innovation Center*

### **Workforce Development**

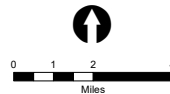
- Continue to develop and implement strategies and incentives to respond to the loss of County jobs in the manufacturing sector.
- Develop a County Workforce Development Program that provides a trained and adaptable workforce that meets the needs of today's and tomorrow's businesses
- Encourage retention and expansion of businesses already in the County and support recruitment and creation of new businesses that can be successful in the future such as:
  - Technology start-ups
  - Maritime-related business
  - Medical services
  - Cultural Heritage-related tourism
  - Hospitality and service
  - Forest Product Processing Industries



*Source: Dorchester County Office of Tourism*



**MAP 10.1 - FISHERIES**  
2021 COMPREHENSIVE PLAN  
DORCHESTER COUNTY, MARYLAND

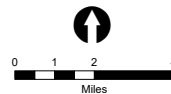




## MAP 10.2 - ECONOMIC PROGRAMS

2021 COMPREHENSIVE PLAN

DORCHESTER COUNTY, MARYLAND



# 11 | PLAN IMPLEMENTATION

The purpose of the Implementation Element is to recommend methods and resources to successfully accomplish the proposals set forth in the Comprehensive Plan and ensure the continued growth and management of assets in Dorchester County as required for local governments through the Land Use Article of the Maryland Annotated Code.



## **INTRODUCTION**

In order to accomplish the Goals and Objectives of this Comprehensive Plan, a wide range of implementation measures, including legislative proposals related to land development, are recommended. The implementation measures recommended should be viewed as positive instruments of the Comprehensive Plan which will guide the future growth and development of Dorchester 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 Comprehensive Plan lies with the citizenry and their elected officials.

Throughout this Comprehensive Plan, each Chapter has presented the future goals for individual topics and suggested strategies that should be implemented to meet those goals. This element of the Plan compiles the strategies from each of those individual elements and organizes them into the areas in which they would need to be implemented. A more detailed work program needs to be developed for the strategies in this section. The Planning & Zoning Department will take the lead in developing this supplemental implementation work and distribute it to those in the best position to carry them forward. A report should be developed to examine and group the strategies into categories for further evaluation including:

- Identification of best implementation lead agency and support agency per topic: public or private;
- Estimated resources and timeframe for implementation;
- Distribution of synopsis of information from the plan;
- Action needed (e.g. legislation, codes, programs, funding, etc.); and
- Follow up measures.

## **DEVELOPMENT REGULATIONS**

This Comprehensive Plan encourages the use and development of flexible regulations to be incorporated and used within the implementing ordinances for designated growth areas of Dorchester County. These

include support for growth of towns and mixed-use growth areas and floodplain mitigation planning for vulnerable areas.

The Land Use Chapter documents the need for a new "Sector Plan" study for unified development of the northern county growth areas. This could result in new regulations incorporated into future ordinances which address issues such as urban design, landscaping and new patterns of development. A proposed new growth "Tier Map" will require new standards for the use of major subdivisions in designated growth areas. The zoning ordinance allows for various "overlay" zoning districts to address specific issues such as airports, historic preservation and manufactured home communities. Future changes or additional overlay areas could be considered to allow flexibility. Economic Development innovative techniques are supported by this plan and extensively documented in the Economic Development and Tourism Chapter. Preserving the culture, advancing sustainable seafood harvesting and processing, and recognizing the importance of our resource-based economy and promoting it is important to Dorchester County. The planning for use of cellular broadband access throughout the county will enable the training of workforce to meet the needs of a changing world. Tourism is also a vital part of the county's economy. Promoting the "Heart of the Chesapeake Country Heritage Area" as a designated state resource helps to capitalize the benefits of ecotourism and heritage tourism. The county encourages new enterprises for the use of agri-tourism for growing restaurant industries and efforts related to farm to table products, selling directly to local restaurants and consumers. Dorchester County hosts the IRONMAN Maryland fitness competition each year which is estimated to bring into the county up to 13,000 visitors who participate or watch the various events and boost the local economy.

The Blackwater National Wildlife Refuge in attracts visitors from across the country and beyond. Other innovative programs are recognized and documented in the Economic Development and Tourism Chapter such as established Opportunity Zones, HUB Zone, Maryland One Program and various tax credit incentives for job creation.

## LAND USE

The Land Use Chapter establishes various future land use districts and establishes strategies for each district. The primary implementation tools for these strategies are comprehensive rezoning and zoning ordinance and subdivision update. Typically, a comprehensive rezoning and land use regulation updates are put in motion shortly after the adoption of a Comprehensive Plan and thus most of the Land Use strategies are considered short-range projects.

### Municipal Growth Areas

- The County and municipalities should consider establishing forums for regular meetings (e.g. a Council of Governments) to facilitate communications and understanding among the jurisdictions. Where important policy agreements regarding capacity and services are reached, they should be adopted in formal agreements such as memorandums of understanding or intergovernmental agreements.
- Encourage coordination between County and municipal staffs to ensure coordinated interjurisdictional land use planning and capital needs programming.
- Zone Municipal Growth Areas consistent with the adjacent municipal zoning to facilitate annexation.
- Enter into a Memorandum of Understanding (MOU) with municipalities for reciprocal notification and coordination on land use and development activities within the Municipal Growth Areas and lands adjacent to municipal boundaries.
- The County and municipalities should establish appropriate policies and procedures for the use of Critical Areas Growth Allocation for those municipalities that are within the Critical Area.
- Consider future zoning changes based on the results of a regional sector plan study for the northern county area.

### Suburban Growth Area

- Evaluate development standards, review criteria, and/or incentives to achieve the desired mixed uses and mixed housing types.
- Evaluate development standards in the Zoning Ordinance to ensure new developments extend and emulate the built environment of the municipalities.

- Encourage densities of at least 3.5 dwelling units per acre to qualify as Priority Funding Areas.
- Consider the Tier Map designated Tier II and IIA areas for major subdivisions as appropriate.

### Rural Residential Growth Area

- Remove the cluster option from future zoning to the extent that private or shared water and/or sewer systems are necessary.
- Continue to recognize the right-to-farm for those landowners that wish to remain in agriculture.
- Consider the Tier Map designated Tier III areas for major subdivisions as appropriate.
- Include rural residential growth areas as part of the northern county sector planning study.

### Village

- Permit infill development and redevelopment on existing lots of record, as allowed under the current zoning regulations.

### Agricultural Conservation Areas

- Maximize use of agriculture preservation programs.
- Continue the existing Agricultural zoning.
- Explore implementation of a transfer of development rights (TDR) program with bonus density incentives as long-term strategy for agriculture preservation.

### Resource Conservation Areas

- Continue to pursue economic development and tourism strategies to promote ecotourism activities.
- Perform a comprehensive evaluation of the on-lot and shared community sewage systems in the Neck District to determine the need for public sewer extensions.
- Encourage voluntary land conservation programs to protect sensitive areas and/or prime natural resources.
- Explore transfer of development rights programs so that property owners can realize their property value while developing in less vulnerable areas.

- Extend public sewer service to areas with failing individual or shared sewage systems, including failing BIPS, and provide land use and development restrictions for these areas so as not to foster unintended growth such as limitations on lot sizes or equivalent dwelling unit connections as a future threshold for service.

### **Village Conservation Areas**

- Limit development to existing lots of record.
- Ensure compatibility of infill development with the unique character of the particular village.
- Explore transfer of development rights programs so that property owners can realize their property value while developing in less vulnerable areas.
- Partner with FEMA and MEMA to participate in the voluntary "buy-out" program.
- Tighten existing Village zoning boundaries to the built environment and outside areas that face environmental constraints, such as periodic flooding and coastal erosion and subsidence.
- Ensure that the Village's waterfront is reserved for low-impact maritime businesses and associated uses.
- Encourage development that conserves and enhances the area's maritime and recreational character and connection to the Bay.
- Recognize the vulnerabilities and sensitivities of the unique coastal environment and reinforce appropriate safeguards to minimize risks to flood hazards and coastal changes.

## **ENVIRONMENTAL RESOURCES AND PROTECTION**

### **Critical Area Strategies**

- Complete the Critical Area remapping efforts and approve the update maps.
- As recommended in the Land Use Chapter, the Critical Area designations should be severed from the base zone designations and re-created as overlay zones

### **Forest Resource Strategies**

- Build economic development opportunities within the County that utilize products from forests.
- Build upon partnerships with Maryland Forests

Association, Dorchester County Forest Conservancy District Board, Association of Forest Industries, and the Department of Natural Resources to improve the health of forests.

### **Sensitive Areas**

- Development should avoid impacts on sensitive areas which are located outside of Plan designated growth areas.
- Direct development away from sensitive areas, thus avoiding impacts altogether in both growth and non-growth areas. Impacts to habitats of threatened and endangered species, or natural systems that are otherwise important and unique, should be avoided altogether.
- Generally, in those Plan designated growth areas where floodplains and stream buffers are largely developed or do not otherwise provide substantial environmental benefits, development should employ best management practices which are aimed at improving environmental quality.
- Development in Plan designated growth areas, as a rule, should employ streamlined flexible development regulations, innovative site design, incentives, best management practices, and mitigation measures to protect the natural environment and sensitive areas.
- In recognition of the situation where sensitive areas may constitute all, or nearly all of a property, and where protection may preclude all reasonable uses of the property, environmental protection regulations should provide for transfer of development rights, variances, special exceptions and or other administrative relief to prevent the taking of private property in violation of the Federal and Maryland constitutions. Exceptions may also be warranted to protect public health and safety and avoid property damage.
- Through outreach and education efforts, promote a universal stewardship ethic for the land and water to guide individual and group actions.

### **Water Resources**

- Build upon partnerships with groups like Shorerivers, Nanticoke Watershed Alliance, Eastern Shore Climate Adaption Partnership and Envision the Choptank to improve the health of the County's waterways,

## Sea Level Rise

- Work with communities, as requested, to prepare a Community Assessment to evaluate sustainable shoreline protection measures, where appropriate, and identify funding sources for implementation.
- Work with State and Federal agencies to identify appropriate funding sources for planning and implementation of appropriate programs and/or shoreline protections measures.
- For the most vulnerable communities, identify appropriate resources to assist in the documentation and/or preservation of the community's cultural heritage.
- Evaluate the potential use of conservation easements as a direct tool for supporting coastal resiliency. By restricting development along shorelines that are vulnerable to sea level rise, man-made infrastructure is kept out of high-risk areas.
- Continue to participate in the Eastern Shore Climate Adaption Partnership (ESCAP) and partner with the Eastern Shore Land Conservancy to carry out shared goals and strategies set forth in existing plans.
- Continue to review, evaluate, update and implement County studies/plans that address sea level rise resiliency, and coordinate with Federal, State and non-profit organizations to ensure consistency between the various studies/plans.
- Evaluate cost versus benefits in planning for repetitive loss properties, including infrastructure and public facilities.
- Evaluate the alternatives to short-term and long-term infrastructure investment and mitigation options
- Seek opportunities to work with State and Federal partners and local citizens on shared responses to the challenges caused by sea-level rise.

## Shoreline Erosion

- Require best management practices as a requirement for any public assistance with shore erosion costs.
- Continue to provide incentives to property owners to install appropriate shore erosion protection measures.
- Restrict the construction of structural erosion control measures in areas mapped as suitable for

non-structural measures, wetland mitigation and natural shore erosion control.

- Encourage replacement of engineered shoreline structures with adaptive, resilient shoreline stabilization measures such as living shorelines, marsh edging and living breakwaters.
- Preserve High Priority shoreline reaches, particularly forested and natural marsh habitat.
- Limit the placement of new structures immediately adjacent to High Priority shoreline reaches to preserve forested and marsh habitat and to allow adequate space for natural marsh retreat.
- Create an erosion buffer beyond the Critical Area buffer width in areas experiencing greater than 2 feet of erosion per year.
- Encourage the Maryland Department of Transportation, Maryland Port Administration, the US Army Corps of Engineers and the Maryland Department of the Environment to fund and implement the Mid-Chesapeake Bay Island Restoration Project.

## Natural Resource Conservation Programs

- Continue to support the efforts of State, Federal and non-profit organizations to preserve natural resources, including productive agricultural land.
- Continue to partner with the Eastern Shore Land Conservancy to carry out shared goals and strategies set forth in existing plans.
- Collaborate with Economic Development to develop assistance programs for the agricultural industry.
- Maximize use of MALPF funds to purchase farmland development rights to preserve farms in perpetuity.
- Purchase development rights on farms near other protected farms in agricultural communities to encourage the preservation of agriculture as a business.
- Prioritize and support preservation efforts in Rural Legacy Areas.

## WATER RESOURCES

### Drinking Water

- Encourage the continued cooperation between the Sanitary Commission and the City of



Cambridge regarding water service to Sanitary District #6.

- Engage in discussions with the Towns of Secretary, East New Market and Vienna regarding the possible availability of municipal water service to serve the Suburban Growth District adjacent to the respective Towns.

### **Wastewater**

- Encourage the continued cooperation between the Sanitary Commission and the City of Cambridge regarding water service to Sanitary Districts # 1, #3, #4 and #7.
- In conjunction with the Sanitary Commission, evaluate the feasibility of the Sanitary Commission becoming the "Controlling Authority" over existing and any future shared facilities.
- Prepare a preliminary engineering report of the area shown on Map 5.1 on the extent of failing on-lot systems and the feasibility of extending sewer service from the City of Cambridge to said areas.
- Engage in discussions with the Towns of Secretary and/or East New Market regarding the possible availability of municipal sewer service to serve the Suburban Growth District adjacent to the respective Towns.
- The County and the municipalities should ensure that the County Water and Sewer Plan is in alignment with the Municipal Growth Areas and other Growth Areas as designated on the Future Land Use Plan.
- Extend public sewer service to areas with failing individual or shared sewage systems, including failing BIPS, and provide land use and development restrictions for these areas so as not to foster unintended growth such as limitations on lot sizes or equivalent dwelling unit connections as a future threshold for service.

### **Stormwater**

- Continue to enforce the County's Stormwater Management Regulations on new development.
- Continue to enforce the forest mitigation requirements of the Critical Area Regulations and Forest Conservation Regulations where appropriate.

## **HISTORIC AND CULTURAL RESOURCES AND PROTECTION**

- Incorporate a screening process into the subdivision process that identifies potential adverse impacts on historic resources.
- Increase awareness of financial and other programs that offer incentives for preservation and/or protection of historic resources.
- Encourage adaptive reuse of historic structures for uses that are compatible with the surrounding neighborhood.
- Utilize the 'Strategic Plan: Action Steps' from the Heart of Chesapeake Country Heritage Area Master Plan, 2018 as a guide for preserving and promoting historic sites.
- Use sensitive flood hazard mitigation measures to preserve and protect the County's historic and cultural resources without the loss of historic fabric as set forth in the County's 2018 Historical and Cultural Resources Hazard Mitigation Plan.
- Continue to revisit programs, coordinate with state agencies and stakeholders, and help provide outreach/education of historic and cultural resources.

## **HOUSING**

- Coordinate with the municipalities to ensure that zoning and other infrastructure needs are in place to provide for higher density development in designated growth areas, while recognizing individual community character, environmental sensitive areas and hazard areas that are vulnerable to flooding and sea level rise.
- Coordinate with the municipalities to increase municipal water and sewerage capacity that will increase supply of land for development at higher densities where it is encouraged and supported.
- Evaluate zoning and development codes to ensure they permit and encourage a variety of housing types to meet varying needs.
- Continue to support and build partnerships with the Maryland DHCD and USDA Rural Development, and Habitat for Humanity and other small developers in their affordable housing development efforts focusing on home ownership and senior housing, not rental properties.

- Increase the supply and variety of housing through new construction and conservation and rehabilitation of the existing housing stock. Focus new construction on in-fill and building on existing developments that were started before the 2008 financial crisis.
- Coordinate with social service providers to expand transportation, medical and social services access to the elderly population to support aging in place. Work with the Transportation Development Plan team to ensure recommended enhancements are implemented.
- Work with the Maryland DHCD, municipalities and communities to target implementation of appropriate homeownership and home rehabilitation programs.
- Coordinate with municipalities and communities to publicize and promote information to residents, and realtors about State home ownership, rehabilitation and renovation programs.
- Provide housing, property maintenance code guidance to residents, including flood protection measures in vulnerable communities.
- Remain vigilant in enforcing the County's building, property maintenance and flood protection codes.
- Consider reestablishing the Dorchester County Housing Task Force that consists of a coalition of representatives from municipalities, community organizations, private business owners, builders and developers, and individuals tasked to assess and recommend affordable housing policy for the County.
- Evaluate the possibility of creating a Dorchester County housing authority or equivalent that would promote and facilitate housing programs, forge partnerships with State and local agencies, assist County residents, and guide resources to implement affordable housing objectives and programs including the creation of a multi-government Land Bank.
- Coordinate housing efforts with the Local Management Board to ensure efforts are aligned with the Poverty Initiative, their work with the homeless shelters and with incarcerated individuals needing housing when released.

## **TRANSPORTATION**

- Continue to partner with MDSHA in recognizing US Route 50 and MD 16 as the primary County transportation corridors and monitor safety and capacity issues to ensure both roads function as planned.
- Update US Route 50 limited access policies with MDSHA as appropriate.
- Promote the Cambridge-Dorchester Municipal Airport and encourage the development of related industries.
- Amend Airport Overlay District, as appropriate, if and when the runway is extended.
- Integrate land use and transportation policies to make them mutually supportive.
- Plan improvements to the County roadway network to avoid deterioration of the road network to unacceptable levels.
- Ensure that planning and traffic management efforts, at State and County levels, are properly coordinated to achieve maximum efficiency of the transportation network. Assign high priority to improvements located within designated growth areas. Priority should also be given to the maintenance and enhancement of existing roadways as opposed to new construction.
- Conduct an evaluation of the structural condition of the Ferry Crossing Bridge and causeways and estimate their serviceable life-expectancy and replacement costs.
- Continue close coordination between Dorchester County, Maryland State Highway Administration, the Maryland Transit Administration and neighboring counties in order to better integrate planning policies and initiatives.
- Protect existing communities and the environment by making improvements compatible with natural surroundings.
- Evaluate alternative methods of County road repairs and maintenance to minimize local subsidence and improve resiliency against sea-level change.
- Include those roads as identified in the 2017 Hazard Mitigation Plan Update that were ranked "high" for repetitive flooding in the County Capital Improvement Program for improvements to mitigate flooding.

- Determine the County's legal obligation to continue to provide maintenance on County roads in areas of very low density.
- Prioritize capital improvements and preventative maintenance for those roads that provide access to the various boat ramps throughout the County.
- Evaluate opportunities to provide additional water access to the Marshyhope Creek and Nanticoke River.
- Consider hazard risks, both from extreme storm flooding and sea level rise, while designing and siting of any new public roads or upgrading existing roads.
- In the implementation of the hazard mitigation, adaptation and resiliency action items set forth throughout this Comprehensive Plan, the 2017 Hazard Mitigation Plan and the 2017 Flood Mitigation Plan, ensure on-going coordination and collaboration of Dorchester County Departments including Emergency Management Division, Planning & Zoning and Public Works.
- Consider the preparation of a Comprehensive County-wide Rails to Trails Plan.
- The County should coordinate with MDOT Mass Transit Administration to explore strategies such as Mobility As A Service (MaaS) and transportation network companies' service (e.g., Uber or Lyft) to improve demand-response public transportation service to elderly, physically challenged, and low-income population.
- If physically feasible, and if funding is available, the County should consider installing and/or the paving of shoulders along County roads for bicycle use.
- Maintain compliance of operations and environmental monitoring at the Beulah site in accordance with State Regulations.
- Monitor tonnage of waste received and revenues generated to assure consistent revenue flow over the next five years.
- Implement long-range planning for the future, including periodic review and revision of the 10-Year Solid Waste Management Plan as necessary.
- Provide post-closure maintenance and monitoring at the Secretary, Old Beulah and Golden Hill landfills in accordance with State Regulations.
- Monitor long-term on-site soil borrow availability at the Beulah site in relation to soil usage in landfill operations, and identify alternative borrow sources as a contingency measure.
- Seek alternative disposal options for landfill leachate as a contingency in the event that the Cambridge Wastewater Treatment Plant is not able to continue accepting leachate in the future.
- Extend public sewer service to areas with failing individual or shared sewage systems, including failing BIPS, and provide land use and development restrictions for these areas so as not to foster unintended growth such as limitations on lot sizes or equivalent dwelling unit connections as a future threshold for service.

### **Education**

- Assist the Board of Education in planning for growth and development in the North Dorchester Development District.
- Encourage the continued use of school facilities for cultural, recreational and civic activities.
- Support the growth and development of the Chesapeake College Cambridge Center for all citizens.
- Seek ways to increase a trained, skilled workforce to occupy the growing restaurant and tourism service industry,
- Support links between the Chesapeake College Cambridge Center, Dorchester Career and Technology Center and other training centers and County employers.
- Support the County Board of Education in seeking funding for intensive support services that address the diverse challenges experienced daily at each school. These services include,

## **COMMUNITY FACILITIES**

### **Solid Waste and Recycling**

- Continue filling in New Beulah Landfill.
- Complete permitting of the new Dorchester County Municipal Landfill, such that disposal operations can move to this facility prior to exhausting disposal capacity in New Beulah.
- Continue to monitor the use of the residential trash and recycling drop-off facilities, adding a new facility and/or designing a more permanent facility for the Neck District if deemed necessary.

but are not limited to counselors, social workers, conflict resolution professionals and medical professionals.

- Support the use of woody biomass as a fuel source to for new schools using Combined Heat and Power (CHP) technology.
- Support the County Board of Education in their efforts to help English learning students achieve English language proficiency.

### **Libraries**

- Involve the Library Board in comprehensive planning for economic development, tourism, social and human services and technology.
- Enhance citizen access to library and information services by linking library and County automated systems.
- Assess the needs of user groups, including new residents and homeowners.
- Support library needs for new facilities and renovations.

### **Police, Fire and Emergency Services**

- Dorchester County will provide additional staff and new headquarters to the Sheriff's Office. These provisions will enable the Sheriff's Office to provide better police services throughout Dorchester County.
- Fire and emergency procedures should be reviewed to ensure adequate service is provided to all citizens.
- Study ways to better coordinate and fund emergency response services throughout the County.
- The Planning Commission should consider the needs of the Volunteer Fire Companies when reviewing new projects. On-site water supply should be provided by the developer where feasible. Dry hydrants are one source of water supply. Access for fire equipment to water supply should be designed and considered a public improvement.
- Encourage homeowner covenants in large subdivisions/planned developments to establish an annual per dwelling unit contribution to the local volunteer fire, rescue and emergency service providers.

### **Parks and Recreation**

- Continue to recognize and support the Heart of Chesapeake Country Heritage Area program.
- Continue to evaluate and implement the strategies and capital improvements of the 2017 Land Preservation, Parks and Recreation Plan (LPPRP).
- Guide the investment of parks and recreational facilities near population centers, while preserving natural resources and agricultural areas and providing equitably dispersed recreational opportunities to residents in small municipalities and rural areas.
- Build upon and establish new greenways and trails along the waterfront, rivers and abandoned railroad lines, as discussed in the LPPRP.
- Expand and connect forests, farmlands and other natural lands as a network of contiguous green infrastructure.
- Ensure on-going collaborative efforts between Dorchester County Departments, including Tourism, Recreation & Parks, Planning & Zoning and Public Works.
- Work to establish a rails-to-trails program throughout the County, including funding, design, development and phasing of improvements over time (See Chapter 10 - Transportation).

### **Hazard Mitigation of Critical and Public Facilities**

- Raise or floodproof select public structures to protect those essential to public safety and well-being. High hazard risk facilities are identified in the 2017 Hazard Mitigation Plan and the 2017 Flood Mitigation Plan.
- Consider hazard risks, both from extreme storm flooding and sea level rise, while designing and siting of any new public facilities systems or upgrading facilities to protect these facilities during hazard events and for their continued operation after a disaster event.
- Implement mitigation measures to ensure service provided by these facilities is not disrupted, especially during a hazard event.



- Implement the recommendations in the 2017 Hazard Mitigation Plan and the 2017 Flood Mitigation Plan.
  - High priority actions for critical and public facilities identified in the HMP include:
    - Obtain contracts for on-call services and generators for emergency back-up
    - Permanent Emergency Generator
    - Critical Facility Property Protection
  - High priority actions for critical and public facilities identified in the FMP include:
    - Encourage property owners to elevate structures (pg. 6-5)
    - Identify potential flood acquisition sites that may be used for open space and community amenities (pg. 6-15)
    - Conduct a sea level rise vulnerability study (pg 6-42)
    - Provide technical assistance and support to encourage municipal participation in the Community Rating System (CRS)

## **ECONOMIC DEVELOPMENT**

### **Economic Development**

- Encourage retention and expansion of business sectors already in the County and support recruitment and creation of new businesses and business types that can be successful in the future.
- Identify industry growth opportunities, particularly in the areas of tourism, manufacturing and resource-based industries.
- Adopt a capital improvements program, which would help to allocate and prioritize the County's investments to those areas most suitable for business location.
- Ensure land use and capital investments of public facilities, infrastructure and amenities are consistent with economic development programs, such as Opportunity Zones.
- Continue to promote business and revitalization incentives, such as HCCHA.
- Partner with established internet service providers and resources at the State level, particularly the Governor's Office of Rural Broadband to extend broadband to 100% of its citizens.
- Explore public-private partnerships and supplemental funding to extend broadband.

### **Manufacturing**

- Develop a County strategic plan for economic development that includes short-, mid-, and long-term goals and strategies for each of the County's strongest industries.
- Continue to actively participate in State federal economic development programs such as One Maryland, Enterprise Zones and HUBZones to remain competitive in the ability to attract manufacturing industries and other large-scale employers to the County.
- Review the condition and make improvements as necessary to the County's existing, vacant industrial buildings and sites, and increase marketing efforts to attract potential businesses to the County to occupy these buildings and sites.

### **Resource-Based Industries (Agriculture, Seafood and Aquaculture, Forestry)**

- Expand and diversify the County's resource-based industries to capitalize on emerging markets such as farm to table markets, barley, corn, rye, wheat and hops for breweries and cannabis for the emerging marijuana market.
- Explore the potential for a transfer of development rights (TDR) program and a purchase of development rights (PDR) program as potential long-term agricultural preservation strategies for Dorchester.
- Promote State and County agricultural forest conservation programs.
- Link maritime industries into the County's overall economic development program including boating, tourism, seafood and aquaculture.
- Support maritime industries such as aquaculture that innovates and advances sustainable practices.
- Encourage stewardship of the Chesapeake Bay, its tributaries and watersheds by supporting federal, state and local initiatives designed to protect important aquatic resources and the longevity of the seafood industry.
- Support forest industries by exploring ways to link forest and forest industry with economic

development strategies that promote the industry as well as the conservation efforts.

- Increase beneficial utilization of forest resources on public lands to promote use by hunters, fishermen, naturalists and tourists.
- Support forest-based industry initiatives that promote stewardship and sustainability of the County's forest lands, such as the Chesapeake Forest Project.
- Explore ways to link forest and forest-based industries into the County's overall economic development program including value-added, niche markets for wood products, agricultural product production and tourism.
- Ensure that adequate land is appropriately zoned that could be used by the County's resourced-based industries to strengthen the local economy.
- Consider zoning text amendments that would allow uses that utilize resource-based industry products across a wider array of zoning districts while also requiring standards to mitigate potential negative impacts from such uses on nearby properties.
- Coordinate with the Maryland Department of Transportation, Maryland Port Administration to ensure that the dredging needs for the local commercial fishing industry is considered to the maximum extent possible in the construction and long-term operation of Barren Island.
- The County should encourage the Maryland Department of Transportation to include full funding for the Barren Island Restoration Project in the next Consolidated Transportation Plan (CTP).

## **Tourism**

- Support the economic development objectives and strategies of the Heart of Chesapeake Country Heritage Area Management Plan through funding, business development initiatives, land acquisition/ redevelopment projects and representation on the Heritage Area Management Board.

- Support and encourage development and redevelopment of the small businesses that support tourism in the County such as community general stores, restaurants, bed and breakfasts, craft and gift shops, farmers markets and antique stores.
- Support the acquisition, landscaping and creation of public places throughout the County for on-site interpretation, scenic overlooks and public accommodations.

## **Workforce Development**

- Continue to develop and implement strategies and incentives to respond to the loss of County jobs in the manufacturing sector.
- Develop a County Workforce Development Program that provides a trained and adaptable workforce that meets the needs of today's and tomorrow's businesses.
- Encourage retention and expansion of businesses already in the County and support recruitment and creation of new businesses that can be successful in the future such as:
  - Technology start-ups
  - Maritime-related business
  - Medical services
  - Cultural Heritage-related tourism
  - Hospitality and service
  - Forest Product Processing Industries

# A | APPENDICES

- A-1 Public Opinion Survey
- A-2 Public Opinion Survey Results
- A-3 Public Workshop Results
- B Growth Tier Map
- C Impervious Surface Desktop Analysis in Typical Rural Residential Land Use District
- D Average Annual Daily Traffic (AADT), 2015-2018
- E Beacon Report, The Impact of Resource Based Industries on the Maryland Economy, 2018 (excepts)

## Appendix A-1

# Public Opinion Survey



# Public Opinion Survey

Dorchester County is in the process of updating its Comprehensive Plan that will guide land use, economic development, infrastructure, and preservation decisions in the County for the next 10 to 20 years. Obtaining feedback from the community is vital to the planning process. Please share your concerns, priorities and ideas with us by completing this 10 minute survey. Your comments are confidential.

We are requesting that this survey be returned by September 30, 2018. It may be completed online at [survey link] or delivered to the Dorchester County Department of Planning and Zoning between the hours of 8:00AM – 4:30 PM, Monday through Friday, at the address above. Completed surveys may also be faxed to 410-228-1563 or emailed to bsoper@docogonet.com.

## 1. Are you a: (Check all that apply)

- ☐ Dorchester County Resident
- ☐ Dorchester County Property Owner
- ☐ Dorchester County Business Owner
- ☐ Person Employed in Dorchester County
- ☐ Visitor

## 2. What is your primary residence zip code:

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## 3. Are you optimistic about the future of Dorchester County's social and economic well-being?

- ☐ Very optimistic
- ☐ Somewhat optimistic
- ☐ Not optimistic
- ☐ Very not optimistic
- ☐ No opinion

## 4. Dorchester County has experienced slow and steady housing and population growth over the past 50 years. For the future, when considering actions and policies which may affect housing and population growth, do you believe the County should seek to:

- ☐ Maintain the same slow and steady growth
- ☐ Moderately increase housing and population growth, and balance with the open space protection
- ☐ Substantially increase housing and population growth
- ☐ Allow for growth, but focus it in towns
- ☐ No opinion

## 5. Recently the County has received several proposals for large-scale (utility) renewable resource (solar fields) power generation projects that would be located on large areas of land now used for agriculture. When reviewing proposals for these developments, how do you feel the County should proceed?

- ☐ Permit the conversion of agricultural land
- ☐ Guide their location to less productive agricultural soils or other lands
- ☐ Not permit the conversion of agricultural land for such development
- ☐ Minimize potential visual and noise impacts to surrounding uses

## 6. Would you recommend Dorchester County as:

	Highly Recommend	Recommend	Do Not Recommend	Do Not Know
A place to live	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A place to work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A place to raise a family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A place to retire	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A place to visit and vacation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A place for seasonal living	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## 7. What are Dorchester County's three greatest strengths and assets?

- ☐ Affordable cost of living and housing
- ☐ Agricultural heritage, culture, and character
- ☐ Central location in the Delmarva Peninsula
- ☐ Public services and facilities
- ☐ Has not experienced urban sprawl like other Counties
- ☐ Historic heritage
- ☐ Heritage and water related tourism
- ☐ Hundreds of miles of coastline
- ☐ Local produce / Farmer's markets
- ☐ Low crime
- ☐ Low taxes
- ☐ Maritime heritage, culture, and character
- ☐ Natural resources / Scenic beauty
- ☐ Our communities / Our people
- ☐ Proximity to recreation, outdoor activities, and leisure
- ☐ Public spaces (Ex. Sailwinds)
- ☐ Quaint towns
- ☐ Employment opportunities
- ☐ Route 50
- ☐ Seafood industry / Aquaculture
- ☐ Slower way of life
- ☐ Cambridge-Dorchester Regional Airport
- ☐ Other \_\_\_\_\_

## 8. What are the three most critical issues facing Dorchester County today?

- ☐ Flood hazards
- ☐ Lack of access to healthcare
- ☐ Lack of access to quality education
- ☐ Lack of population growth
- ☐ Lack of public transportation
- ☐ Lack of quality affordable housing
- ☐ Lack of quality jobs
- ☐ Lack of recreation opportunities
- ☐ Lack of trained workforce
- ☐ Limited broadband and cellular coverage
- ☐ Loss of farmland / open space
- ☐ Loss of historic structures and resources
- ☐ Loss of industries and manufacturing
- ☐ Need for a positive approach to renewable energy (ex. solar panel fields)
- ☐ Need for expanded sanitary sewer and water services
- ☐ Need for expanded solid waste services (ex. recycling program)
- ☐ Need for more road and bridge maintenance
- ☐ Need to improve access to water and navigable waterways
- ☐ Need for zoning enforcement
- ☐ Not enough commercial retail and businesses
- ☐ Pollution in the Chesapeake Bay
- ☐ Shoreline erosion / Coastal changes / Sea level changes
- ☐ Other \_\_\_\_\_



## Appendix A-2

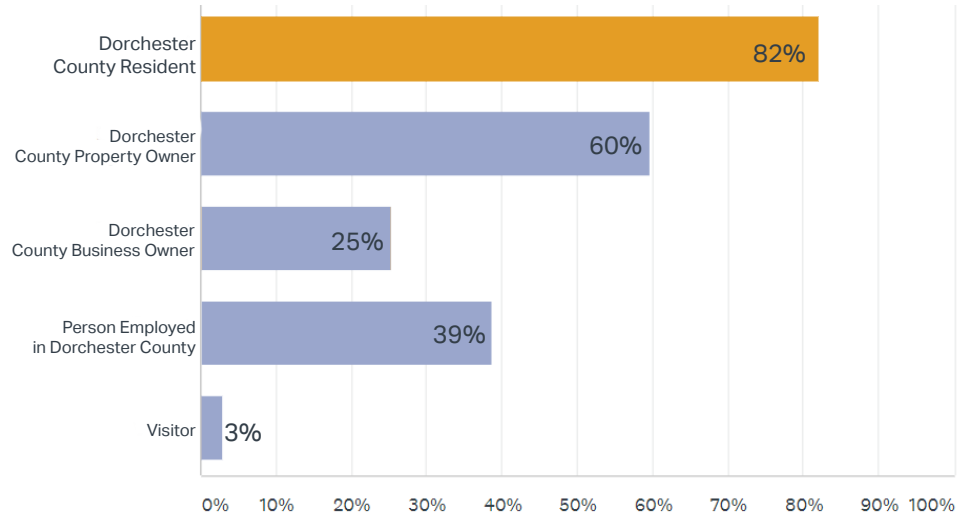
# Public Opinion Survey Results

# Opinion Survey Results

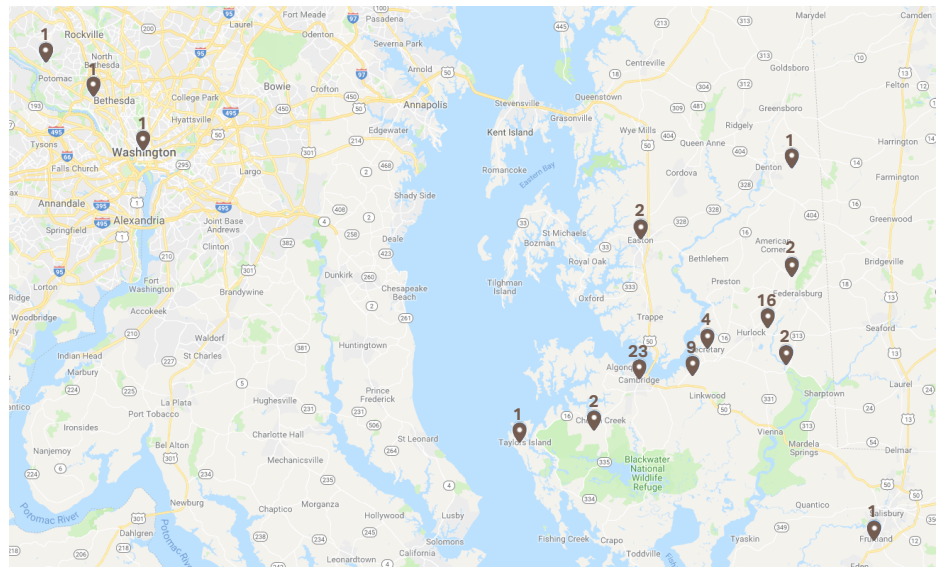
67 Responses

**AECOM**

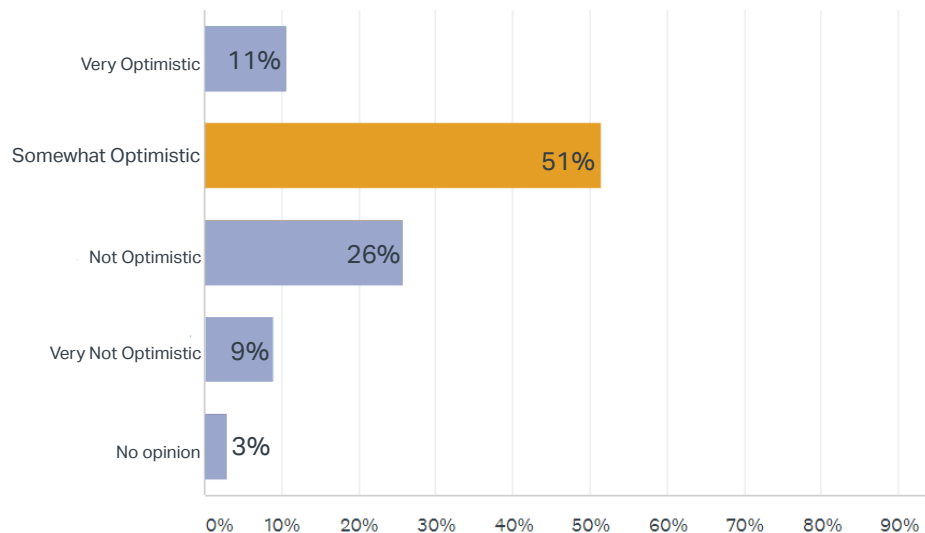
1. Are you a: *(Check all that apply)*



2. What is your primary residence zip code:

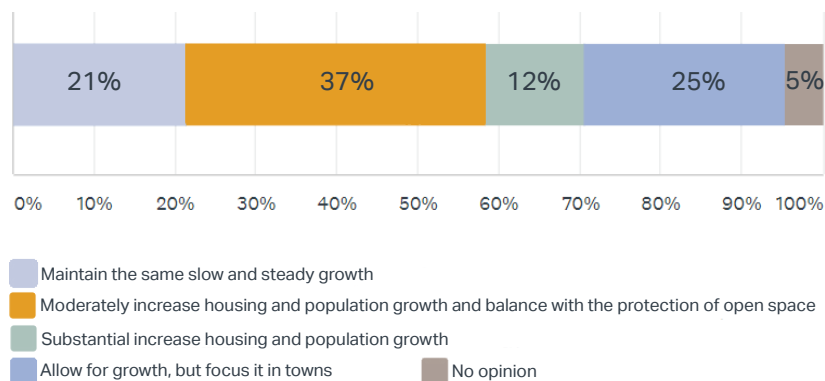


3. Are you optimistic about the future of Dorchester County's social and economic well-being?

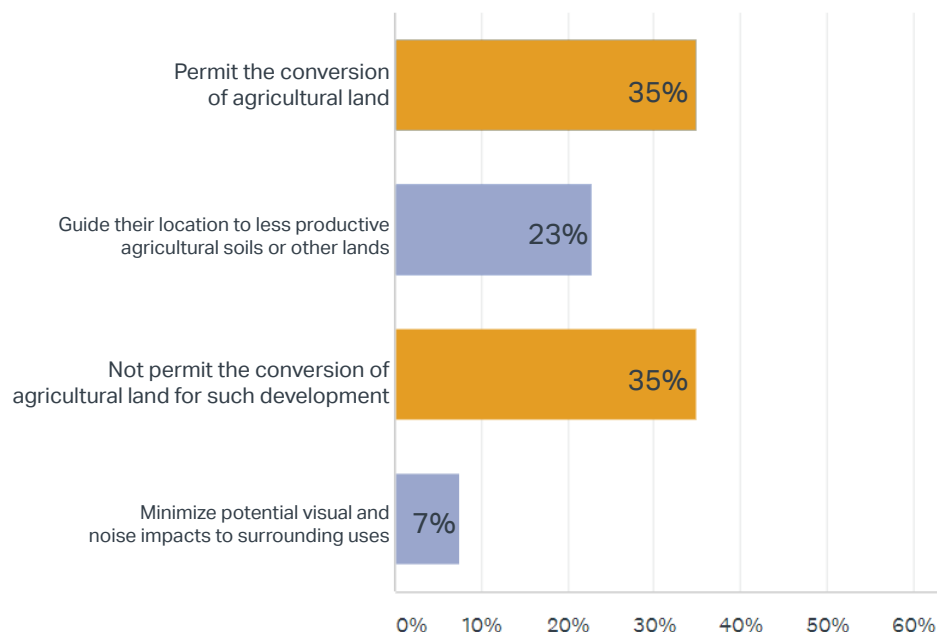




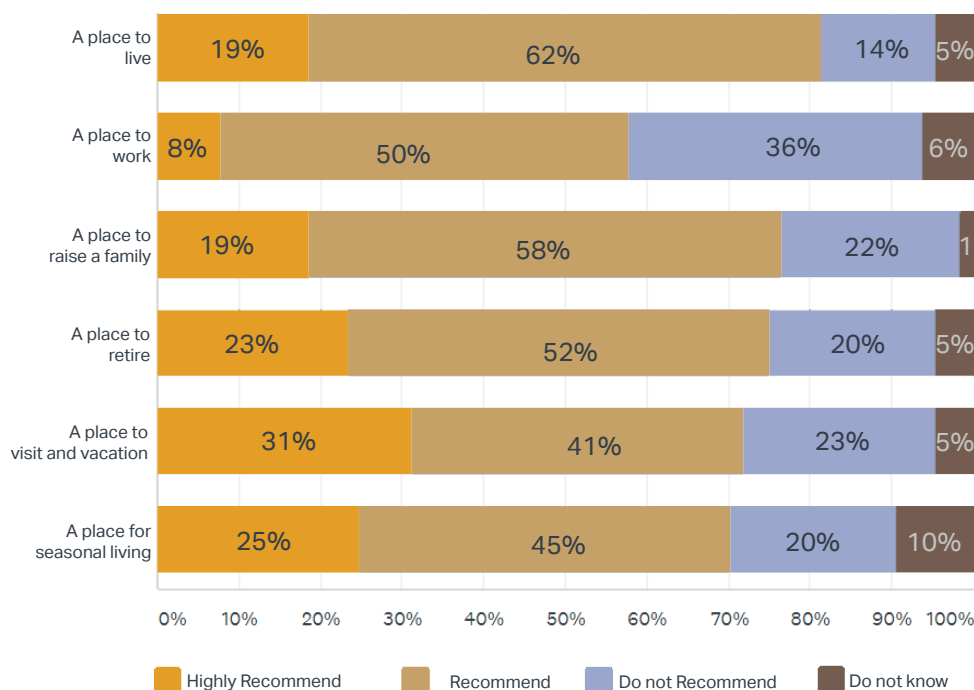
4. Dorchester County has experienced slow and steady housing and population growth over the past 50 years. For the future, when considering actions and policies which may affect housing and population growth, do you believe the County should seek to:



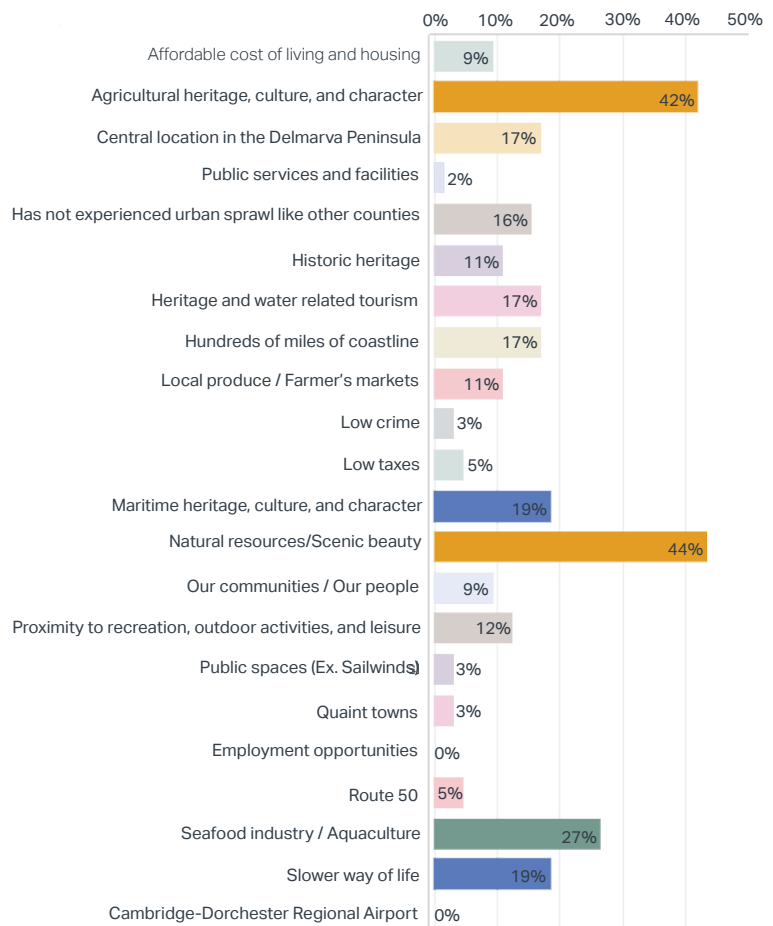
5. Recently the County has received several proposals for large-scale (utility) renewable resource (solar fields) power generation projects that would be located on large areas of land now used for agriculture. When reviewing proposals for these developments, how do you feel the County should proceed?



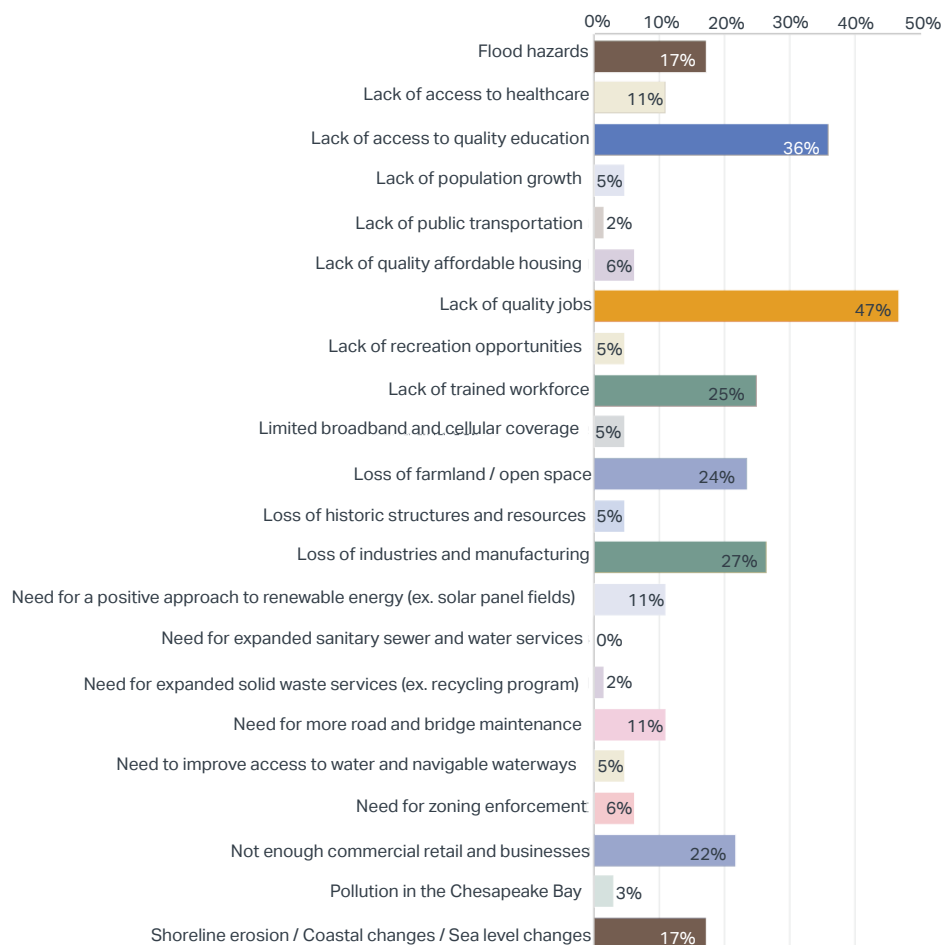
6. Would you recommend Dorchester County as:



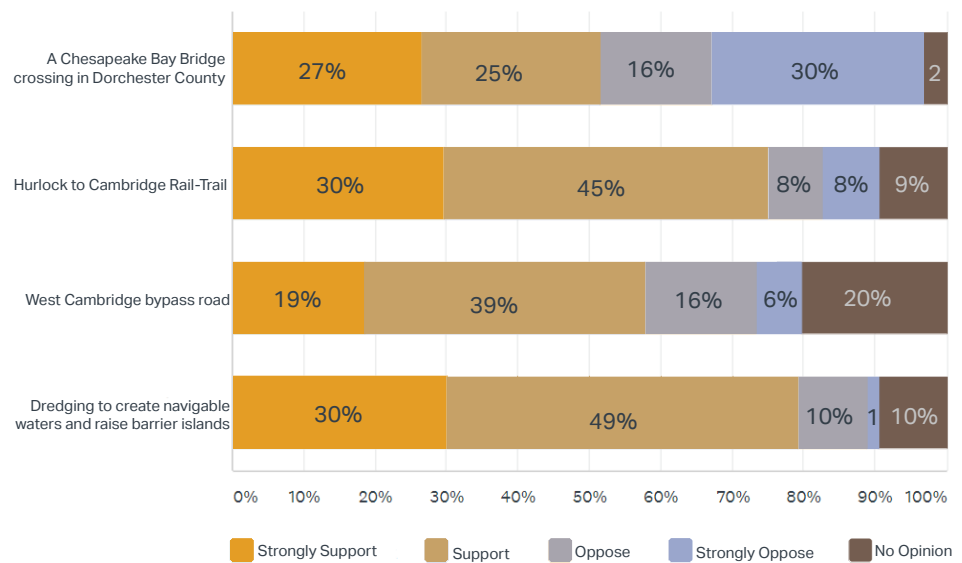
## 7. What are Dorchester County's three greatest strengths and assets?



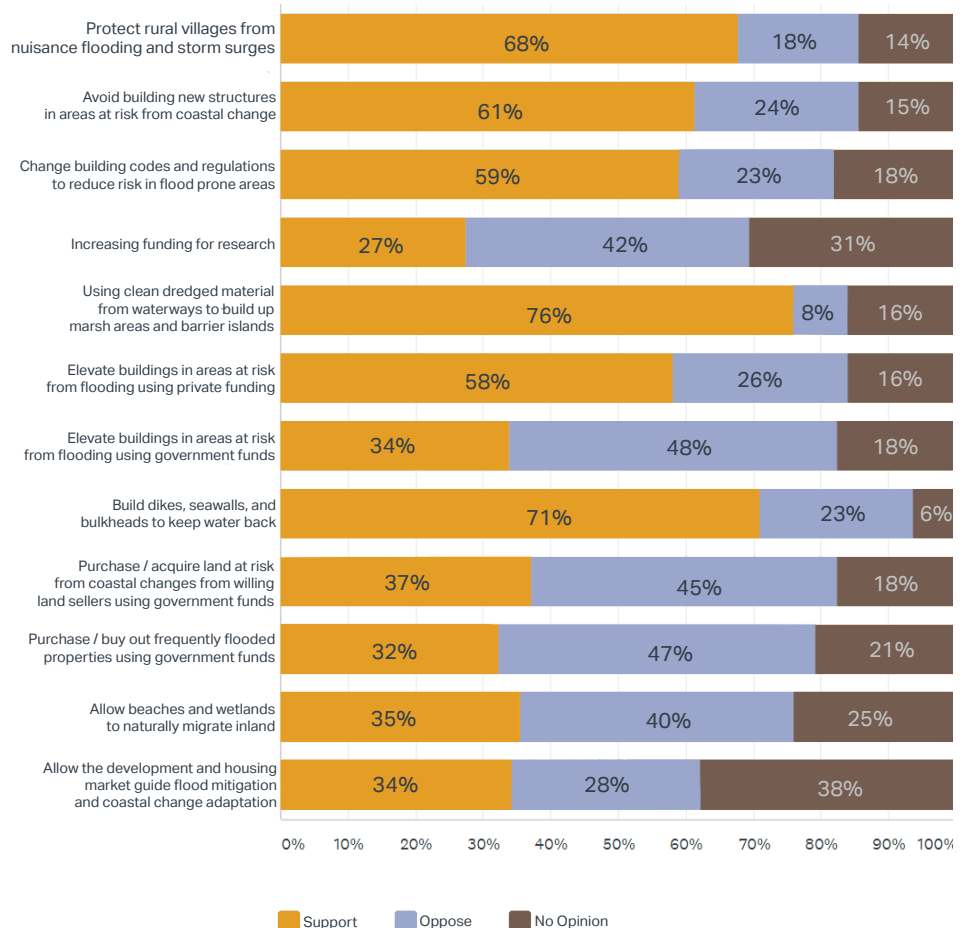
## 8. What are the three most critical issues facing Dorchester County



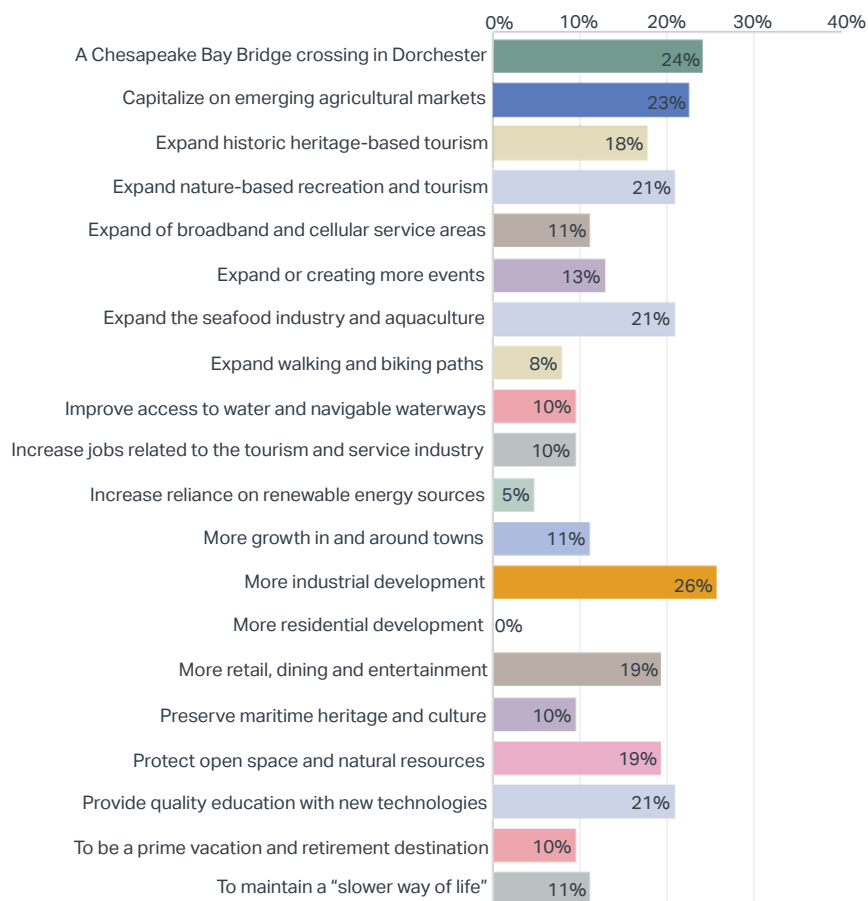
## 9. Do you support or oppose the following potential projects:



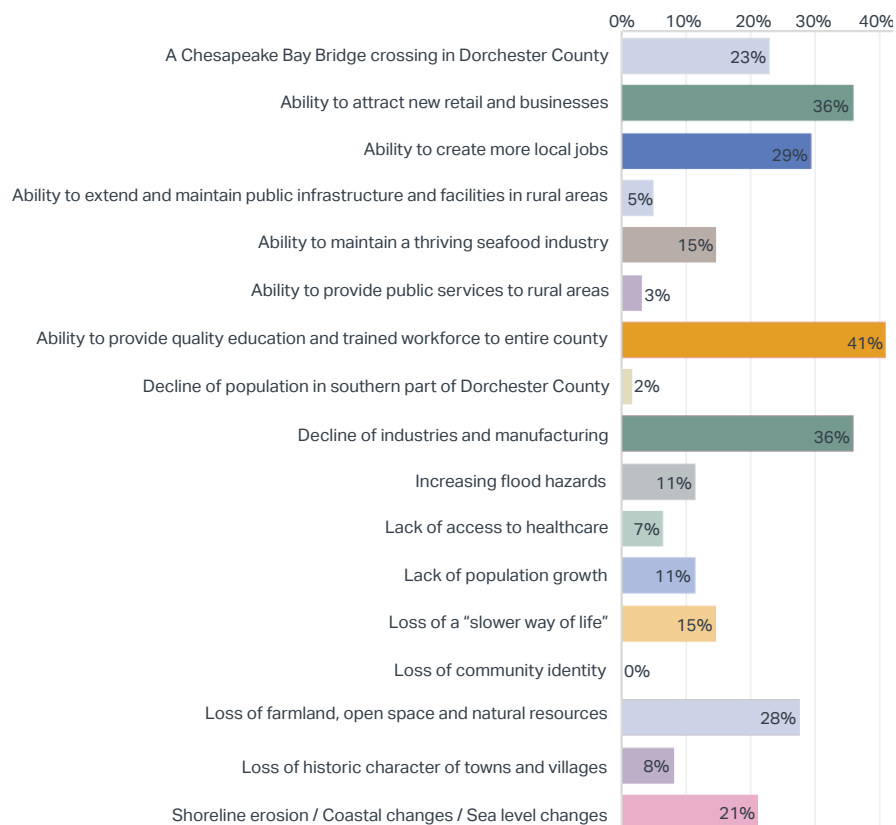
## 10. Would you support or oppose the following potential actions to address flooding and coastal changes in Dorchester County or reduce its impacts?



## 11. What are the three biggest opportunities for Dorchester County's future?



## 12. What are the three most pressing threats to Dorchester County's future?





**13. There is land in the northern part of County which has less environmental constraints than the southern portion of the County. How should these vacant and open lands be managed?**

*(Rank in order of importance with 1 being the highest and 6 being the lowest.)*

1. Preserve rural landscape and farmland
2. New development in towns and villages that is consistent with the existing scale and character
3. Balance open space with new development
4. Encourage all types of new development
5. Encourage large scale commercial development along major roads
6. Encourage new, affordable, and quality housing options

## Appendix A-3

# **Public Workshop Results**

## Public Workshops Results

As part of the planning process for updating its Comprehensive Plan, Dorchester County held Public Workshops. The workshops provide the community the opportunity to learn about the Comprehensive Plan and the update process, and to provide input and ideas on countywide visions, strengths, and priority issues. There were three workshops with one in each sub-planning area:

- **North County:** Hurlock Elementary School July 24, 2018
- **South County:** South Dorchester K8 July 26, 2018
- **Cambridge:** Dorchester County Office Building July 31, 2018



**Hurlock**



**South Dorchester**



**Cambridge**

About 50 participants attended the workshops, and many came ready to discuss specific concerns related to infrastructure, renewable energy, coastal changes, and other issues facing Dorchester. Participants were provided the opportunity to engage with the planning consultant (AECOM) to help inform the planning process. Participants shared their opinions, experiences, expectations and ideas towards creating a shared vision for the Dorchester's future, identifying its greatest strengths and assets, and prioritizing its most pressing issues and challenges.

County Planning and Zoning Department staff and County Planning Commission members were also in attendance to observe, listen, and to discuss current planning initiatives and activities being conducted by the County.

All three workshops had the same purpose, format, and content; however, some discussions and questions were naturally tailored to each specific region. They were structured as an open house with interactive workstations, which provided participants the opportunity to come and go any time during the workshop period. The room was set up with five stations. - One for welcoming and four for providing information and listening. A facilitator was assigned to each station to provide guidance, answer questions, and engage with participants.

The following summarizes the content and comments at each station.

### Station 1: Welcome and Sign-in

- Participants signed in
- A facilitator described the workshop format

### Station 2: Information on the Comprehensive Plan

- A facilitator described the purpose of the project and update process.
- Information was provided on the elements of the plan.
- A map displayed the current existing land uses in Dorchester.
- A handout was provided that described the update project, the Comprehensive Plan, and how to stay involved throughout the process.



### Station 3: Visioning

- The purpose was to find community consensus on key that will be used in the Plan’s vision statement. The statement will express what makes Dorchester unique and its best characteristics today, as well as what these should be 20 years from now. The statement will be the focal point as the County updates and implements the goals, policies, and strategies in the Comprehensive Plan. It should be a clear, realistic, comprehensive, and solution-oriented expression.
- Facilitator explained the purpose and process of visioning, and that their input will help prepare the vision statement.
- A board displayed key phrases that the Dorchester County Planning Commission believe best characterize the County today, and what they wish for it to be 20 years from now.
- Participants placed dots next to the phrases that they agree with and some added their own.
- Facilitator listened to the participants input, opinions, and ideas, and guided them through the exercise.
- **Results Summary:**

Participants generally agreed with the expressions provided by the Planning Commission. Participants believe that the County is best characterized by preserved agriculture (17 votes) and natural resources (12) and by a maritime culture (9). Participants envision a County with a diversified economy (8) of new businesses (13) and industries (6), a thriving seafood industry (11), and heritage and natural resources based tourism (7). They envision improved and expanded infrastructure (10), especially an extended water and sanitary sewer system and more reliable and faster internet services (7). Participants also envision an improved education system (12), more recreation opportunities (8), and protection from flood hazards (8). They generally desire renewable energy sources (10), however also wish for more control of solar installations (7), such as perimeter landscaped screening and buffers. There was also some consensus for controlled residential growth (9), specifically the need for a greenbelt around the City of Cambridge (7). Perhaps lesser priorities per the workshop results are the rehabilitation of buildings (4), revitalization of towns (2), and growth in towns (3); although the preservation of historic resources (6) is a high priority. A word cloud was generated from the participants’ responses. The larger text reflect the most agreed upon responses:

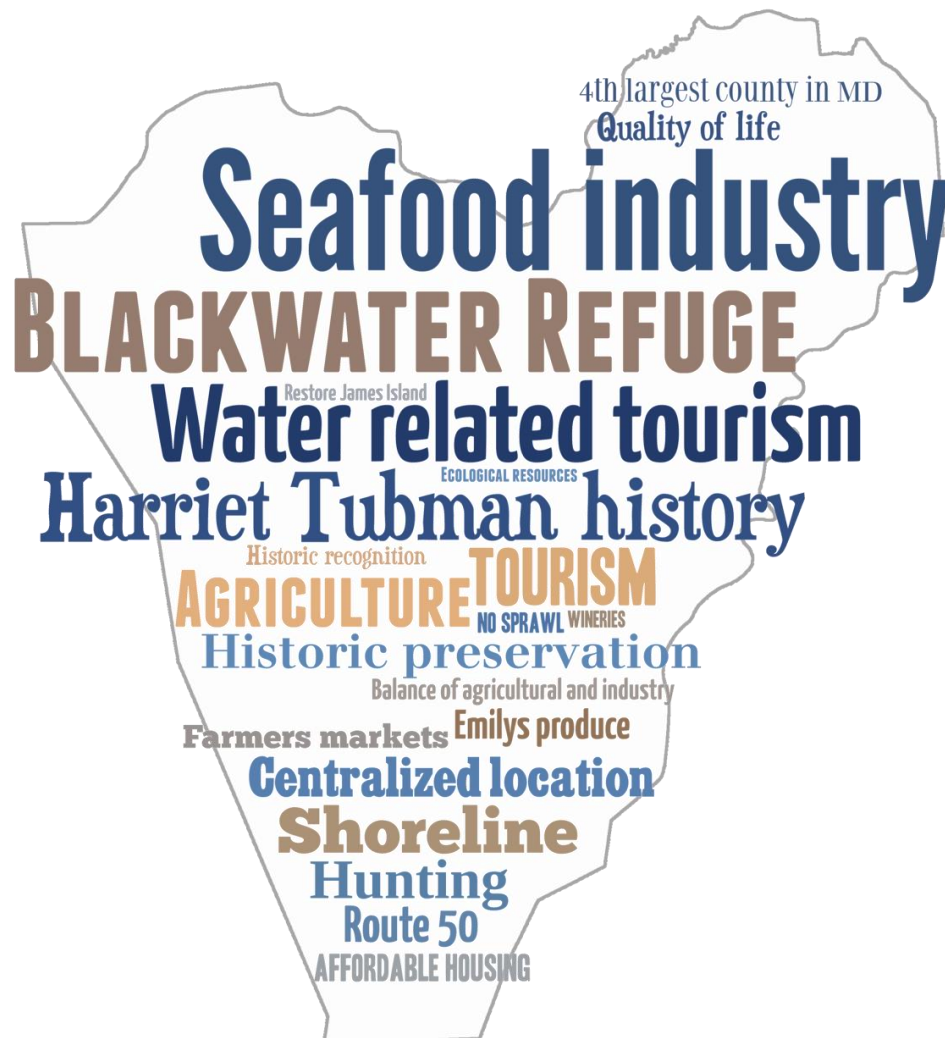




## Station 4: Strengths and Assets

- The purpose was to identify and prioritize Dorchester's greatest strengths and community assets that are most critical to protect, improve, promote, and emulate.
- Facilitator explained the purpose to the participants and guided them through the exercise.
- Participants wrote down on the board the community strengths and assets that they believed to be critical to their neighborhood and the county, and then marked its location on a map. Participants also placed dots next to the strengths and assets that they agree with that were already stated on the board.
- Facilitator listened and recorded the participant's comments.
- **Results Summary:**

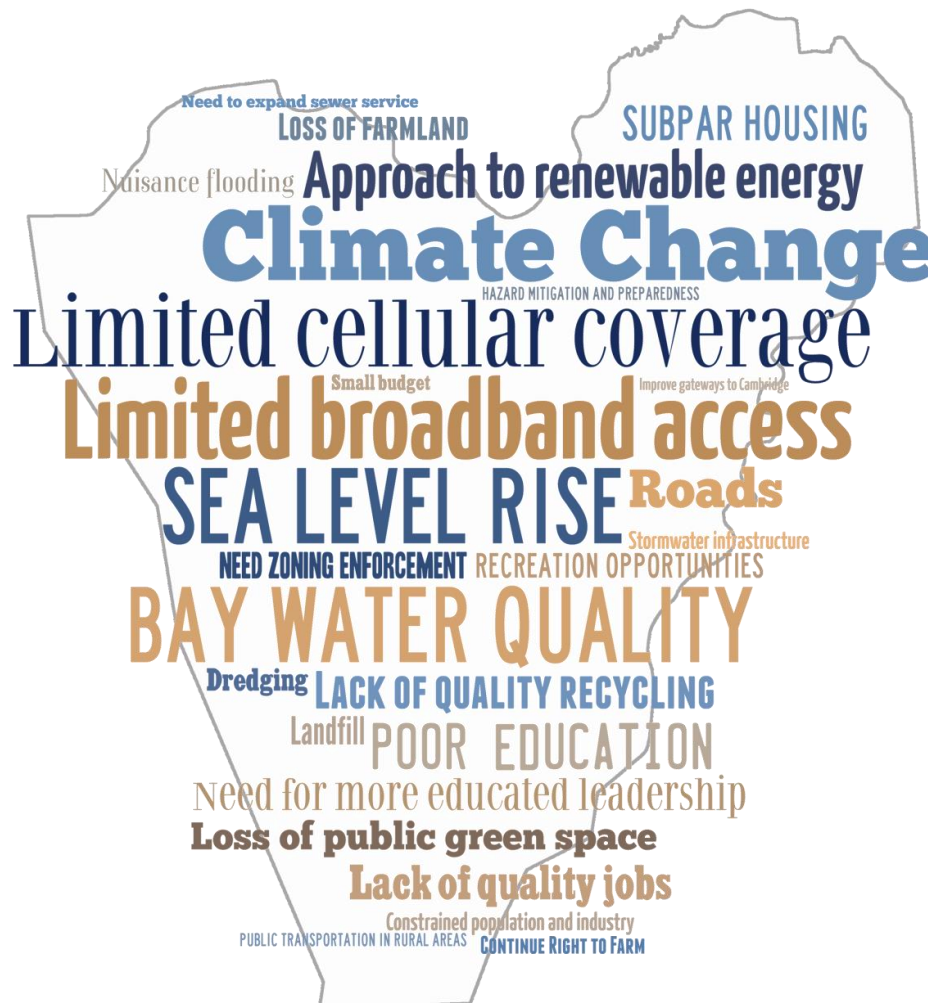
The most valuable assets and strengths recorded at these workshops were based on water resources. Seafood (7) and the seafood industry (12) were the biggest assets for workshop participants, with some locals even stating it is one of the main reasons why they moved to Dorchester. The South Dorchester participants described the crab industry and maritime life as a local identity and culture. The Blackwater National Wildlife Refuge (17) and water tourism and fishing (13) were the second and third most valued assets. Dorchester residents were also proud about their local rich history and cultural resources, such as the Harriet Tubman Museum and Underground Railroad National Historic Park (12) that commemorates her life and legacy. They believe that the local rich history and culture sets them apart from the surrounding counties. In addition, agriculture (10) and tourism (10) were also other important county assets. North County and Cambridge participants supported the preservation of rural land and open space (2). Other Dorchester assets and strengths were the county's centralized location in the Delmarva Peninsula (4), Route 50 (5), farmer's markets such as Emily's Produce (7), aquaculture (4), affordable housing (3), and wineries (2). A word cloud was generated from the participant's responses. The larger text reflect the most agreed upon responses:



## Station 5: Priority Issues and Challenges

- Purpose was to identify and prioritize Dorchester’s most pressing issues and challenges to address in the Comprehensive Plan.
- Facilitator explained the purpose to the participants and guided them through the exercise
- Participants wrote down on the board the issues and challenges that they believed to be critical to their neighborhood and the county, and then marked its location on a map. Participants also placed dots next to the strengths and assets that they agree with which were already stated on the board.
- Facilitator listened and recorded the participant’s comments.
- **Results Summary:**

While Dorchester County is comprised of several unique regions, each with their own issues and assets, the same major challenges were repeated at each workshop: sea level rise and climate change (14), limited cellular (11) and broadband access (16), poor bay water quality (13), education (8), and a lack of quality jobs (5). Several residents also noted concerns about the current quality of roads (7) and stormwater infrastructure (3) across Dorchester, especially during times of nuisance flooding (4). Multiple constituents worried about planning and zoning enforcement practices by the county (4), noting a landfill in northern Dorchester County that was located too close to residential uses (5) as well as some sub-par housing conditions (6). As residents speculated about the future of Dorchester County, many expressed that Dorchester needs a more positive approach to renewable energy (9), especially for facilities (ex. solar fields) to not be placed on productive farmland (5). Three individuals said they hope that the County will continue the Right to Farm policy (from the 1996 Plan). A number of residents shared a desire for improved environmental practices through a better recycling program (7), protection of public green spaces (5), and improved trails and recreation opportunities (4). Some participants also expressed a need for more dredging (3); for more hazard mitigation and preparedness (2); to improve gateways to Cambridge (2); to expand sewer service (2); and for expanded public transportation services in rural areas (1). Comments also included that Dorchester has a constrained population and industry (3) and small capital budget (1).



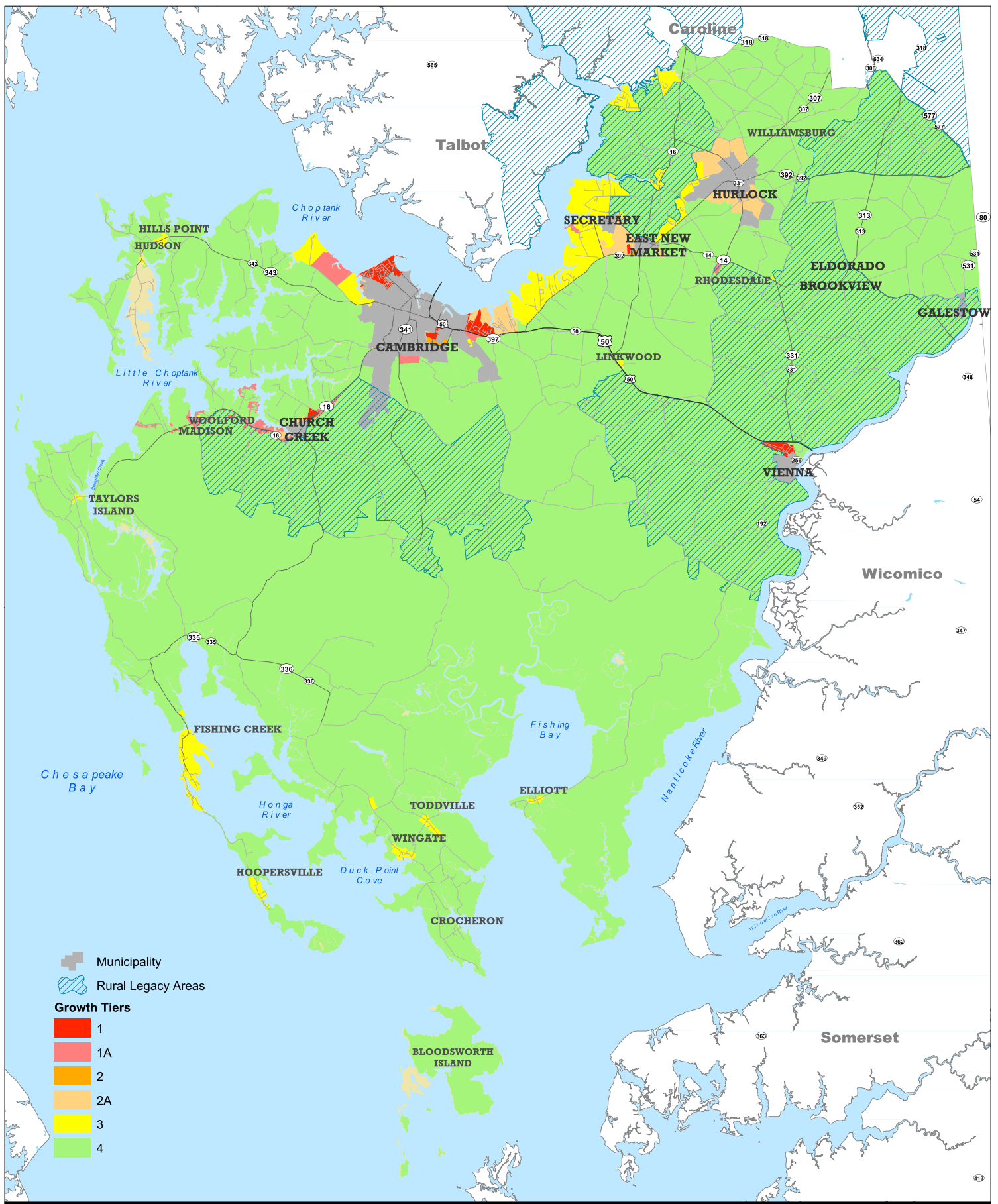
## **Next Steps**

The next steps in the outreach process are to conduct a countywide public opinion survey in September 2018. AECOM will also be meeting with department leaders and stakeholders to provide more upfront input and insight on priorities. Multiple Planning Commission meetings with AECOM and the public will be held from Fall 2018 to Spring 2019 to prepare the draft chapters. The plan is anticipated to be completed and adopted by the County Council by the end of 2019.

## Appendix B

# Growth Tier Map

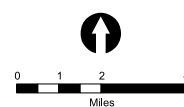




## APPENDIX B - GROWTH TIER MAP

2020 COMPREHENSIVE PLAN

DORCHESTER COUNTY, MARYLAND



## Appendix C

# **Impervious Surface Desktop Analysis in Typical Rural Residential Land Use District**

## Appendix C

### **Impervious Surface Desktop Analysis in Typical Rural Residential Land Use District**

#### Calculations:\*

Shaded dwelling and shed = 9,000 square feet

Area encompasses 27 lots

Shaded roads = 5,300 linear feet

Shaded roads are approximately 20 foot wide

Total area encompassed by lots and roads = 2,700,000 square feet.

$9,000 \times 27 = 243,000$  square feet

$5,300 \times 20 = 106,000$  square feet

$(243,000 + 106,000) / 2,700,000 = 13\%$

*\* figures are approximate*



## Appendix D

# **Average Annual Daily Traffic (AADT) 2015-2018**



Annual Average Daily Traffic (AADT)

Dorchester County 2015 - 2018

Route Number	Road Section	AADT 2015	AADT 2016	AADT 2017	AADT 2018	AADT 2015 - 2018 Numeric Change	Percent Change (4 years)	Annual Percent Change
14	Md 16 To Md 392	1283	1314	1345	1290	7	0.5%	0.1%
14	Md 392 To Md 331	1743	1784	1825	1780	37	2.1%	0.5%
14	Md 331 To Md 313	1393	1424	1465	1450	57	3.9%	1.0%
16	White Marsh Rd To Md 335	2323	2374	2435	2120	-203	-9.6%	-2.4%
16	Woods Rd To Us 50	4902	4960	5081	5042	140	2.8%	0.7%
16	Md 14 To Md 392	6632	6773	6924	6885	253	3.7%	0.9%
16	Md 335 To Dalisville Rd	2900	2961	3032	3013	113	3.8%	0.9%
16	Md 14 To Cabin Creek Hurlock Rd	1871	1912	1953	1944	73	3.8%	0.9%
16	Cabin Creek Hurlock Rd To Md 331	1942	1983	2034	2025	83	4.1%	1.0%
16	Md 392 To Md 14	1642	1683	1724	1715	73	4.3%	1.1%
16	Dallisville Rd To Woods Rd	6372	6580	6741	6682	310	4.6%	1.2%
16	Hoopers Neck Rd(back) To Indian Trail Acres	592	603	624	625	33	5.3%	1.3%
16	Indian Trail Acres To White Marsh Rd	692	713	734	735	43	5.9%	1.5%
16	Us 50 To Md 14	9865	10680	10941	10842	977	9.0%	2.3%
20	Market St/muse St To Gay St	4664	4755	4450	4411	-253	-5.7%	-1.4%
35	Queen Anne Ave To Corp Lnts Cambridge	2220	2261	2322	2020	-200	-9.9%	-2.5%
50	Exit 95 Ramp 05 Rhodesdale Vienna Rd To Ramp 4 Fr Md 331 Nb To Ramp 5 (to Us 50)	1111	990	1011	1012	-99	-9.8%	-2.4%
50	Old Us 50 To Md 331	20881	21322	19630	19511	-1370	-7.0%	-1.8%
50	Exit 95 Ramp 05 Ramp 4 Fr Md 331 Nb To Ramp 5 (to Us 50) To Ocean Gateway	1390	1282	1313	1324	-66	-5.0%	-1.2%
50	Linkwood Rd To Old Us 50	18973	19780	20215	18120	-853	-4.7%	-1.2%
50	Md 16 (south) To Md 16 (north)	32991	33682	31790	31601	-1390	-4.4%	-1.1%
50	Md 16 (north) To Linkwood Rd	21521	21972	20940	20811	-710	-3.4%	-0.9%
50	Md 331 To Wicomico Col	22991	23472	22880	22741	-250	-1.1%	-0.3%
50	Woods Rd To Md 16 (south)	37431	38142	37400	37181	-250	-0.7%	-0.2%
50	Md 343 To Woods Rd	31841	32512	33290	33091	1250	3.8%	0.9%
50	Exit 95 Ramp 02 Fr Ramp 7 (fr Us 50) To Md 331 Nb	1131	1162	1193	1194	63	5.3%	1.3%

Annual Average Daily Traffic (AADT)

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50	Exit 95 Ramp 07 Ocean Gateway To Ramp 2 Fr Ramp 7 (fr Us 50) To Md 331 Nb	1390	1432	1483	1484	94	6.3%	1.6%
50	Talbot Cofl To Md 343	26941	27512	28990	28821	1880	6.5%	1.6%
50	Exit 95 Ramp 01 Fr Md 331 Nb To Ramp 8 (to Us 50)	301	312	323	324	23	7.1%	1.8%
50	Exit 95 Ramp 04 Fr Md 331 Nb To Ramp 5 (to Us 50)	281	292	303	304	23	7.6%	1.9%
50	Exit 95 Ramp 06 Fr Us50eb To Md331sb/co511	151	152	163	164	13	7.9%	2.0%
50	Exit 95 Ramp 07 Ramp 2 Fr Ramp 7 (fr Us 50) To Md 331 Nb To Rhodesdale Vienna Rd	261	272	283	284	23	8.1%	2.0%
50	Exit 95 Ramp 08 Ramp 1 Fr Md 331 Nb To Ramp 8 (to Us 50) To Ocean Gateway	420	432	463	464	44	9.5%	2.4%
50	Exit 95 Ramp 08 Rhodesdale Vienna Rd To Ramp 1 Fr Md 331 Nb To Ramp 8 (to Us 50)	121	122	133	134	13	9.7%	2.4%
90	Stone Boundary Rd To Md 341	1052	1073	1104	1095	43	3.9%	1.0%
307	Md 331 To Caroline Cofl	3560	3641	3722	3703	143	3.9%	1.0%
313	Md 14 To Md 392	1720	1670	1711	1702	-18	-1.1%	-0.3%
313	Wheatlys Church Rd To Md 14	2060	2101	2152	2143	83	3.9%	1.0%
313	Wicomco Cofl To Wheatlys Church Rd	2470	2521	2582	2573	103	4.0%	1.0%
313	Md 392 To Caroline Cofl	1813	1854	1905	1940	127	6.5%	1.6%
318	Md 331 To Md 817b	6925	7220	7381	7342	417	5.7%	1.4%
331	Md 16 To Md 318	4343	4434	4535	4480	137	3.1%	0.8%
331	Md 318 To Caroline Cofl	9320	9521	9732	9673	353	3.6%	0.9%
331	Rhodesdale Vienna Rd To Maiden Forest Rd	2873	2934	3005	3040	167	5.5%	1.4%
331	Md 392 To Md 16	2700	2761	2822	2950	250	8.5%	2.1%
331	Md 14 To Md 392	3863	3944	4035	4360	497	11.4%	2.8%
331	Md 14 To Md 14	3013	3084	3155	3540	527	14.9%	3.7%
331	Maiden Forest Rd To Md 14	2463	2524	2585	3150	687	21.8%	5.5%
335	Hooper Island Rd (back) To Md 336	851	872	840	841	-10	-1.2%	-0.3%
335	Md 336 To Key Wallace Dr	1311	1342	1330	1321	10	0.8%	0.2%
335	Key Wallace Dr To Md 16	1140	1161	1192	1193	53	4.4%	1.1%
336	Md 335 To Andrews Rd	701	722	620	621	-80	-12.9%	-3.2%
341	Bayly Rd To Md 343	5354	5465	5120	5071	-283	-5.6%	-1.4%
341	Md 16 To Bayly Rd	4371	4452	4620	4581	210	4.6%	1.1%
343	Bar Neck Rd To Leonards La	4181	4272	3990	3951	-230	-5.8%	-1.5%
343	Leonards La To Md 341	7771	7932	7720	7651	-120	-1.6%	-0.4%

Annual Average Daily Traffic (AADT)

Dorchester County 2015 - 2018

343	Hudson Rd (back) To Bar Neck Rd	1761	1802	1843	1834	73	4.0%	1.0%
343	Md 341 To Us 50	10861	11092	11710	11611	750	6.5%	1.6%
392	Md 577 To Delaware St/l	3655	3720	3801	3782	127	3.4%	0.8%
392	Md 392 To Poplar St (ahead)	2290	2341	2392	2383	93	3.9%	1.0%
392	Md 16 To Md 14	5802	6010	6141	6102	300	4.9%	1.2%
392	Md 313 To Md 577	2942	3080	3151	3132	190	6.1%	1.5%
392	Palmer's Mill Rd To Md 313	3295	3460	3541	3522	227	6.4%	1.6%
392	Md 14 To Lords Crossing Rd	5365	5670	5801	5772	407	7.1%	1.8%
392	Lords Crossing Rd To Md 331	4095	4400	4501	4472	377	8.4%	2.1%
392	Md 331 To Palmer's Mill Rd	5205	5640	5761	5732	527	9.2%	2.3%

## Appendix E

# **Beacon Report, The Impact of Resource Based Industries on the Maryland Economy, 2018 (excerpts)**

The following pages include excerpts from the BEACON Report that describe the methodology for determining the economic impact for each of the resource-based industries.



## Agriculture

The agriculture sector consists of oilseed farming, grain farming, vegetable and melon farming, fruit farming, greenhouse, nursery, and floriculture production, tobacco farming, cotton farming, sugarcane and sugar beet farming, all other crop farming, beef cattle ranching and farming (including feedlots and dual-purpose ranching and farming), dairy cattle and milk production, poultry and egg production, animal production (except cattle and poultry and eggs), and commercial hunting and trapping. A complete list of the agriculture industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 4. These industries represent the agricultural commodity producers (i.e. the farmers). The immediate “down-stream” processors and refiners who rely on these RBI products (e.g. flour milling) are included in the “support industries” sector.

In 2015, the agriculture sector contributed \$3.3 billion to the state economy (14.3% of RBI total), supported 23,878 jobs (25.26% of RBI total), and added nearly \$110 million in combined state and local tax revenue (12.18% of RBI total). Breaking these total impacts down (see Table 5), the agriculture sector generated over \$2.4 billion in “direct” economic output in 2015. This equals the value of all of the output of the agricultural sector *plus* the value of the Maryland-based supply chain needed by Maryland Ag producers to produce their crops/livestock. For example, if a dairy farmer requires outside feed or veterinary services in order to produce fluid milk, these supply-chain expenditures would be included in the “direct” output figure. However, in order to provide these necessary inputs, supply-chain vendors in-turn need to purchase additional inputs from their supply chains. Continuing with the above example, if a veterinarian needs to provide more care, she will need to purchase more medicine, fuel, insurance services, etc. This second-order (or ripple) effect, whereby input providers themselves purchase more inputs, is known as “indirect” economic output. In 2015, the activities of the agricultural sector were responsible for an “indirect” economic output of just over \$508 million. Finally, the above direct and indirect economic effects ignore how the employees in the affected firms/industries spend their additional income. This household spending results in an additional “induced” economic effect. In 2015, the activities of the agricultural sector were responsible for “induced” economic output totaling nearly \$419 million. Summing these economic impacts, Maryland agriculture contributed over \$3.3 billion in total state economic activity.

With respect to jobs, the “direct” economic impact of the agriculture sector supported 16,319 jobs in 2015 (see Table 6). The resulting ripple-effect of these activities supported 4,169 jobs due to “indirect” economic effects, and an additional 3,391 jobs due to “induced” economic effects (see the

previous paragraph for an explanation of this terminology). Summing these economic impacts, Maryland agriculture supported a total of 23,878 jobs.

Breaking-down the economic impact of agriculture by region, Western Maryland contributed nearly \$738 million to the state economy (22.2% of state agricultural impact), supported 7,095 jobs (29.7% of state agricultural job impact), and added nearly \$33 million in combined state and local tax revenue (30% of state agricultural tax impact). Central Maryland agriculture contributed nearly \$312 million to the state economy (9.4% of state agricultural impact), supported 3,673 jobs (15.4% of state agricultural job impact), and added nearly \$17 million in combined state and local tax revenue (15% of state agricultural tax impact). Southern Maryland agriculture contributed over \$153 million to the state economy (4.6% of state agricultural impact), supported 2,572 jobs (10.8% of state agricultural job impact), and added nearly \$12 million in combined state and local tax revenue (11% of state agricultural tax impact). Finally, Eastern Shore agriculture contributed over \$2.1 billion to the state economy (63.9% of state agricultural impact), supported 10,539 jobs (44.1% of state agricultural job impact), and added over \$48 million in combined state and local tax revenue (44% of state agricultural tax impact).

## Equine Industry

The economic impact estimation for Maryland's equine industry was undertaken as a subset of agriculture and therefore excludes racetrack operations and gambling. Statewide, the industry supported 5,028 jobs directly (\$275,261,275 in Labor Income) and another 2,974 jobs due to direct and indirect impacts (\$153,573,215 in Labor Income). The sector contributed \$1,079,497,270 to Maryland's economy (\$622,674,641 Direct plus \$456,822,629 Indirect and Induced). The industry generated \$64,611,710 in state and local taxes.

Arguably, some components of the equine industry impact can be incorporated into the *Food, Feed, and Fiber* cluster. Unfortunately, resource and methodological limitations have made this impossible for this study. A very comprehensive analysis of the equine industry in Maryland was recently conducted by the *Sage Policy Group, Inc.* (commissioned by *Maryland Horse Industry Partners*). A copy of this study released in October of 2016 can be downloaded from the following website:

<http://mda.maryland.gov/horseboard/Documents/MHIB-2016-Economic-Impact-Report.pdf>

## Forestry

The forestry sector consists of forestry, forest products, and timber tract production, commercial logging, sawmills, wood preservations, veneer and plywood manufacturing, engineered wood member and truss manufacturing, reconstituted wood product manufacturing, wood windows and door manufacturing, cut stock, resawing lumber, and planing, other millwork, including flooring, wood container and pallet manufacturing, prefabricated wood building manufacturing, all other miscellaneous wood product manufacturing, pulp mills, paper mills, paperboard mills, paperboard container manufacturing, paper bag and coated and treated paper manufacturing, stationary product manufacturing, sanitary paper product manufacturing, all other converted paper product manufacturing, wood kitchen cabinet and countertop manufacturing, non-upholstered wood household furniture manufacturing, wood office furniture manufacturing, and custom architectural woodwork and millwork. A complete list of the agriculture industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 8. The industries represent the forestry commodity procedures (e.g. logging) and the immediate “downstream” processors, refineries, and manufacturers (e.g. sawmills).

In 2015, the forestry sector contributed nearly \$3.5 billion to the state economy (14.9% of RBI total), supported 15,271 jobs (16.15% of RBI total), and added just over \$132.5 million in combined state and local tax revenue (14.7% of RBI total). Breaking these total impacts down (see Table 9), the forestry sector generated over \$2.5 billion in “direct” economic output in 2015. This equals the value of all of the output of the forestry sector *plus* the value of the Maryland-based supply chain needed by Maryland forestry producers to produce their lumber and paper products. For example, if a timber worker requires outside machinery or repairs to said machinery in order to produce quality wood products, these supply-chain expenditures would be included in the “direct” output figure. However, in order to provide these necessary inputs, supply-chain vendors in-turn need to purchase additional inputs from their supply chains. Continuing with the above example, if a machinery supplier needs to provide more products, they will need to purchase more steel, fuel, insurance services, etc. This second-order (or ripple) effect, whereby input providers themselves purchase more inputs, is known as “indirect” economic output. In 2015, the activities of the forestry sector were responsible for an “indirect” economic output of nearly \$574.8 million. Finally, the above direct and indirect economic effects ignore how the employees in the affected firms/industries spend their additional income. This household spending results in an additional “induced” economic effect. In 2015, the activities of the forestry sector

were responsible for “induced” economic output totaling over \$365 million. Summing these economic impacts, Maryland forestry contributed over \$3.46 billion in total state economic activity.

With respect to jobs, the “direct” economic impact of the forestry sector supported 8,358 jobs in 2015 (see Table 10). The resulting ripple-effect of these activities supported 4,006 jobs due to “indirect” economic effects, and an additional 2,907 jobs due to “induced” economic effects (see the previous paragraph for an explanation of this terminology). Summing these economic impacts, Maryland forestry supported a total of 15,271 jobs.

Breaking-down the economic impact of forestry by region, Western Maryland contributed nearly \$1.23 billion to the state economy (35.4% of state forestry impact), supported 5,313 jobs (34.8% of state forestry job impact), and added over \$46.1 million in combined state and local tax revenue (35% of state forestry tax impact). Central Maryland forestry contributed over \$798 million to the state economy (23% of state forestry impact), supported 3,294 jobs (21.6% of state forestry job impact), and added nearly \$28.6 million in combined state and local tax revenue (22% of state forestry tax impact). Southern Maryland forestry contributed over \$585 million to the state economy (16.9 % of state forestry impact), supported 3,139 jobs (20.6% of state forestry job impact), and added over \$27 million in combined state and local tax revenue (21% of state forestry tax impact). Finally, Eastern Shore forestry contributed nearly \$856 million to the state economy (24.7% of state forestry impact), supported 3,525 jobs (23.1% of state forestry job impact), and added nearly \$30.6 million in combined state and local tax revenue (23% of state forestry tax impact).

## Mining

The mining sector consists of coal mining iron ore mining, gold ore mining, silver ore mining, lead and zinc ore mining, copper ore mining, uranium-radium-vanadium ore mining, other metal ore mining, stone mining and quarrying, sand and gravel mining, other clay, ceramic, and refractory minerals mining, potash, soda, and borate mineral mining, phosphate rock mining, other chemical and fertilizer mineral mining, other nonmetallic minerals, metal mining services, and other nonmetallic minerals services. A complete list of the mining industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 12. These industries represent the mining commodity producers (i.e. the miners) and the immediate support industries (i.e. the support activities (except fuels) for metallic/nonmetallic/coal mining).

In 2015, the mining sector contributed nearly \$642 million to the state economy (2.76% of RBI total), supported 2,821 jobs (2.98% of RBI total), and added over \$36 million in combined state and local tax revenue (4.02% of RBI total). Breaking these total impacts down (see Table 13), the mining sector generated over \$472 million in “direct” economic output in 2015. This equals the value of all of the output of the mining sector *plus* the value of the Maryland-based supply chain needed by Maryland mining producers to produce their ores/minerals. For example, if a coal miner requires additional machinery or equipment in order to produce more ore, these supply-chain expenditures would be included in the “direct” output figure. However, in order to provide these necessary inputs, supply-chain vendors in-turn need to purchase additional inputs from their supply chains. Continuing with the above example, if a mine needs machinery, their equipment suppliers will need to purchase more transportation and insurance services parts, fuel, etc. This second-order (or ripple) effect, whereby input providers themselves purchase more inputs, is known as “indirect” economic output. In 2015, the activities of the mining sector were responsible for an “indirect” economic output of nearly \$90 million. Finally, the above direct and indirect economic effects ignore how the employees in the affected firms/industries spend their additional income. This household spending results in an additional “induced” economic effect. In 2015, the activities of the mining sector were responsible for “induced” economic output totaling over \$79 million. Summing these economic impacts, Maryland mining contributed nearly \$642 million in total state economic activity.

With respect to jobs, the “direct” economic impact of the mining sector supported 1,643 jobs in 2015 (see Table 14). The resulting ripple-effect of these activities supported 528 jobs due to “indirect” economic effects, and an additional 650 jobs due to “induced” economic effects (see the previous



paragraph for an explanation of this terminology). Summing these economic impacts, Maryland mining supported a total of 2,821 jobs.

Breaking-down the economic impact of mining by region, Western Maryland contributed over \$286 million to the state economy (44.6% of state mining impact), supported 1,184 jobs (41.9% of state mining job impact), and added over \$15 million in combined state and local tax revenue (42% of state mining tax impact). Central Maryland mining contributed over \$123 million to the state economy (19.2% of state mining impact), supported 598 jobs (21.2% of state mining job impact), and added nearly \$8 million in combined state and local tax revenue (21% of state mining tax impact). Southern Maryland mining contributed nearly \$128 million to the state economy (19.9% of state mining impact), supported 657 jobs (23.3% of state mining job impact), and added over \$8 million in combined state and local tax revenue (23% of state mining tax impact). Finally, Eastern Shore mining contributed nearly \$105 million to the state economy (16.3% of state mining impact), supported 382 jobs (13.6% of state mining job impact), and added nearly \$5 million in combined state and local tax revenue (14% of state mining tax impact).

## Natural Gas

The natural gas sector consists of natural gas distribution, extraction of natural gas and crude petroleum, extraction of natural gas liquids, drilling oil and gas wells, support activities for oil and gas operations, petroleum refineries, other basic organic chemical manufacturing, petroleum lubricating oil and grease manufacturing, and all other petroleum and coal products manufacturing. A complete list of the natural gas industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 16. These industries represent the natural gas commodity producers (i.e. natural gas liquid extraction companies) and the immediate “downstream” processors, refineries, and manufacturers (e.g. organic chemical manufacturers).

In 2015, the natural gas sector contributed over \$3 billion to the state economy (12.92% of RBI total), supported 8,095 jobs (8.56% of RBI total), and added over \$113 million in combined state and local tax revenue (12.54% of RBI total). Breaking these total impacts down (see Table 17), the natural gas sector generated nearly \$2.5 billion in “direct” economic output in 2015. This equals the value of all of the output of the natural gas sector *plus* the value of the Maryland-based supply chain needed by Maryland Natural Gas producers to produce fuel. For example, if more natural gas wells are drilled to increase extraction in Maryland, drillers will require more drilling-related inputs from their Maryland-based vendors (e.g. drill pipe). These supply-chain expenditures would be included in the “direct” output figure. However, in order to provide these necessary inputs, supply-chain vendors in-turn need to purchase additional inputs from their supply chains. Continuing with the above example, if the drill pipe supplier needs to produce extra pipe, they will need to purchase more steel, and engineering, milling, and transportation services. This second-order (or ripple) effect, whereby input providers themselves purchase more inputs, is known as “indirect” economic output. In 2015, the activities of the natural gas sector were responsible for an “indirect” economic output of just over \$344 million. Finally, the above direct and indirect economic effects ignore how the employees in the affected firms/industries spend their additional income. This household spending results in an additional “induced” economic effect. In 2015, the activities of the natural gas sector were responsible for “induced” economic output totaling nearly \$182 million. Summing these economic impacts, the Maryland natural gas sector contributed over \$3.0 billion in total state economic activity.

With respect to jobs, the “direct” economic impact of the natural gas sector supported 4,251 jobs in 2015 (see Table 18). The resulting ripple-effect of these activities supported 2,482 jobs due to “indirect” economic effects, and an additional 1,363 jobs due to “induced” economic effects (see the

previous paragraph for an explanation of this terminology). Summing these economic impacts, Maryland natural gas supported a total of 8,095 jobs.

Breaking-down the economic impact of natural gas production by region, Western Maryland contributed over \$474 million to the state economy (15.8% of state natural gas impact), supported 1,895 jobs (23.4% of state natural gas job impact), and added over \$26 million in combined state and local tax revenue (23% of state natural gas tax impact). Central Maryland natural gas production contributed nearly \$740 million to the state economy (24.6% of state natural gas impact), supported 1,527 jobs (18.9% of state natural gas job impact), and added over \$21 million in combined state and local tax revenue (19% of state natural gas tax impact). Southern Maryland natural gas production contributed nearly \$1.4 billion to the state economy (46.2% of state natural gas impact), supported 3,550 jobs (43.9% of state natural gas job impact), and added nearly \$50 million in combined state and local tax revenue (44% of state natural gas tax impact). Finally, Eastern Shore natural gas production contributed nearly \$404 million to the state economy (13.4% of state natural gas impact), supported 1,123 jobs (13.9% of state natural gas job impact), and added nearly \$16 million in combined state and local tax revenue (14% of state natural gas tax impact).

## Seafood and Aquaculture

The Seafood and Aquaculture sector consists of commercial fishing and seafood product preparation and packaging. A complete list of the Seafood and Aquaculture industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 20. These industries represent the Seafood and Aquaculture commodity producers (i.e. fisherman) and the immediate “downstream” processors, refineries, and manufacturers (e.g. marine fuel suppliers).

In 2015, the Seafood and Aquaculture sector contributed nearly \$355 million to the state economy (1.52% of RBI total), supported 3,341 jobs (3.5% of RBI total), and added nearly \$15 million in combined state and local tax revenue (1.65% of RBI total). Breaking these total impacts down (see Table 21), the Seafood and Aquaculture sector generated nearly \$271 million in “direct” economic output in 2015. This equals the value of all of the output of the Seafood and Aquaculture sector *plus* the value of the Maryland-based supply chain needed by Maryland Seafood and Aquaculture producers to produce fish. For example, if a fisherman needed to increase the amount of time spent on the water, this will require more fuel or a new engine from their supplier. These supply-chain expenditures would be included in the “direct” output figure. However, in order to provide these necessary inputs, supply-chain vendors in-turn need to purchase additional inputs from their supply chains. Continuing with the above example, if the engine supplier needs to produce a more engines, they will need to purchase more iron and engineering and transportation services. This second-order (or ripple) effect, whereby input providers themselves purchase more inputs, is known as “indirect” economic output. In 2015, the activities of the Seafood and Aquaculture sector were responsible for an “indirect” economic output of over \$56 million. Finally, the above direct and indirect economic effects ignore how the employees in the affected firms/industries spend their additional income. This household spending results in an additional “induced” economic effect. In 2015, the activities of the Seafood and Aquaculture sector were responsible for “induced” economic output totaling nearly \$28 million. Summing these economic impacts, the Maryland Seafood and Aquaculture sector contributed nearly \$355 million in total state economic activity.

With respect to jobs, the “direct” economic impact of the Seafood and Aquaculture sector supported 2,697 jobs in 2015 (see Table 22). The resulting ripple-effect of these activities supported 415 jobs due to “indirect” economic effects, and an additional 229 jobs due to “induced” economic effects (see the previous paragraph for an explanation of this terminology). Summing these economic impacts, Maryland Seafood and Aquaculture supported a total of 3,341 jobs.

Breaking-down the economic impact of Seafood and Aquaculture by region, Western Maryland did not contribute. Central Maryland Seafood and Aquaculture contributed over \$11 million to the state economy (3.2% of state Seafood and Aquaculture impact), supported 103 jobs (3.1% of state Seafood and Aquaculture job impact), and added over \$456 thousand in combined state and local tax revenue (3.1% of state Seafood and Aquaculture tax impact). Southern Maryland Seafood and Aquaculture contributed nearly \$51 million to the state economy (14.3% of state Seafood and Aquaculture impact), supported 1,294 jobs (38.7% of state Seafood and Aquaculture job impact), and added over \$5.7 million in combined state and local tax revenue (38.7% of state Seafood and Aquaculture tax impact). Finally, Eastern Shore Seafood and Aquaculture contributed over \$293 million to the state economy (82.6% of state Seafood and Aquaculture impact), supported 1,944 jobs (58.2% of state Seafood and Aquaculture job impact), and added nearly \$9 million in combined state and local tax revenue (58.2% of state Seafood and Aquaculture tax impact).



## Supporting Industries

The supporting industries sector consists in-state industries that rely on Maryland's agricultural firms for their supply-chain input (e.g. a Maryland-based canned vegetable manufacturer who relies on Maryland farmers for their fresh vegetable supply). These industries include soil preparation, planting and cultivating, farm management services, support activities for animal production, animal food manufacturing, flour, rice, and wet corn milling, fluid milk, creamery better, and cheese manufacturing, animal slaughtering, breweries, wineries, and distilleries, and fertilizer manufacturing. A complete list of the support industries along with IMPLAN industry codes, and corresponding NAICS industries and codes are provided in Table 24.

In 2015, the support industries sector contributed nearly \$12.5 billion to the state economy (53.6% of RBI total), supported 41,129 jobs (43.5% of RBI total), and added over \$495 million in combined state and local tax revenue (54.9% of RBI total). Breaking these total impacts down (see Table 25), the support industries sector generated over \$9.5 billion in "direct" economic output in 2015. This equals the value of all of the output of the support industry sector *plus* the value of the Maryland-based supply chain needed by Maryland support industry producers to produce their ores/minerals. For example, if a coal miner requires additional machinery or equipment in order to produce more ore, these supply-chain expenditures would be included in the "direct" output figure. However, in order to provide these necessary inputs, supply-chain vendors in-turn need to purchase additional inputs from their supply chains. Continuing with the above example, if a mine needs machinery, their equipment suppliers will need to purchase more transportation and insurance services parts, fuel, etc. This second-order (or ripple) effect, whereby input providers themselves purchase more inputs, is known as "indirect" economic output. In 2015, the activities of the support industries sector were responsible for an "indirect" economic output of over \$1.94 billion. Finally, the above direct and indirect economic effects ignore how the employees in the affected firms/industries spend their additional income. This household spending results in an additional "induced" economic effect. In 2015, the activities of the support industries sector were responsible for "induced" economic output totaling nearly \$989.9 million. Summing these economic impacts, Maryland support industries contributed nearly \$12.5 billion in total state economic activity.

With respect to jobs, the "direct" economic impact of the support industries sector supported 23,185 jobs in 2015 (see Table 26). The resulting ripple-effect of these activities supported 10,630 jobs due to "indirect" economic effects, and an additional 7,314 jobs due to "induced" economic effects (see

the previous paragraph for an explanation of this terminology). Summing these economic impacts, Maryland support industries supported a total of 41,129 jobs.

Breaking-down the economic impact of the support industries sector by region, Western Maryland contributed over \$1.8 billion to the state economy (14.8% of state support industries impact), supported 6,071 jobs (14.8% of state support industries job impact), and added nearly \$73.1 million in combined state and local tax revenue (14.8% of state support industries tax impact). Central Maryland support industries contributed nearly \$7.4 billion to the state economy (59.2% of state support industries impact), supported 22,273 jobs (54.2% of state support industries job impact), and added nearly \$268.2 million in combined state and local tax revenue (54.2% of state support industries tax impact). Southern Maryland support industries contributed over \$932.0 million to the state economy (7.5% of state support industries impact), supported 4,720 jobs (11.5% of state support industries job impact), and added over \$56.8 million in combined state and local tax revenue (11.5% of state support industries tax impact). Finally, Eastern Shore support industries contributed over \$2.3 billion to the state economy (18.5% of state support industries impact), supported 8,065 jobs (19.6% of state support industries job impact), and added nearly \$97.1 million in combined state and local tax revenue (19.6% of state support industries tax impact).