

COMPREHENSIVE PLAN

FOR THE
PLEASANT PENINSULA

CALVERT COUNTY MARYLAND

PRINCE GEORGES
COUNTY

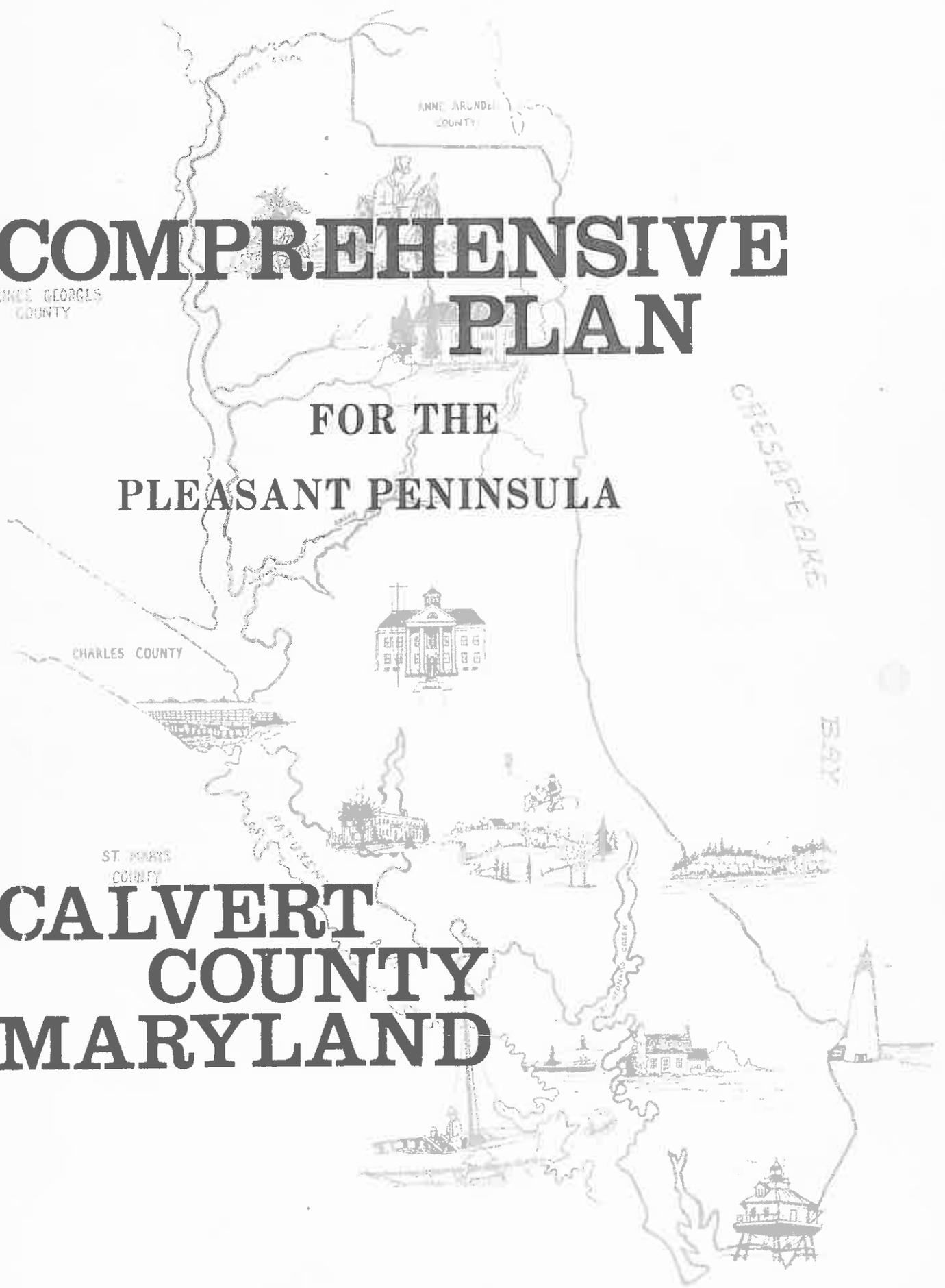
ANNE ARUNDEL
COUNTY

CHARLES COUNTY

ST. MARYS
COUNTY

CHESAPEAKE

BAY



Adopted October 1, 1974

Prepared for:

BOARD OF COUNTY COMMISSIONERS
COUNTY PLANNING COMMISSION OF
CALVERT COUNTY, MARYLAND

Prepared by:

CALVERT COUNTY PLANNING OFFICE
COURTHOUSE, PRINCE FREDERICK, MD. 20678

Consultants:

STOTTLER STAGG & ASSOCIATES
PLANNERS - ENGINEERS - ARCHITECTS
5809 ANNAPOLIS ROAD
HYATTSVILLE, MARYLAND 20784

Prepared to fulfill the requirements of Article 66B,
Annotated Code of Maryland, as amended July 1, 1974.

The preparation of this report was financed in part
through a comprehensive planning grant from the
Department of Housing and Urban Development, as
administered by the Maryland Department of State
Planning.

This March, 1977 reprint contains updated or redrafted prints of maps
2, 3, 4, 5, 6, 7, 10, 12 and 15. The sole purpose of the inclusion
of these maps is to provide increased clarity and more current des-
criptive information. No revision of the substance of the officially
adopted Comprehensive Plan is intended. In any case where the addition
of a updated map may have the effect of a substantive revision, the
Comprehensive Plan as adopted October 1, 1974 shall apply.

CERTIFICATE OF ADOPTION

COMPREHENSIVE PLAN CALVERT COUNTY, MARYLAND

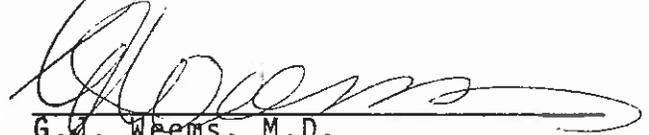
The County Commissioners for Calvert County, Maryland, on October 1, 1974, following a public hearing held on September 18, 1974, adopted this Comprehensive Plan for Calvert County, Maryland.

October 1, 1974

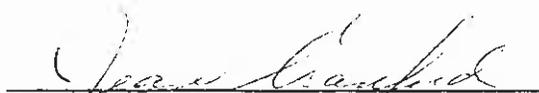
THE COUNTY COMMISSIONERS OF
CALVERT COUNTY


C.B. Fowler, President


H.G. Trueman


G.D. Weems, M.D.

ATTEST:


Jean Cranford, Clerk

THE COUNTY COMMISSIONERS OF CALVERT COUNTY

C. B. Fowler, President
H. G. Trueman
G. J. Weems, M.D.

CALVERT COUNTY PLANNING COMMISSION

Charles Howes, Chairman
Marvin Riddle, Vice-Chairman
Mrs. Giles Cooke
Mrs. Benjamin Ridgely
J. B. Waters
George J. Weems, M.D.
Maurice Dunkle

CALVERT COUNTY PLANNING OFFICE

Lawrence Bowlby, County Planner
Michael A. Holstun, Associate Planner
Reene Crout, Secretary

PLEASANT PENINSULA PLAN COMMITTEE CHAIRPERSONS

Agriculture: Philip R. Mohler
John A. Prouty
Housing: The Rev. Mr. Andrew Johnson
Wilson L. Parran
Health: Maurice A. Dunkle
Patricia Bash
Parks &
Recreation: David L. Brown
Guffrie Smith
Economic Dev.: Eugene F. Wood
Richard Kemmery
Environment: Ailene Hutchins
Richard McLean
Transportation: Frederick Goettel
Ronald Rose
Government: Jessie Jo Bowen
Kitty Hurrey
Land Use: Allen Handen
Earl Hicks
Education: J. Martin Reid
Mrs. Cindy Simmonds
Public Safety: Marvin W. Riddle
Donald A. Bowen
Finance: John W. Williams, Jr.
Anna Perkins

A B S T R A C T

- (1) Title: Calvert County Comprehensive Plan
- (2) Author: Calvert County Planning Office
- (3) Consultant: Stottler, Stagg & Associates,
Planners-Engineers-Architects
- (4) Subject: Comprehensive Master Plan for
Calvert County, Maryland
- (5) Date: Adopted October 1, 1974
- (6) Planning Agency: Maryland Department of State
Planning
- (7) Reference Copies: Reference copies are available
at the Calvert County Planning Department, County
Courthouse, Prince Frederick, Maryland.
- (8) HUD Project Number: 701
- (9) Series Number: P-1002, P-1008
- (10) Number of Pages:
- (11) Abstract: In June, 1967, Calvert County adopted a
Comprehensive Master Plan. In 1973, the County
Commissioners engaged the consulting firm of Stottler,
Stagg & Associates to prepare an up-dated version.
After study and review of the up-dated draft by
County agencies and by committees of the Citizens
Pleasant Peninsula Planning group, a revised draft
was prepared and presented at a public hearing on
September 18, 1974. Based upon comments received
during the review process and the public hearing, the
County Commissioners adopted this Comprehensive Plan
for Calvert County.

TABLE OF CONTENTS

CERTIFICATE OF ADOPTION		ii
ABSTRACT		iv
TABLE OF CONTENTS		v
LIST OF TABLES		vii
LIST OF ILLUSTRATIONS		viii
INTRODUCTION		ix
CHAPTER ONE.	LAND USE	1-1
	Historical Influences	1-1
	Existing Patterns	1-2
	Trend Growth	1-9
	Ecological Constraints	1-11
CHAPTER TWO.	COMMUNITY FACILITIES	2-1
	Communication	2-1
	Public Safety	2-1
	Health Care	2-3
	Solid Waste Disposal	2-3
	Utilities	2-3
	Cultural and Educational Facilities.	2-4
CHAPTER THREE	HOUSING	3-1
	The Present Housing Environment	3-1
	Supply and Demand	3-5
	Housing of Black Families	3-5
	Local Planning Efforts and Directions	3-7
	Recommendations	3-8
CHAPTER FOUR	ECONOMY	4-1
	Existing Population Characteristics.	4-1
	Existing Economic Conditions	4-3
	Population Outlook	4-5
	Economic Outlook	4-11
CHAPTER FIVE	HEALTH	5-1
	Preventive Health Services	5-1
	Diagnostic and Acute Treatment	5-2
	Chronic Illness, Rehabilitation and Geriatrics	5-3
	Mental Health	5-3
	Accessibility of Services	5-4
	Recommended Actions	5-5

CHAPTER SIX.	ENVIRONMENT AND NATURAL RESOURCES	6-1 ✓
	Physical Features	6-1 ✓
	Natural Areas	6-8 ✓
	Environmental Quality	6-10 ✓
CHAPTER SEVEN.	GOALS AND OBJECTIVES	7-1
	Land Use	7-1
	Community Facilities and Services	7-1
	Housing	7-2
	Economic Development	7-2
	Natural and Environmental Resources	7-2 ✓
CHAPTER EIGHT.	GENERAL PLAN	8-1
	Planning Philosophy	8-1
	The Land Use Plan	8-2
	The Transportation Plan	8-11
	The Community Facilities Plan	8-17
	Plan for the Designation of Areas of Critical State Concern	8-24
CHAPTER NINE.	IMPLEMENTATION	9-1
	The Implementation Plan	9-1
	Concluding Remarks	9-4
APPENDIX.	CITIZEN PARTICIPATION	A-1
	REFERENCES	A-2

LIST OF TABLES

Table 1.1	Acreeges of Existing Land Use and Existing Zoned Land	1-7
Table 1.2	Developed Acreage	1-7
Table 1.3	Existing Land Use Acreage by Election Districts	1-8
Table 1.4	Developed Acreage by Election Districts	1-8
Table 1.5	Platted Acreage	1-9
Table 3.1	Occupancy Ratios	3-2
Table 3.2	Housing supply	3-2
Table 3.3	Average Number of Children per Household	3-3
Table 3.4	Average Household Size	3-3
Table 3.5	Units Lacking Plumbing	3-3
Table 3.6	Average Value New Units	3-5
Table 3.7	Median Value of Rent Contracts of All Units	3-5
Table 3.8	Minority Housing Units Lacking Plumbing Facilities	3-7
Table 4.1	Population by Age Groups	4-3
Table 4.2	Agriculture	4-4
Table 4.3	Labor Force Characteristics	4-5
Table 4.4	Estimated Labor Potential	4-7
Table 4.5	Census Data	4-8
Table 4.6	Comparative Population Projections	4-8
Table 4.7	Population Projections	4-8
Table 4.8	Population by Election Districts	4-8
Table 4.9	Economic Forecast	4-12
Table 4.10	Economic Forecast	4-12
Table 6.1	Drainage Statistics	6-3
Table 6.2	Criteria and Quantitative Evaluation for Selection of Natural Areas	6-9
Table 6.3	Shore Erosion Up To 1964	6-12
Table 8.1	Developable Land by Election Districts	8-3
Table 8.2	Developable Land East and West of Drainage Divide	8-3
Table 8.3	Acreege Requirements for 41,500 People Assuming Planned "Slow Growth"	8-5
Table 8.4	Rural Conservation Planning Area	8-6
Table 8.5	Solomons-Appeal-Olivet Planning Area	8-7
Table 8.6	Scientist Cliffs-Long Beach Planning Area	8-8
Table 8.7	Prince Frederick Planning Area	8-9
Table 8.8	Dares Beach Planning Area	8-9
Table 8.9	Twin Beaches Planning Area	8-10
Table 8.10	Inventory of Public Recreational Land	8-21
Table 8.11	Inventory of School Recreation Facilities	8-22
Table 8.12	Inventory of Other Recreational Facilities	8-22
Table 8.13	State Recreation Areas	8-23

LIST OF ILLUSTRATIONS

MAPS

Map 1.	Location	1-4
Map 1-A.	Election Districts	1-5
Map 2.	Existing Land Use	1-6
Map 3.	Existing Zoning	1-10
Map 4.	Developable Land	1-12
Map 5.	Public Facilities	2-2
Map 6.	Water Plan	2-5
Map 7.	Sewerage Plan	2-6
Map 8.	School System	2-8
Map 9.	Existing Housing	3-4
Map 10.	Employers	4-6
Map 11.	Topography	6-2
Map 12.	Drainage Pattern	6-3
Map 13.	Physical Features	6-7
Map 14.	Problem Areas	6-14
Map 15.	General Plan	8-12
Map 16.	Road System	8-14

FIGURES

Figure 1.	Projected School Enrollments 1975-1980	2-9
Figure 2.	Residential Building Permits 1960-1974	3-6
Figure 3.	Population Characteristics: Age, Sex, and Race in 1970	4-2
Figure 4.	Occupational Distribution of Labor Force - 1970	4-7
Figure 5.	Population Growth 1790-1970	4-9
Figure 6.	Population Projections	4-9
Figure 7.	Population Projections by Election Districts	4-10
Figure 8.	Market Potential: Overnight Trucking Area	4-13
Figure 9.	Soil Associations	6-5

INTRODUCTION

Calvert County enjoys a unique and enviable position as compared to other counties in the Washington-Baltimore metropolitan area. The County has retained its rural nature and natural amenities while having available urban offerings within an hours travel. Access to the urbanized areas, however, works both ways and pressures for urban development in Calvert County may be expected to grow in the future. This Comprehensive Plan is part of a continuing effort to ensure that Calvert County maintains the capability to guide the character, location and rate of development so that the nature and character of the County may be preserved for future generations.

Maryland law establishes general guidelines for the development of a comprehensive plan. These general guidelines include certain minimum requirements for specific elements such as: a statement of goals and objectives; a land use plan; a transportation plan; a community facilities plan; recommendations for land development regulations; and recommendations for the determination, identification and designation of areas within the County which are considered of critical State concern. These elements are all contained within this plan, and in addition, historical, existing and projected data is provided to help develop a valid perspective for the plan.

The plan as adopted represents a revision of the preliminary document prepared by Stottler, Stagg & Associates early in 1974. During the months of March and April major portions of that preliminary plan were published in local newspapers for information and review by County citizens. Committee reports prepared during the Pleasant Peninsula Plan (PPP) process during April through June provided valuable guidelines where difficult revisions had to be made.

The Comprehensive Plan is an extremely important document. The Plan will form the basis of implementing ordinances, regulations, plans and policies which will directly affect the character of future development in Calvert County. Sincere efforts have been made to insure that this plan is a true reflection of the desires of the citizens of the County. An annual review of developments and changes in the County will be prepared by the Planning Commission with analysis of those changes as relate to the adopted Plan, and recommendations presented to the County Commissioners for improving the planning and development process within the County.

LAND USE

1 2 3 4 5 6 7 8 9

CHAPTER ONE · Land Use

The purpose of this chapter is to examine existing land use in Calvert County, Maryland. Material presented in this chapter concerns both the natural and man-made land use patterns which have evolved in the County over time. The subject was approached by studying first the current urbanization process, then by projecting what future land use changes might be expected if trend growth patterns continue, and third, by examining general ecological constraints which should influence future land use policies in the County.

Chapters Two through Four are the sequel to this chapter since they are concerned in greater detail with aspects related to overall land usage: Chapter Two with community facilities, Chapter Three with housing, and Chapter Four with the economy. Chapter Five focuses on major issues which affect the County's health delivery system. Chapter Six examines the nature-endowed rather than human endowed traits of the County. Stemming from the excellent citizen response which was received, the Goals and Objectives for the County were formulated and these statements appear in Chapter Seven. Then in Chapters Eight and Nine the Land Use, Transportation, Community Facilities and Implementation Plans are described which are based on the statement of County Goals and Objectives as presented in Chapter Seven.

HISTORICAL INFLUENCES

Land use patterns are generally closely allied with and reflective of historical background and character. An understanding and appreciation of the history of Calvert County may provide a touchstone for the continued evolution of the County.

Calvert County's history can be divided into five periods: 1642-1695; 1695 to 1775; 1776 to 1865; 1866 to 1965; and 1966 to present. Each of these periods records events and decisions that have resulted in changes, or modifications of the way people looked at the physical landscape, the outside world, and themselves. But it was in the first period that an approach to living, a way - of - life, was created and became such a part of Calvert County that it influenced man living here in all following stages of County development.

The time between 1642 and 1695 was the period when a society characterized by high ideals, independence of spirit, pride in qualities of character, and an appreciation for comfortable living emerged. This period was the stage in Calvert County's history when the ideals and a doctrine of moral and social duties were formulated, and this

outlook colors all of Calvert County's history. Although first described by John Smith in 1608 and explored by Pory and Moll in 1621, permanent settlement did not occur until 1650 when Robert Brooke arrived as "Commander" of a new county. Calvert County, colonized by Cavaliers in the south and Puritans in the north, was settled by 1680. The early settlers found what has been described as a "natural paradise" requiring only a modest amount of labor by man to produce a comfortable living. In these early colonial days tobacco was grown almost to the exclusion of food crops. An early enactment of the colonial legislature required that two acres of corn be planted for every person in each colonist's family to insure a grain crop for sustenance.

Between 1696 and 1775, intermarriage destroyed the distinction between the Cavaliers and the Puritans, population declined between 1696 and 1755 and then increased at a rapid rate, and agricultural problems (overproduction of tobacco) plagued the County. Calvert County's exclusive reliance upon tobacco and lack of commercial and industrial activity led to the aggregate income of the County decreasing when compared to other counties in Maryland which were experiencing rapid economic expansion. This period, 1696 to 1775 marks the culmination of the Colonial system and the development of a rather rigid social order. The County Court House was established at Williams Old Fields in 1723 and this name was changed to Prince Frederick in 1725.

The period between 1776 and 1865 was one of suffering and joy, war and peace, and pride and despair. In the Revolutionary War, Calvert County contributed men and money to the cause of freedom and was plundered by the British in 1780. During the war of 1812, Calvert County again contributed men and money to preserve our nation and became a battleground when British forces invaded the United States by way of the Patuxent. The time between the end of the War of 1812 and the Civil War were years of peace and prosperity. Calvert County contributed men and money to the Armies of the Confederacy and was occupied by Union forces. The Emancipation Proclamation of 1863 led to an economic and social crisis and to the end of the plantation system.

Strongly allied to the Southern cause during the Civil War, Calvert County was forced to begin searching for a substitute for the plantation system during the 1866 to 1965 period. It had lost its wealth and its labor force, and lacked capital and natural resources to develop an industrial base. Calvert County was forced to remain dependent

upon agriculture, but diversified its economy by turning to the Bay and the Patuxent. Soon, seafood from Calvert County was being shipped throughout the east. The history of the Chesapeake Beach Railroad Company is significant to this period of the County's history. The status of the County had remained relatively unchanged for many years, primarily because of its isolated geographic position as a peninsula. The only land approach was from Anne Arundel County by means of poor roads. However, in 1891 the Washington and Chesapeake Beach Railroad Company was incorporated, and after some difficulties and reorganization, ran the first passenger train to Chesapeake Beach in 1899. It was necessary to develop a destination that would attract passengers from the Washington area, therefore an amusement park was built, the Chesapeake Beach Hotel Company was established, and the town of Chesapeake Beach layed out. The amusement park was completed in 1900 and included, among other things, a water system designed to serve the growing summer colony and a race track which was never used. The Hotel Company made money, however these profits were used to subsidize the operation of the railroad which relied primarily upon seasonal passenger service for revenue. As a result, neither company ever paid dividends to its stockholders. In 1921 the railroad achieved its peak with 35,545 passengers. Service for passengers and freight continued until March 1935 when the line passed into the hands of receivers and was abandoned. The railroad introduced thousands of people to the charms of Calvert County and without it the town of Chesapeake Beach and numerous other bay front communities may never have developed. The Railroad Company attempted other ventures which, if successful, would have changed the development of the County significantly. At one time a super line to the Solomons was planned and a ferry to Dorchester County would have been established but for the depression of 1929-30. Like many short haul rail lines the downfall of the Chesapeake Beach Railroad Company was brought about by the improvement of roads and the automobile.

During the early years of World War II, the U.S. Navy recognized the attributes of the coastal areas of Calvert County and established bases here. Capital, an item scarce in the County since the Civil War, began to flow into the County. The development of the highway system and the Benedict Patuxent River Bridge (1955) increased accessibility and brought in many visitors who later became residents.

About 1966 significant changes began to occur in the County. Major highway improvements (dualization of Routes 2 and 4) were started, several major residential subdivisions were opened, in - migration accelerated, race separated schools were integrated, plans were formulated for a County Industrial Park and other economic developments. During the 1966-70 period construction of the Calvert Cliffs Nuclear Power

Plant was planned and started, construction of a plant for processing imported liquified natural gas (LNG) was begun. County bonds were sold and a major program for construction of new school facilities was initiated. During the same period citizens and County officials began to evaluate, and in some cases, to question the potential advantages and disadvantages of rapid and uncontrolled growth. A new awareness of the need and responsibilities for maintaining balanced growth patterns and a healthful, pleasant environment became evident. The 1970s will be a critical period for Calvert County, and the decisions of the early 1970s will establish almost irrevocable patterns which will determine whether Calvert County will become just another "suburban sprawl" or will remain the "land of pleasant living" for its residents and visitors.

EXISTING PATTERNS

In August 1973 the Tri - County Council for Southern Maryland (TCC) completed a land use inventory for the three County region consisting of St. Mary's, Charles, and Calvert Counties. The statistics presented in the Tables and Map 2 of this chapter are based in large part on the findings of the TCC land use inventory.

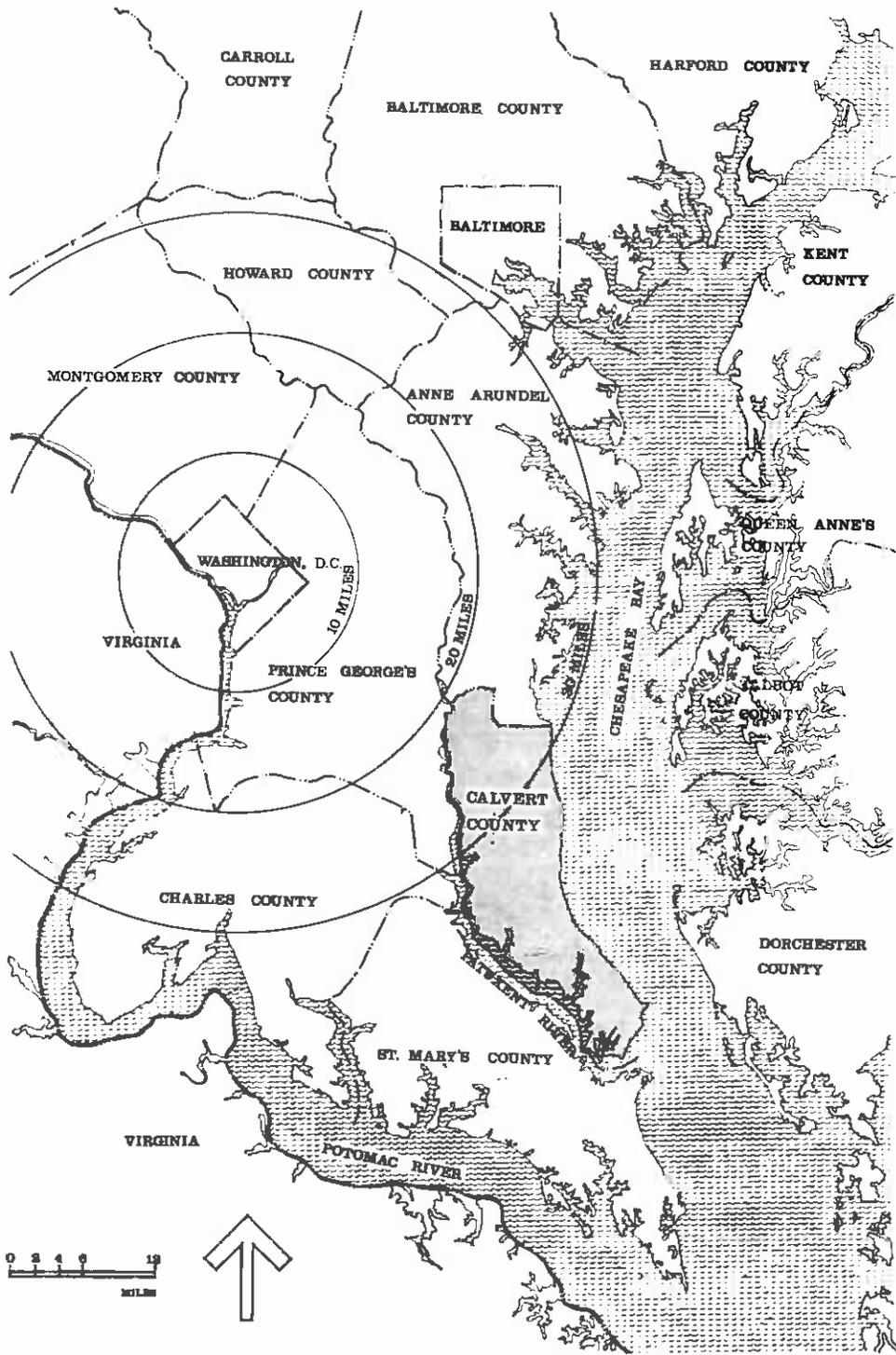
By examining both Map 2 and Table 1.1 together, the following observations can be made regarding existing land use in Calvert County. The vast majority of the County (89.4%) is undeveloped or is being used for agricultural, forest or wetland purposes. Only a small portion of the total, 10.6% has been developed into urban use, i.e., residential, commercial, industrial, public and quasi - public, utility transmission lines, or transportation routes. Map 2 graphically records that agricultural practices extend throughout the County, but there is a greater concentration of farming towards the west, or Patuxent River side of the County. With some exceptions, cultivation most often occurs on the more level and fertile land. Agricultural parcels tend to terminate at abrupt topographic changes, at drainageways, and/or at property boundaries. Forested areas of the County (including both commercial stands and natural vegetative growth) tend to occur more towards the east or Chesapeake Bay side of the County, but also in finger - like projections towards the west along the steeper land. Wetlands,* being defined as 50 and 100 year floodplains, tidal marshes, freshwater swamps and coastal beaches, occupy approximately 16.5% of the County's land area. Wetland areas occur

*Wetlands land use was separated from the other land uses for statistical purposes although in some places wetlands are either forested and/or being cultivated. The high percentage of land falling in the wetlands category is significant in its impact on this Comprehensive Plan, as will be explained in subsequent chapters of this document.

county - wide with about equal frequency. The County does not have any surface water areas of any significance except for the 100 acre artificial lake located at the Chesapeake Ranch Estates, and this body of water has been included in the wetlands category above. Table 1.3 reveals that Election Districts 2 Prince Frederick (middle) and 1 Solomons (south) have approximately 40% of their land areas in forest cover while Election District 3 Sunderland (in the north) is about 30% forest covered. However, Election District 3 exceeds the other two in its share of the agricultural land area since over 40% of Election District 3 is being farmed.

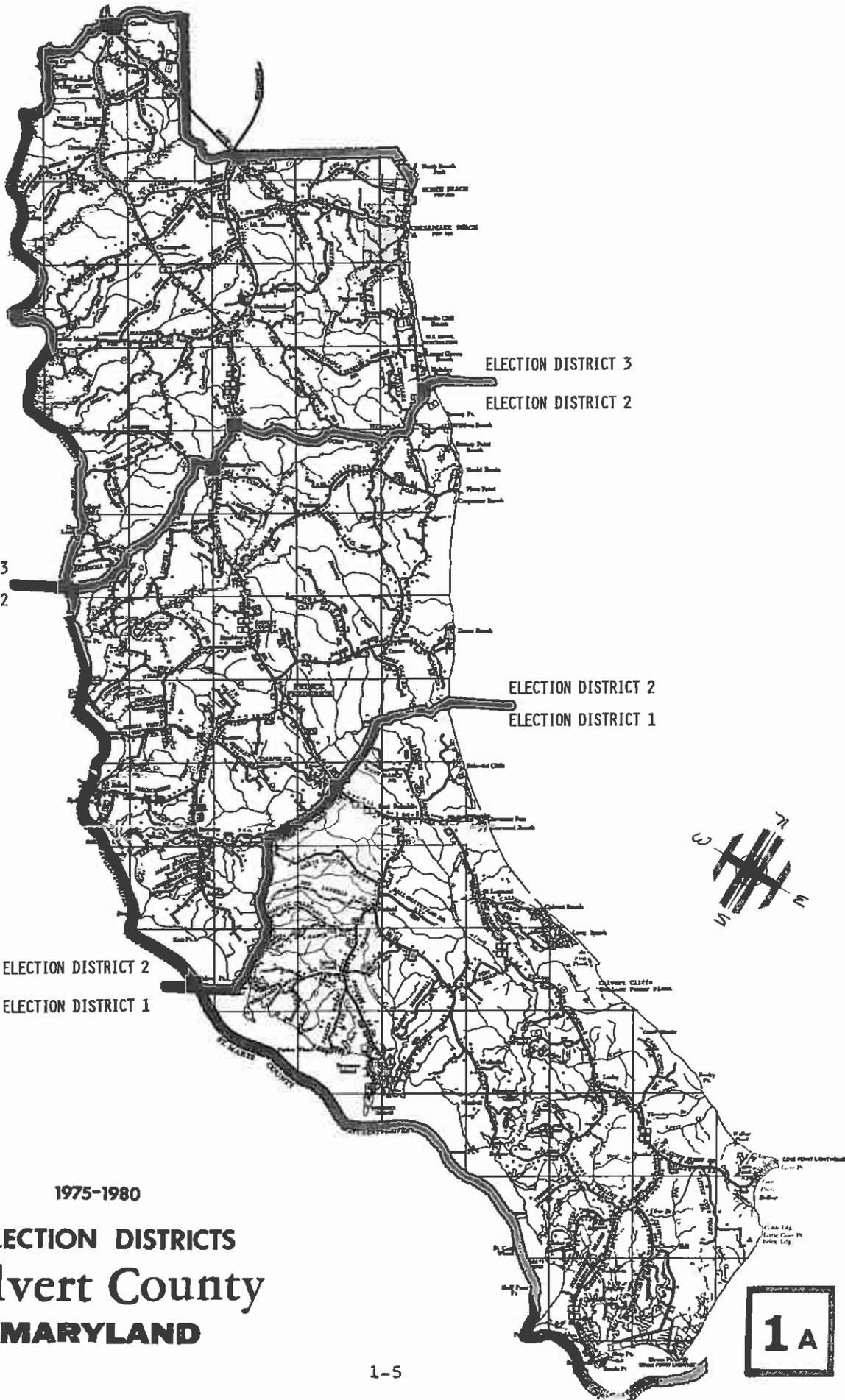
Table 1.1 further reveals that about 10% of the County has been developed at this time. Details of the developed acreage for the County as a whole are given in Table 1.2 and data by election districts are given in Tables 1.3 and 1.4. Table 1.3 indicates that developed acreage is the greatest in Election District 1, next in District 3, and least proportionately, in District 2: The developed acreage figures for the County (Table 1.2) show that the most common residential unit type is the single family home; that trailer parks only house a small percentage of the population and trailer parks occur only in districts 2 and 3. The data further show that considerable acreage is in military use, as evidenced by the Naval Ordinance Laboratory facility at Solomons Islands and the Naval Reservation at Randle Cliffs. The County has other public / quasi - public land uses, the most extensive use being in park and recreational areas (the major park use is the Calvert Cliffs State Park in ED 1). Election District 1 leads in the total acreage of commercial enterprises. Countywide, the number of acres in marine commercial use is important when compared to many other Counties. This is an indication of Calvert's past and present close relationship to the seafood and water related recreation industries. Compared to the total number of developed acres, Calvert does not have much land in industrial usage, but the County is not handicapped at present since the existing industrial installations (particularly the Calvert Cliffs Nuclear Power Plant and the Columbia Gas Terminal Plant) will generate substantial tax revenues. Compared to standards found in planning literature, Calvert does not have much acreage in transportation / communication uses. This is due to the rural nature of the County and the fact that there currently are not very many people in the County requiring urban related transportation / communication facilities.

The following patterns have been observed regarding the developed acreage in the County: (a) the major existing development nodes in the County are the Prince Frederick area, the Solomons area, and the Twin Beaches area of Chesapeake Beach and North Beach. (b) Development also exists in small population centers such as Owings, Huntingtown and St. Leonard's along Rt. 2-4. Such developments exist as secondary commercial centers for the rural population, but new growth is tending to locate in or around one of the three larger nodes mentioned above. (c) Along the Patuxent River, development has been very light with the exception of Solomons, White Sands, the St. Leonard's Creek area, Broome's Island, Holland Cliffs, the Shores of Calvert, and Patuxent Palisades. In general, the largest portion of the land adjacent to the river has been retained in agricultural use, timber growth, or in natural vegetative cover. (d) Residential development in the inland portions of the County (but not within the three main development nodes) tends to be widely dispersed on individual rural lots, in strips, or in small clusters along the County's roads. (e) Recent highway improvements in the County have made commuting a reality. Perhaps of greatest impact to mobility has been the dualization of Routes 2 and 4 from Prince Frederick north and the improvements in Route 260. The increased commuting capability to out - of - county employment centers, mainly the Washington, D.C. area, has stimulated bedroom community growth, particularly in Election District 3 (north). (f) In addition to the commuting phenomena, there has been a trend towards transforming what were previously seasonal homes into year - round residences. Older subdivisions such as North Beach, Chesapeake Beach and Dares Beach and newer subdivisions like Long Beach, Scientist Cliffs and Willows illustrate this trend towards more year - round occupancy. Lot sizes in many older subdivisions range from 2,000 square feet to 6,000 square feet. Fortunately, not all of this land has developed as platted, and a considerable consolidation of lots has resulted in an overall residential density of nine to ten dwellings per acre. Subdivision lots developed during the 1930's average 40 feet by 100 feet or 4000 square feet, with an average of two lots being sold per building site. Subdivisions in the County developed during the sixties were restricted to a minimum of 15,000 square feet, providing a minimum of 100 feet widths.



LOCATION

1



ELECTION DISTRICT 3
ELECTION DISTRICT 2

ELECTION DISTRICT 3
ELECTION DISTRICT 2

ELECTION DISTRICT 2
ELECTION DISTRICT 1

ELECTION DISTRICT 2
ELECTION DISTRICT 1

1975-1980
ELECTION DISTRICTS
Calvert County
MARYLAND

1A

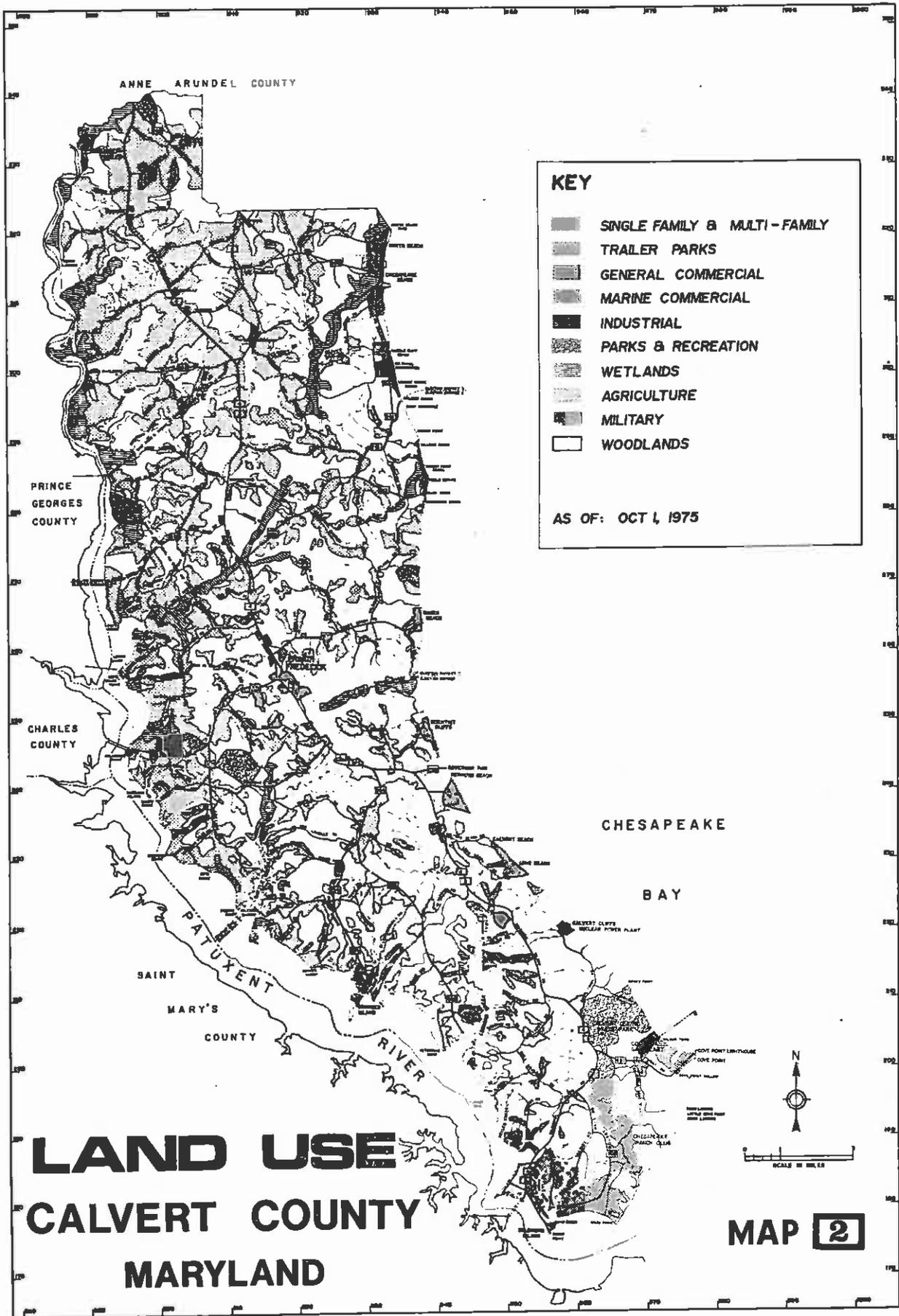


TABLE 1.1

**ACREAGES OF EXISTING LAND USE & EXISTING ZONED LAND
CALVERT COUNTY***

	<u>EXISTING LAND USE</u>		<u>EXISTING ZONED LAND</u>	
	<u>Acres</u>	<u>Percent of Total Acreage</u>	<u>Acres</u>	<u>Percent of Total Acreage</u>
DEVELOPED:				
Residential	6,957	5.0%	19,091	13.6% (R-1, R-2)
Public and Quasi-Public	3,306	2.3%	(All Districts or Unzoned)	
Commercial	933	0.7%	1,267	0.9% (C-1, C-2, C-3)
Industrial	388	0.3%	2,280	1.6% (I-1)
Utility Transmission Lines	1,310	0.9%	(All Districts)	
Transportation	1,991	1.4%	(All Districts)	
TOTAL DEVELOPED:	14,885	10.6%	22,638	16.1%
UNDEVELOPED:				
Wetlands (a)	23,137	16.5%	2,873	2.1% (F-1)
Forest	52,695	37.6%	105,693	75.3% (A-1)
Agriculture	49,603	35.3%		
TOTAL UNDEVELOPED:	125,435	89.4%	108,566	77.4% (above)
COUNTY TOTAL	140,320	100.0%	131,204	93.5%
+ Other (b)			+9,116	+6.5%
GRAND TOTAL	140,320 (c)	100.0%	140,320	100.0%

(a) Wetlands being defined as 50 and 100 year floodplains, tidal marshes, freshwater swamps and coastal beaches.

(b) Incorporated towns, the U.S. Government military installations and state owned land which do not fall under jurisdiction of the County Zoning Ordinance.

(c) Calvert County has a total of 156,160 acres: 140,320 acres in land area and 15,840 acres in water area (the latter are portions of the Patuxent River and Chesapeake Bay).

* Data as of August 1973

TABLE 1.2

**DEVELOPED ACREAGE*
CALVERT COUNTY**

<u>DEVELOPED LAND CATEGORIES</u>	<u>ACRES</u>	<u>PERCENT OF DEVELOPED</u>
1. RESIDENTIAL	6,957	46.7%
Single & Multi Family	6,810	45.7%
Trailer Parks	147	1.0%
2. PUBLIC & QUASI PUBLIC	3,306	22.2%
Military	455	3.0%
Parks and Recreation (a)	1,991	13.4%
Other Public (b)	860	5.8%
3. COMMERCIAL	933	6.3%
General	683	4.6%
Marine	250	1.7%
4. INDUSTRIAL	1,698	11.4%
Manufacturing	388	2.6%
Utility Transmission Lines	1,310	8.8%
5. TRANSPORTATION	1,991	13.4%
Highways	1,991	13.4%
TOTAL DEVELOPED FOR COUNTY	14,885	100.0%

* Data as of August 1973

(a) Parks and Recreation:
1,404 acres Calvert Cliffs State Park
97 acres Dixon Tract, Mt. Harmony Fish Pond, Rt 231 Park
351 acres Calvert County School District
139 acres Private golf courses, campgrounds, amusement parks, etc.

(b) Other Public includes land area of churches, public buildings, historic sites, and landfills.

TABLE 1.3

**EXISTING LAND USE ACREAGE BY ELECTION DISTRICTS
CALVERT COUNTY***

LAND USE	ELECTION DISTRICT 1		ELECTION DISTRICT 2		ELECTION DISTRICT 3	
	Acres	Percent of ED 1 Acreage	Acres	Percent of ED 2 Acreage	Acres	Percent of ED 3 Acreage
DEVELOPED:						
Residential	4,000	8.3%	929	2.1%	2,028	4.2%
Public & Quasi Public	1,267	2.6%	845	1.9%	1,194	2.4%
Commercial	474	1.0%	264	.6%	195	.4%
Industrial	282	.6%	22	.1%	84	.2%
Utility Transmission Lines	602	1.2%	415	1.0%	293	.6%
Transportation	669	1.4%	595	1.4%	727	1.5%
TOTAL DEVELOPED:	7,294	15.1%	3,070	7.1%	4,521	9.3%
UNDEVELOPED:						
Wetlands*	7,801	16.1%	6,366	14.8%	8,970	18.4%
Forest	20,155	41.6%	18,028	41.8%	14,512	29.7%
Agriculture	13,172	27.2%	15,653	36.3%	20,778	42.6%
TOTAL UNDEVELOPED:	41,128	84.9%	40,047	92.9%	44,260	90.7%
TOTAL FOR ED	48,422	100.0%	43,117	100.0%	48,781	100.0%

*50 and 100 year flood plains, tidal marshes, fresh water swamps, and coastal beaches.

*Data as of August 1973

TABLE 1.4

**DEVELOPED ACREAGE BY ELECTION DISTRICTS
CALVERT COUNTY***

DEVELOPED LAND CATEGORIES	ELECTION DISTRICT 1		ELECTION DISTRICT 2		ELECTION DISTRICT 3	
	Number of Acres	Percent of Developed	Number of Acres	Percent of Developed	Number of Acres	Percent of Developed
1. Residential	4,000	54.8%	929	30.3%	2,028	44.8%
Single & Multi-Family	4,000	54.8%	837	27.3%	1,973	43.6%
Trailer Parks	0	0.0%	92	3.0%	55	1.2%
2. Public & Quasi Public	1,267	17.4%	845	27.5%	1,194	26.4%
Military Parks & Recreation	272	3.8%	0	0.0%	183	4.1%
Other Public	826	11.3%	643	20.9%	522	11.5%
3. Commercial	474	6.5%	264	8.6%	195	4.3%
General	253	3.5%	257	8.4%	173	3.8%
Marine	221	3.0%	7	0.2%	22	0.5%
4. Industrial	884	12.1%	437	14.2%	377	8.4%
Manufacturing	282	3.9%	22	0.7%	84	1.9%
Utility Transmission Lines	602	8.2%	415	13.5%	293	6.5%
5. Transportation	669	9.2%	595	19.4%	727	16.1%
Highways	669	9.2%	595	19.4%	727	16.1%
TOTAL DEVELOPED ELECTION DISTRICT	7,294	100.0%	3,070	100.0%	4,521	100.0%

*Data as of August 1973

TABLE 1.5

ACREAGE PLATTED FOR RESIDENTIAL DEVELOPMENT
IN CALVERT COUNTY BUT CURRENTLY UNDEVELOPED*

(Land is Currently Either in Natural Vegetation or in
Agricultural Production)

Election District	Acres	% of Each Election District's Total Acreage
1	863	1.8%
2	525	1.2%
3	2,751	5.6%
COUNTY TOTAL	4,139 acres	3.0% more of the County's land could become residential

*Data as of August 1973

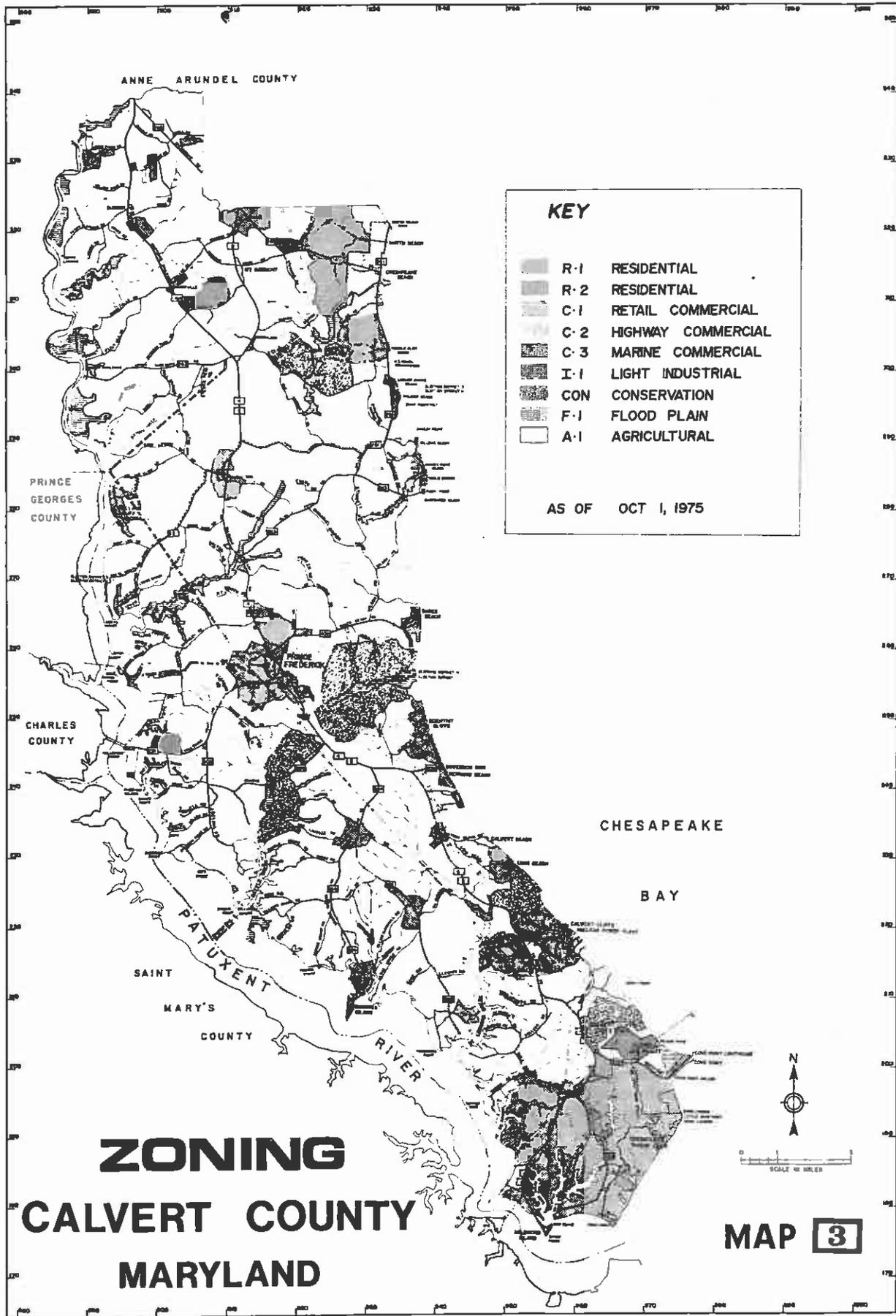
TREND GROWTH

It is always interesting to note the relationship between land use practices and the existing zoning ordinance for a particular jurisdiction. In Calvert County, the comparison between the two is illustrated statistically by Table 1.1 and graphically by Maps 2 and 3. By comparing the 1973 - 1974 existing land use pattern (Map 2) with its forerunner from the 1967 Calvert Comprehensive Plan (not included in this document), it can be seen that development has been spreading out into the large areas designated as R-1 or R-2 in the Zoning Ordinance. A leap - frog scattered development pattern is also occurring in the A-1 zoned land as owners subdivide their farms. Table 1.5 quantifies the platting trends in the County and it shows that Election District 3 is experiencing the greatest platting activity. Most of this platting has been occurring outside of the designated R-1 and R-2 zones and in the A-1 zoned land, which is a significant trend to monitor.

By studying Table 1.1 it can be concluded that under existing legal sanctions, developed residential acreage in the County could theoretically triple in the zoned residential districts; commercial acreage could increase by a third; industrial development could increase

six-fold; and the majority of the wetland acreage has limited protection since only about one - eighth of the wetland area is zoned F-1, Flood Plain Zone. Further ramifications of the Zoning Ordinance are discussed where appropriate in subsequent chapters of this document.

Another aspect to monitor concerning trend growth is Calvert's geographic position because the entire Tri - County region of Southern Maryland is entering into a phase of accelerated population growth. Larger settlements, like Prince Frederick, will probably continue to grow as nodes when internal accessibility and opportunities encourage population to congregate around them. At the same time, growth may also occur in octopus corridors along the major transportation arteries leading to Washington, D.C. Locally, this may mean corridor growth especially along Routes 2-4, and to a lesser degree along the main east - west routes. And since the northern part of the County is within a thirty - mile commuting radius to Washington, the County will also likely continue to experience radial growth pressures from the metropolitan center outward. That is, these three kinds of growth will likely occur if current trends continue.



ECOLOGICAL CONSTRAINTS

Map 4 entitled "Developable Land" was prepared to supplement land use studies of the County. This map is a useful analytical tool since it shows which portions of the County can best support development based on physical constraints alone. The reciprocal is also true - Map 4 also shows which areas are very sensitive, or unsuited for conventional development.

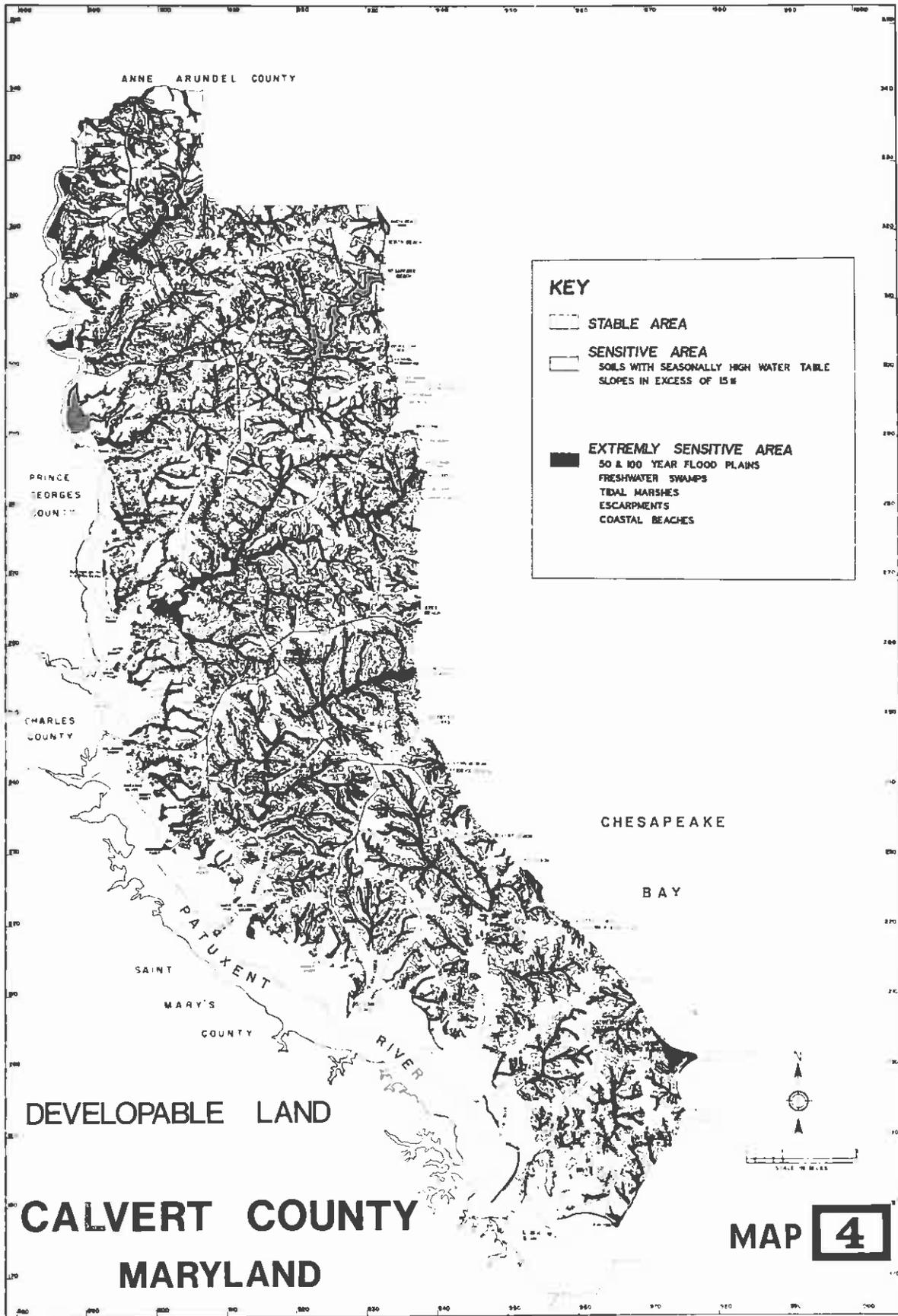
Map 4 was derived by overlaying terrain analysis studies which appear in Chapter Five of this document (refer to the maps entitled "Drainage Patterns" and "Topography"). It was found that the extremely sensitive areas of the County are the 50 and 100 year floodplains, the fresh water swamps, escarpments, tidal marsh areas, and the coastal beaches (all of which have been quantified as "wetlands" in Tables 1.1-4). Sensitive areas proved to be sections of the County with slopes in excess of 15%, soils with seasonally high water tables, and the utility right-of-ways.

From studying Map 4 it was observed that the major roads of the County follow the more stable land areas, which tend to be the higher topographic areas. Development thus far within the County has been more or less in harmony with the stable land areas, except for some portions of Broome's Island, areas of Governors Run and Kenwood Beach and sections of the Twin Beaches development close to Fishing Creek. The Chesapeake Ranch Estates property near Solomons traverses all three categories of land so that future development in the Ranch Estates will need to be sited carefully so as to avoid the more sensitive portions of the property. At present the development around Prince Frederick is conforming to the white areas, or the stable land. But as development pressures encourage further nodal growth around the intersection of Rts. 2-4 and Rt. 231, policies will need to be established to guide development away from the "sensitive" and "extremely sensitive" areas of Parkers Creek, Battle Creek, and Hunting Creek. Fortunately there are substantial stable areas in the Solomons - Drum Point vicinity which could be used to support future growth.

By comparing Map 4 with "Existing Zoning" Map 3, it appears that some zoning boundaries are questionable based on the physical features of the County. For example, the large R-2 area around the White Sands subdivision in Election District 1 traverses some difficult terrain and marsh areas. The R-1 zone around Broome's Island includes some "extremely sensitive" areas. Portions of the R-1 zone at Holland Cliff Shores involves both "sensitive" and "extremely sensitive" land. Some

of the R-1 acreage in the Solomons - Appeal - Olivet area of Election District 1 has some problems, especially the portion to the northwest of Routes 2-4 which covers "sensitive" and "extremely sensitive" areas of stream valleys.

In subsequent chapters of this document policies are recommended regarding use constraints which should be imposed on the three categories of land. But at this point in the discussion, the intention is to impress the point that 16.49% of the County falls in the "extremely sensitive" category, 28.75% is in the "sensitive" land category, while only 54.76% is in the "stable" category. That is, future land use practices will need to harmonize with the ecological constraints of the County.



**COMMUNITY
FACILITIES**

1 2 3 4 5 6 7 8 9

CHAPTER TWO

Community Facilities

Before preparing the Community Facilities element of this Comprehensive Plan (Chapter Eight), it was necessary to first inventory the existing facilities so as to analyze their probable future in the County. Studies were made of the following community services: communications, public safety, health care, solid waste disposal, utilities, and cultural and educational facilities. The findings of these background studies are presented in the following pages.

COMMUNICATIONS

Postal Facilities The U.S. Postal Service has a system of rating local post offices into four categories, based on the revenue generated at each location. A first class post office, the highest revenue category, exists mainly in towns the size of Silver Spring of Hyattsville, Maryland. The Post Office in Prince Frederick is rated first class, and others are rated second, third or fourth class, which indicates the low volume of postal business that is transacted. The other offices are located in the following areas: Solomons, Dowell, Broome's Island, Lusby, St. Leonard, Port Republic, Barstow, Huntingtown, Sunderland, Dunkirk, Owings, Chesapeake Beach and North Beach. It is anticipated that as population increases in the County, postal services will be upgraded.

Telegraph At present Calvert citizens telephone their messages to a Western Union Telegraph office which is located in Annapolis, 40 miles north of Prince Frederick. Nationally the number of telegraph agencies has been reducing over time as people have tended away from over-the-counter usage of the service to telephoning the toll free numbers to place their messages. In towns of less than 5,000 population (which is the rule in Calvert County) it is very rare to have an agency to handle messages since there is insufficient business to make the operation profitable. Thus, in the future, it is probable that County residents will continue to phone-in their messages to central receiving offices outside the County.

Radio & Television Television reception in the County is excellent on all national networks from Baltimore and Washington, D.C. Since Calvert is so near these two large cities, it is not anticipated that there will be a future need for the establishment of a local television station. Radio reception is also excellent from Annapolis, Baltimore, Washington, D.C. and the local Calvert FM radio station. Perhaps as the County grows in the future, there may be a market for the establishment of one more local radio station to carry local news and programs.

Telephone The Chesapeake and Potomac Telephoning Company of Maryland serves the entire County with a modern dial telephone system for direct nationwide dialing. The C & P telephone company has the facilities to expand their services to meet any increased future demand.

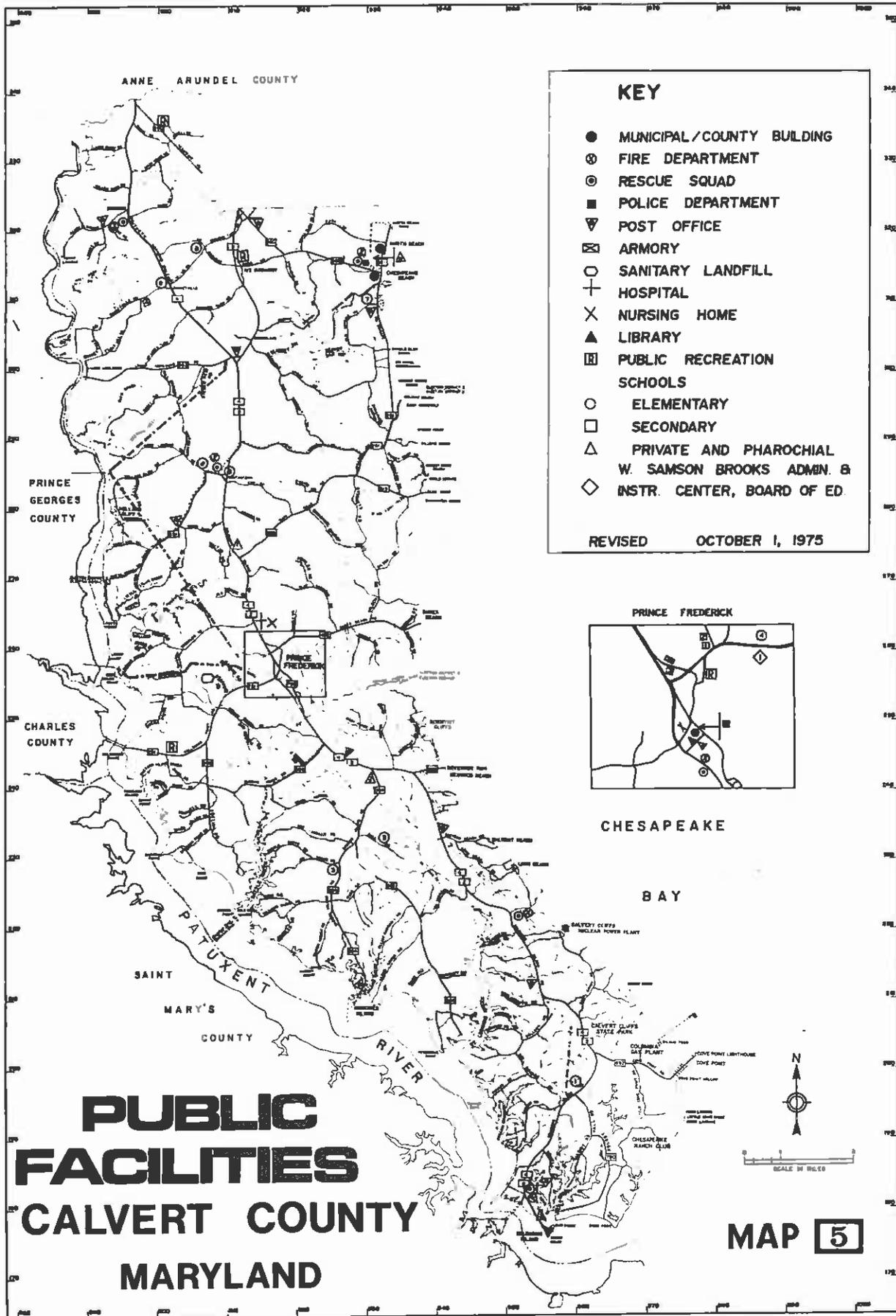
Newspapers Residents are able to get quality daily and Sunday newspapers from Baltimore and Washington, D.C. The County has three of its own weekly publications: the Calvert Independent (with circulation of approximately 4,000, centered in Prince Frederick and founded in 1940), the Calvert Journal Gazette (circulation of approximately 550, published in Prince Frederick, founded in 1868), and the Prince Frederick Recorder (circulation of about 4,000). Since there were 5,589 families in the 1970 census, it appears that most families subscribe to at least one of the County papers. But there are, no doubt, those who subscribe to more than one local paper. Due to the essentially rural character of the County and the availability of major papers in Washington, D.C. and Baltimore, it is not likely that the County will have a major daily newspaper in the future but the local publications will probably continue to serve the residents' needs.

PUBLIC SAFETY

Police Protection Police protection in the County is provided by the Office of the County Sheriff and by the Maryland State Police Post located in Prince Frederick. The municipalities of Chesapeake Beach and North Beach provide police protection within their jurisdictions.

Fire and Rescue Service Existing fire stations are located at North Beach, Prince Frederick, Solomons, Huntingtown and Dunkirk. Rescue operations are based at these same station locations except in Prince Frederick where the rescue station is separate from the fire station (See Map 5).

From reviewing the 1970-1973 fire and rescue call data for the existing stations, it can be seen that more calls originate in the more heavily built up areas of the County. During the four years for which data are available, the North Beach rescue squad performed 2,458 rescues followed by the second district rescue squad in Prince Frederick which responded to 2,110 calls, while the Solomons rescue squad responded to 1,415 calls in the Solomons area. Similarly, the North Beach fire department was called out the most on 1,215 assignments, followed by 1,109 fire calls to the Prince Frederick station, and 407 to the station in the Solomons.



The Solomons, Dunkirk and North Beach volunteer fire departments each operate two ambulances, and the Huntingtown fire department has one ambulance. The Prince Frederick rescue squad operates three ambulances.

Overall, there are 115 trained volunteers to work as members of the rescue squads and 135 trained to be fire fighters.

Future plans include an additional fire and rescue combination facility in the Lusby area. Both the proposed Lusby facility and the existing facilities are intended to service approximately a five mile radius.

Civil Defense The State of Maryland supports a strong civil defense organization. The Maryland Civil Defense Agency, with its underground headquarters in Pikesville, coordinates the activities of county directors and staffs. Sophisticated communication networks link the Agency with each county and permit rapid marshalling of all State resources in a local emergency.

The Calvert County Civil Defense Office is centered in Prince Frederick in the County Court House and is linked to the State Civil Defense Headquarters by voice radio and teletype, and to the State Police network by radio. The County central alarm system is adjacent to the Operating Center and can be moved into the Center if an emergency situation should arise. The County Civil Defense Director is responsible to the Board of County Commissioners for maintenance of an Operational Survival Plan which integrates all County emergency functions.

Accomplishments in County Civil Defense activities to date include: maintenance of eight radiological monitoring stations, completion of a survey which revealed that private home basement would provide fallout protection for thirty-four percent of the County population, adoption by the Board of County Commissioners in October 1969 of a resolution which provides that fallout shelters will be incorporated to the fullest practicable extent in all buildings constructed with County funds, and the sponsorship of Civil Defense courses such as Medical Self-Help and Personal and Family Survival.

HEALTH CARE

Hospital The Calvert Memorial Hospital is a 78-bed acute general hospital located on Routes 2 and 4 and it is approximately mid-county from the North and South boundaries. It is operated as a Private Non-Profit Tax Exempt Corporation by a Board of Directors consisting of 17 members chosen from the citizens of Calvert County. Despite limitations imposed by lack of space, there is continuing progress in implementing improvements essential to better health care. Twenty-four hour Emergency Services, 24-hour X-ray and Laboratory Services, Pharmacy, Physical

Therapy and Respiratory Services, all under the supervision of fully qualified professional personnel, are provided. Additionally, there have been many improvements through the hospital plant. There are 14 physicians on the Hospital Active Staff and 18 on the Hospital Consultant Staff.

Public Health Services The Calvert County Health Department, located in Prince Frederick, includes among its full-time staff a health officer, six public health nurses, and three sanitarians. Personal health services are offered in child health, maternity care, family planning, venereal disease, tuberculosis and mental health. Part-time consultants assist with these programs. Home visiting and school health services are provided as part of public health nursing. The Department is also responsible for enforcing numerous State environmental health regulations particularly in regard to sewerage, water supply, and food handling. Technical aid, laboratory services, and professional consultation for all programs are available from the State Department of Health and Mental Hygiene.

Ambulance Service Refer to discussion under Fire and Rescue Service.

Nursing Homes In 1969 the new Calvert County Nursing Center opened. This modern facility has a forty-one bed capacity, and a staff of 20. There is also a private nursing home (Calvert House) in the County with a fifty bed capacity and a staff of 27.

SOLID WASTE DISPOSAL

There are four land disposal sites which have been recognized by the County: The Jones Dump located near Chesapeake Beach serving the northern portion of the County, the Stafford Dump located about 1½ miles west of Prince Frederick serving the central program of the County, the Horsman Dump on Parran Road near Route 2, and the Chesapeake Ranch Estates, landfill serving only that development. (See Map 5). Though privately owned and operated, all of the dumps are open to the public except for the Chesapeake Ranch Estates landfill. No charges are made to individual dumpers at the three public dumps but commercial hauler trucks are charged varying amounts at these locations.

On December 27, 1973, the County approved a new County Solid Waste Management Plan. Under provisions of the new Plan the County will establish one sanitary landfill in the Prince Frederick area, and will provide for individual family disposal of solid waste through use of "Green Boxes" (6 cubic yard capacity) located throughout the County.

UTILITIES

Fuel Oil The principle fuel of the County is fuel oil and all grades are available from local distributors.

Gas. Four propane gas companies service the County with bottled, bulk and metered gas sales. The majority of sales to commercial and industrial accounts are made on the bulk, truck metered method.

Electricity Most of Calvert County receives electrical service from the Southern Maryland Electric Cooperative, Inc. (SMECO) which has a district office in Prince Frederick. SMECO purchases all its power from the Chalk Point Plant (Prince George's County) which is owned by the Potomac Electric Power Company (PEPCO). The purchased power is in the 230 KV range. SMECO distributes and sells this power to areas in St. Mary's, Charles, and Calvert Counties. The SMECO electricity is distributed in Calvert County by 69 KV transmission lines which extend from the southern part of the County west of Route 2-4 (Bertha) to the northern part of the County (Sunderland).

North Beach, Chesapeake Beach, and the Plum Point Beach areas of the County are the exception to the above, being served by the Baltimore Gas and Electric Company.

Water Service Groundwater has been the primary water supply source for Calvert County. Wells making use of the abundant supplies of ground water provide the potable water supply of the County. The sediments from which ground water is extracted in the County are of the Nanjemoy, Jackson, Aquia and Magothy age. And Cretaceous rocks underlying the County are another possible source of water for deep wells.

The Comprehensive Water and Sewerage Plan for Calvert County states that the Najemoy rock strata supplies the water for most wells in the northeastern and eastern parts of the County while both the Najemoy formations and rocks of the Jackson Age (which are nearer the surface) provide the ground water for most of the southern part of the County. The deeper wells of the County tap into the Aquia greensand strata at depths between 200 and 500 feet below the surface and the Magothy aquifer, still deeper beneath the surface, is capable of supplying good quality and abundant water to deep water wells. The Magothy aquifer is important to Calvert's water planning since it is the policy of the Department of Natural Resources that large community and commercial systems shall draw their groundwater from the Magothy aquifer. To this end, a study of the Magothy aquifer is now underway by the joint efforts of the U.S. Geological Survey, the Maryland Department of Geology, and the affected Maryland Counties.

Overall, the Calvert County Comprehensive Water and Sewerage Plan indicates that to date, the water reserve of the various aquifers has been more than sufficient to meet the daily requirements of the County. At least during the period of 1974-1994, it can reasonably be assumed that there are ample supplies of groundwater of satisfactory chemical quality for most uses in the County.

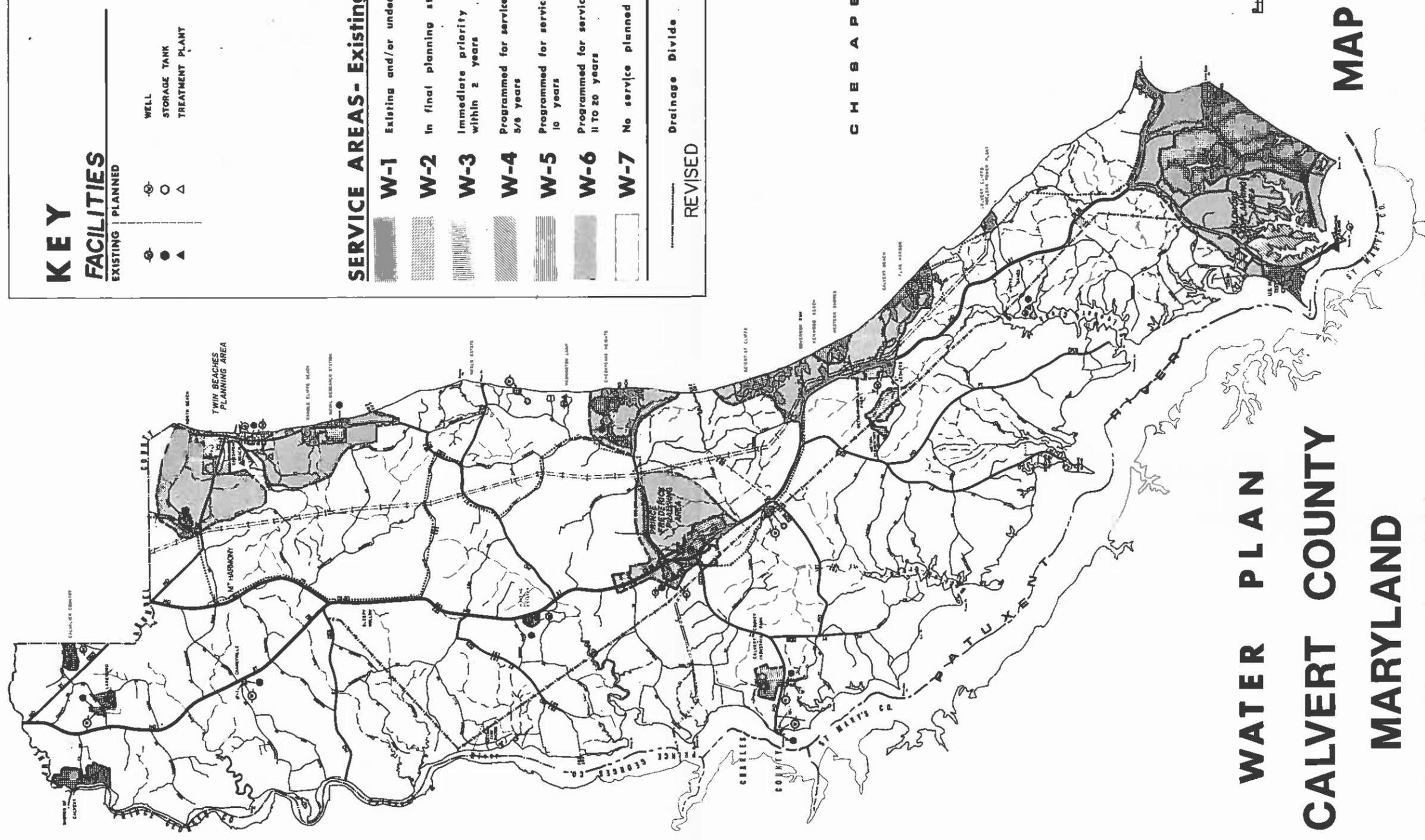
The Comprehensive Water and Sewerage Plan estimates that in 1973, some 13,720 persons relied on individual wells for their water supply. The remaining 8,880 persons in the County were served by community water supply systems. The plan reports that to serve the 8,880 persons, there were twenty-one water supply systems in the County, twenty of which were privately owned and one was a public system (the Prince Frederick system). Refer to Map 6 for location of the community water supply systems. Existing systems are as follows: the Calvert Cliffs Nuclear Power Plant, Cavalier Country, Chesapeake, Power Plant, Cavalier Country, Chesapeake Beach, Chesapeake Biological Lab, Chesapeake Heights, Chesapeake Ranch Club Estates, Dares Beach, Hunting Hills, Kenwood Beach, Lakewood, Long Beach, the Naval Ordinance Laboratory at Solomons Island, the Naval Reservation at Cliffs Beach, Saint Leonard, Scientist Cliffs, Shores of Calvert, Western Shores, and White Sands.

Sewer Service The Calvert County Comprehensive Water and Sewerage Plan estimates that even fewer persons in the County have access to community sewerage systems as compared to the number who have community water service. The plan reports the following estimates for 1973: of the 22,600 persons in the County, 18,193 were unserved and 4,407 were served in community sewerage systems. The "unserved" group of persons are relying on individual septic tank systems while the "served" group connect into a collection, treatment, and discharge system of some kind. The nine community sewerage systems exist at the following locations (See Map 7): Chesapeake Beach, North Beach, Prince Frederick, Calvert Cliffs Nuclear Power Plant, Chesapeake Biological Laboratory, Northern High School, Naval Reservation at Randle Cliffs and the Naval Research Lab at Solomons Island. Of the above, the systems at Northern High School and Calvert County Industrial Park use ground disposal. The sewage treatment plants at the Naval Research Laboratory at Solomons and the Chesapeake Biological Laboratory discharge their treated effluents into the lower portion of the Patuxent River while all other remaining systems discharge their treated effluents into the Chesapeake Bay.

CULTURAL AND EDUCATIONAL FACILITIES

CLUBS, ORGANIZATIONS

National civic organizations such as the Lions Club, Rotary Club, NAACP, Optimist Club, the Board of Trade and the Soroptimist Club are active in the County. Veterans organizations include the American Legion and the VFW. The Masons and Eastern Star are also popular, and youth organizations include the Boy Scouts, Girl Scouts, and 4-H Clubs. Besides these nationally



KEY
FACILITIES

- | | |
|----------|---------|
| EXISTING | PLANNED |
| ● | ○ |
| ▲ | △ |
| ⊙ | ⊚ |
- WELL
STORAGE TANK
TREATMENT PLANT

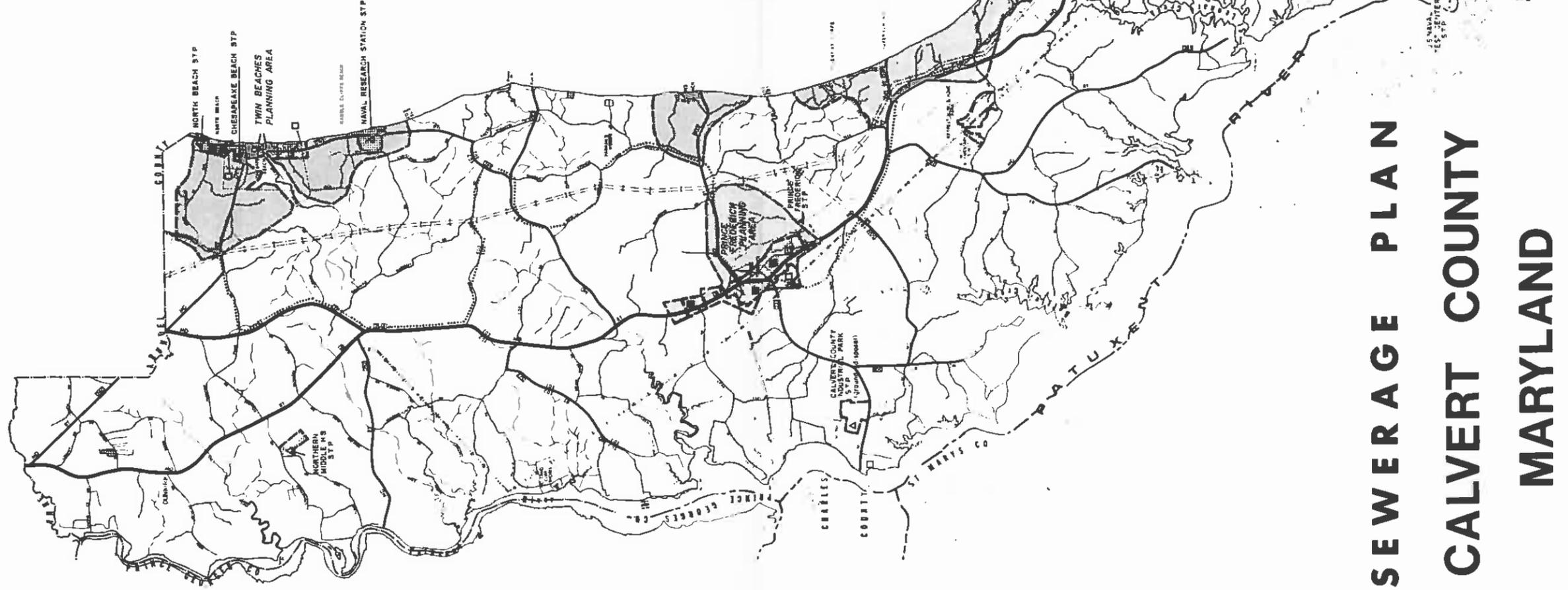
SERVICE AREAS- Existing & Planned

- | | |
|-----|--|
| W-1 | Existing and/or under construction |
| W-2 | In final planning stage |
| W-3 | Immediate priority area for servicing within 2 years |
| W-4 | Programmed for service within 3 TO 5/8 years |
| W-5 | Programmed for service within 6/7 TO 10 years |
| W-6 | Programmed for service within 11 TO 20 years |
| W-7 | No service planned |

Drainage Divide
REVISED

WATER PLAN
CALVERT COUNTY
MARYLAND

MAP [6]



KEY

FACILITIES

- | | | |
|----------|---|------------------------|
| EXISTING | ▲ | Sewage Treatment Plant |
| PLANNED | □ | Sewage Pumping Station |

SERVICE AREAS - Existing & Planned

- | | |
|--|---|
| | S-1 Existing and/or under construction |
| | S-2 In final planning stage |
| | S-3 Immediate priority area for servicing within 2 years |
| | S-4 Programmed for service within 3 to 5/8 years |
| | S-5 Programmed for service within 6/7 to 10 years |
| | S-6 Programmed for service within 11 to 20 years |
| | S-7 No service planned |

----- Drainage Divide
 REVISED

**SEWERAGE PLAN
 CALVERT COUNTY
 MARYLAND**

MAP 7

recognized groups there are various local professional groups, cultural groups, women's organizations, social clubs, church groups and farm organizations.

Churches The majority of the Christian faiths are represented in the County. (Refer to Map 5 for location). The nearest Jewish Synagogue is located in Annapolis, forty miles north of Prince Frederick. Many of the historic buildings in the County are churches and they are a source of pride to the citizens (see discussion of historic buildings in Chapter Five).

Sports Nearby Baltimore and Washington, D.C. treat the sports fan to professional baseball, football, and basketball. Ice hockey is also played in Baltimore. Those who are lacrosse fans can follow the pre-eminent Baltimore schools, colleges, and club teams.

The four major thoroughbred race tracks in Maryland are nearby: Pimlico in Baltimore, the Marlboro race track, and the Laurel and Bowie race courses south of Baltimore. All four offer racing for most of the year. Pimlico is host to the Preakness, second leg of racing's Triple Crown in May; Laurel offers the Washington, D.C. International in November.

Culture Calvert residents must rely on their proximity to Baltimore and Washington for major cultural activities. Many enjoy the Baltimore Symphony Orchestra and the National Symphony Orchestra in addition to the special concerts and recitals by touring orchestras and artists.

The legitimate theater is represented by national touring companies of Broadway successes and pre-Broadway tryouts at the New Morris Mechanic Theatre in Baltimore and the National Theatre and historic Ford Theatre in Washington. There are two "Music Fairs" in suburban Baltimore and Washington that present professional productions of musicals every summer.

There are many important art museums in the Baltimore and Washington region: the National Gallery of Art, Freer Art Gallery, Phillips Gallery, and Corcoran Art Gallery in Washington; and the Baltimore Museum of Art and the Walters Art Gallery in Baltimore.

PUBLIC LIBRARY

The County has only one public library, located in a 12,140 square foot building in Prince Frederick. It has a collection of 25,000 volumes in the main library and a bookmobile is operated which has a capacity of 2,000 books. The bookmobile visits elementary schools for special programs and to provide special materials and it makes 85 community stops twice monthly. In 1973 the circulation from the library and bookmobile amounted to about 60,000. The library is a member of the Southern Maryland Regional Library Association and is a part of a statewide network which includes Enoch Pratt Free Library in Baltimore and the McKeldin Library at the University of Maryland. Part of the library space is designated as public meeting rooms

and is open to all local civic groups and organizations.

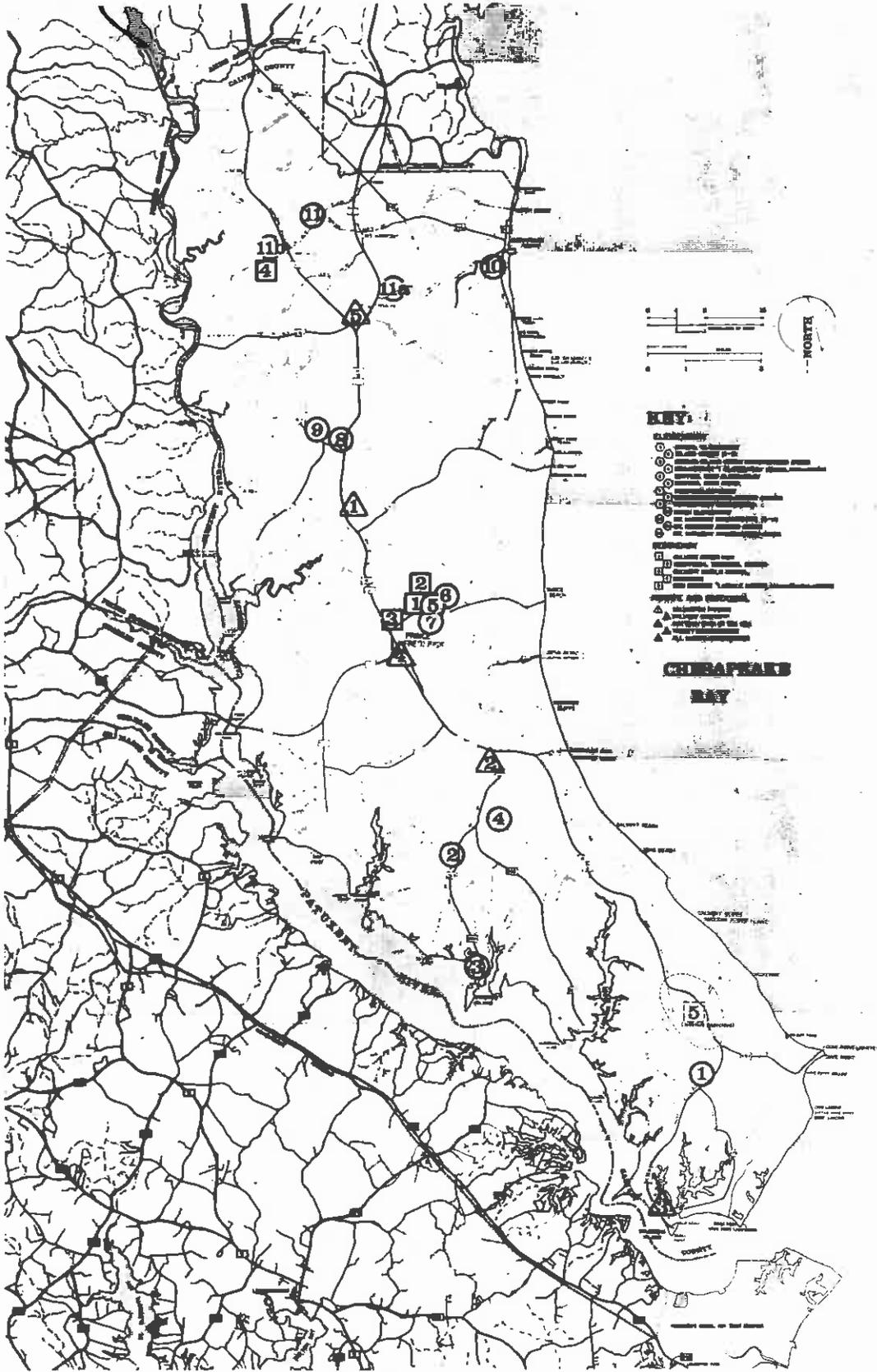
SCHOOL SYSTEM

Each year the single largest portion of the County's budget goes to educational related expenses which is an indicator of the great importance of this one community service. The public schools in Calvert County are operated as a single system by the County Board of Education. It is a thirteen-year system involving kindergarten, grades, 1-5 in elementary school, grades 6-8 in middle schools, and grades 9-12 in senior high school. In addition there is a new Vocational-Technical Center and an Adult Education Program. Names and locations of schools are shown on Map 8.

Also depicted on Map 8 are the locations of the private schools in the County. In the 1970-1971 school year, the private schools had a combined enrollment of 554. The five schools are: Calverton School, which is non-sectarian grades one through eight; the Calvert Christian School, grades one through eight; Our Lady Star of the Sea School, Roman Catholic, grades one through eight; Trinity Kindergarten, non-sectarian, kindergarten only; and the All Saint's Kindergarten, non-sectarian, kindergarten only. Each year the parochial and private schools usually account for about 9.5% of the total school enrollment; for grades one to eight, the private and parochial schools usually enroll approximately 12% of the school age children. In addition, there are three Head Start centers located in the County.

There are no institutions of higher education in Calvert County, and the nearest facility offering higher education courses is located at the Charles County Community College in La Plata. This community college has an enrollment of 1,057 pupils and is located twenty-five miles from Prince Frederick. The University of Maryland offers extension courses each semester at Calvert Senior High School which residents can take advantage of, if so qualified. These extension courses carry full academic credit towards degree programs at the university. Calvert is within commuting distance of the seventy-one accredited institutions of higher education in the Baltimore-Washington area. This figure includes forty-eight which are four year colleges and twenty-three which are two year colleges. Nine schools in the Baltimore-Washington area offer graduate and post doctoral programs.

Figure 1 graphically depicts the upward trend of Calvert's school enrollment in recent years. The growth of the school population can be paralleled by a study of the building permit activity and population increases in the County (refer to Chapter Four). In the 1972-1973 school year, there were 6,084 students enrolled in the Calvert County public schools from kindergarten to grade 12. In 1973-1974, the current school year, 6,317 students are enrolled. Following past trends and foreseeable major future occurrences, the Board of



SCHOOL SYSTEM

8

Source: Capital Construction Program for Six Years FY 1974 to FY 1979, p. 18.

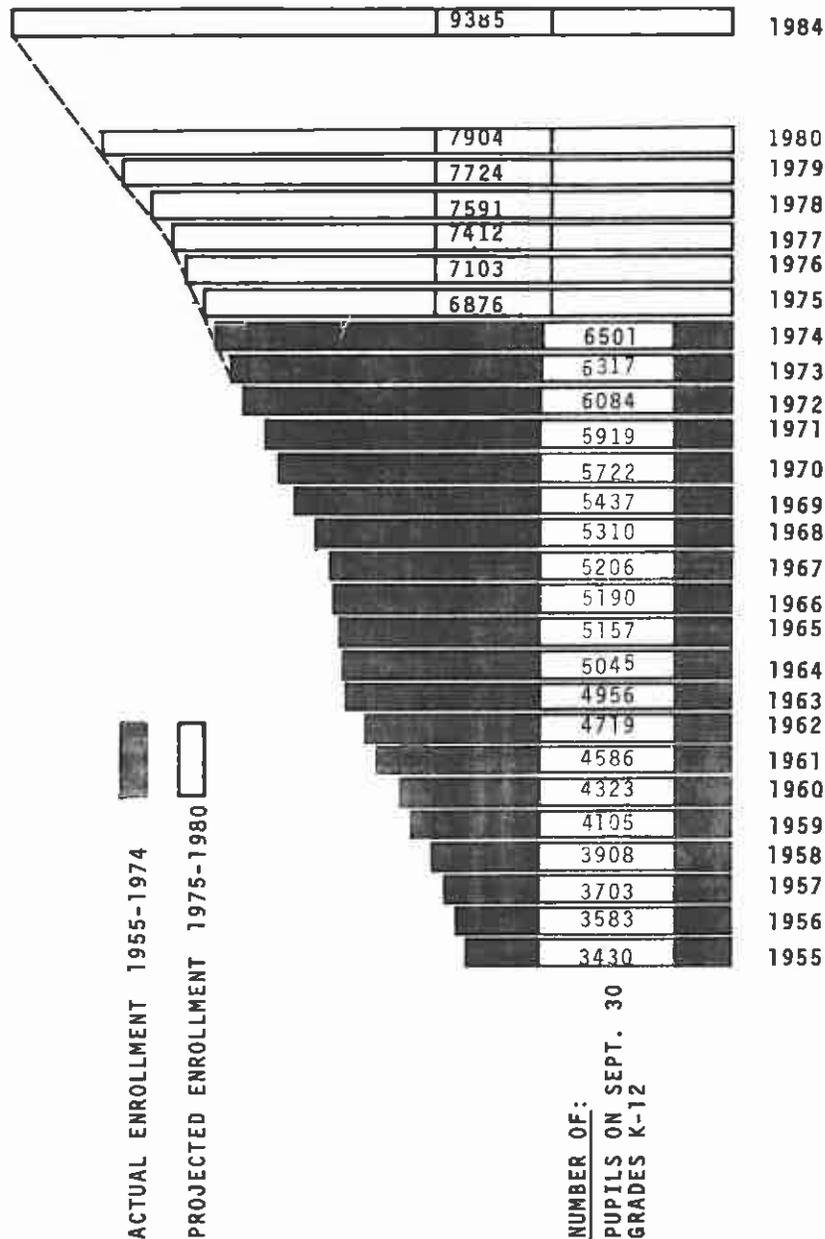


FIGURE 1
PROJECTED SCHOOL ENROLLMENTS 1974 - 1980

Education has made the enrollment projections as indicated in Figure 1 for up to the year 1984. Further statistical information about the school system are as follows: in 1969-1970, the average annual expenditure per pupil was \$755 and the pupil-teacher ratio was twenty-three to one. Also in 1969-70, the salary scale for teachers ranged from \$6,700 to \$10,400, which is comparable to salary trends throughout Maryland. The Calvert County Board of Education in conjunction with the State of Maryland Department of Education has found that the holding rate from grades nine through twelve varies from 60% to 68% (holding rate refers to how many pupils remain in high

school and graduate after some of their class have dropped out). Indications are that the holding rate has gradually been increasing in recent years. For example, the 1970-71 graduating class had a holding rate of 60% while the 1972-73 class figure was 68%, an increase of 8%. Perhaps the opening of the new Calvert County Vocational Technical Center has been a stimulus for more to remain in school until high school graduation.

Further information regarding future plans of the school system and other community facilities are contained in Chapter Eight, the Community Facilities Plan.

HOUSING

1 2 3 4 5 6 7 8 9

CHAPTER THREE

Housing

Planning for housing involves three kinds of factors. The first factor involves certain characteristics of the housing market which allocates scarce resources according to supply and demand criteria. Some of the determinants of supply and demand include: population characteristics, land costs, construction and labor costs, interest rates, personal income, individual housing preferences, and revenue collection policies of the State and Federal governments. County efforts to affect these factors are indirect and long range at best.

A second factor relates to direct actions by the local government which affect the character and quality of development within the County. These actions include: Building and health codes, property tax rates and assessment procedures, public services and improvements, zoning, subdivision regulations, and other land use and development regulations and ordinances.

The final factor is the general approach by which the County combines factors 1 and 2 to achieve a socially desirable housing market equilibrium. The Board of County Commissioners on September 18, 1972 adopted a resolution containing the following policy statement: "... it is the policy of this locality to eliminate substandard and other inadequate housing, to prevent the spread of slums and blight, and to realize as soon as possible the goal of a decent home in a suitable living environment for all its citizens;..." This statement represented a reaffirmation of the policy statement contained in the Federal Housing Act of 1949. Implementation of this policy requires information on the availability of decent, safe and sanitary dwellings; people's needs for better housing; and a plan of action to confront the economic, cultural, and institutional factors which affect the housing sector.

THE PRESENT HOUSING ENVIRONMENT

In this section some of the general characteristics of the existing housing stock and the consumers served by that stock will be examined. Additionally, several criteria will be examined which have been developed to define that portion of the housing supply considered to be inadequate. It should be recognized that a major limitation in discussing the supply of housing in aggregate terms is that housing units may vary drastically in the types of living environment they provide their occupants.

QUANTITY AND TYPES OF HOUSING

The figures present in the tables contained in this chapter represent selected characteristics of the existing housing stock based on U.S. Census data. It has been shown that census data collection techniques may result in significant over or undercounting of certain descriptive elements. The high numbers of vacant units indicated in Table 3.1 would seem to be a case in point, and these figures certainly do not accurately reflect the amount of vacant housing in the County that is suitable for habitation.

It is significant that a relatively high and increasing percentage of the housing units in Calvert County are owner occupied (See Table 3.1). Conversely, a low and decreasing proportion of the total housing stock is renter occupied. This may or may not be a desirable trend. Owner occupied housing tends to be of better quality and maintained at a higher level of repair. However, the relatively low income of many of the County's residents would tend to indicate a need for more rental properties. These types of considerations will be discussed further later in this chapter. One of the most important factors affecting the current supply of rental housing available for occupancy has been in the great demand for such housing resulting from the construction of the gas terminal and the nuclear power plant with large numbers of workers in need of rental housing.

Table 3.2 indicates the types of housing which make up the existing housing stock. Seasonal homes make up a significant portion of the total units in the County, but over time, the relative percentage of units in this category has been decreasing which is reflective of the recent trend toward conversion of seasonal units to year round occupancy.

The vast majority of housing units continues to be single family detached dwellings. However, as noted earlier, the figure of 7,906 units probably represent an inflated picture of the total housing stock since the 1,108 units listed under the category "vacant for personal reasons of the owner" are believed to contain a large number of uninhabitable units.

There has been an absolute and relative increase in the number of mobile homes in the County during the 1950's and 1960's. This may indicate several possible situations. First, moderate income families desiring to purchase homes may turn to mobile homes as the only affordable alternative. Second, mobile homes are perhaps being used as a substitute for multi-family housing

which is in very short supply in Calvert County. Finally, the mobile home may be becoming a more viable and acceptable housing type. By 1970 there were 588 mobile homes in the County, of which approximately 264 were in mobile home parks and 294 were on individual parcels. The 558 mobile homes account for 10.0 percent of the total occupied housing units. During 1971-73 an additional 59 mobile homes were added to the housing inventory.

As is shown on Map 9, housing units in Calvert County do exhibit some spatial predictability. As might be expected, houses tend to be located along major County and State roads. This phenomena strengthens the interface between transportation planning and planning for housing and development. Subdivisions of single family units and particularly those that may contain multi-family units should be located in close proximity to major County roads. Conversely,

TABLE 3.1

OCCUPANCY RATIOS
CALVERT COUNTY

Occupancy Status	1950		1960		1970	
	Number of Households	Percent of Total Households	Number of Households	Percent of Total Households	Number of Households	Percent of Total Households
Owner, White	1,308	25.8%	1,855	31.0%	3,143	39.8%
Owner, Black	456	9.0%	635	10.6%	987	12.5%
Total Owner Occupied	1,764	34.8%	2,490	41.6%	4,130	52.3%
Renter, White	652	12.9%	725	12.1%	909	11.5%
Renter, Black	538	10.0%	562	9.4%	501	6.3%
Total Renter Occupied	1,190	23.5%	1,287	21.5%	1,410	17.8%
Vacant for Sale	15	0.3%	38	0.6%	83	1.1%
Vacant for Rent	44	0.9%	69	1.3%	91	1.1%
Vacant for Personal Reasons of Owner	583	11.5%	671	11.2%	1,108	14.0%
Vacant Because Seasonal Unit	1,476	29.1%	1,423	23.8%	1,084	13.7%
Total Vacant	2,118	41.8%	2,201	36.9%	2,366	29.9%
Total Households	5,072	100.0%	5,978	100.0%	7,906	100.0%

TABLE 3.2

HOUSING SUPPLY
CALVERT COUNTY

	1950	1960	1970
I. Population Total	12,100	15,682	20,682
Population in Housing	12,041	15,437	20,478
Population in Military Group Housing	59	245	204
II. Housing Units Total	5,072	5,978	7,906
Year Round Units	3,596	4,555	6,822
Single Family	3,149	4,421	6,042
Multi-Family	430	25	222
Mobile Homes	17	109	558
Seasonal Units	1,476	1,423	1,084

major road improvements may be expected to result in pressures for housing development on proximate land. County, State and Federal funds are expended in the process of upgrading and constructing roads and highways; the resulting increased accessibility is one factor that makes abutting and closeby land attractive for residential development. The County government has a responsibility to ensure that its expenditures and actions elicit balanced residential development that reflects the diverse needs of the citizens of Calvert County.

OCCUPANCY CHARACTERISTICS

One of the major indicators of housing quality is the number of persons per room. The number of persons per room in a housing unit can be used to measure the degree to which people are crowded together in living units without the benefits of individual privacy and associated amenities, or alternatively; the degree to which ample living space is available to a family. Of equal importance is the fact that crowding is commonly associated with a variety of socially undesirable consequences.

Tables 3.3 and 3.4 indicate that the average household size and the number of children per household have been falling since 1960. In addition, the median number of rooms per dwelling unit has increased from 4.9 in 1960 to 5.6 in 1970. These are all favorable trends which indicate that housing is becoming less crowded. However, this is a general, county-wide trend and the existence of extremely crowded housing conditions among certain segments of the population still exists. In particular, the significant minority of the County's population that are black and those who fall below the economic poverty level are acquiring better housing at a slower rate than the County as a whole.

TABLE 3.3

**AVERAGE NUMBER OF CHILDREN PER HOUSEHOLD
CALVERT COUNTY**

1950	1.72
1960	1.88
1970	1.64

TABLE 3.4

**AVERAGE HOUSEHOLD SIZE
CALVERT COUNTY**

1950	4.04
1960	4.19
1970	3.73

QUALITY OF HOUSING

A primary indicator of housing quality is the presence of all plumbing facilities in the housing unit. Housing units which have piped hot and cold water inside the structure, flush toilet, and bathtub or shower inside the structure for use only by occupants of the unit are considered to have all plumbing facilities. The absence of any such facilities is regarded as an indicator of substandard housing, in that basic levels of sanitation are not afforded to the residents of such housing units.

Table 3.5 indicates the number and percentage of housing units in the County that lack one or more basic plumbing facilities. It is significant to note that 14% of owner occupied units lack some plumbing facilities while 31% of renter occupied units lack one or more of the basic plumbing facilities.

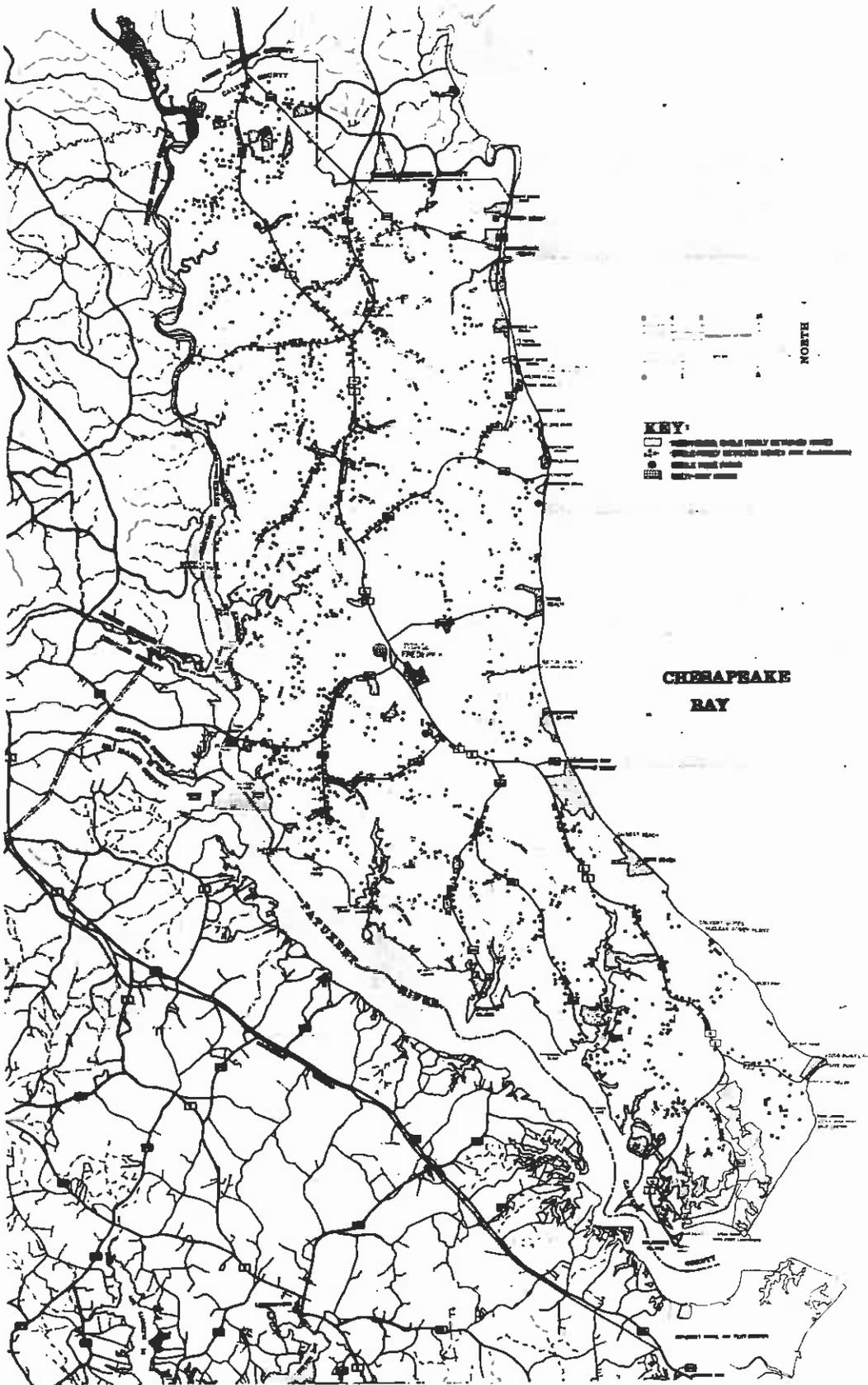
These statistics indicate that a significant portion of the County's population live in housing units that do not provide the basic minimal standard of living that society generally considers acceptable. The improvement in the situation over the past twenty years is encouraging. Efforts in the future should be pursued to ensure that this favorable trend is accelerated and that within a reasonable period all County citizens are afforded the opportunity to achieve a satisfactory living environment.

Tables 3.6 and 3.7 indicate that there has been a steady increase in the value of housing units and the contract rent for housing units in Calvert County. While much of the significance of this increase must be balanced against the part of the rise due to inflation; the value, and presumably the quality, of housing units in the County has been increasing. The general trend toward increasing personal incomes discussed in the next chapter is a vital consideration as it indicates the degree to which County residents possess the financial ability to purchase or rent higher cost and higher quality housing.

TABLE 3.5

**UNITS LACKING PLUMBING
CALVERT COUNTY**

Year	Number of Units Lacking Plumbing	Percent of Total Units
1950	3,661	72.2%
1960	2,263	37.9%
1970	1,486	18.7%



EXISTING HOUSING 9

TABLE 3.6

AVERAGE VALUE NEW UNITS/CALVERT COUNTY *									
	1965	1966	1967	1968	1969	1970	1971	1972	1973
Average Value of New Homes Constructed	\$10,863	12,673	12,469	16,409	15,561	18,387	15,014	22,099	25,500
Mobile Homes Average Value	\$ 3,565	3,534	3,229	4,003	4,715	4,149	5,443	4,491	5,150

*Value as reported by applicants for building permits.

TABLE 3.7

MEDIAN VALUE/RENT CONTRACTS OF ALL UNITS CALVERT COUNTY			
	1950	1960	1970
Median Value of All Units (New & Old)	\$5,512	\$9,100	\$16,500
Median Rent Contract per month	\$ 34	\$ 39	\$ 71

SUPPLY AND DEMAND

Housing is the single largest user of developed land in the County, and like other land uses, housing is responsive to the laws of supply and demand. There are many factors which may affect supply and demand. Supply is affected by the costs of inputs (land, labor, materials, capital), occupancy ratios, and the number of housing units available relative to the population. Demand is most affected by household composition, household age, children per household, family income, and the cost of housing relative to other necessities.

The quantity and quality of housing available for consumption is constantly changing. New housing is always being introduced which generally will be used and reused by several families before it becomes unsatisfactory and is removed from the market. Housing for moderate and lower income families may be housing that has filtered down from higher quality and value levels or may be new moderate or low cost housing.

The unassisted housing market will provide only the amount and type of housing that is demanded. In this context it is obvious that needs may often exceed demand in that demand refers to the amount of housing the consuming public is willing and able to pay for. The gap between need and demand is reflective of the common situation in which a family needs more housing than it is capable of paying for.

The major problem with attempting to raise housing standards through more rigorous building and housing codes is that these controls are ineffective unless families can afford to purchase

or rent the improved housing. If housing quality and quantity is raised, then the purchasing power of county residents must also be raised. This may be accomplished in part by rent supplements, income supplements, or any of a variety of housing subsidies which have traditionally come from the Federal government, and, in recent years particularly, have been inadequate or unavailable. The situation that must be faced is that higher quality housing construction and maintenance can be required but will not be supplied unless the corresponding purchasing power or demand is achieved. This is a long run and highly complex proposition that will require continuing and expert attention.

HOUSING OF BLACK FAMILIES

Black citizens in Calvert County generally reside in poorer quality housing than the population as a whole. The Black family is more likely to live in a home which lacks one or more basic plumbing facilities (See Table 3.8), and is also more likely to live in a crowded condition (5.13 persons per unit as opposed to 3.1 persons per unit in majority households).

While substandard housing for minority citizens is not a problem that is unique to Calvert County, the need for improvement is nevertheless of vital concern. The appropriate goal is to help minority households make the move from substandard to standard housing. This will involve

Source: Planning Departments of Calvert, Charles, and St. Mary's Counties

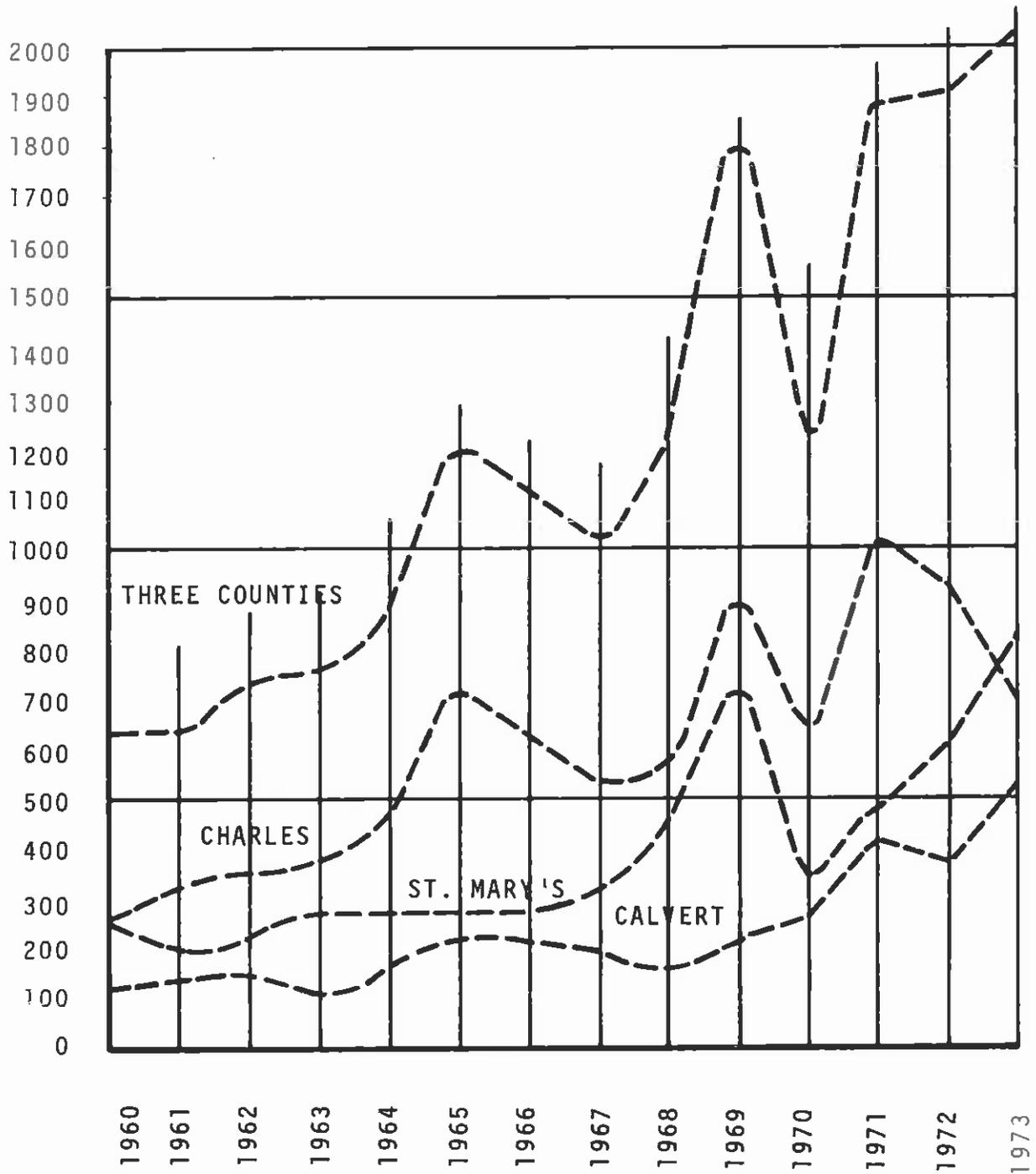


FIGURE 2

RESIDENTIAL BUILDING PERMITS 1960-1973

efforts to raise their effective demand for housing and to improve their ability to participate in the private housing market through improved educational and employment opportunities. Immediate approaches that could be pursued would include: rent supplement programs, sweat equity programs, subsidized loans, and public housing. Most housing programs depend to a large extent on federal funding for basic financial

support and to that extent are dependent on the federal government's commitment to solve housing problems. In the long run the County has a responsibility to ensure that all citizens, regardless of race or ethnic background, have equal opportunities to achieve upward economic mobility which will allow not only improved housing but also higher standards of living in general.

TABLE 3.8

**MINORITY HOUSING UNITS LACKING PLUMBING IN 1970
CALVERT COUNTY**

	Total Number Households Per Category	Number of Households Lacking Plumbing Facilities	Percent of Each Category Lacking Plumbing Facilities
Black owner-occupied units	987	478	48.2%
Black renter-occupied units	501	441	88.0%
All black occupied units	1,488	919	61.6%

**LOCAL PLANNING EFFORTS AND
DIRECTIONS**

In the winter of 1970-71, the Calvert County League of Women Voters made a sample survey of housing conditions in the County. The survey showed that there are substantial numbers of houses that need repair, major rehabilitation, or should be eliminated and replaced by a new unit.

Efforts such as the League survey are very important in that they provide the very necessary detailed type of data that is crucial in determining specific areas of needs so that policies and programs can be instituted or existing ones modified to respond to identified problem areas.

As the League survey pointed out, some people who are housed in poor living environments may have cultural or family ties to the area in which they live. This may mean that the most economically efficient way to improve their housing situation (which often involves relocation) may not be acceptable. In this situation, compromise solutions should be sought that can make all possible improvements within fiscal limitations.

Forthcoming increased in tax revenues from the two large industries, the nuclear plant and gas terminal, involve considerable uncertainty as to how much of this money will accrue to the County, and how much of it should be spent for specific services. Higher County tax revenues tend to lessen several categories of State and Federal assistance to the County. It has been suggested

that property taxes be reduced, however, a reduction in the property tax rate would result in only a slight decrease in tax liability for most property owners while the reduced revenues from the industrial properties would amount to millions of dollars.

Calvert County is committed to future acceptance of the negative facets of these two large installations. If the projected benefits of these projects are to be realized, action must be taken to justify and establish expenditure priorities. With regard to housing, some of the revenues generated certainly could be justifiably expanded. According to the 1970 census, Calvert County ranks very poorly when compared to other Maryland counties in the following categories: percentage of substandard houses, frequency of overcrowding, years of school completed, and availability of certain types of dwelling units. Only two counties in Maryland have a higher percentage of their population that are disabled or handicapped. The County is also at unsatisfactory levels in categories such as unemployment, population mobility, and percentage of families below the poverty level.

As the relative affluence of County residents increases, more attention is directed toward protecting the "quality of life". Codes and regulatory devices designed to ensure quality development must retain the flexibility necessary

to remain responsive to the needs of lower income citizens.

If there exists a growing market for new, relatively high cost housing; developers are naturally drawn to such a market with its attractive risk, financing, and profit margin characteristics. The need to stimulate new low cost housing has thus, in recent years, become increasingly a government function.

Mobile homes may provide a source of inexpensive housing. Past experience has shown that mobile home developments must be well planned with adequate attention to needed services and amenities to avoid creation of unsatisfactory living environments. Regulations affecting mobile homes must be adequate to protect future consumers and flexible enough to allow their use as a source of low cost housing.

The population in Calvert County has increased rapidly in recent years. Much of this increase can be attributed to in migration of Washington area commuters. Nationally jurisdictions that are located in the urban fringe have experienced population growth as suburban development reaches further away from the center city. These types of pressures will naturally affect the local housing market. As the character of housing production changes, resulting in more high cost housing production and much less low-moderate income housing production, efforts must be made to modify the effects of this change in production.

Federal housing programs offer financial assistance for efforts to generate more low cost housing. However, funding for many of these programs has been less than adequate in recent years. Rent supplement programs are a significant source of aid that have been affected by budgetary allocations at the federal level. Federal and state low interest loans, direct or insured, do offer some assistance to low-moderate income residents who qualify for such mortgage assistance. FaHA presently has three quarters of a million dollars that could be used for a low income rental housing project in Calvert County.

The local Housing Authority has not received needed federal funding assistance. Past action by the Housing Authority included recommendations for the easing of regulations applied to mobile homes, examination of regulations that affect low cost housing developments, and suggestions that occupancy criteria be reviewed. The Housing Authority further submitted applications for federal funds to construct two 100-unit rental supplement (Section 235) housing projects, but federal money was not available.

A small local group, with OEO support and assistance, has acquired property and is now working with FaHA toward a self-help housing project. FaHA housing assistance programs are also available, and are being used, on an individual basis.

RECOMMENDATIONS

1. The Housing Authority should remain as active as possible with the minimal federal support available. Present efforts should focus on activities and programs that may be implemented when funding becomes available.
2. The County should examine its codes, regulations and policies so that unnecessary cost increasing factors may be identified, and eliminated, and production of low cost housing facilitated.
3. The County should consider the establishment of an adequately funded and staffed County Housing Office which could perform such duties as follows:
 - a. Prepare and maintain a detailed inventory of housing needs and other housing data.
 - b. Provide counseling assistance with regard to application for housing subsidies.
 - c. Assist private enterprise and non-profit sponsors in the construction of low cost housing.
 - d. Seek to utilize the student resources available at the Vocational-Technical School.

ECONOMY

1 2 3 4 5 6 7 8 9

CHAPTER FOUR · Economy

Before preparing Calvert's Comprehensive Development Plan, it is essential that the existing population and economic structure be evaluated so that favorable existing trends might be encouraged into the future through public policy. Instrumental to the Land Use Plan of Chapter Eight are the population projects advanced under the "Population Outlook" section of this Chapter.

EXISTING POPULATION CHARACTERISTICS

One of the most important resources of any region is its population. In order to assess the potential of Calvert County's population, an analysis was undertaken of the existing population density, distribution, race, age, sex ratio, educational level, and income level.

DENSITY

In Calvert County a general rule applies to the density of population: the nearer geographically an area is to Washington, D.C., the more densely populated it is. For example, in the 1970 census, District No. 1 in the south (Solomons) had a density of 84 persons per mile, District No. 2 in the middle (Prince Frederick) had a density of 93 ppm, and District No. 3 to the north (Sunderland) was the most dense with 107 ppm. Compared to more urbanized counties in the Washington, D.C. hinterland, Calvert's densities are low thus indicating that the County is predominately rural at present. After the lower Patuxent River bridge between Solomons & St. Mary's County is completed, the southern District No. 1 might increase in its relative and absolute population density.

DISTRIBUTION

At present the population is tending to congregate in three places in the County: at Solomons, Prince Frederick, and the Twin Beaches area of Chesapeake Beach and North Beach. A smaller node is occurring along the Chesapeake Bay from Scientist Cliffs to Long Beach. The rest of the County has a lower density population of rural single family homes.

RACE

In colonial times the County was once about 80% blacks but over time with changing economic and social conditions, many blacks migrated out of the County. But in recent years the black percentage of the total population has been stabilizing. At present the Count is about 2/3 white (62.6% in 1970 census) and 1/3 black (37.4% in 1970). (Refer to Figure 3). The 1970 census also reported 34 persons in the County of Indian, Chinese, Japanese or Filipino descent.

AGE

The population pyramids (Figure 3) and Table 4.1 indicate that compared to state and national averages, Calvert has more persons under age five, a larger number of persons under age 20, less than the average in the 20-35 age group, about the norm

for the 35-50 age group and a greater than usual number in the over 50 years of age group. The result is that the median age in the County is lower than state-wide and national averages and Calvert's fertility ratio (the number of children under age 5 per every 100 women aged 15 to 49 years is the highest in the State of Maryland.

SEX RATIO

There are slightly more white males than white females, but black females slightly exceed the number of black males. When both whites and blacks are grouped together, it is found that from age 0-4 there are the same number of males and females in Calvert County. From age 5-19 there are a few more males than females (200 more in 1970 census). From age 20-44 the two sexes are equal in number, but for age group 45-64 the males are more numerous (100 more in 1970). Yet in retirement (over age 65), the females dominate (100 more females than males in 1970).

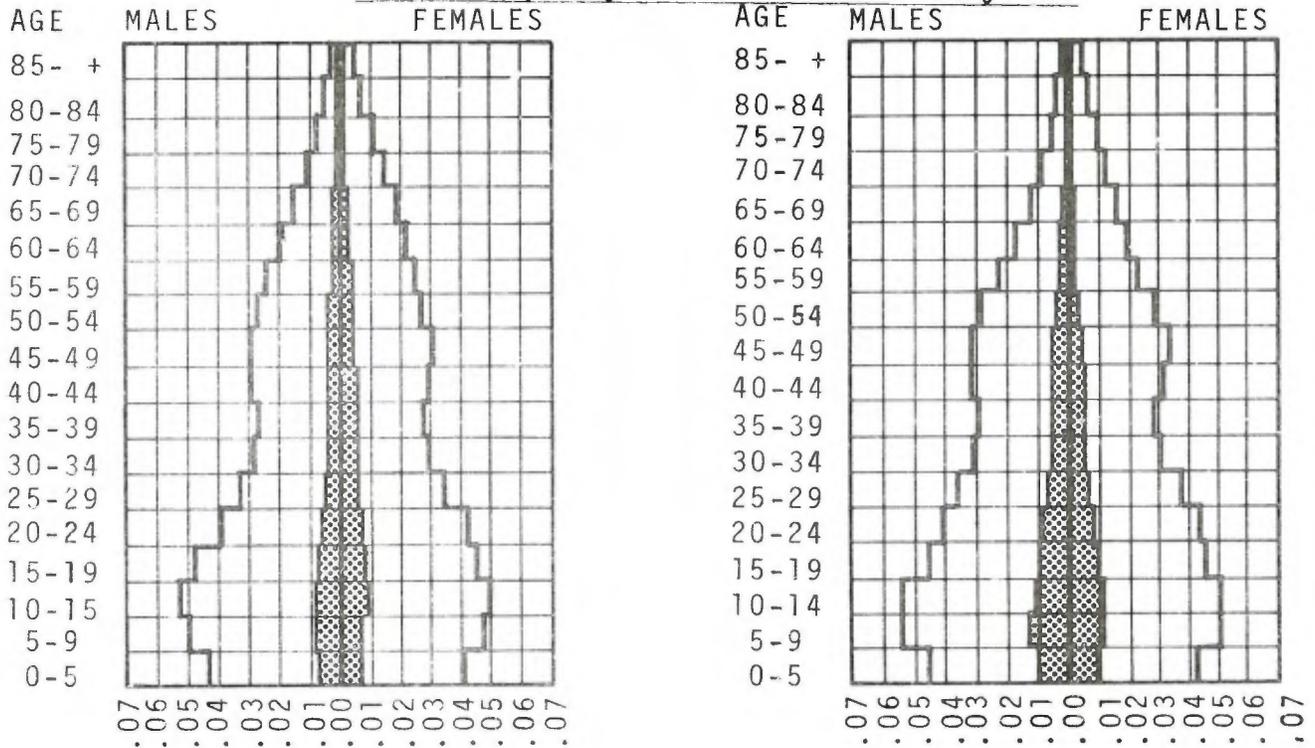
EDUCATIONAL LEVEL

The median education level in Calvert is significantly lower than the State-wide average. Calvert's average is 8.4 years of education. Perhaps there is future hope for a rise in the average educational level because of the establishment of the new Vocational/Technical Center which may attract those who would normally be high school "drop outs" and train them in useful employment skills. The Board of Education reports that the percentage of "drop outs" per high school graduating class is decreasing somewhat, but this is still a great problem in the County.

INCOME LEVEL

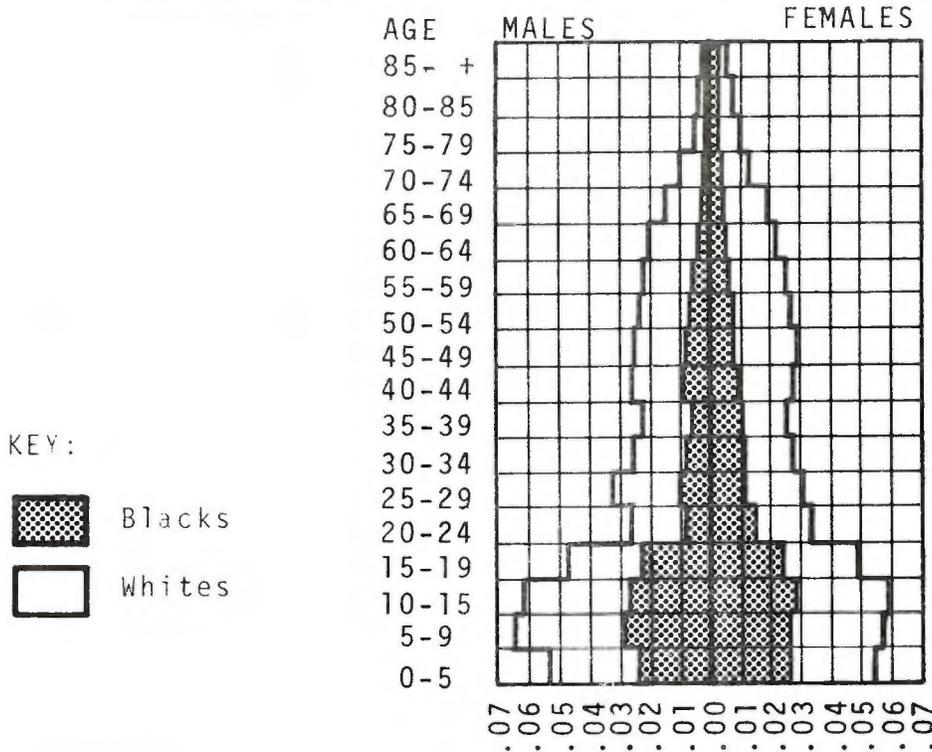
If family incomes in Calvert County for 1950, 1960 and 1970 are compared in 1950 constant dollars, one finds that the average family income has been increasing. To be specific: the average annual family income for Calvert County residents went from \$4,567 (1960) to \$8,649 (1970) which was a 10% growth rate per annum. Then in 1972 the average increased to \$11,528, which represents a 14% growth rate per annum from 1971-72. The Calvert County Economic Development Corporation estimates by 1977 the average family income in the County will exceed \$14,000. But even so, the Calvert County median income is well below State and National averages. In 1970 the average family income in the U.S. was \$10,565; for the State of Maryland it was \$11,257; while in Calvert County it was only \$6,649. Each year about 37% (or over 1/3) of the Calvert population falls below the poverty line and 37% are in the moderate income category which leaves a minority of 26% who are over the \$10,000 income category and into the so-called "Middle Class" standard of living.

Source: Draft of Comprehensive Regional Plan for the
Tri-County Region of Southern Maryland



UNITED STATES

MARYLAND STATE



CALVERT COUNTY

FIGURE 3

POPULATION CHARACTERISTICS: AGE, SEX & RACE IN 1970

TABLE 4.1**POPULATION BY AGE GROUPS
CALVERT COUNTY**

<u>AGE</u>	<u>1960</u>	<u>1970</u>	<u>CHANGE</u>	<u>%</u>
Under 5	2,229	2,214	-15	-00.7%
5 - 14	4,037	4,922	+885	+21.9%
15 - 24	2,067	3,259	+1,192	+57.6%
25 - 34	1,762	2,415	+653	+37.0%
35 - 44	1,841	2,041	+200	+10.8%
45 - 54	1,488	2,094	+606	+40.7%
55 - 64	1,145	1,863	+718	+62.7%
65 & over	1,257	1,874	+617	+49.1%
	<u>15,826</u>	<u>20,682</u>	<u>+4,856</u>	<u>+30.7%</u>

EXISTING ECONOMIC CONDITIONS

The purpose of this section is to describe the characteristics of Calvert's major industries as located on Map 10. In addition, attention is given to the traits of the Calvert County labor force because this also contributes to the County's ability to attract further investment.

AGRICULTURE

In recent years there has been a decrease in the total land used as farms. At the same time the total number of individual farms has decreased while the average age of farmers is increasing, a trend that exists throughout the State and nation, and the total revenue from produce sales has been increasing in recent years. From the colonial period forward, tobacco has been the mainstay crop of the County because the sandy sassafras loam soils and climatic conditions in the region are ideal for tobacco production. In the State of Maryland the total acres in tobacco production has been gradually decreasing over time with signs of stabilizing at a rate established in 1969. Likewise Calvert County's tobacco industry acreage gradually decreased prior to 1969 but since 1970 both tobacco prices and acreage have been gradually increasing and the industry appears to be leveling off at a stable point. In the future it is likely that overall agricultural production will diminish gradually but the mainstays of the industry (tobacco and other field crops like vegetables, fruits, and nuts) may continue to be profitable. Livestock and livestock products will likely be of the next importance in the agricultural industry.

CONSTRUCTION

The percentage of those engaged in construction occupations has been increasing. It is estimated by most authorities that most laid-off farm workers are being retrained as construction

workers. This trade-off is certainly viable as long as sufficient construction jobs exist. Employment in this sector is somewhat variable since jobs are frequently seasonal in nature, are temporary until a large job is completed, and workers are only physically capable of doing this kind of work during a certain period of their lives.

MANUFACTURING

Some of the biggest employers in the County today are the lumbering companies, and seafood processing plants. A large manufacturing plant in Calvert County employs usually around 50-70 workers while an average sized plant employs 15-20 workers.

GOVERNMENT (other than military)

Most residents employed in non-military government jobs are commuting to Washington, D.C. for their positions. The white collar Government employees tend to be the new immigrants at the northern part of the County, and they tend to be highly skilled, and well educated. This category of employment is in contrast to the local employment opportunities which tend to be blue collar positions.

OTHER EMPLOYMENT

"Other" employment category is a catch-all but it includes the transportation, utilities, real estate, finance, services, wholesale and retail sales industries. Recently these industries have been expanding tremendously because the County has a viable economic base supported by tourism, recreation, and second-homes. For example, sport fishermen are attracted to the water resources around Calvert County so they go to the County for boat maintenance, food, fuel, docking facilities, and sleeping accommodations. The tourist industry is growing and it has great potential through publicizing such existing and pro-

posed features as Battle Creek Cypress Swamp, the Hemlock Stand, the Cliffs of Calvert, the Calvert Cliffs Nuclear Power Plant, the Drum Point Lighthouse and historical museum, Middleham Chapel, All Saints Chapel, Christ Church, the historic homes, the Solomons area for fishing and boating, the Chesapeake Biological Laboratory, the Solomons aquarium and pier area, the Chesapeake Beach and North Beach area for fishing, boating, or seafood, and the historic St. Leonard's Creek where a famous battle of the War of 1812 was fought.

LABOR FORCE

Table 4.3 shows the 1960 and 1970 labor force characteristics for Calvert County. Observations from the data are: most persons are employed in civilian jobs; there are more than twice as many men as women in the labor force; of those women who are in the labor force a higher percentage than men are professional and technical "white collar" workers; about an equal percentage of the men as women are managers, officials and proprietors; clerical workers tend to be women; farm workers, craftsmen, foremen, operatives and kindred workers are almost entirely male positions; and about equal percentages of men and women are employed as sales workers. As would be expected by national statistical averages, the majority of women over age 14 years are not in the regular work force, they are listed as "other" which usually means homemakers and housewives. Males, by contrast, are almost always in the labor force. Males are favored in positions listed except for the higher professional / management roles where women with good training appear to be in a competitive position. Both men and women are being hired in assembly line work, perhaps because either sex is physically capable of doing this kind of work.

Labor - Management relations are generally excellent with few instances of work stoppage and

no record of violent actions. No manufacturing firms in the County are unionized. It is estimated that there may continue to be no unions in the future since the businesses involved are relatively small.

Commuting to Washington, D.C. and Baltimore regions absorbs a significant proportion of the County's labor supply. (See Figure 4). In the northern part of the County, fifty percent commute out while in the southern part of the County about fourteen percent commute. In years ahead it is anticipated that even more of the labor force will commute out of the County for employment as accessibility to Washington and Baltimore is increased and as outward urbanizing pressures from Washington start to affect the County even more. The completion of the Lower Patuxent River Bridge at Solomons may also increase inter - county commuting patterns as some start commuting between Southern Calvert and St. Mary's County.

Another aspect of labor force analysis is determining the potential labor that might enter the labor force if given the opportunity or necessity to do so. In January of 1971 the civilian labor force in Calvert County was estimated by the Calvert EDC to be about 5,800 while the estimated labor potential was set at an additional 2,298 persons.

Observations concerning Table 4.4: It is estimated that fewer persons in 1971 would shift to another job because their original job was seasonal. This may indicate tourism or agricultural jobs are stabilizing or diversifying into better year - round employment. Fewer commuters in 1971 appear interested in finding comparable jobs in the County which may be because commuters are becoming so highly specialized in their job skills that comparable jobs in the County cannot be found. Since the Board of Education reports that more students are finishing high school, the slight

TABLE 4.2

***AGRICULTURE
CALVERT COUNTY**

	1964	1969
Number of Farms	1,014	677
Average Farm Size	74 acres	92 acres
Land in Farms	75,016 acres	62,306 acres
Total Cropland	32,161 acres	28,183 acres
Harvest	16,143 (B/A)	14,159 (B/A)
Average age of Farmers	51.3 years	53.3 years
Percent Tenancy	25.2%	10.1%
Woodlands Acreage	32,172 acres	24,247 acres
Produce Sales	\$4,439,650	\$4,063,480

TABLE 4.3

**LABOR FORCE CHARACTERISTICS IN
CALVERT COUNTY**

	1960		1970	
	Male	Female	Male	Female
<u>TOTAL POPULATION</u>	7,989	7,837	10,328	10,354
<u>Employment Status:</u>				
Persons 14 yrs. old & over	4,958	4,918	6,327*	6,653*
Labor Force	3,888	1,664	4,920	2,567
Armed Forces	147	---	89	---
Civilian Labor Force	3,741	1,657	4,831	2,567
Employed	3,514	1,544	4,694	2,447
Unemployed	227	113	137	120
Not in Labor Force	1,070	3,254	1,407	4,086
Inmate of Institution	22	17	25	51
Enrolled in School	404	444	332	447
Other, under 65	339	2,290	452	2,765
Other, 65 and older	305	503	598	823
<u>MAJOR OCCUPATION GROUP OF EMPLOYED PERSONS:</u>				
<u>Total Employed</u>	<u>3,514</u>	<u>1,544</u>	<u>7,141</u>	<u>2,447</u>
Professional & Technical	181	230	667	232
Farmers & Farm Managers	599	37	271	---
Managers, Officials, Proprietors	238	104	553	118
Clerical & Kindred Workers	94	282	1,018	808
Sales Workers	107	73	325	114
Craftsmen, Foremen, Operatives & Kindred Workers	1,200	77	2,075	132
Private Household Workers	8	351	304	301
Service Workers	120	199	947	623
Farm Laborers & Foremen	336	108	335	100
Laborers, Excluding Farm & Mine	529	4	646	19
Occupation not reported	102	79	---	---

Sources: Bureau of the Census: 1960 Census of Population PC (1) 22C, Maryland: Tables 52, 57, 83, and 84; 1970 Census of Population PC (1)-C, Maryland: Tables 120, 122.

*1970 Labor Force Statistics specify persons 16 years of age and older as compared to the 1960 Labor Force Statistics which includes only those persons 14 years and older. Despite the discrepancy, the two data years are comparable because of employment trends.

increase shown in high school graduates entering the labor market is reasonable.

Apparently some women would enter the labor force if they could find a suitable job. Unemployment figures in the County are higher than the National average. In 1970 the unemployment rate was 8.2% and in 1971 it was 7.2%.

POPULATION OUTLOOK

In order to quantify future population gains expected in the County during the design period of this Comprehensive Plan (up to 1990), investigation was made of five recognized sources which have made population projections for the County: the 1965 Gladstone Report (1), the Maryland Department of State Planning, the U.S. Census Bureau, the Tri - County Council for Southern Maryland, and the Economic Development Corporation of Calvert County. The

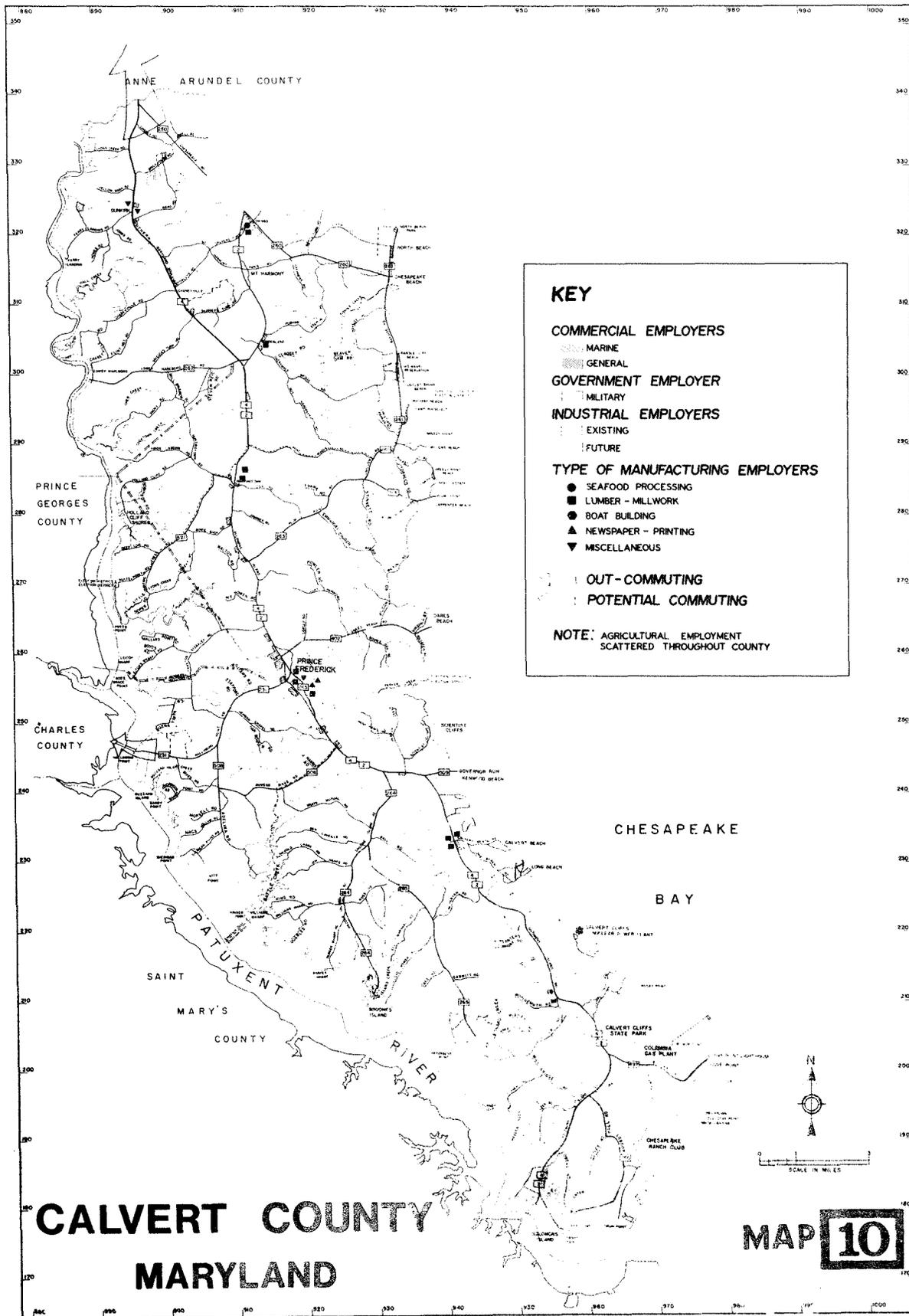
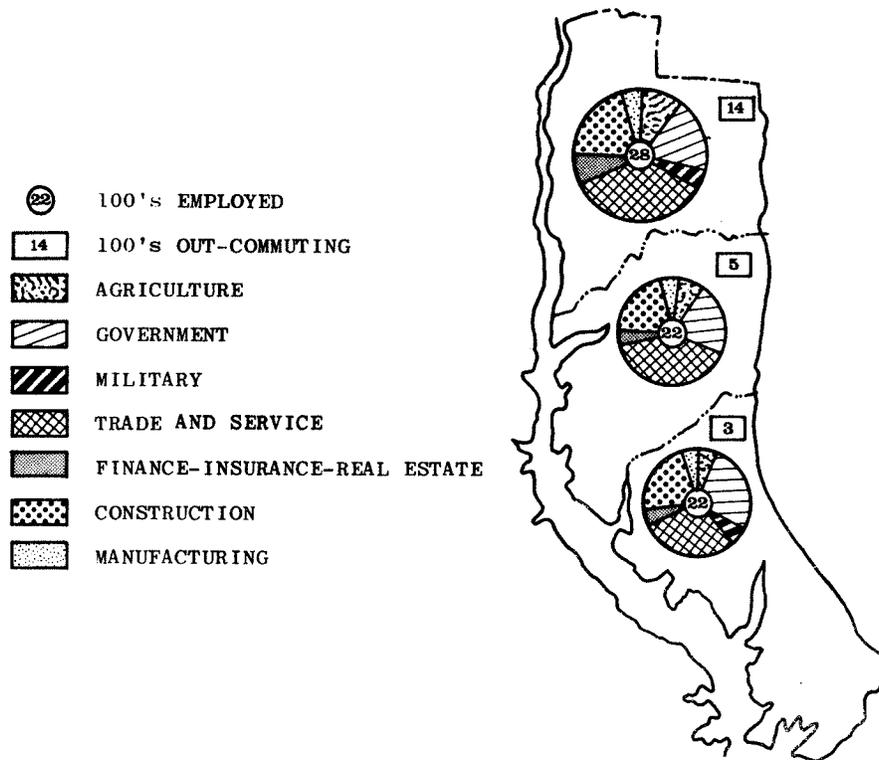


TABLE 4.4
ESTIMATED LABOR POTENTIAL
CALVERT COUNTY

	<u>Jan 1970</u>	<u>May 1971</u>
Active unemployment insurance claimants	300	490
Unemployed whose claims have expired	26	53
Unemployed who were not claimants for unemployment insurance	330	330
The underemployed person who would shift from low paying or seasonal jobs	400	300
High school graduates expected to enter the labor force annually	225	275
Residents of Calvert County who commute outside the County to work but who would work in the County if comparable jobs were available	850	700
Women not now in the labor force who would enter if jobs were available	130	150
	<u>2,261</u>	<u>2,298</u>

FIGURE 4
OCCUPATIONAL DISTRIBUTION OF LABOR FORCE-1970



Source: Draft of Comprehensive Regional Plan for the Tri-County Region of Southern Maryland

TABLE 4.5
CENSUS DATA
CALVERT COUNTY

	<u>1970</u>	<u>%</u>	<u>1975</u>	<u>%</u>	<u>1980</u>	<u>%</u>	<u>1985</u>	<u>%</u>	<u>1990</u>	<u>%</u>
ED 1	6,404	31%	7,855	31%	9,300	31%	11,005	31%	12,855	31%
ED 2	6,211	30%	7,348	29½%	8,700	29%	10,118	28½%	11,620	28%
ED 3	<u>8,067</u>	<u>39%</u>	<u>10,134</u>	<u>39½%</u>	<u>12,000</u>	<u>40%</u>	<u>14,377</u>	<u>40½%</u>	<u>17,015</u>	<u>41%</u>
TOTAL	20,682	100%	25,337	100%	30,000	100%	35,500	100%	41,500	100%

TABLE 4.6
COMPARATIVE POPULATION PROJECTIONS
CALVERT COUNTY

<u>Source</u>	<u>1970</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>2000</u>
Gladstone Report	20,000	--	--	27,000	--	--
Maryland State Dept. of Planning	21,900	--	26,000	--	--	46,000
U.S. Census Bureau	20,000	--	25,000	28,000	--	40,000
Tri-County Council for Southern Maryland	--	23,900	27,400	31,800	36,700	49,100
Economic Development Corporation of Calvert County, Maryland	--	--	28,000	--	--	--

TABLE 4.7
POPULATION PROJECTIONS
CALVERT COUNTY

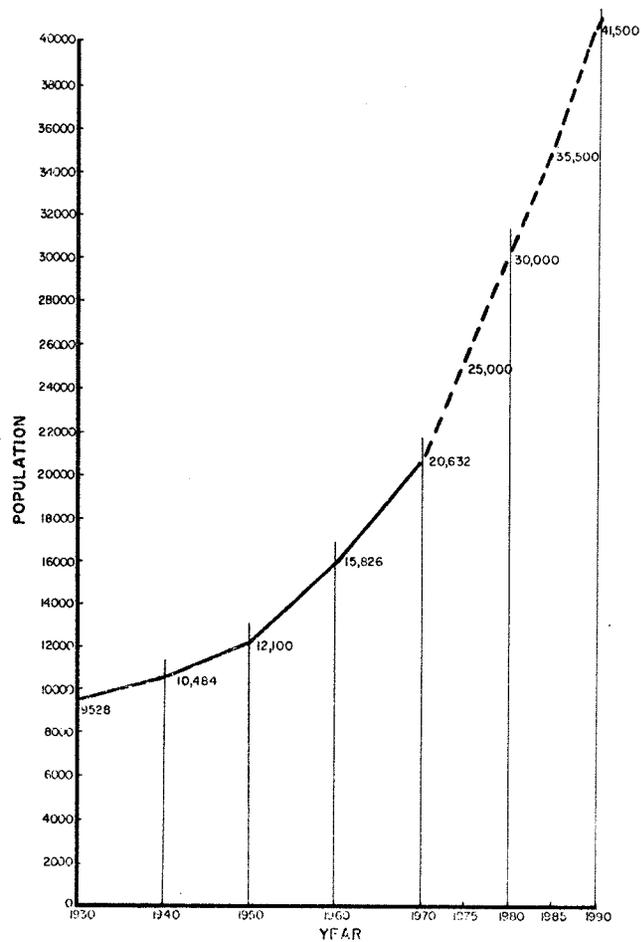
<u>BASIC ASSUMPTION</u>	<u>1975</u>	<u>% Change from 1970</u>	<u>1980</u>	<u>% Change from 1975</u>	<u>1985</u>	<u>% Change from 1980</u>	<u>1990</u>	<u>% Change from 1985</u>
Slow Growth	25,000	21%	30,000	20%	35,500	18%	41,500	17%
Trend Growth	25,000	21%	31,500	26%	39,000	24%	46,000	23%

TABLE 4.8
POPULATION BY ELECTION DISTRICTS
CALVERT COUNTY

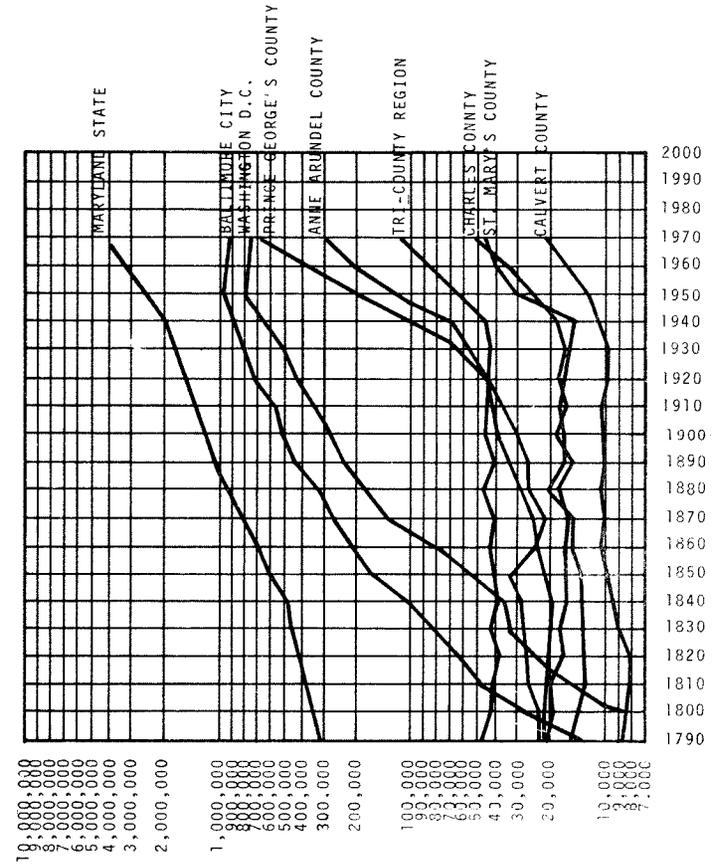
	<u>1930</u>	<u>%</u>	<u>1940</u>	<u>%</u>	<u>1950</u>	<u>%</u>	<u>1960</u>	<u>%</u>	<u>1970</u>	<u>%</u>
ED 1	3,488	37%	3,513	34%	4,123	34%	5,423	34%	6,404	31%
ED 2	2,892	30%	3,092	30%	3,657	30%	4,760	30%	6,211	30%
ED 3	<u>3,148</u>	<u>33%</u>	<u>3,879</u>	<u>36%</u>	<u>4,320</u>	<u>36%</u>	<u>5,643</u>	<u>36%</u>	<u>8,067</u>	<u>39%</u>
TOTAL	9,528	100%	10,484	100%	12,100	100%	15,826	100%	20,682	100%

Notes: ED1, ED2 and ED3 = Election Districts 1, 2 and 3.
The figures in this chart were obtained from T-CC data.

**FIGURE 6. POPULATION PROJECTIONS
CALVERT COUNTY**

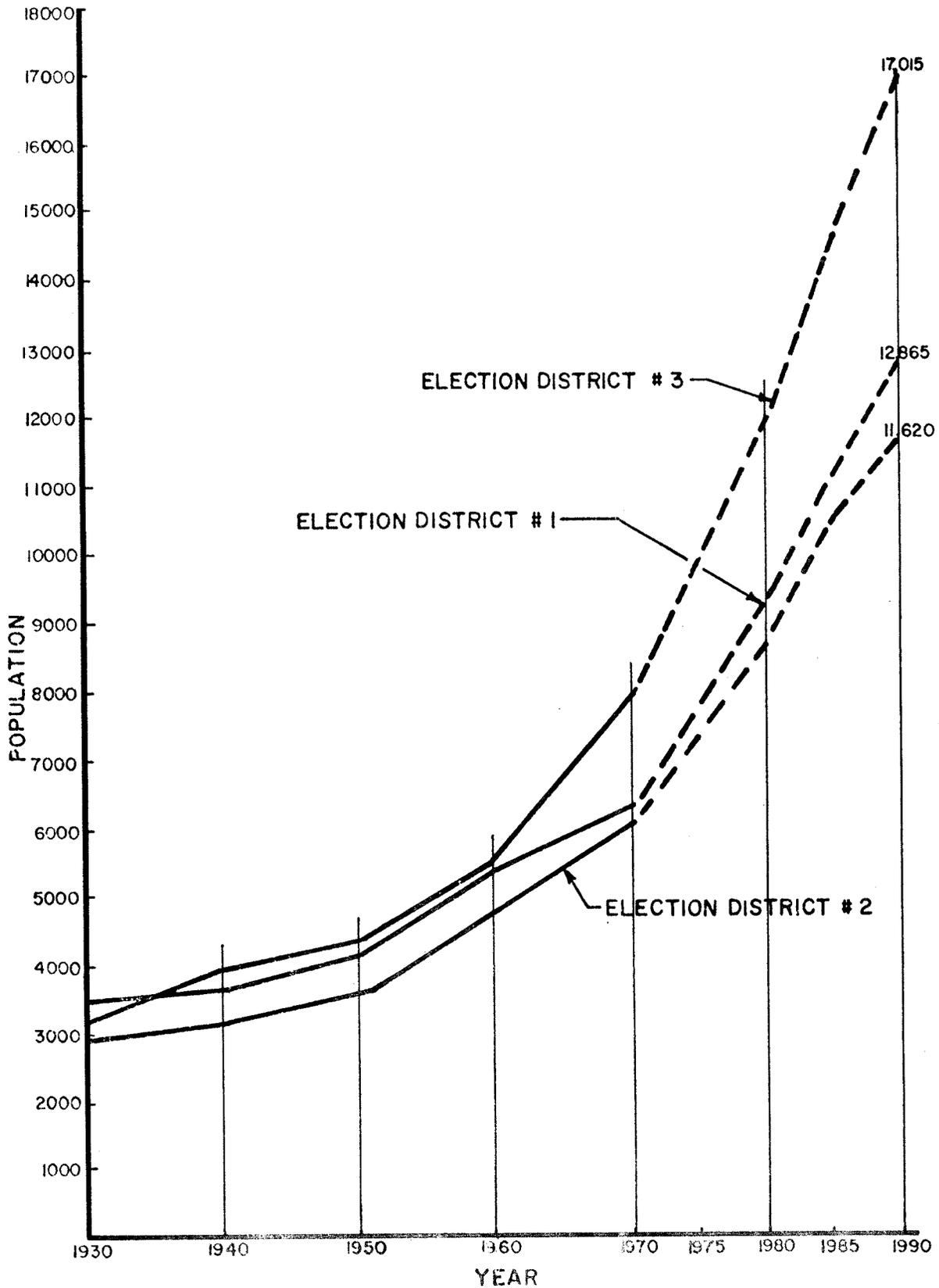


Source: Draft of Comprehensive Regional Plan for the Tri-County Region of Southern Maryland.



**FIGURE 5
POPULATION GROWTH 1790-1970**

FIGURE 7. POPULATION PROJECTIONS BY ELECTION DISTRICTS CALVERT COUNTY



major projections for each source are given in Table 4.6 and historical census data is given in Table 4.5. Historical population volumes are also illustrated by Figure 5.

By studying the accuracy of these five sources in past population projections together with current population trend analysis, and acknowledging that the County residents have voted for a "slow growth" policy alternative (explained in Chapter Seven), and acknowledging that this Comprehensive Plan is advocating this growth alternative for the County's development policy, the Planning Department of Calvert County derived the population estimates which are shown in Tables 4.7 and 4.8. The Planning Department's projections seem the most credible so they have been accepted herein as the design population figures for this Comprehensive Development Plan.

Assumptions underlying the population projections (Tables 4.7 and 4.8) are as follows:

1. That "slow growth" will become County policy and it will help to taper off land speculation significantly so that the expected population growth will proportionately decrease between now and 1990 (21% growth to 1975; 20% to 1980; 18% to 1985; and 17% to 1990).
- (1) Robert Gladstone & Associates, *The Economy and Population of Southern Maryland: Trends, Forces of Change, A Program for Action*, 1965, unpublished.
2. That development pressures stemming from the Washington, D.C. area outward will affect the County most strongly from its northern Election District 3 downward; the Washington, D.C. influence will start to be felt more acutely from the late 1970's onward, especially after the sewer moratoriums and low density zoning practices of adjacent counties take firmer hold on development practices in contiguous counties.
3. From 1930 - 1970 Election District No. 2 tended to hold its own proportionately at 30% of the population; but this district will likely decrease slightly down to 29% by 1990 since it is assumed that the new Lower Patuxent River Bridge at Solomons in ED No. 1 will encourage growth to continue at about the same rate in Election District No. 1 while Election District No. 3 (north) will be increasing in population the fastest (up to perhaps 41% of the total County's population by 1990), which leaves only 28% for Election District No. 2. Since district 2 is smaller in land area than the other two election districts, this assumption seems reasonable. If Tables 4.7 and 4.8 were continued further, it would be assumed that district 2 would again probably work its way up to contain 30% of the population; district 1 would plateau about 31%; and district 3 would reach its peak and then decrease slightly down to 30% of the total, like it had in 1970.

The design population figures are illustrated graphically by Figures 6 and 7.

ECONOMIC OUTLOOK

It was observed in the Gladstone Report and again in the 1967 Calvert County Comprehensive Plan that Calvert's economic prospects were favorable but still undeveloped. Since the time that this observation was made there have been some new industrial developments in the County, but overall, the observation still appears applicable today.

RECENT ECONOMIC DEVELOPMENT

Since the time that the first Comprehensive Plan was written, the County established an Economic Development Corporation (EDC). Due to cutbacks in federal funds this office is now closed. However, accomplishments of the EDC should be stated. Among other pursuits, the EDC was instrumental in the planning of the new Calvert County Industrial Park to be located in Election District No. 2 approximately 6 miles southwest of Prince Frederick on Route 231. Although an Industrial Park Authority was established to develop and operate the park, it was EDC leadership that made the early promotional contacts. Progress to date on the industrial park has included acquisition of a 187 acre site, generalized site planning, and the beginning of utility developments including a package system which will use ground disposal to discharge sewerage, water and sewerage effluents. Although there are currently no buildings on the site, other site improvements are scheduled to begin in the near future.

On July 16, 1974, the Board of County Commissioners established an Economic Development Commission for the purpose of: giving general economic advice to the County Government; feeling the pulse of the economic community; and acting in an advisory capacity to the County Government. The Commission formed has no power other than in an advisory capacity and has no power to formulate or execute plans for economic development at its own instance.

Another inducement to economic development in the County was the establishment of the Tri-County Council for Southern Maryland (TCC), a regional policy planning body serving the three County area of St. Mary's, Charles, and Calvert Counties. The TCC helps in applying for federal grants to assist Calvert, is in the process of preparing a regional plan, maintains a data information system in the Tri-County region, and has attracted O.E.O. into the region.

Since 1967 a Community Action Program has been established in the County which is spearheading Head Start Programs and day care programs. The Board of Education has instituted and maintained a neighborhood Youth Core Program for students since 1965. Mobility has been increasing in the County by improvements in Route 2-4, the major transportation spine of the County. The ability of the County to selectively attract new industry is illustrated by the new Baltimore Gas and Electric Company's Nuclear Power Plant at Calvert Cliffs and the proposed new Columbia Gas Corporation's Liquefied Gas Plant at

Cove Point. Evidence that the County is suitable for research facilities is illustrated in the presence of the U.S. Navy Research Laboratory at Randle Cliffs, the U.S. Naval Mine Testing Area near Solomons, and the University of Maryland's Natural Research Institute on Solomons Island.

ECONOMIC DEVELOPMENT POTENTIAL

The following inducements to attract industry have been identified and/or started. Industrial projects within the County are eligible for benefits under the Federal program of economic development provided for in the Public Works and Economic Development Act of 1965. Several municipalities within the County now have water and sewer facilities and more are planned in the future which can be an attractive feature to industry. Sufficient ground water, electricity and fuel oil would likely be available to potential industries in the County. While the average educational level of the work force is increasing somewhat each year, the median educational level is still rather low so industries needing a large pool of semiskilled or unskilled labor would have this population resource to draw upon. Recent improvements made on Route 2-4 and the anticipated opening of the Lower Patuxent River Bridge in 1977 could help to attract trade-oriented industries. Within one day's drive, about 31.4% of the population of the United States can be reached (approximately 63,293,700) as shown in Figure 8. This offers a tremendous overnight trucking area and market potential for any future industries that might locate in Calvert County.

ECONOMIC PROJECTIONS

The Gladstone forecasts, prepared in 1965, were for the entire Tri - County region for up to the year 1985, based on patterns which were discerned in the 1960's. Unfortunately for the purposes of this study, the Gladstone forecasts were not broken down by County, but figures were only reported for the region. However, the thrust of the forecasts which affect Calvert are as follows: it was forecast that Navy installations would remain the same; that agriculture would decline; that construction, manufacturing and other government industries (excluding the military) would increase; and that all "other employment" (transportation, utilities, real estate, finance, services, wholesale and retail sales) would increase greatly in the years ahead. It was also forecasted that out - commuting would greatly accelerate in the late 1970's so that by 1985, a more significant proportion of the total would be out - commuting to the Washington, D.C. area. In retrospect it appears that the agricultural employment sector has not been declining as rapidly as the Gladstone study projected.

The Calvert County EDC made these projections for the County based on current observed trends and foreseeable future circumstances:

The EDC's "safe" figures correspond to an overall assumed population of 33,000 which is slightly higher than the 30,000 which are anticipated by the County Planning Commission. Since this Comprehensive Plan is relying on the population projections shown in Table 4.8, then

TABLE 4.9

**ECONOMIC FORECAST
CALVERT COUNTY**

	1973	1980		
		Low	Safe	High
Population	22,600	28,000	33,000	35,000
Work Force	7,705	9,200	11,200	11,800
Number Commuting to work outside of County	899	924 to 2,968	1,105 to 3,500	1,170 to ?
Jobs required in County	6,806	6,232 to 8,274	7,700 to 10,095	10,630 to ?

The EDC's "safe" figures correspond to an overall assumed population of 33,000 which is slightly higher than the 30,000 which are anticipated by the County Planning Commission. Since this Comprehensive Plan is relying on the population projections shown in Table 4.8, then by interpolating the EDC figures of Table 4.9 to a base population of 30,000 for 1980, the following are forecasted for the County:

TABLE 4.10

**ECONOMIC FORECAST
CALVERT COUNTY**

	1980
Population	30,000
Work Force	9,900
Number Commuting to Work Outside of County	990 to 3,180
Jobs Required in County	6,720 to 8,910

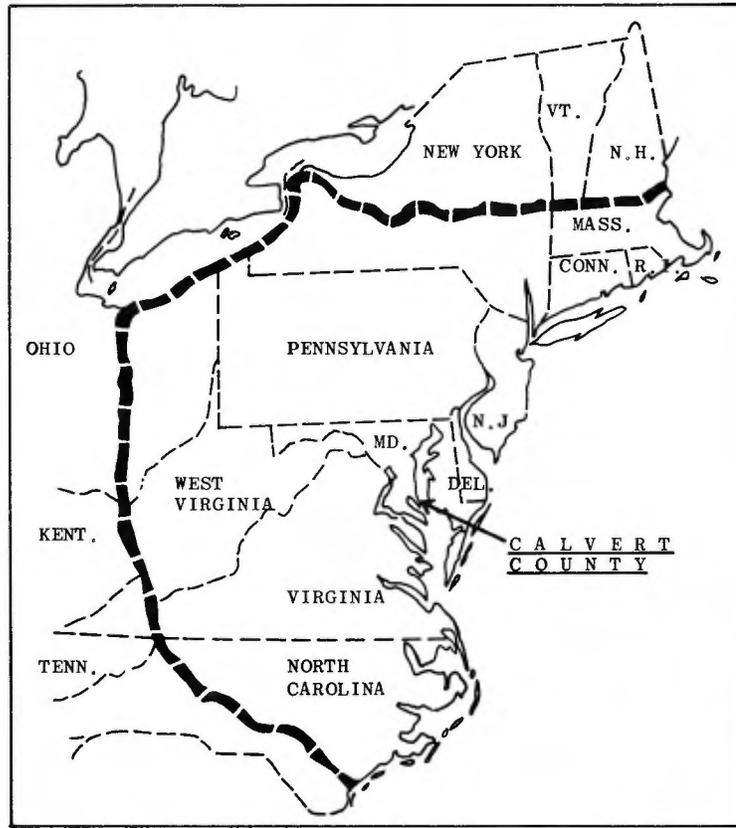


FIGURE 8
MARKET POTENTIAL FOR CALVERT COUNTY:
OVERNIGHT TRUCKING AREA

by interpolating the EDC figures of Table 4.9 to a base population of 30,000 for 1980, the following are forecasted for the County: Overall, it would appear that in the future Calvert has a potential for developing its seafood, tourism, recreational, and service industries to cater to tourists, second home residents, its own population, and perhaps even senior citizen enclaves. During the design period to 1990, supporting manufacturing and industrial operations are likely to maintain themselves and agriculture may gradually taper off in its importance but it will still remain a dominant land user.

A PERSPECTIVE

Calvert County has a slightly higher unemployment rate than the state average. Attracting new industries and employers is one way to help

cut down on employment. Additional industry and employers usually means a larger tax base for the County. However, Calvert is in a unique situation because of expected tax revenues from the Baltimore Gas & Electric's Nuclear Power Plant, and Columbia Gas Corporation's Liquefied Gas Plant.

During the latter part of 1974 BG&E is scheduled to put the first unit of its nuclear power generating plant into operation at Calvert Cliffs, with a second unit due to be finished two years later. During the building of the large plant some 2,100 workers have to date been employed, although not all of them have been local residents. At its completion, the labor force required to operate the plant will be small so the employment gains will not be the main benefit of the plant to the County. The main economic benefit of the

plant will be in revenue. The \$600 million BG&E power plant will double the County's assessable tax base, and in the first year of the plant's operation, it is expected to singly provide in the range of \$7 million in new revenue. Compare this figure to the current \$7 million County budget and the fiscal impact of this plant can be seen.

A second major industrial installation, the Columbia Gas Corporation's Liquefied Gas Plant, is only starting construction, with completion scheduled for late 1976. This highly automated \$91 million terminal at Cove Point will receive liquefied natural gas shipped in from Algeria, process it, and transfer it to eastern seaboard customers through 36" underground pipelines. When completed, this terminal is expected to add in the magnitude of \$1.5 million a year in revenues to the County.

The fiscal impact from just these two large industrial installations can tend to take some of the incentive out of any County recruiting programs to attract additional tax sources in the form of new industries. That is, the County appears to be in the enviable position of having sufficient revenue for its needs in the next several years so that it can now consider the larger question of what kind of life style Calvert citizens want to encourage.

HEALTH

1 2 3 4 5 6 7 8 9

CHAPTER FIVE

HEALTH

Health is of primary importance to every individual. Therefore, a comprehensive health program for ALL citizens is worthy of receiving top priority, in both commitment and funding, by the County government. This comprehensive program will meet the specialized health service needs of the young, the handicapped, the economically deprived, and the elderly. This is particularly important for Calvert County, which has larger than average numbers of people in the under 5 and over 50 age groups. The anticipated population growth stresses the necessity for immediate improvement of health services which are inadequate for the current population.

Physical and mental health is interrelated with all other aspects of living. It has obvious common areas with education, environment, housing, land use, public safety, recreation, and certain aspects of transportation. Health is also influenced by agriculture, economic development and governmental activities. The "Climate for Living" is an important health factor.

This Chapter considers the following aspects of health:

1. Preventive health services
2. Diagnostic and acute treatment
3. Chronic illness, rehabilitation, and geriatrics
4. Mental health
5. Accessibility of services

This Chapter does not include environmental health, including public health regulatory functions, solid waste disposal, and animal control. State regulations and county plans in these area will benefit from the influence of citizens expressing concerns for the environment.

Current health situation can be summarized as follows:

1. Current health services are inadequate
2. Information as to current health services is not generally known
3. Money spent on preventative measures pays high dividends. Remedial defects must be identified and corrected at an early age.
4. The role of the County Health Department in the total health program should be clarified. At present its activities are generally limited to preventative services and public health regulatory functions.
5. It will be necessary, and desirable, to continue use of highly specialized medical facilities outside Calvert County. The demand is not sufficient to make feasible the financing of such facilities in Calvert County.
6. Transportation for health services is vital in a rural area. Such transportation is inadequate in Calvert County.
7. Tri-County planning for health services is most desirable.
8. Coordination of health services does not exist, but should.

PREVENTIVE HEALTH SERVICES

According to the Tri-County study (Dutton Report) of statistical information and questionnaires sent to health professionals in the Tri-County area, Calvert County has significant gaps in its health services at the present time. With the projected increase in population, the gap between health needs and services will become critical if actions are not taken in the near future. Needs identified include:

- a. Health Department
The facilities of the Health Department, which is currently responsible for preventive health activities for a large segment of our population, are extremely inadequate and limit services that can be rendered for both personal and environmental health. The Health Department is also understaffed for the services needed.
- b. Calvert Memorial Hospital
The out-patient and emergency clinic department of the hospital are inadequate both in facilities and in staffing.
- c. Transportation
There is a serious gap in preventive care due to inaccessibility of existing services to many people.
- d. School Health Programs
Programs leading to prevention of problems in the fields of dentistry, vision, hearing, speech, mental health, VD, family planning and family life education are fragmentary.
- e. Central Information
There is no one central place where information and referral functions are available.

RECOMMENDATIONS

1. County provide the Health Department with appropriate facilities, preferably located on or near the hospital grounds to maximize the utilization of total facilities and personnel.
2. Health Department staff be increased to include a health educator, social worker and others as needed.
3. Expansion of Calvert Memorial Hospital be strongly supported, with emphasis upon the out-patient facilities and services, through increasing clinics as demand indicates need.
4. Long range plans include the establishment of satellite clinics at the Owings and Solomons Centers under the auspices of the hospital, with 24 hour service by paramedics and doctors on call by rotation.
5. Buses be provided to transport ambulatory patients to clinics on a regularly scheduled basis.
6. A comprehensive school health program be developed and implemented, involving the Health Department as a partner in planning and in providing staff. The Board of Education

should provide psychologists, consulting psychiatrists, and social workers adequate to serve all schools. The emphasis would be on prevention, especially in the lower grades. Dental checks, eye testing, hearing testing, and speech therapy should receive increased emphasis and be available to all children. The child's health record should indicate that those tests have been administered at least once. VD prevention and family life education programs must be greatly expanded. Paramedic attendants should be available in each school at all times, with nurses and doctors available on call.

7. Health Department be charged with gathering complete information concerning available health services, including listing of doctors and dentists with their specialties and office hours, and keeping this information up to date. The Health Department should provide an information and referral service.
8. Existing VD case finding and treatment programs be strengthened to combat the increased prevalence of these diseases.
9. Steps be taken to attract more medical and dental specialists to Calvert County.

DIAGNOSTIC AND ACUTE TREATMENT

Four main areas are identified as critical to the development of adequate facilities for diagnostic procedures and acute medical care. The areas are: Calvert Memorial Hospital, additional medical facilities, nursing home facilities, and the County Health Department.

Calvert Memorial Hospital is a 78 bed community hospital located centrally in Calvert County at Prince Frederick. The Board of Directors, an autonomous body, authorized a comprehensive study of the long range needs of the County in regard to this hospital. The Hamilton Report was completed in December, 1971, and many of its recommendations have been implemented. The next step in implementing the remainder of the proposals requires the expansion of the physical plant. The expansion proposed by the Board of Directors calls for 79,645 square feet of new building and remodeling of existing facilities. The expansion and remodeling will result in:

- a. A net gain of 34 beds.
- b. Expansion of the present inadequate space for support facilities, such as X-Ray, clinical laboratories, kitchen, etc.
- c. Addition and expansion of out-patient facilities, i.e. Emergency Room and consultation rooms for outside consultants. It is estimated that cost of this expansion will be approximately eight million dollars. The plans for the proposed expansion have been approved by the Maryland Comprehensive Planning Commission and the Health Review Commission for the Tri-County Area and the Tri-County Council. The proposal calls for

bond payment to be made from the operating budget. The hospital is searching for federal funds under the Emergency Medicine Act to help defray some of the expansion cost of the Emergency Room and out-patient clinic rooms.

The residents in the northern part of Calvert County are to be commended for the medical facility nearing completion in the Owings area. Implementation of the facility will depend upon recruitment of physicians. The modern facility will assist in attracting the relatively few physicians interested in general family practice in a rural area. The County should look ahead to the future needs of the southern and northern ends of the county for physician offices, care of minor trauma, etc. Motivation of citizens in an area to assume responsibility for building these facilities would be desirable.

The occupancy rate of the two nursing homes in the County is quite high. Some beds at Calvert Memorial Hospital are occupied by patients for whom proper nursing home facilities and care would be adequate.

The Board of Directors of Calvert Memorial Hospital have offered a site on its grounds for the construction of facilities for a Health Department Center. This would seem to optimize the use of X-Ray, physical therapy, laboratory equipment, etc. In addition, orthopedic and other consultants would have a common base of operation in the County.

RECOMMENDATIONS

1. Board of Directors of Calvert Memorial Hospital in its expansion program consider the desirability of:
 - a. Including modern facilities to care for drug addicts, psychiatric patients and prisoners. The maximum holding period for patients in these facilities would be 72 hours, with transfer to either general floor care or to specialized nursing care institutions, such as Crownsville Hospital Center.
 - b. A self-care area for those patients who do not need an acute care bed but who cannot yet go home.
2. A paramedical training program be instituted by the hospital. This program would include the training of ambulance crews, with the likelihood that there will be paid crews at some time in the future. Accreditation of the hospital is the first step in the training program. A Practical Nursing Program is feasible at the Vocational-Technical Center.
3. County issue bonds and guarantee funds to expand Calvert Memorial Hospital subject to official request of the Hospital Board of Directors.
4. A medical center, similar to the one at Owings, be constructed in the Solomons area, with the cost preferably paid by the citizens in the area served.

5. Calvert Memorial Hospital conduct clinics at the Owings and Solomons medical facilities with the County assisting in the financing.
6. Nursing home facilities for extended care be expanded so as to free beds at Calvert Memorial Hospital.
7. Public Health Department be located on or near the grounds of Calvert Memorial Hospital.

CHRONIC ILLNESS, REHABILITATION AND GERIATRICS

Chronic illness may require the services of a nursing home or medical and nursing services in the home. Home nursing service is provided by the County Health Department for the chronically ill upon request by a physician. An orthopedic clinic is conducted by the Health Department every 3 or 4 months.

Rehabilitation programs include special classes for the trainable and educable mentally retarded, emotionally handicapped, and those with special learning difficulties. The Board of Education also provides minimal services by speech therapists, counselors and psychologists. The rehabilitation of persons over 16 years of age is administered by the Maryland Department of Vocational Rehabilitation. Most of the elderly are in the program for physical restoration, rather than job placement. Calvert Memorial Hospital shares the services of a physical therapist with the two nursing homes. No home visits are made.

Geriatrics is of special significance in Calvert County because a greater than normal number of its residents are in the over 60 age group. Some of the health needs of this group include adequate clinics, nursing homes for various degrees of disability, home nursing services, specialized medical and hospital services, counseling (including psychiatric), equipment which may be used during recovery, physical therapy and other forms of rehabilitation. Transportation to and from health services is a major problem for those not having a car, for non-drivers, and for those with low level incomes.

RECOMMENDATIONS

1. The County Commissioners establish a Health and Welfare Council. The council would provide a forum for communication and cooperation resulting in the improvement of existing services, the development of services which may be lacking, and the elimination of possible duplication of services. Council membership would include representative lay citizens and directors, or their designees, of all concerned agencies.
2. Expansion of nursing homes and services to meet current and projected needs.
3. The Health Department provide for more follow-up to hospital confinement and nursing home care of handicapped and elderly persons by ascertaining that the persons in the home can manage alone (with or without training), and by making available the needed training and nursing services.

4. The expansion of Calvert Memorial Hospital include adequate facilities devoted to physical therapy, and with the specialized facilities needed for working with children.
5. County finance a school health program which will provide for:
 - a. Expansion of the services of speech therapists, counselors, and psychologists.
 - b. Job training for the mentally and physically handicapped.
 - c. Use of Vocational-Technical facilities for training clients of Department of Vocational Rehabilitation including operation of a Sheltered Workshop.
6. The Department of Vocational Rehabilitation (DVR) program be extended to include age 15, through the use of county funds if other funding is not available.
7. Senior Citizens Centers be established in public facilities, with a least one in each election district. The Centers would promote social and recreational activities. Hot lunches would be served at a small fee. Transportation would be provided to health services existing elsewhere. The senior citizen's well-being would be enhanced by having the opportunity to render volunteer services, such as serving as school and library aides, and providing transportation needed by others.
8. Employment of the physically and mentally handicapped and the part-time employment of senior citizens be encouraged.
9. Incentives be provided for more medical specialists to reside and to practice in Calvert County.
10. The development of a Senior Citizens Apartment Building be encouraged, providing common facilities for meal preparation and service and recreational activities, convenient to Calvert Memorial Hospital. This would provide ready accessibility to health services on an emergency basis.

MENTAL HEALTH

There is virtually nothing in the human situation that does not affect mental health. Various studies have demonstrated that air pollution, high noise level, inadequate recreational facilities, job frustrations, unsatisfactory housing, poor schools, lack of behavioral models, etc. may all have detrimental effects on a persons mental health. The broad aspects of mental health are considered in three sections: A. Mental retardation; B. Alcoholism; and C. Other mental health problems.

At present there are approximately 75 pre-school (ages 3 to 5) children in Calvert County who are mentally retarded and there are 20 known patients above school age. There are no provisions in Calvert County for these individuals to be helped to improve their ability to care for themselves, or to learn a simple trade, to become partially self-supporting, or to raise their self-esteem. Nor is there provision for short-term

or emergency overnight care. The program for educable retarded in the schools also needs improvements in equipment and personnel.

The problem of alcoholism is severe. More than 50% of the intake of Crownsville Hospital Center is due to alcohol and Calvert Memorial Hospital treated 154 in-patients and 632 out-patients in 1973. There are no specialized beds, few counselors, too little money for sitters and insufficient public awareness of the dimensions of alcoholism and its ramifications in the family, on the job, for physical health, and for mental health in general.

Other mental health problems are important but not presently well identified in Calvert County. The clinic run by the Health Department saw 147 patients in 1972. Acute patients or those requiring long-term care are sent to Crownsville Hospital Center, where the program for Tri-County (Calvert, St. Mary's and Charles) is less than adequate for patients over 16 years of age. There is limited mental health service in the public schools. Four selected schools have the services of a psychiatrist and a psychologist, provided by the Health Department, to confer with teachers. The Health Department Mental Health Clinic receives state funding. There is an Advisory Board, appointed by the County Commissioners, mandated to assess mental health needs and make recommendations.

Matching funds for mental health and mental retardation programs are generally available from State and Federal sources on a two-to-one ratio.

RECOMMENDATIONS

Mental Retardation

1. A Board of Directors for a Day Care Center for the mentally retarded be appointed. This Board, composed of professional personnel and community members, including parents of retarded children, must be set up to obtain State funds.
2. The existence of a Tri-County custodial (short-term) care facility for severely retarded located in La Plata be publicized.
3. The Board of Education program for the mentally retarded be improved.
4. The possibility of using the Vo-Tech facilities for a part-time Sheltered Workshop facility be investigated.

Alcoholism

1. Specialized bed unit be included in the expansion of the hospital for alcoholics. The patient should be able to remain as long as necessary. Nurses, aides and counselors working in this unit receive on-going training and education together as a team.
2. A Driving While Intoxicated (DWI) clinic be established with a task force consisting of persons from the Probation Department, Driver Education in the schools, the Alcoholism Program and the Sheriff's Department.

3. Funding be provided, when essential, for sitters for alcoholics in withdrawal.
4. An Area Council on Alcoholism be established.
5. Walk-in clinics for alcoholism be made available in North Beach/Chesapeake Beach area, and the Solomons area. It is essential that hours be concentrated in evenings, weekends and on holidays.
6. A Health and Welfare Council be established as described in Recommendation No. 1 "Chronic Illness, Rehabilitation and Geriatrics". The Council would help service agencies be aware of services for alcoholics, and thus better able to act in response to calls.
7. A study be made of the need for specialized halfway houses for the Tri-County area.

Other Mental Health Problems

1. Professional marriage counseling and family counseling services be more readily available.
2. Outdoor and indoor recreational facilities for all ages and both sexes be expanded.
3. The public schools be used increasingly as public community centers for activities such as: social clubs, cultural and educational activities, athletics, recreational activities, etc.
4. Specialized beds be included in the expanded hospital facilities for a "holding operation" for acute psychiatric patients.
5. Greater attention be given to developing job opportunities in Calvert County, and relating Vo-Tech training to these jobs.
6. The County sponsor programs employing local workers through a Public Works Department.
7. The services of the Mental Health Clinic be expanded to the eventual establishment of a Community Mental Health Center in Calvert County.

ACCESSIBILITY OF SERVICES

There is a concentration of health facilities and personnel in the Prince Frederick area. Included are the Public Health Center, the only hospital, the only pharmacies, and most of the professional offices in the County. There are no mobile units nor bus service for public health clients. Limited visiting nurse services are available. There is no catalog of existing health services for use by interested citizens or information centers. Data are not available on the number of persons unable to obtain health services because of lack of transportation.

Expansion of Calvert Memorial Hospital is expected in the near future. Current plans provide for greatly expanded outpatient services, but do not include provision for professional offices nor public health center facilities. The present public health facilities are recognized as grossly inadequate.

A group practice center for physicians and dentists is nearing completion near Owings. Construction of a similar center in the Solomons

area is recommended in another section of this Chapter.

Emergency ambulance services are maintained by the Rescue Squads at Prince Frederick, North Beach, Dunkirk, Huntingtown and Solomons. A private ambulance service operates out of Charlotte Hall in St. Mary's County. Helicopter evacuation service is maintained by the Maryland State Police with Federal funding.

RECOMMENDATIONS

1. Health Services Availability Catalog be prepared and maintained by the Public Health Department.
2. Calvert County finance its proportionate share of the cost of the Tri-County Council study of health service gaps due to distance and lack of transportation.
3. Senior Citizens Bus Service be expanded to permit utilization of centralized health facilities and services. It is not considered feasible to operate mobile units. It is therefore of the greatest importance that transportation be adequate to take people to the services. Use of school buses is generally not satisfactory because of the time limitations. Use of minibuses (in a demand/response type system) for a variety of purposes, including health services, would seem most desirable. It would be desirable for the County to finance approximately 50% of the cost of this operation.
4. Home Health Services be expanded. It would be advisable to explore the availability of funding under the Rural Nursing Act.
5. Continuation of helicopter evacuation service be assured, either through Federal funds or otherwise.

RECOMMENDED ACTION

It is projected that this program of health services will be put into effect through the following steps by the County Commissioners:

Step 1 - Adopt a policy which recognizes that Calvert County cannot be a Pleasant Peninsula with inadequate health services.

Step 2 - Allocate a percentage, annually, of County funds for health services.

Step 3 - Establish priorities annually for Health Services, considering the recommendations of the County Health and Welfare Council.

Step 4 - Put into effect immediately those priorities for which the cost is minimal.

Step 5 - Put into effect other priorities in the order of rank until the amount of the allocation is reached.

**Environment and Natural
Resources**

1 2 3 4 5 6 7 8 9

CHAPTER SIX

Environment and Natural Resources

Unfortunately, there are those who feel a false sense of security about the abundance of natural resources in Calvert County; they may be inclined to ignore the possibility of desecration of those features which they enjoy most. Yet as the County urbanizes, these resources must be managed and preserved with increasing discretion or they will be lost forever. A crucial part of this updated Comprehensive Master Plan is the recognition and evaluation of physical features which should be permanently set aside from urban consumption and those which should be intermixed with the built environment. To this end, an inventory was first made of the County's general physical features. Second, special natural areas worthy of preservation were studied. Third, the quality of the environment was probed with the intent of extracting lessons from past mistakes.

PHYSICAL FEATURES

The following physical features were studied: the county's location, topography, shorelines, drainage, vegetation, climate, soils, wildlife, and historic sites and buildings. The purpose in these studies was to determine which natural or man-made features may have unique or irreplaceable ecological value, possess scenic beauty, have historic or sentimental value, and/or have a sensitive location.

LOCATION

Calvert County is a peninsula within Southern Maryland located between the Chesapeake Bay and the Patuxent River. It is situated between the parallels of 38° -20' and 38° -45' north latitude and between meridians 76° -22' and 76° -41' west longitude (refer back to Map No. 1). The County is approximately thirty-five miles long, averages nine miles in width, and contains approximately 219 square miles or 140,320 acres. The Patuxent River flows along its western boundary; the Chesapeake Bay, in turn forms the County's southern and eastern boundaries. Anne Arundel County to the north shares Calvert County's only land boundary. Directly across the Patuxent River are Prince George's, Charles and St. Mary's Counties. Calvert, Charles, and St. Mary's Counties form the Tri-County region of Southern Maryland.

TOPOGRAPHY

The topography of Calvert County is variable and rugged. An upland plain runs generally in a northwest-southeast direction and forms a central spine for the County. This ridge has a slope upward from the Solomons area in the south (about sea level) to Mt. Harmony in the north (approximately 180 feet above sea level). A few

flat-topped narrow areas in the upland remain as the only remnants of the original plain which erosion has not yet destroyed. On the Chesapeake Bay (east) side of the County, the upland terminates in high cliffs of clay, sand, gravel rising from the water's edge to a maximum of approximately 125-137 feet in heights. All streams in this area have eroded deep ravines in the cliff line. On the west, or Patuxent River boundary, the upland area slopes toward the river in several long narrow divides. Along most of the Patuxent River there is a level terrace commonly called "bottom land" that varies in width and elevation. This "bottom land" is widest in the vicinity of Solomons Island and at the mouth of Hunting Creek. The elevation here varies from approximately 10 feet to 40 feet.

SHORELINE

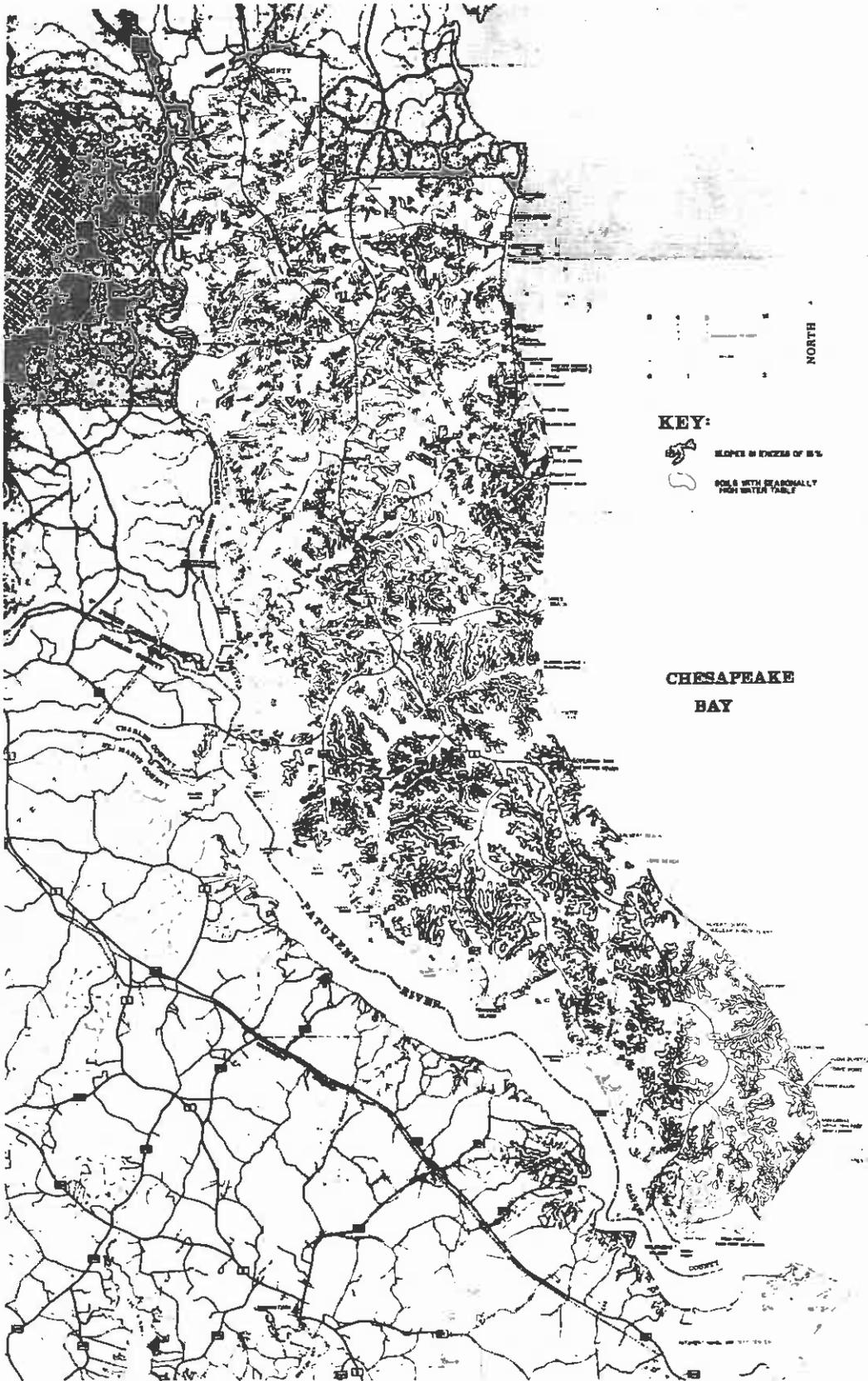
The shoreline of Calvert County is more than 110 miles in length. The Chesapeake Bay shorelines is approximately 32 miles in length and the Patuxent River Shoreline is approximately 78 miles in length. A noteworthy feature of the bay shoreline is the Cliffs of Calvert, ranging in height from 40 to 137 feet above sea level. The river shoreline consists of a series of gentle plateaus generally running parallel to the Patuxent River. These are the result of many centuries of erosion and buildup along the river bank. The bay shoreline is continuing to erode at a rate of two to six feet per year (see map No. 14 for location of erosion).

DRAINAGE

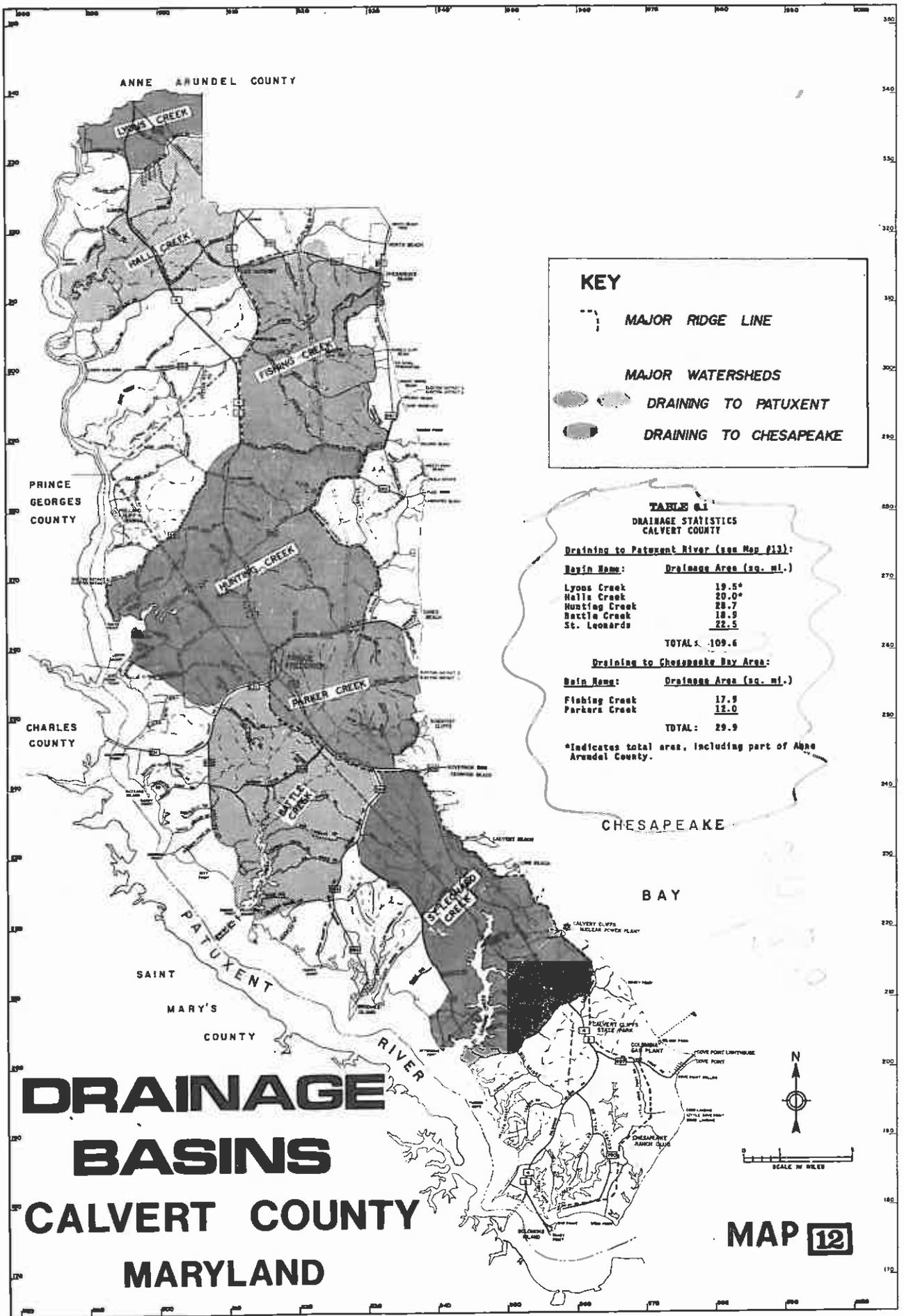
From a regional viewpoint, Calvert County is part of two major drainage basins: the West Chesapeake Bay basin and the Patuxent River basin. The main drainage divide separating the County into these two basins runs in a north-southeast direction from the Anne Arundel County border in the north to the Solomons area in the south. The drainage divide lies generally on the East and South of Routes 2-4. In most places the divide occurs very close to the Bay shoreline, but it enlarges more to the west near Prince Frederick and at the Twin Beaches area (refer to map No. 12).

There are five main watersheds west of the major ridge line which drain into the Patuxent River basin; Lyons Creek, Hall Creek, Hunting Creek, Battle Creek, and St. Leonard's Creek. To the east of the drainage divide, or draining into the West Chesapeake Bay, are two main watersheds: Fishing Creek and Parker's Creek. Refer to Table 6.1 for the drainage area of these watersheds.

All County streams are relatively short in length and almost all streams have both their sources and mouths within the County. The slopes



TOPOGRAPHY



KEY

--- MAJOR RIDGE LINE

MAJOR WATERSHEDS

■ DRAINING TO PATUXENT

■ DRAINING TO CHESAPEAKE

TABLE 61
DRAINAGE STATISTICS
CALVERT COUNTY

Draining to Patuxent River (see Map #13):

Basin Name:	Drainage Area (sq. mi.)
Lyons Creek	19.5*
Halls Creek	20.0*
Fishing Creek	22.7
Hart's Creek	18.9
St. Leonards	22.5
TOTAL:	109.6

Draining to Chesapeake Bay Area:

Basin Name:	Drainage Area (sq. mi.)
Fishing Creek	17.9
Parker Creek	12.0
TOTAL:	29.9

*Indicates total area, including part of Anne Arundel County.

**DRAINAGE
BASINS
CALVERT COUNTY
MARYLAND**

MAP 12

of the streams are generally flat, and are marked by swampy areas along their lengths as the streams overflow their banks during periods of medium or high flow and inundate the flood plains.

VEGETATION

The County was almost totally covered by woodlands at the time of the visit of Captain John Smith, but it is now only about two-thirds to three-fourths covered in woodland. Most of the existing cover today is second and third growth trees. The principal species (from most common to least common) are: Yellow Pine, Oak, Hickory, Gum, Pine, Elm, Ash and Red Maple.

* CLIMATE

Calvert County enjoys a continental type climate with four well-defined seasons. The County is located in a zone of the U.S. in which both tropical and polar air masses play an important role. The Patuxent River, Chesapeake Bay, Atlantic Ocean, plus the Appalachian Mountains, tend to modify the extremes in temperature and precipitation year round. Temperature extremes range from about 10° F to 100° F, with 77° F being the average daily temperature during the summer (July) and 36° F being the average cool winter-month temperature (January). Average snow accumulation rarely exceeds a yearly total of 16 inches, and rainfall, which averages approximately 44 inches annually, is rather uniformly distributed throughout the year with maximum rainfall in July and August and minimum rainfall from November to February. Across the County the frost depth is about two feet.

SOILS

An examination of soil characteristics is important to this Comprehensive Plan for principally three reasons: (1) to identify natural processes which are in operation which man's uses can interfere with; (2) to identify which areas are sensitive and extremely sensitive and need special land use controls; (3) to determine the stable areas of the County which hypothetically could support future development if necessary.

The Soil Conservation Service has developed a comprehensive system for classifying soils. Part of the classified system includes data on the soils. These data are useful for engineering and planning applications. Since the soil categorizations for Calvert are very detailed, lengthy, and rather cumbersome to reproduce herein, only the four major associations are discussed below. Those seeking more detailed soil mappings or statistical information on soil types should consult Soil Survey, Calvert County, Maryland, by U.S. Department of Agriculture Soil Conservation Service and the Maryland Agricultural Soil Conservation Service and the Maryland Agricultural Experiment Station, U.S. Government Printing Office, Washington, D.C., July 1971 issue.

A soil association is a pattern of soils in a more or less uniform proportion (see Figure 9). A soil association usually has one or more major series

and at least one minor series. The four major soil associations found in Calvert County are: (1) the Sassafras-Marr-Westphalia Association, (2) the Sassafras-Matapeake Association, (3) the Mattapex-Othello-Sassafras Association, and (4) the Othello-Keyport-Elkton Association.

The Sassafras-Marr-Westphalia Association
This association (covering approximately 43% of the County) is rolling-to-steep and is characterized by fairly narrow, rounded, sloping ridgetops and more strongly sloping, irregular upper slopes, all of which are strongly dissected by steepwalled, mostly sandy ravines. This association is well drained, with mostly severely eroded soils that have a dominantly sandy clay loam to fine sandy loam subsoil.

This association spreads over most of the northern half of the County. The soils of this association are made up of about 35 percent Sassafras soils, 20 percent Marr soils, 15 percent Westphalia soils, and 30 percent minor soils.

The major soils of this association are deep and well-drained and formed chiefly in sands and fine sands. The Sassafras and the Marr soils have a thicker, more strongly expressed subsoil than the Westphalia soils. The sands in the Marr and Westphalia soils are of a more uniform grain size and are much finer than the sands in the Sassafras soils.

The minor soils of this association are comprised of the well-drained Howell soils, the excessively-drained Rumford soils, the moderately well-drained Woodstown soils, and the poorly-drained Fallsington soils.

The major soils of this association are suitable for residential development but are sometimes limited by slope and erosion.

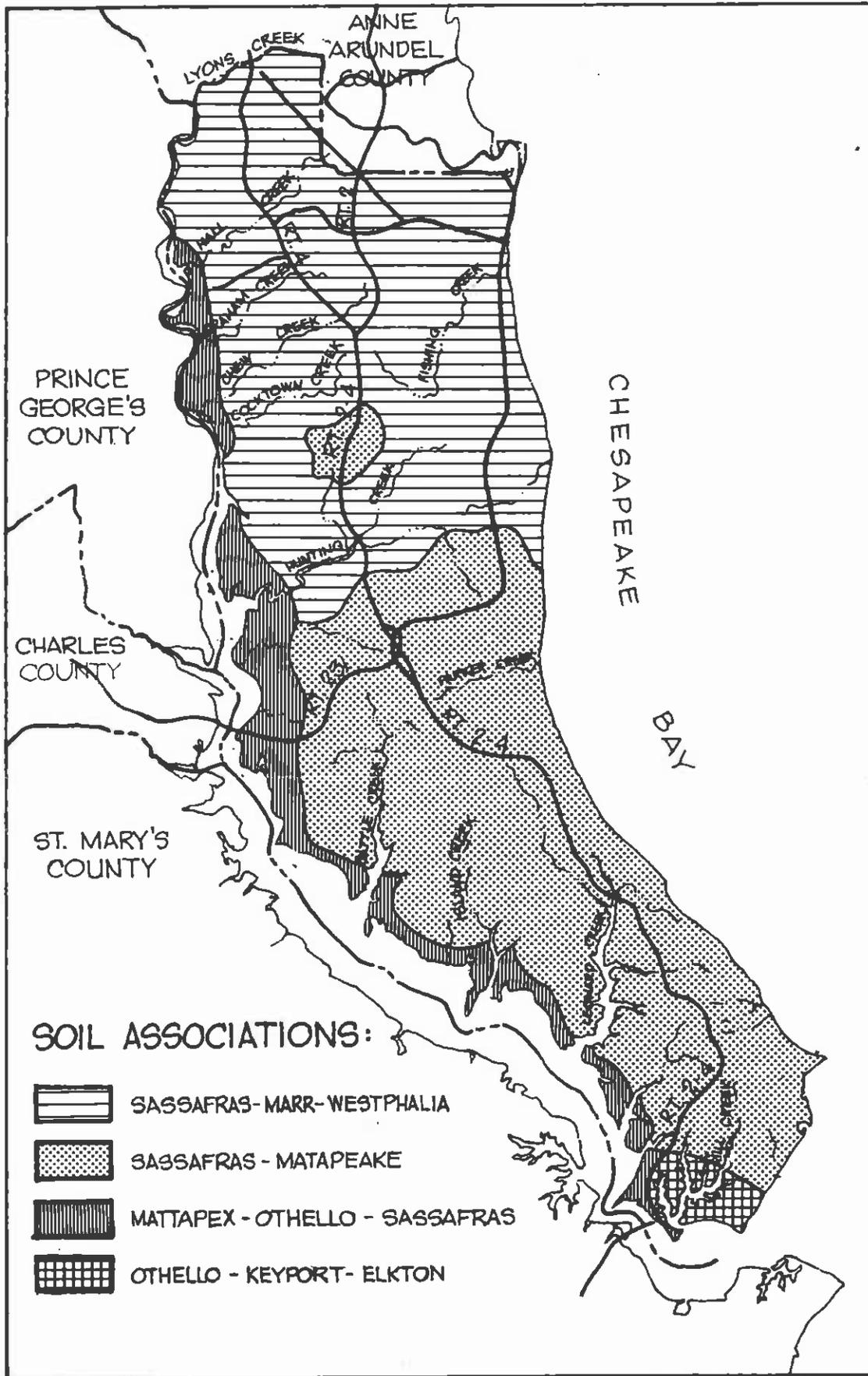
Sassafras-Matapeake Association
This association is located in the southern half of the County and occupies approximately 48 percent of the County. The soils of this association are made up of about 35% Sassafras soils, 25% Matapeake soils, and 40% minor soils.

The topography of this association is mostly sloping-to-steep and is characterized by an irregular land-scape similar to that of the Sassafras-Marr-Westphalia Association, but generally has broader and more gently sloping ridgetops. The upper side slopes are steeper and the entire area is strongly dissected by steepwalled ravines. This association is also well drained, with moderately and severely eroded soils that have a dominantly sandy clay loam to silt loam subsoil.

The major soils of this association are deep and well-drained and formed chiefly in sandy materials containing moderate amounts of clay and silt, large areas of which were mantled with a layer of silt a couple of inches to a couple of feet thick. The Matapeake soils contain considerably more silt in the surface layer, and particularly in the subsoil, than the Sassafras soils.

The minor soils of this association are the moderately well-drained Beltsville, Butlertown, Mattapex and Woodstown soils, and the well-drained Westphalia soils.

**FIGURE 9. SOIL ASSOCIATIONS
CALVERT COUNTY**



The major soils of this association are suitable for residential development, but are limited by slope and erosion.

Mattapex-Othello-Sassafras Association This association occupies about 7% of the County and consists of a narrow plain bordering the Patuxent River. The soils of this association are made up of about 50% Mattapex soils, 25% Othello soils, 15% Sassafras soils, and 10% minor soils.

The topography of this association is level-to-sloping, and is the most nearly level in the County. This association contains well drained to poorly drained, and moderately to severely eroded soils that have a dominantly silty clay loam to sandy clay loam subsoil. Erosion is severe only in small areas, since few of the slopes are greater than about 5 percent.

The major soils of this association are all deep, but differ in natural drainage characteristics. The Sassafras soils are well-drained, the Mattapex soils are moderately well-drained, and the Othello soils are poorly drained. These soils formed chiefly in sandy materials containing moderate amounts of clay and silt, most areas of which were mantled with a layer of silt a few feet thick.

The minor soils of this association are the well-drained Matapeake soils, the moderately well-drained Woodstown soils, and the poorly-drained Fallsington soils.

The Sassafras soils are the only major soils of this association having little limitation for residential development. But the Mattapex soils are limited by being seasonally wet, and the Othello soils are wet for much longer periods.

Othello-Keyport-Elkton Associations This association occupies about 2% of the County and is restricted to a small area at the southern tip of the County. The soils of this association are made up of about 50% Othello soils, 20% Keyport soils, 15% Elkton soils, and 15% minor soils.

The topography of this association is basically level, but has a few slopes ranging up to about 5%. This association contains poorly drained to moderately well drained soils that have a dominantly silty clay loam to clay subsoil.

Of the major soils of this association, the Keyport soils are moderately well drained and the Othello and Elkton soils are poorly drained. These major soils formed in silty to highly clayey sediments underlain in places by sandier materials. The Othello soils have a subsoil dominated by silt. The Keyport and the Elkton soils have a subsoil of clay or silty clay which has a very slow permeability characteristic.

The minor soils of this association are the moderately well drained Mattapex soils and the well drained Matapeake soils; and there are also areas of the well drained Sassafras soils.

Because of the urbanization of the Solomons area there will be increasing development pressure on the soils of this association. Although the minor soils of this Association have no significant limitations other than their moderate slopes of less than 5%, the major soils here are limited by seasonal to prolonged wetness.

The major problems associated with agriculture's impact on soils have been erosion and leaching, or the washing out of the soluble plant constituents (organic matter) and the fine material from the surface soil. In some locations erosion has been prompted by both cultivation practices and unprotected construction sites.

From soil drainage and topographic studies, it was found that 28.75% of the County has sensitive land and 16.49% has extremely sensitive land (see Map No. 4). With regard to soil analysis, the developable land study as recorded on Map No. 4 classified soils with seasonably high water tables and slopes in excess of 15% as "sensitive," while escarpments, tidal marshes, fresh water swamps, coastal beaches, and 50 and 100 year flood plain areas are classified as "extremely sensitive."

The foregoing study also showed, in reverse, which areas of the County are stable with slopes less than 15%, are well drained and have soils capable of supporting buildings. Development should be limited to the stable areas as shown on Map No. 4, or on the sensitive areas only under special circumstances (refer to Land Use Controls of Chapter Nine).

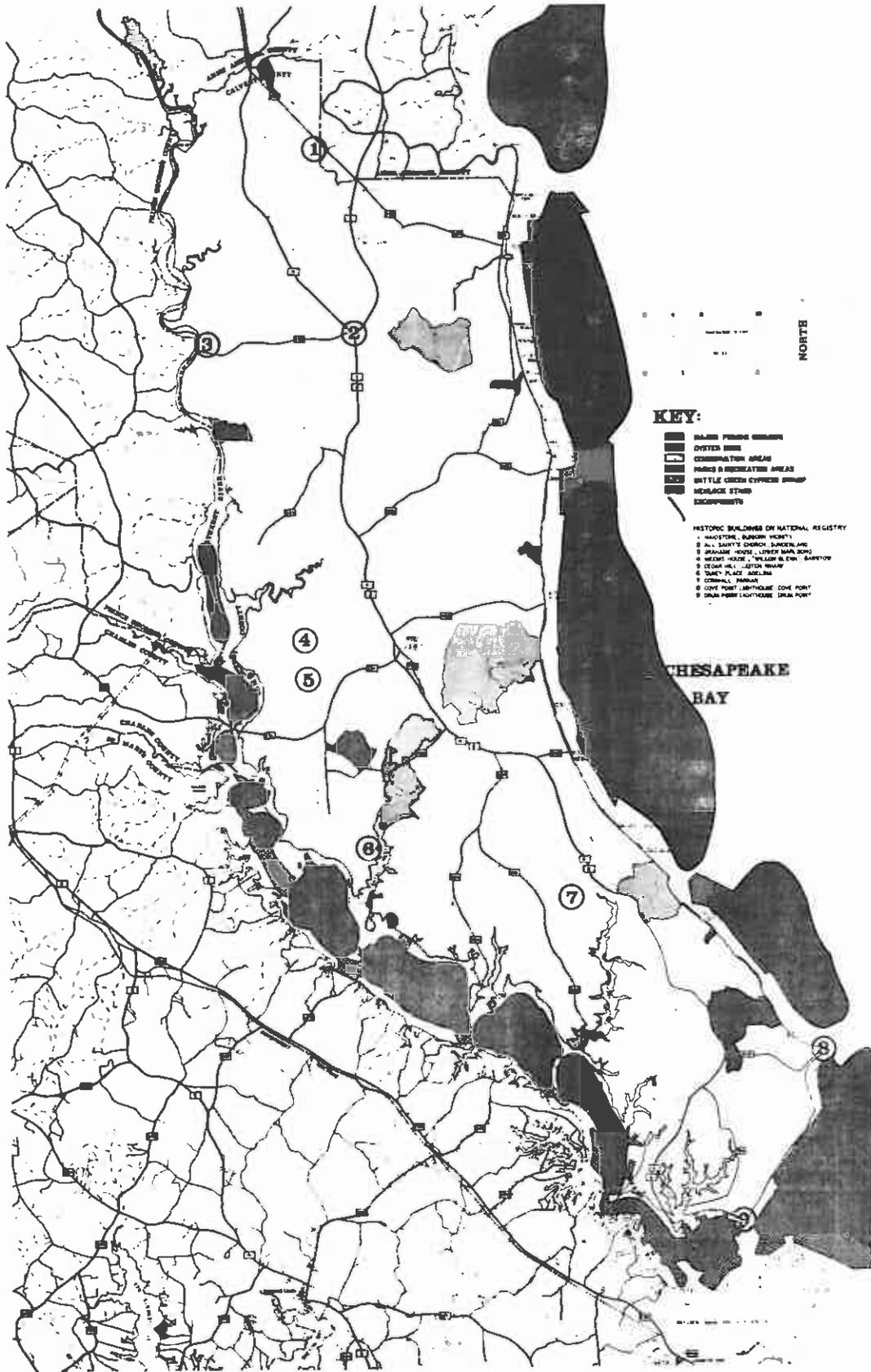
* FORESTS AND FOREST MANAGEMENT

Approximately 65% of Calvert County (92,000 acres) has tree cover of more than 10%. This area contains approximately 70,000 acres which have potential for timber protection. It has been estimated that the annual timber harvest within the County exceeds the amount of timber maturing for lumber purposes. While the exact amount of over-cut is unknown, the potential long run dangers involved warrant further investigation. Significant facts are that only 9,000 acres of forest land are under any kind of forest management and that only 900 acres are included in the three farm program where very careful management practices are applied. Better enforcement is needed of the Sediment Control regulations to prevent erosion in cut areas, and the County should consider enforcing the Forestry Board Regulations of April 15, 1954 to control timber cutting practices.

WILDLIFE

The hunter and fisherman can find lots of sport in and around Calvert County. The main hunting animals are birds, deer, rabbit and squirrel. Calvert County lies in the midst of the Atlantic Flyway for duck and geese and many species spend part of the autumn and winter in the tidal marshes of the Patuxent River and the Chesapeake Bay. The most important water birds are the Canvasback, Black Duck, Scaup, Pintail, Teal, Mallard, Pigeon, and the Canadian Goose.

Fishing is varied and attractive to residents and tourists alike. (The major fishing grounds are shown on Map No. 13). The main freshwater catches are large-mouth bass, bluegill, and catfish. Main saltwater catch is the Rock (or Rockfish or Striped Bass). In addition, the County is noted for its seafood catches which from the



PHYSICAL FEATURES 13

bay means soft and hardshell clams, bass, oysters, and crabs and from the Patuxent River comes soft and hardshell clams and bass.

Unusual to the naturalist is the hunting and collecting of fossils from the Miocene Age 15-20 million years ago. The world famous Cliffs of Calvert on the Chesapeake Bay are regarded as the best miocene fossil deposit in the world. Scuba diving for offshore fossils is very popular all along the eastern shore of the County. Another point of interest is the Chesapeake Biological Laboratory in Solomons where marine and estuarine biology is being researched.

HISTORIC SITES AND BUILDINGS

Calvert County's assets include many historic sites and buildings. Some steps have already been taken to increase the awareness of Calvert County's heritage. The Maryland Historical Trust and its County committees have assumed activity to preserve and advertise the County's heritage and historical sites. Additionally, a County Historic District Ordinance has been passed which will allow preservation of historical integrity in areas selected by the County Historic District Commission. The Calvert County Historical Society is also actively involved in efforts to stimulate interest in Calvert County's heritage.

One of the more famous natural sites in the County is the Battle Creek Cypress Swamp (refer to Map No. 13 for location). Since the Cypress Swamp is listed on the National Registry of Natural Landmarks, it was selected for the cover of this document. Battle Creek Cypress Swamp is ecologically unusual since it is the northern most stand of 50-100 foot tall Bald Cypress trees and is an important breeding place for amphibians such as pine woods tree frog (never before found north of Dismal Swamp). The Cypress Swamp is preserved by the Nature Conservancy.

Calvert buildings which are listed on the National Register of Historic Places are: Maidstone, Dunkirk; Grahame House, Lower Marlboro; All Saints Church, Sunderland; Cornhill, Parran Estate; Willow Glenn, Barstow; Cedar Hill, Leitch Wharf; Taney Place, Adelina; La Veille House, Mutual; Preston on the Patuxent, Preston; Cove Point Lighthouse, Cove Point; and the Drum Point Lighthouse, Drum Point (for location refer to Map No. 13). Other recognized historic buildings and sites in the County are: Charles' Gift, the Cage, Saint Leonard's Creek, Spout Farm, Upper Bennet, Brooke Place Manor, the Patuxent Manor, Rose Hill, Red Hall, Rousby Hall, Stonesby, Huntingfields, Hill Farm, Letchworth Change, Sheridan Point Farm, Old Solomons House, Linden Old Field, the Reserve, Stewart Place, Christ Church, and Middleham Chapel.

Perhaps the most popular of the above list are the following:

Cove Point Lighthouse Built in 1828 and located at the southern extremity of the Calvert Cliffs, it is the oldest lighthouse on the Chesapeake Bay.

Middleham Chapel This is an Episcopal Church which is the oldest example of a cruciform design in Maryland. It has a chapel bell dating back to 1699 and the structure itself was built in 1748.

All Saints Church With Flemish bond walls, this Episcopal church is a fine example of round arch panelling. The interior contains colonial footstools and pew cushions. Built in 1774, part of the church was transported from England in 1785.

Christ Church Dating back to at least 1672, Christ Church became a parish of the Church of England in 1692 serving the lower portion of Calvert County.

St. Leonard's Creek This creek was the site of naval encounters between the British and Americans during the War of 1812. Using barges driven by oars, the American flotilla harassed the British before their landing at Benedict and their eventual march on Washington, D.C.

NATURAL AREAS

In addition to the Battle Creek Cypress Swamp (described above), there are some other natural areas of special environmental significance in the County. The term "natural areas" shall mean:

"A natural area is an area of land or water which preserves an example of the natural environment, where natural ecosystem processes operate relatively undisturbed, and where biological communities and their interactions can be studied." (1)

Recently the Smithsonian Institute's Center for Natural Areas and the Nature Conservancy collaborated on a comprehensive study to inventory strategic natural areas in the Chesapeake Bay region. Although the study is still in process, both agencies have given their permission for the following materials to be presented as part of this Comprehensive Plan.

The Chesapeake Study has identified and categorized natural areas in Calvert County. Each of the natural areas listed below is now privately owned except for the Hellen Creek Hemlock Preserve which is owned by the Nature Conservancy and managed by the Chesapeake Biological Lab at Solomons. In order to assure permanent preservation of these important natural areas, the general plan Map 15, has designated such areas as either "Rural Protection" or "Open Space Reserve."

(1) Smithsonian Center for Natural Areas, "Survey of the Ecologically Important Natural Areas of the Chesapeake Bay Region," unpublished draft, Ecology Program Smithsonian Institution, September 1, 1973, p. 10.

NAME OF AREA: CALVERT CLIFFS
SIZE OF AREA: 00101.0 HA or 249.5 Acres
BIOTIC COMPONENTS: Steep banks up to 23 M
DESCRIPTION OF AREA: Fossils, geological formations.
ECOLOGICAL RATING: 4

NAME OF AREA: COVE POINT
SIZE OF AREA: 00084.8 HA or 209.5 Acres
AQUATIC TYPES: Marsh, Tidal
BIOTIC COMPONENTS: Tidal marsh with phragmites, Otter, Northernmost point of distribution for Narrow-mouth frog.
RARE & ENDANGERED ANIMALS: Eagle Nest
AREA INCL. BUFFER ZONE: 00214.1 HA
ECOLOGICAL RATING: 9

NAME OF AREA: DEEP LANDING
SIZE OF AREA: 00080.8 HA or 199.6 Acres
AQUATIC TYPES: Marsh, Freshwater
BIOTIC COMPONENTS: Freshwater Marsh, with Typha Sp. Mink, Otter, Wilson Snipe, Wood Duck, Canvasback, Great Blue Heron Nesting, Anadromous Fish, Herring, Shad, Crab.
DESCRIPTION OF AREA: In Patuxent Watershed. Prime Wetland.
ECOLOGICAL RATING: 9

NAME OF AREA: FISHING CREEK
SIZE OF AREA: 00355.5 HA or 878.1 Acres
AQUATIC TYPES: Marsh, Tidal
BIOTIC COMPONENTS: High Tidal Marsh. Spartina Cynosuroides. Otter, Eagle, Wood Duck.
RARE & ENDANGERED ANIMALS: Eagle Nest
AREA INCL. BUFFER ZONE: 01414.0 HA
ECOLOGICAL RATING: 9

NAME OF AREA: HELLEN CREEK HEMLOCK PRESERVE
COORDINATES: 38° 22' -- N & 76° 27' -- W
OUTSTANDING FEATURES: Representative Ecosystem Type. Swamp Forest of Tsuga Canadensis, Kalmia Latifolia, Fagus Grandifolia, Quercus Spp. and Pinus Spp. Intermingled. Virginia Dominant on Area Formerly Cultivated. Otter, Crab and Terrapin Present.
DESCRIPTION OF AREA: Stand of Tsuga Canadensis Near Edge of Tidal Marsh. Marsh Most Southern Known Stand of Hemlock Along Coast. Most Southern Known Growth of Tsuga Canadensis Along Coast.
AREA INCL. BUFFER ZONE: 00331.3 HA or 818.3 Acres
ECOLOGICAL RATING: 10

NAME OF AREA: JACK BAY
SIZE OF AREA: 00044.4 HA or 109.7 Acres
AQUATIC TYPES: Marsh, Tidal
BIOTIC COMPONENTS: High Tidal Marsh. Crab.
DESCRIPTION OF AREA: In Patuxent River Watershed.
ECOLOGICAL RATING: 4

NAME OF AREA: KITT POINT
SIZE OF AREA: 00040.4 HA or 99.8 Acres
AQUATIC TYPES: Marsh, Tidal
BIOTIC COMPONENTS: High Tidal Marsh. Plant Species include Spartina Patens, Distichlis Sp. and Juncus Roemerianus. Osprey, Mink, Otter, Canvasback Ducks and Crabs are also present.
DESCRIPTION OF AREA: In Patuxent River Watershed.
AREA INCL. BUFFER ZONE: 00137.4 HA
ECOLOGICAL RATING: 7

NAME OF AREA: LONG COVE
SIZE OF AREA: 00088.9 HA or 219.6 Acres
BIOTIC COMPONENTS: High Tidal Marsh. Plant Species include Spartina Patens, Distichlis Sp. and Juncus Roemerianus. Otter, Osprey and Crabs.
DESCRIPTION OF AREA: In Patuxent River Watershed.
AREA INCL. BUFFER ZONE: 00456.5 HA
ECOLOGICAL RATING: 7

NAME OF AREA: PARKER CREEK
SIZE OF AREA: 00218.2 HA or 539.0 Acres
AQUATIC TYPES: Marsh, Freshwater; Stream
BIOTIC COMPONENTS: Freshwater Marsh with Typha Sp. Otter. Sparsely Developed Area. Tobacco Fields Intermingled in the Woodland. Topography is Sharply Rolling High Banks Along Creek.
AREA INCL. BUFFER ZONE: 01636.2 HA
ECOLOGICAL RATING: 5

NAME OF AREA: PATUXENT RIVER Shoreline Area (Northern Portion of County)
SIZE OF AREA: 04597.5 HA or 11,355.8 Acres
BIOTIC COMPONENTS: Eagle, Otter, Mink, King Rail, Heronry, Wood Duck and Teal. Anadromous Fish, Shad, Herring, Striped Bass. Plant Species include Typha Sp. Orontium Aquaticum, Pontederia Sp. Hibiscus Palustris and Spartina Sp. Sora Rail Concentrated in Full Migration.
DESCRIPTION OF AREA: Prime Wetland.
RARE & ENDANGERED ANIMALS: Eagle Nest
ECOLOGICAL RATING: 17

At the bottom of each natural area listing, a number appears which is called an "ecological rating." The number refers to the overall ecological importance of each site based on the objective criteria developed by the Nature Conservancy (See Criteria listing in Table).

TABLE 6.2
CRITERIA AND QUANTITATIVE VALUES
FOR SELECTION OF NATURAL AREAS

	Points		
1. Ecosystem Types			
Diversity of ecosystem types	1 (each)		
Little or no past and present disturbance	2		
High density of species	2		
Type not represented in National Research Natural Area System	4		
2. Endangered, or Threatened Biota and Gene Pool Species			
Endangered and threatened plant or animal species	4 (each sp.)		
Rare, declining, or depleted species	2 (each sp.)		
3. Range Phenomena			
Outliers, disjuncts, or relict species	1		
Limits of range - N, S, E, W	1		
Restricted and endemic species	1		
4. Seasonal Concentrations of Animals			
Seasonal breeders - nesting, spawning	1		
Overwintering concentrations	1		
Migratory concentrations	1		
5. Commercial, Game, or Unusual Animal Populations			
Ungulates, game birds, fur bearers	1		
Fish, Clams, Oysters, Crabs	1		
6. Paleontological, Geological and Archeological Features			
Bones and artifacts, deposits of fossils, peat, Lignite, sediments, structural and geomorphological features	1 (each feature)		
7. Sites of well documented scientific research or discovery and records over period of years	1		
8. Oldest, largest, or otherwise exceptional individuals or associations	1 (each)		
9. Size of area			
	Acres	Hectares	
Under 100 Acres		Under 45	1
100 - 1,000		45 - 457	2
1,000 - 5,000		457 - 2,270	3
over 5,000		over 2,270	4

Although the rating system may be subject to future revisions, it now weighs greater importance to plant communities or types not in the National System of Natural Areas, than those for which there are many examples. Also the factors of diversity, quality, lack of past and present disturbance, protectability, and other factors have been considered with appropriate weighting. It is possible that subjective evaluations could be added into the rating system to take into account emotional or national significance factors. For example, the Candor, Whooping Crane, or Bald Eagle have higher importance for preservation than a subspecies of sedge which can be identified by only a few specialists. Or the presence of a natural area in or near a large city or University may be of different value than the same type of area in a remote place.

The Patuxent River shoreline area of Calvert County has been given the highest ecological rating in the County, of 17 points. The shoreline area defined in the listing actually includes portions of the River Basin which extends beyond Calvert and into Prince George's and Anne Arundel Counties. The Hemlock Preserve has the next highest point value, followed by Cove Point, Deep Landing, Fishing Creek, Long Cove, Kitt Point, Parker Creek, Calvert Cliffs, and Jack Bay.

ENVIRONMENTAL QUALITY

Traditionally Calvert County has had a very special gift from nature - a beautiful countryside, scenic waterways and clean air. Yet over the years with man's occupation of these features, the natural balance has sometimes been disturbed and local breakdowns in environmental quality have occurred. In the following pages a commentary is given on perceived environmental problems in the County. Discussion is categorized under either land use, air quality, or water quality since the phenomena suggested these categories. (Refer to Map 14 for locations of some of the cited problem areas). Although it is beyond the scope of this study, further research should be undertaken concerning each noted problem so that creative remedies might be applied to each.

Sources contributing to the preparation of this outline were: the Nature Conservancy, the Smithsonian Institute's Center for Natural Areas, the Tri - County Council for Southern Maryland, and the Maryland Department of Health and Mental Hygiene.

Information presented on shoreline erosion was obtained from "Shoreline Erosion Study, Calvert County, Maryland, Ship Point to Drum Point. . ." by Henningson, Durham & Richardson, January 1972. Some of the Patuxent River discussion was summarized from The Patuxent River: Maryland's Asset, Maryland's Responsibility, a July 1968 report by the Governor's Patuxent River Watershed Advisory Committee.

LAND USE

1. Vegetation When Captain John Smith visited the County it was 100% forest covered. By 1900 it was reduced to 39% coverage. Today after conservation efforts, about 2/3 is in woodlands. Most stands are second and third growth. The problem is how to manage and preserve as much as possible of the natural vegetation.

Comment: Area of original growth should be preserved intact if at all possible. Tree cutting should be only by special permit. Developments along arterial routes should be required by law to leave on roadsides at least a 15 foot wide strip of uncut woodlands. Property below utility rights-of-way should be retained in their natural state as much as is practical after considering safety precautions. A certain percentage of ground area in large parking lots should be required to be planted or left in natural woodland. Subdivisions should be required to retain as much of the natural vegetation as deemed appropriate by planning commission discretionary review of each proposal. Further protection should be legislated for Battle Creek Cypress Swamp, the Hellen Creek Hemlock Stand and the Small Bamboo Forest.

2. Agricultural Practices Agricultural practices and other cultural uses of inland acres have stripped the top soil in many places rendering the land useless for other crops. This condition is especially severe where tobacco has been grown.

Comment: It is recommended that tobacco be raised as long as it is economical in existing or past locations. Hilly terrains which have been stripped of their organic nutrients might be used for beef cattle or poultry raising, or they could be put into tree production.

3. Land Erosion Inland land erosion is contributing to the siltation and contamination of rivers and streams. When top soil, grass cover, and trees are removed, the soil erodes away and it plugs up the waterways.

Comment: Tree coverage is one of the most effective means of controlling this form of erosion, especially on steep sided slopes. Development should be prevented on steep slopes and those with past or potential erosion tendencies. Tree farming should be encouraged in such locations.

4. Wildlife The marshes and other wetland areas are habitats for many wildlife species which are a source of pleasure and sport hunting. Development in these areas destroys natural habitats of some species.

Comment: Development should be prevented in marshes, wetlands, and other known areas of special animal habitat. Further controls are needed to protect the unique fossil remains in and around Calvert Cliffs, and the eagle nests in the Cove Point and Fishing Creek natural areas.

5. Watersheds There is a potential hazard from misuse of the County's five watersheds (Lyons Creek, Hall Creek, St. Leonard Creek, Fishing Creek and Parkers Creek). If too much of the land in a watershed is too intensely developed or otherwise stripped of its natural cover which in the natural state is used to decrease run-off, then flooding, erosion, and property and life damage may result.

Comment: Any future development proposals in stream valleys should be considered individually so as to determine their potential environmental effect on lower and upper portions of the same watershed. But special protection will be needed for all the designated natural areas of the Patuxent watershed: Deep Landing, Jack Bay, Kitt Point, and Long Cove. Parkers Creek, a part of the Chesapeake Bay watershed, should also be protected.

6. Public Recreation Shoreline property is owned by private individuals or military interests so that the general public is unable to make use of this natural resource.

Comment: The County should acquire public waterfront land at selected locations and devise a program to improve overall access to approved recreational areas.

7. Stream Valley There is an existing and potential threat of pollution from sewage effluents in the stream valleys of Hall Creek, Chew Creek, Cocktowns Creek, Fishing Creek, Cove Point and the shoreline near Long Beach. (These locations are explained in more detail in "Water Quality" discussion).

Comment: Stream valleys should not be developed because of pollution hazards, the presence of swamp areas, and the characteristic problem of being inundated by floodplain waters in periods of medium and high flows.

AIR QUALITY

The Chalk Point Generating Plant of PEPCO discharges an undetermined amount of soot, ash and chemicals which the winds frequently carry over the Patuxent River and into parts of Calvert County.

As the County urbanizes and higher intensity of land use occurs, there will be impending potential for further decline of the ambient air quality. An example of a current potential source of air pollution is the Nuclear Power Plant at Calvert Cliffs.

Comment: This pollution source should be carefully monitored so action can be taken to prevent environmental damage.

New land uses, regardless of whether they are industrial, residential, or commercial, can mean potential sources of air pollution because the common automobile is nationally the biggest culprit. Thus, as the County urbanizes, stationary and mobile air pollution sources should be monitored so that if air pollution occurs, it can be stopped.

WATER QUALITY

1. Shoreline Erosion Erosion resulting from the combined forces of wind, waves and tides acting against exposed reaches of the shoreline is critical especially on the Chesapeake Bay side of the County. Damage has occurred to many property owners along the shoreline and there are associated direct and indirect costs to the County. The severity and magnitude of the erosion is shown in Table 6.3. Previous legislation has required subdividers with shore frontage to provide protective barriers and defensive works to thwart the impending erosion. But special piecemeal efforts have appeared to accelerate the erosion on adjacent areas which in turn ultimately contributes to the failure of the defensive works.

Comment: Shoreline erosion is very critical to the County but an easy solution is not forthcoming. The consulting engineers who studied the problem in 1972 concluded that terracing the high eroding cliffs would be uneconomical. They recommended that shoreline erosion be approached on a broad front with the County taking the initiative to institute controls. An erosion control district has been established at Dares Beach. No permits are issued for construction extending into wetlands or State waters unless appropriate State and Corps of Engineers permits have been issued. Additional creative and innovative remedies must be sought to reduce the destructive effects of erosion on the shoreline.

2. Patuxent River Basin The lower third of the Patuxent River Basin borders the west side of Calvert County. Four problems within the basin must receive immediate attention if the basin's attractive qualities are to be preserved and the few existing local breakdowns in environmental quality are to be corrected. The four problems noted are waste water disposal, erosion and sediment, public water supply and parts, recreation and open space.

- a. Waste Water Disposal: There has been a downward trend in water quality. Dissolved oxygen is sometimes found to be depressed to well below minimum prescribed levels by state water quality standards. This condition causes destruction of eggs and newly hatched fry and disappearance of some species of fish and appearance of objectionable algae blooms, etc. The latter are due to presence of increased nitrogen and phosphorous which has not been properly removed in treatment operations. Another related problem is that between 1960 and 1980, the projected population in the basin is expected to triple and waste water discharge volumes are expected to increase eight-fold during the same period. Current facilities are not designed to accommodate this much

TABLE 6.3SHORE EROSION UP TO 1964
CALVERT COUNTY

<u>AREA MEASURED</u>	<u>YEARS MEASURED</u>	<u>MILES MEASURED</u>	<u>EROSION ACRES</u>	<u>DEPOSITION ACRES</u>	<u>NET LOSS ACRES</u>
County Bay Front	1868- 1964	31.3	645	115	530
County Patuxent River	1880- 1964	33.4	234	116	118
County Totals	Data up to 1964	64.7 Miles	879 Acres	231 Acres	648 Acres

SOURCE: Department of Geology, Mines & Water Resources,
State of Maryland Shore Erosion in Tidewater,
Maryland, Bulletin 6, 1964

increase, nor are current treatment procedures totally acceptable. The recently adopted 1974 Water and Sewage Plan for Calvert County has established an important policy concerning discharge of effluents: All sewage treatment plants west of the major drainage divide (or towards the Patuxent River watershed) shall (1) either provide tertiary treatment and use ground disposal for the treated effluents or (2) pump their treated effluents to the east. (3) No more discharges shall be allowed into creeks leading to the Patuxent River. All sewage treatment plants to the east of the County's major drainage divide shall be allowed to discharge tertiary treated effluents into the Chesapeake Bay at a suitable outfall distance to avoid contamination of the shell fish beds. But ground disposal will also be encouraged on the eastern side of the County, so that any future potential environmental problems with the Chesapeake Bay might be avoided now.

- b. **Erosion and Sediment:** Fifteen miles of the original tidal estuary of the Patuxent River have been filled with silt eroded from the watersheds during the past 300 years. Erosion originally occurred from poor farming practices but now even greater volumes come from unprotected construction sites. This could continue unless further controls are introduced.

Comment: This problem was partly discussed under "land erosion", but it is also interrelated to water quality. Although Calvert has a very good erosion and sediment control ordinance, further controls over the affected areas upstream in Anne Arundel and Prince Georges County will be necessary.

- c. **Public Water Supply:** The Patuxent Basin furnishes from 45 to 50 million gallons of water each day to the Washington suburban areas (not including Calvert County). No more water for public water supply should be taken from the river because the remaining water is necessary to support fish life, assimilate treated wastes, and preserve the aesthetic environmental qualities of the basin.

Comment: As the population of Calvert County continues to increase in the future, the public water supply should continue to use ground water resources since specialists estimate there are sufficient ground water reserves for any projected domestic or industrial needs in the probable future.

- d. **Parks, Recreation, Open Space:** Even though progress is being made by land acquisition for public parks and open space under the programs established in the Patuxent Watershed Act of 1961,

there is further need for selected recreational and open space acquisition in the future.

Comment: The consultants of the Allen Organization have made recommendations for further park and open space land acquisition. The County would benefit from such acquisitions.

3. **Marinas** Marinas have naturally developed in the County to take advantage of its many scenic shoreline features. But there has been water quality problems around marinas due to oil slicks, the boat exhausts of carbon monoxide, and bilge dumping of boat wastes and sewage effluents. Major noted problem areas are the marinas near the Twin Beaches, the Long Beach — Flag Harbor area, the Breezy Point Beach — Plum Point Creek area and the Solomons area.

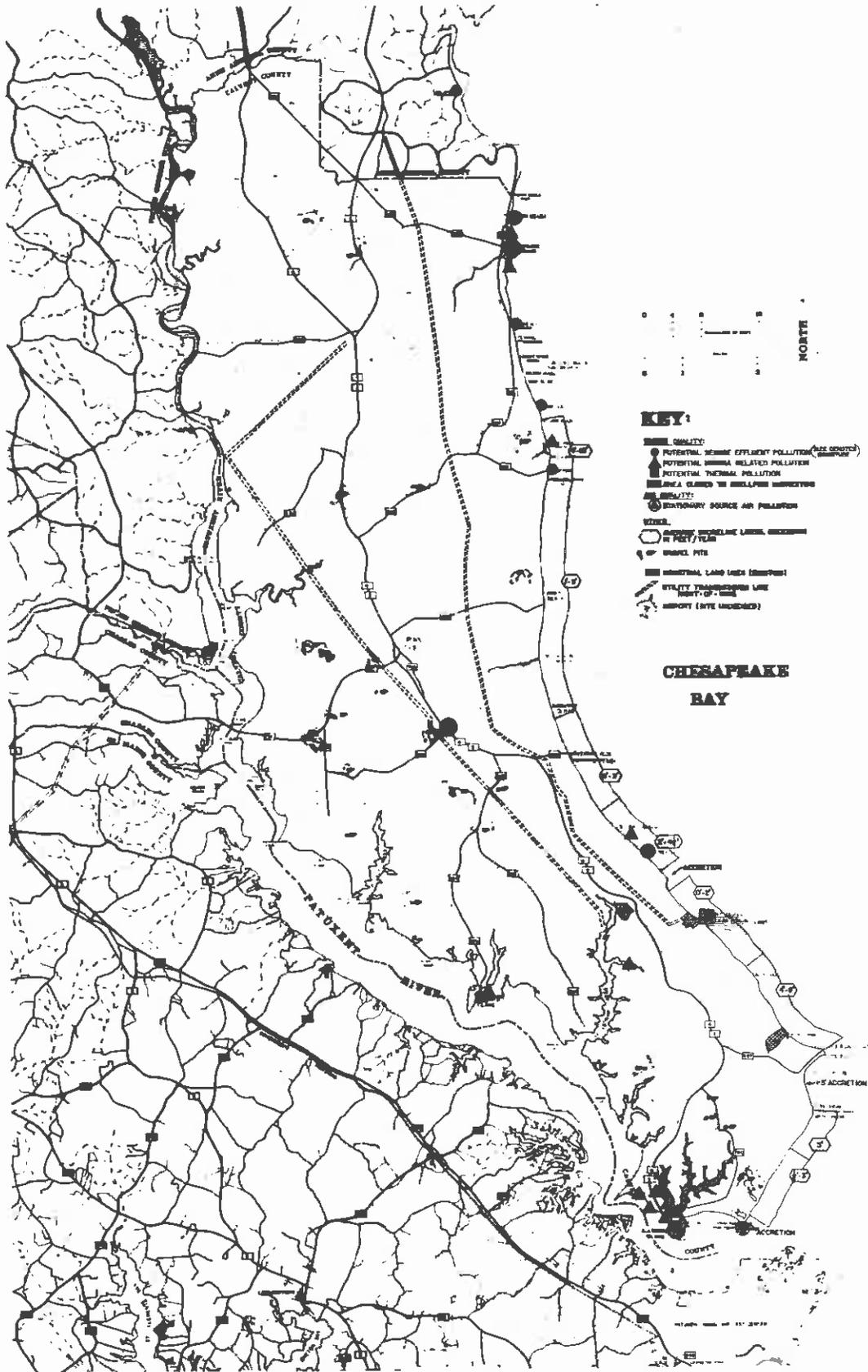
Comment: The County could benefit from establishing marina regulations for safety reasons and for environmental protection. Water quality standards could be set up to harmonize with the objectives set forth in the County's newly adopted 1974 Water and Sewerage Plan amendment. Since the State of Maryland does not have a model marine regulation, the County could set a precedent in this field.

4. **Industrial Discharge** Aside from marina water uses and related problems, the only other major industrial installations in the County are the Calvert Cliffs Nuclear Power Plant (BG & E) and the planned Liquified Gas Plant and Terminal (Columbia Gas Corporation). The Nuclear Power Plant already uses water from the Bay and there is the potential of thermal pollution of the Bay waters or nuclear pollution. Although not built, the Gas terminal could potentially be the site of pollution from large tankers using the terminal or pollution resulting from operations at the plant or transmission line failure.

Comment: Both installations will need to be monitored closely for any water quality problems. Remedies for possible thermal or gas related pollution will need to be investigated further.

5. **Seafood Pollution** For years oysters have been the principal commercial catch and other aquatic species have been the sport of fishermen. An unknown organism, coined as "Organism X", has sometimes destroyed the oysters along the Atlantic and Chesapeake Bay Coast, including parts of Calvert's waters.

Comment: This organism is under study by the Tidewater Fisheries Commission. Until the origin and prevention of organism X are further understood, no conclusive preventive recommendations are possible. But it is known that waste water disposal from some portions of the County contribute to shell fish pollution and areas sometimes have to be closed to shell fish harvesting by the Maryland Department of Health & Mental Hygiene. The newly adopted policies of the County's Water and Sewerage Plan should help to upgrade the ambient water quality.



PROBLEM AREAS

**GOALS &
OBJECTIVES**

1 2 3 4 5 6 7 8 9

CHAPTER SEVEN

Goals and Objectives

Citizens are major participants in the planning process for they must live with the future which grows out of the present. After the background studies were completed, major issues identified, and future alternatives suggested, local residents were asked to choose which alternative should become public policy. Based on the alternative they selected, a statement of goals and objectives was drafted and presented to the County. More citizen feedback resulted and the final statement of goals and objectives which appear here are used as the basis for subsequent planning judgement which are reported in subsequent chapters.

A plan must have direction. Direction provides the framework for special studies, policy decisions and day to day staff activities and decisions. In comprehensive planning for both government and industry, directions are set through a statement of goals and objectives which provide the framework for formulating plans and programs. The following are statements of Goals and Objectives for Calvert County, Maryland.

LAND USE

GOAL

Guide the rate and location of growth in Calvert County in an orderly manner to accommodate increasing population while maintaining the character and attitude of a rural environment.

OBJECTIVES

1. Develop policies, procedures and regulations which will foster a planned "slow growth" alternative.
2. Maintain a strong Countywide land use planning program to achieve a balance of land uses creating a high quality living and working environment.
3. Coordinate the land use plan with the County zoning map and use the land use plan as a guide for zoning decisions.
- * 4. Retain the natural amenities of the County, such as shorelines, forested areas, flood plains stream valleys and wetlands in their natural state, consistent with good management practices.
- * 5. Preserve prime agricultural and open space lands from encroaching urban development by discouraging urban sprawl and strip commercial development.
6. New residential, commercial, industrial and institutional developments be encouraged to locate in and around existing population centers and

communities thereby creating "development nodes."

7. Initiate and implement the development concept of "Villages" as the basis for granting residential and limited commercial developments and the provision of community services.

8. Phase the location and extent of development in accordance with existing or scheduled community facilities and services.

9. Provide for more efficient use of land and a high quality of site design through the use of flexible development controls, such as cluster development, historic district zones, critical area zones, density transfers and density zoning.

10. Provide a transportation system designed to minimize congestion and conflict between resident and commercial traffic while providing the necessary transportation facilities for stable County growth.

11. Institute and annually update both a ten year capital improvement program and a yearly capital budget.

COMMUNITY FACILITIES AND SERVICES

GOAL

Maintain a level of community facilities and services that will promote attractive living and working environments in the most efficient manner.

OBJECTIVES

1. Concentrate community facilities and services in designated population nodes, creating centralized service centers.
2. Where possible, acquire land for community facilities and services in advance of total development of an area; in addition, continue & refine current policy which requires developers to dedicate land for public uses.
3. Provide additional public recreational facilities and upgrade existing facilities.
4. Expand public access to major water bodies by the acquisition of waterfront land for both unimproved and improved parks.
5. Plan the expansion of fire/rescue and police protection to coincide with increases in population.
6. Continue methods of improving the quality and relevance of educational programs. Continue

the school construction program, developing up-dated facilities which can serve as multi-use centers.

7. Further encourage existing adult education programs and expand training program for new employment opportunities and personal enrichment as future needs dictate.

8. Further encourage educational programs to service the special needs of children and adults with social and physical handicaps.

9. Plan a community college facility, when needed, to satisfy the needs and desires of County residents for higher education.

10. Coordinate the location of schools, libraries, and health and medical facilities, fire/rescue and police facilities, and other public services to provide efficient community facilities and services at convenient locations.

11. Encourage a high quality of design for all public areas and buildings.

12. Insure continuing high level of maintenance of County roads and streets through a continuing capital improvement and maintenance program.

13. Foster a road system which provides convenient access to public facilities and services.

14. Develop a comprehensive health program to meet the health service needs of all citizens.

HOUSING

GOAL

Insure that decent, sanitary, and safe housing is available to all residents as prescribed by the National Housing Act of 1960, as amended, by providing a variety of housing types at acceptable costs.

OBJECTIVES

1. Establish and enforce a County Housing Code for the health, safety, and welfare of the residents.

2. Revise necessary County codes and ordinances to allow for a variety of housing types and densities while maintaining high standards of structure design and site planning.

3. Encourage the provision of a variety of housing types and costs within large residential development projects.

4. Encourage and assist the local housing authority to formulate and implement housing developments for residents with special needs — the physical handicapped, the aged, and families with low incomes.

5. Encourage new residential developments to locate in designated population nodes to avoid urban sprawl and reduce excessive extensions of costly public facilities and services.

6. Insure the stability of residential areas by discouraging spot zoning; buffering residential land uses from commercial and industrial development; and by discouraging uses of adjoining properties not consistent with the County land use plan.

ECONOMIC DEVELOPMENT

GOAL

Foster environmentally acceptable industrial and commercial developments which will increase the quality and number of employment opportunities while providing a sound economy and increased tax base in the County.

OBJECTIVES

1. Maintain and utilize an economic development program which will identify development opportunities and maintain current information on local assets of the County.

2. Foster the agricultural development of prime agricultural land and agricultural businesses in the County.

3. Identify tourism and commercial recreational opportunities and plan for their development and viability through combined public and private investment and promotion.

4. Encourage the development of industrial and commercial (office) parks at locations in accordance with the County zoning map and adopted land use policy.

5. Provide industrial land in tracts in a variety of sizes to meet varying industry needs. Such sites should have appropriate topography, drainage, soil stability and good access to transportation services.

6. Provide the opportunity for increasing family incomes by selectively seeking manufacturing industries, service industries and commercial activities which require a range of unskilled and skilled employees with a policy of promoting from within.

7. Continue and expand the current public information and assistance program to foster the expansion and stabilization of existing local businesses.

8. Foster the development of forestry and related industries.

9. Foster the development of industries that are natural to the environment such as seafood industries, small boat construction and repair, and recreation.

NATURAL AND ENVIRONMENTAL RESOURCES

GOAL

Preserve those natural and environmental

features of the County which will insure continuance of a healthy and pleasant living environment for current residents and future generations.

OBJECTIVES

1. Adopt regulations and procedures which will prohibit development in the fifty (50) year flood plains and control development in the remainder of the one hundred (100) year flood plains. * *

2. Encourage reforestation and tree farming as a means to control erosion, maintain the rural nature of the County, and to provide wildlife habitats and to produce forest products. * *

3. Preserve wetlands and significant salt water inlets for their environmental contributions and their use in retarding saline intrusion into fresh water wells and aquifers. * *

4. Study the need for and develop appropriate controls to protect the county-wide water quality from degradation resulting from excessive siltation, contaminated run-off and pollution from septic system seepage. * *

5. Develop and implement a critical natural areas program for the preservation and conservation of unique scenic vistas, areas with botanical or zoological value, special geologic features, and areas of archeological significance. *

6. Develop and enforce strict site development standards which recognize the environmental and aesthetic value for preserving existing trees, ground forms and natural drainage patterns. * *

7. Minimize the environmental impact of waste water disposal by adopting a County ordinance establishing adequate sewage treatment standards and requiring all new treatment plants to provide tertiary treatment. Encourage the use of ground water recharge systems. * *

8. Minimize the environmental impact of solid waste disposal by adoption of appropriate ordinances controlling open air burning, dumping and improper burial of solid waste by establishing a more comprehensive solid waste collection and sanitary land fill program. * * * *

9. Encourage the preservation and restoration of historical/cultural sites and structures which are significant in displaying the County's, State's, and Nation's heritage. * * * *

Handwritten note: *Main of 12 Recommendations*

**THE GENERAL
PLAN**

1 2 3 4 5 6 7 8 9

CHAPTER EIGHT

General Plan

The slow growth policy will be implemented by the adoption of measures to slow land speculation and mounting development pressures, resulting in a population growth rate not to exceed three percent per year during the design period of this plan (to year 1990 or 41,500 people, whichever comes first). The benefits of planned slow growth will be most apparent in the protection of the County natural environment and maintenance of its life style and in the limited requirements for provision of additional County services. The County's tax picture should remain favorable and convenience and government services should be high as expansion of the services is controlled.

The General Plan for Calvert has three important parts: The Land Use Plan, Transportation Plan, and Community Facilities Plan as described in subsequent sections of this Chapter. Although the three elements are separated in the text, they have been planned together and coordinated so that they will work in harmony towards planned slow growth.

PLANNING PHILOSOPHY

The concept behind the planned slow growth policy is that in general, if man is given fewer acres to live on with the rest being given to agriculture, forestry, or nature, man will take better care of that which he does have. When a developer cannot find vacant land that is developable, he will turn to land that is used improperly and will redevelop it.

Another basic concept behind planned slow growth is the acceptance of the natural and man-made constraints which tend to control the pattern of development. The natural constraints must be regarded as primary determinants of the ultimate holding capacity of the County whereas man-made or secondary constraints may be regarded as factors which will limit the rate at which development occurs within the ecologically stable areas of the County.

PRIMARY CONSTRAINTS

1. The Capability of the Patuxent River Watershed and the Western Chesapeake Bay Watershed to receive further development. Through the years, the water of the Patuxent River has suffered serious degradation and environmental damage. Degradation of the Lower Patuxent River has been primarily caused by the continued discharge of inadequately treated domestic and industrial wastes and the continued introduction of large quantities of silt from housing, highway, and industrial construction projects and from farming practices. Much of this abuse has occurred in the upper portions of the watershed. In total, recognized environmental authorities forecast that any extensive development in Calvert's portion of the lower Patuxent River Basin will accelerate existing degradation of the water quality. For this reason, future development in the County should be directed to land from which run-off can be controlled or which drains into the Chesapeake Bay watershed. Only low density development should be permitted on the Patuxent River Basin side of the County.

2. Land Suitable for Development. In Chapter Five of this document, the major physical features, natural areas and environmental problems of the County were discussed in detail. All of these studies culminated in the preparation of Map 4, "Developable Land" which classifies the land of the County into one of three categories. "Extremely Sensitive Land" areas are the 50 and 100 year flood plains, tidal marshes, fresh water swamps, coastal beaches, and escarpments. "Sensitive Areas" of the County are locations where slopes exceed 15%, where soils experience seasonally high watertables, or areas containing utility transmission line right-of-ways. "Stable" areas of the County are those portions which are well drained and not subject to flooding, have stable soils capable of supporting construction projects, and have slope conditions of 0-14%. Table 8.1 quantifies the County's acreage found in each of the three categories. When the County is further divided into land draining to the Patuxent River versus land draining into the Chesapeake Bay, then the "developable land" statistics are as shown on Table 8.2. Even with the ridge line constrictions, it can be seen that the County still has significant land which is suitable to receive future growth.

3. Sufficient Water Supply. The Comprehensive Water and Sewerage Plan for Calvert County

forecasts that there will be sufficient quantities of suitable quality ground water available in the County during the design period of this plan. Development located either east or west of the divide should have about the same access to ground water reserves. These ground water reserves are sufficient to serve the demand generated by the projected 41,500 population.

SECONDARY CONSTRAINTS

Secondary constraints can be manipulated more than primary constraints and decisions to eliminate a secondary constraint will not weaken the usefulness of the overall holding capacity concept. The most obvious constraints of this type are limitations of access and the availability of utilities.

1. Capacity of Roads for Further Development.

It is logical that land shall be held out of development until a property has sufficient access and until it can be verified that development will not overload existing or proposed facilities.

2. Availability of Water and Sewerage Service.

The Water and Sewerage Plan for Calvert County designates areas of the County as W-1 through W-7 and S-1 through S-7. The categories indicate the priority an area has for potentially receiving community water and/or sewerage service. Details behind the service priority designations may be obtained from that plan. In general, areas west of the major drainage divide have been classified as W-7 and S-7, meaning that community water and sewerage facilities are not planned for such areas. By contrast, weighted priority has been given during the next twenty years for development of facilities for the three main existing development nodes of the County: the Solomons-Appel-Olivet area, the Prince Frederick area, and the Twin Beaches area. In addition, the two smaller nodes of Dares Beach and the area from Scientist Cliffs to Long Beach are also scheduled to receive service.

3. Fiscal and Administrative Capacity to Supply Public Works and Services in Phase with the Rate of Development. If the rate of growth can be limited to allow government to keep pace with the provisions of community facilities and services (such as communications, public safety, health care, solid waste disposal, and cultural and educational facilities) the lag which frequently occurs in the development process between revenues and required services could be eliminated and services supplied at the proper phase of development.

4. Political Acceptance of Growth. Ultimately, political considerations will determine to a great

extent the rate at which growth is permitted to occur within the designated portions of the County. The Calvert Citizenry has exhibited a strong consensus towards planned slow growth, so as to keep the development process from going out of control. Through government intervention, the citizens may attempt to restrict some types of development which are primarily of benefit to outsiders; it will remain the responsibility of the government which exercises such power to demonstrate that it is not infringing upon constitutional guarantees.

THE LAND USE PLAN

The Land Use Plan, which is one element of the General Plan, sets forth the projected and desired pattern of growth for the County. The object of the Land Use Plan is to reflect where growth should take place and the densities at which it should occur. The designations of non-urban uses for agricultural lands and open space are also made.

It should be emphasized from the onset that this plan is intended to serve as a process, not an end, because continual modification and refinements in affected County policies will occur after this document is adopted.

TABLE 8.1
DEVELOPABLE LAND BY ELECTION DISTRICTS
CALVERT COUNTY

	ACRES OF STABLE LAND	PERCENTAGE OF ELECTION DISTRICT	ACRES SENSI TIVE LAND	PERCENTAGE OF ELECTION DISTRICT	ACRES EXTREMELY SENSITIVE LAND	PERCENTAGE OF ELECTION DISTRICT
ELECTION DISTRICT 1	25,706	53.1%	14,915	30.8%	7,802	16.1%
ELECTION DISTRICT 2	24,046	55.8%	12,705	29.5%	6,365	14.7%
ELECTION DISTRICT 3	27,087	55.5%	12,724	26.1%	8,970	18.4%
COUNTY TOTALS	76,839 Acres = 54.8% of County is STABLE LAND		40,344 Acres = 28.7% of County is SENSITIVE LAND		23,137 Acres = 16.5% of County is EXTREMELY SENSI- TIVE LAND	

TABLE 8.2
DEVELOPABLE LAND EAST AND WEST OF DRAINAGE DIVIDE
CALVERT COUNTY

	WEST			EAST		
	ACRES STABLE LAND	ACRES SENSITIVE LAND	ACRES EXTREMELY SENSITIVE LAND	ACRES STABLE LAND	ACRES SENSITIVE LAND	ACRES EXTREMELY SENSITIVE LAND
ELECTION DISTRICT 1	19,399	11,484	5,907	6,307	3,431	1,895
ELECTION DISTRICT 2	18,573	8,389	4,341	5,473	4,316	2,024
ELECTION DISTRICT 3	19,587	7,809	5,940	7,500	4,915	3,030
TOTALS	57,559	27,682	16,188	19,280	12,662	6,949
	TOTAL LAND WEST OF DRAINAGE DIVIDE			TOTAL LAND EAST OF DRAINAGE DIVIDE		
	<u>101,429 Acres</u>			<u>38,891 Acres</u>		

The following are concepts and policies adopted for this Land Use Plan:

DIRECTION OF GROWTH

Concentrated growth shall generally take place east of the major drainage divide line except in the Solomons-Appeal-Olivet area. Future development which takes place west of the ridge shall be located where on-site disposal of effluent is feasible or near enough to the ridge line so that effluents can be pumped to the east. Development shall be encouraged to use stable land of the County. Occasionally development may occur on the sensitive lands, but only after proper site plan review has been exercised. Extremely sensitive land should be restricted from development.

TYPE OF GROWTH

Growth shall take place in and around existing built-up areas as an extension outward of the existing urban areas. The three major nodes encouraged for expansion growth will be the Solomons-Appeal-Olivet area, the Prince Frederick area and the Twin Beaches area of Chesapeake Beach and North Beach. Secondary nodes shall include the Scientist Cliffs to Long Beach area and the Dares Beach area.

IN-FILLING

In-filling may be defined as the development of land which was previously bypassed in the development process or was left in a lower use than surrounding areas which were developed. In-filling shall be encouraged in existing subdivided areas which are within the designated growth nodes and where public utilities are planned or already provided. In-filling shall also occur on undeveloped portions of land which are clearly within designated growth nodes. Before assessing what is the probable future for each of the planning areas, it is necessary to quantify what acreage requirements will be needed to support the design population of 41,500 persons on or about the year 1990. Table 8.3 is an overall prognosis of the County's land requirements for 41,500 persons, assuming a planned slow growth approach to land development and existing acreage ratios. One difference between 1973 and 1990 conditions, though, is in the projected residential acreages. The 1990 figures shown are predicated on the assumption that by that year, the number of persons per unit will likely approach the State of Maryland norm of 3.0. This will mean that the total number of housing units relative to the total population will be proportionally larger in 1990 than it is today. Future residences in the growth

planning areas will likely be built at a slightly higher density than the existing pattern. From Table 8.3 it is seen that 41,500 persons will require approximately a total of 10,400 residential acres; 5,700 acres in public and semi-public uses; 1,700 acres in commercial uses; 3,100 acres of industrial uses; and 3,700 acres of transportation land uses. By 1990 the total developed acreage necessary to accommodate the design population will likely be 25,000 as compared to the current developed 14,885 acres necessary to support 13,840 housing units will be required to accommodate the design population. In addition to the 7,455 existing units, some 6,385 new housing units will need to be built by 1990.

Chapter Four of this document explains the population projections for each of the County's election districts. Calvert's Comprehensive Water and Sewerage Plan also makes population projections by location by projecting what the water and sewerage demands will likely be at different areas in the County by the year 1990. By interpreting these two projections, the total population (41,500 persons), for the design period was distributed to the respective planning areas of the County in the following manner: the Solomons-Appeal-Olivet Planning area will have about 9,400 persons; the Scientist Cliffs-Long Beach Planning area will have 3,200 persons; the Dares Beach Planning area 1,500 persons; the Prince Frederick Planning area 6,100 persons; the Twin Beaches Planning area 11,200 persons; and the Rural-Conservation Planning Area 10,000 persons.

Tables 8.4 — 8.9 record both the existing and projected land use acreages of each planning area which will be necessary to support the populations as shown. All of the 1990 land use acreages found in these tables add up to the Countywide figures shown earlier in Table 8.3. All of the planning areas, except for the rural-conservation planning area, were allotted transportation and communication acreages in proportion to their physical size. This is because more lineal feet of highway and communication line is necessary the larger a planning area is. By contrast, residential, commercial, public and quasi-public acreage projections are proportional to the projected population in each planning area, i.e., a highly populated growth node will demand more housing units, local supporting commercial and governmental services than will a less populated planning area.

TABLE 8.3

**ACREAGE REQUIREMENTS
FOR 41,500 PEOPLE
ASSUMING PLANNED "SLOW GROWTH"**

	POPULATION = 22,600		ADDITIONAL POPULATION = 18,900		DESIGN POPULATION = 41,500	
	EXISTING 1973		ADDITIONAL REQUIREMENTS 1990		TOTAL REQUIREMENTS 1990	
	<u>ACRES</u>	<u>UNITS</u> <u>(estimate)</u>	<u>ACRES</u>	<u>UNITS</u>	<u>ACRES</u>	<u>UNITS</u>
RESIDENTIAL	6,957	7,455	5,818	6,385	10,388	13,840
Single Family	6,782	6,602	5,672	5,572	10,067	12,174
Two Family/ Multi-Family	28	243	23	253	51	496
Mobile Homes (A-1)	147	610	123	560	270	1,170
PUBLIC/SEMI PUBLIC	3,306	---	2,384	---	5,690	---
Military	455	---	---	---	455	---
Parks & Recreation	1,991	---	1,665	---	3,656	---
Other Public	860	---	719	---	1,579	---
COMMERCIAL	933	---	780	---	1,713	---
General	683	---	571	---	1,254	---
Marine	250	---	209	---	459	---
INDUSTRIAL	1,698	---	1,421	---	3,119	---
Heavy & Light	388	---	325	---	713	---
Utility Right- of-Ways	1,310	---	1,096	---	2,406	---
TRANSPORTATION	1,991	---	1,665	---	3,656	---
Airport	0	---	*	---	*	---
Roads, Highways	1,991	---	1,665	---	3,656	---
Railroad	---	---	---	---	---	---
TOTAL LAND REQUIREMENTS FOR URBAN PURPOSES	<u>14,885</u> <u>Acres</u>	<u>7,455</u> <u>Units</u>	<u>12,068</u> <u>Acres</u>	<u>6,303</u> <u>Units</u>	<u>24,566</u> <u>Acres</u>	<u>13,840</u> <u>Units</u>

* An Airport Commission and engineering consulting firm are now studying the feasibility of establishing a County airport.

Industrial acreages are distributed in the planning areas according to their existing and known future expansion locations. Any deviations from the above principles of acreage allocations are described in the following sections.

The overall impact of the density and population allocations per planning area are that no planning area shall be permitted to exceed the number of persons or the maximum density allotted to it up to the year 1990. If one area should happen to fill up more rapidly than another, then public policy shall be directed towards encouraging new growth to locate in the other "ripe" planning areas of the County.

**RURAL CONSERVATION PLANNING AREA
(ZONED AGRICULTURAL AND
CONSERVATION DISTRICTS)**

Growth in this planning area will be discouraged. To propose "no growth" at all in this planning area is not realistic due to the large number of lots already platted. The maximum permitted residential density for any individual or community development shall be one (1) housing unit per three (3) acres in the agricultural district and one (1) housing unit per five (5) acres in the Conservation District. This very low density rating, or large lot zoning classification is necessary to prevent further degradation of the agricultural and conservation areas and to encourage the location

of residential developments in areas which are zoned for development and have provisions for public services.

The allotted 1990 land use acreages compared to 1973 existing conditions are summarized as follows: by 1990 there will be a slight increase in the number of housing units and residential acreage; there should be little new commercial development in this planning area because all new commercial development will be encouraged to locate in the growth nodes; compared to the other planning areas, the Rural-Conservation area will contain nearly all industrial and transmission line acreages. The Rural-Conservation area will absorb a large part of the new public and quasi-public land use by 1990 because of anticipated new park and recreation lands, committed enlargements of existing schools, churches, and/or cemeteries. Between now and 1990 there will be little new transportation acreage because the County will direct its road programs towards improvement and reconstruction rather than new construction. This planning area will likely experience increased agricultural production since some development pressures will be lifted from the rich and fertile Patuxent terraces. By 1990 the woodlands or vacant acreage are expected to decrease since part of this land will either go to park and recreation acquisitions and/or to agricultural expansions.

PLANNING AREA RURAL CONSERVATION

MAXIMUM DENSITY PERMITTED .20 HOUSING UNITS PER RESIDENTIAL ACRE

TABLE B.4

LAND USE	1973			1990		
	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS
Residential	2,417 (1)	2.4%	3,658	2,477 (1)	2.4%	3,670
Commercial	323	.3%		323	.3%	
Industrial: Heavy & Light Industrial plus transmission lines	1,698	1.7%		3,119	3.1%	
Public & Quasi-Public: Schools, Churches, Parks, Recreation	2,382	2.4%		3,110	3.1%	
Military	---	0%		---	0%	
Transportation, Communications	+ 834	+ .8%		+ 840	+ .8%	
LAND DEVELOPED	7,654	7.6%		9,869	9.7%	
Agriculture Land	43,407	42.9%		52,000	51.4%	
Woodlands and Vacant Land	+50,049	+ 49.5%		+39,241	+ 38.9%	
TOTAL FOR PLANNING AREA	101,110	100.0%	3,658	101,110	100.0%	3,670
ESTIMATED POPULATION			6,976 persons			7,500 persons

(1) Plus acreage on farms devoted to residences of farm personnel.

SOLOMONS-APPEAL-OLIVET PLANNING AREA

This planning area will experience a tremendous population gain and an increasing construction volume to accommodate population growth. The density assignments for this planning area will be in two parts which is reflective of current density trends. The area surrounding Solomons Island (which has a W-3 and S-3 category rating for immediate priority in the Water and Sewerage Plan) will be permitted to develop up to a density of 4.0 housing units per residential acre. The remaining portion of this planning area should be developed at a density of 2.0 housing units per acre.

It is forecast that new development in the higher density area will average 3.0 housing units per residential acre and new development in the lower density area will average above 1.0. As development pressures mount, it is unlikely that agricultural land will be able to compete so most of this land is shown in Table 8.5 as developed. Commercial, public and quasi-public, and transportation acreage will increase proportionally to the new population and size of the planning area as recorded in Table 8.5.

In short, the Solomons-Appeal-Olivet Planning Area will likely use most of its 1973 agricultural and stable land acreage as the area approaches its holding capacity by the year 1990. However, if the area develops more intensely and uses its allowed building envelope of 2.0 and 4.0 housing units per acre respectively, then more undeveloped stable and/or agricultural land will still remain by the year 1990 which could be used for future expansions beyond the year 1990.

SCIENTIST CLIFFS-LONG BEACH PLANNING AREA

Although this planning area is scheduled to have community water and sewerage facilities by the year 1994, only moderate population gains are expected. It is not anticipated that future growth densities will be high because of the existing density pattern (1.26 housing units/residential acre) and the general topography of the area. New development should be allowed to occur on the "stable land" up to a maximum residential density of 2.0 units/residential acre. It is assumed, however, that future growth until the year 1990 will follow the existing density pattern.

PLANNING AREA SOLOMONS -APPEAL-OLIVET

MAXIMUM DENSITY PERMITTED: EASTERN PORTION **2.0** HOUSING UNITS PER RESIDENTIAL ACRE
WESTERN PORTION **4.0** HOUSING UNITS PER RESIDENTIAL ACRE

TABLE 8.5

LAND USE	1973			1990		
	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS
Residential	2,626	29.5%	995	4,251	47.8%	2,800
Commercial	250	2.8%		382	4.3%	
Industrial: Heavy & Light Industrial plus transmission lines	---	0%		---	0%	
Public & Quasi-Public: Schools, Churches, Parks, Recreation	219	2.5%		581	6.5%	
Military	272	3.0%		272	3.1%	
Transportation, Communications	+ 375	+ 4.2%		+ 600	+ 6.8%	
LAND DEVELOPED	3,742	42.0%		6,086	68.5%	
Agriculture Land	419	4.7%		150	1.7%	
Stable Land Reserve	2,150	24.2%		75	.8%	
Sensitive & Extremely Sensitive Land Reserve	+ 2,581	+ 29.1%		+ 2,581	+ 29.0%	
TOTAL FOR PLANNING AREA	8,892	100.0%	995	8,892	100.0%	2,800
ESTIMATED POPULATION	3,706 persons			9,365 persons		

PLANNING AREA SCIENTIST CLIFFS - LONG BEACH

MAXIMUM DENSITY PERMITTED 2.0 HOUSING UNITS PER RESIDENTIAL ACRE

TABLE 8.6

LAND USE	1973			1990		
	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS
Residential	654	21.1%	821	769	24.8%	966
Commercial	44	1.4%		132	4.2%	
Industrial: Heavy & Light Industrial plus transmission lines	---	0%		---	0%	
Public & Quasi-Public: Schools, Churches, Parks, Recreation	50	1.6%		200	6.5%	
Military	---	0%		---	0%	
Transportation, Communications	+ 84	+ 2.7%		+ 110	+ 3.6%	
LAND DEVELOPED	832	26.8%		1,211	39.1%	
Agriculture Land	305	9.8%		305	9.8%	
Stable Land Reserve	561	18.1%		182	5.9%	
Sensitive & Extremely Sensitive Land Reserve	+ 1,402	+ 45.3%		+ 1,402	+ 45.2%	
TOTAL FOR PLANNING AREA	3,100	100.0%	821	3,100	100.0%	966

ESTIMATED POPULATION

3,046 persons

3,227 persons

Scientist Cliffs-Long Beach presently lacks the commercial, public and quasi-public, and transportation facilities which it will need in order to accommodate its forecast population. (See Table 8.5). Hence, it is projected that there will be a significant increase in the acreage for these categories and the area will become more self-sufficient as the balance of development or the "development mix" is rounded out to include uses besides residential.

This planning area will have room for further expansion beyond the year 1990, if development continues at the rate of only 1.26 units/residential acre. However, if densities increase and/or if agricultural land is utilized for urban purposes, then this planning area can have even more expansion reserve. The Scientist Cliffs-Long Beach Planning Area is not expected to reach its holding capacity during the design period of this plan.

PRINCE FREDERICK PLANNING AREA

The Prince Frederick area will undergo substantial population increases and development pressures in the years ahead. Although existing residential development is averaging 2.03 units/residential acre, a maximum residential density of 4.0 units/residential acre may be reached during the design period as future growth is concentrated. But for the projections shown in

Table 8.7, it was assumed that not all new development will approach the maximum so a figure of 3.0 unit/acre is used to obtain the residential acreage shown in the Table for 1990. If the area develops at the average figure of 3.0 unit/acre, it will approach its holding capacity by the year 1990, i.e., have used up all of its "stable" land area. However, if the ambient density averages higher than 3.0 and approaches the allowed 4.0 there will be room for further expansion.

This planning area has been allotted more commercial acreage than is proportional to its population because of its function as a regional commercial center for the County, especially near the intersection of Route 231, 402 and Route 2-4. The Prince Frederick Planning Area also has a disproportionate amount of existing and allocated public and quasi-public acreage since it serves as the County seat. Municipal/government uses will continue to be dominant land users in this planning area. The Prince Frederick area will experience a decrease in the total agricultural acreage as development pressures make farming less profitable than development. County-wide this phenomena will be compensated by the anticipated increases in farming practices in the Rural-Conservation Planning Areas.

PLANNING AREA **PRINCE FREDERICK**

MAXIMUM DENSITY PERMITTED **4.0** HOUSING UNITS PER RESIDENTIAL ACRE

TABLE 8.7

LAND USE	1973			1990		
	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS
Residential	202	5.9%	410	676	19.8%	1,831
Commercial	180	5.3%		253	7.4%	
Industrial: Heavy & Light Industrial plus transmission lines	---	0%		---	0%	
Public & Quasi-Public: Schools, Churches, Parks, Recreation	100	2.9%		395	11.6%	
Military	---	0%		---	0%	
Transportation, Communications	+ 53	+1.5%		+ 150	4.4%	
LAND DEVELOPED	535	15.6%		1,474	43.2%	
Agriculture Land	73	2.2%		73	2.1%	
Stable Land Reserve	1,263	37.0%		324	9.5%	
Sensitive & Extremely Sensitive Land Reserve	+ 1,545	+ 45.2%		+ 1,545	+ 45.2%	
TOTAL FOR PLANNING AREA	3,416	100.0%	410	3,416	100.0%	1,831
ESTIMATED POPULATION	1,523 persons			6,120 persons		

PLANNING AREA **DARES BEACH**

MAXIMUM DENSITY PERMITTED **3.0** HOUSING UNITS PER RESIDENTIAL ACRE

TABLE 8.8

LAND USE	1973			1990		
	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS
Residential	118	9.1%	135	275	21.3%	449
Commercial	---	0%		61	4.7%	
Industrial: Heavy & Light Industrial plus transmission lines	---	0%		---	0%	
Public & Quasi-Public: Schools, Churches, Parks, Recreation	5	.4%		93	7.2%	
Military	---	0%		---	0%	
Transportation, Communications	+ 15	+ 1.1%		+ 60	+ 4.6%	
LAND DEVELOPED	138	10.6%		489	37.8%	
Agriculture Land	143	11.1%		143	11.1%	
Stable Land Reserve	415	32.2%		64	5.0%	
Sensitive & Extremely Sensitive Land Reserve	+ 594	+ 46.1%		+ 594	+ 46.1%	
TOTAL FOR PLANNING AREA	1,290	100.0%	135	1,290	100.0%	449
ESTIMATED POPULATION	500 Persons			1,500 persons		

DARES BEACH PLANNING AREA

The Dares Beach planning area is scheduled to receive community water and sewerage facilities by the year 1994. The new services, the area's proximity to the County Seat at Prince Frederick, its central location and accessibility to Route 2-4, and the increasing scarcity of developable Bay frontage may cause the population for this area to triple between now and the year 1990. Because of this potential growth, the Dares Beach planning area has been allotted a maximum density of 3.0 housing units/residential acre, although an average figure of 2.0 units/residential acre is used for planning purposes in Table 8.8. The expected future density averages will be greater than the existing trend which is 1.1 unit/acre.

Dares Beach now has no commercial uses and only a minimum of public, quasi-public, and transportation uses. By 1990 when the population triples, it will need substantial gains in these three uses as shown on Table 8.8 in order to effectively serve the resident population.

The 1990 forecasts show a small margin remaining of the "stable" land but this figure could be increased if the area averages a denser development pattern than assumed above and/or if agriculture land is utilized in urban development. But even if new growth doesn't build at the maximum allowed density rate, this planning area will still not be at its holding capacity by 1990, so it will have a future for growth and services beyond that date.

TWIN BEACHES PLANNING AREA

The Twin Beaches planning area currently has an estimated population of 4,665. It is anticipated by this Comprehensive Plan that by the year 1990, this planning area may expect a population of approximately 11,232. Existing residential densities in this planning area now average 1.62 housing units/residential acre. But in order to consolidate and in-fill the development pattern, a density maximum of 4.0 housing units/residential acre is recommended. It is expected, though, that the new development will probably average 3.0 units/acre. This planning area will require improve water and sewerage services in the near future if concentrated growth is to be accommodated.

The agricultural acreage shown on Table 8.09 is projected to decrease within the design period. By 1990 development competition will be increasingly more severe for stable land and most of the agricultural land will be developed. This should not hurt the County's overall agricultural base, though, since an agricultural expansion may occur in the Rural-Conservation Planning Areas.

By the close of the design period it is forecast that large portions of the stable land and agricultural land in this planning area will be used up, leaving perhaps 274 acres for future expansion. In effect, by 1990, this planning area will near its holding capacity if new development averages a 3.0 density. However, if the average density goes towards the building envelope of 4.0, then even more stable land and agricultural land in this planning area will be left as a reserve to accommodate further growth.

PLANNING AREA TWIN BEACHES
MAXIMUM DENSITY PERMITTED 4.0 HOUSING UNITS PER RESIDENTIAL ACRE

TABLE 8.9

LAND USE	1973			1990		
	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS	ACRES	PERCENTAGE OF TOTAL	NUMBER OF UNITS
Residential	763	17.0%	1,286	1,486	31.8%	3,363
Commercial	92	2.0%		400	8.6%	
Industrial: Heavy & Light Industrial plus transmission lines	---	0%		---	0%	
Public & Quasi-Public: Schools, Churches, Parks, Recreation	60	1.3%		700	16.5%	
Military	183	3.9%		183	3.9%	
Transportation, Communications	+ 130	+ 2.8%		+ 435	+ 9.3%	
LAND DEVELOPED	1,258	27.0%		3,274	70.1%	
Agriculture Land	613	13.1%		50	1.2%	
Stable Land Reserve	683	14.6%		224	4.8%	
Sensitive & Extremely Sensitive Land Reserve	+ 2,111	+ 45.3%		+ 1,117	+ 23.9%	
TOTAL FOR PLANNING AREA	4,665	100.0%	1,286	4,665	100.0%	3,363
ESTIMATED POPULATION			4,665 persons			11,232 persons

Map No. 15 is the graphical representation of the General Land Use Plan for Calvert County, Maryland. It pictorially complements the density, population, and land use acreage allocations as itemized in Tables 8.4 through 8.09 of this chapter.

Categories of land use shown on Map No. 15 are as follows:

GROWTH AREAS

Symbol	Maximum Density Units/Res. Acre	Affected Planning Areas
	4.0	Twin Beeches Prince Frederick Lower Solomons
	3.0	Dares Beach
	2.0	Scientist Cliffs- Long Beach
	---	Solomons-Appel- Olivet Basic Employment Centers

STABLE AREAS

	Existing Development	
	Military Installations	
	0.20	Open Space Conservation
	0.33	Rural Conservation Stream Valleys

Other kinds of land use such as parks, recreation, school sites, and highways are discussed in the Transportation and Community Facilities Plans which follow in this Chapter.

THE TRANSPORTATION PLAN

The transportation element of a general plan is often compared to the circulatory system of a living organism. Just as an organism cannot function without its complicated circulatory system, neither can Calvert's land use and community facilities plans function without a suitable transportation network.

Traditionally the primary objective in transportation planning has been to facilitate the journey to work, the transportation of goods and services, and trips for recreation or pleasure. This Transportation Plan utilizes the traditional approach, but it also goes beyond it to use transportation planning as an important tool to influence the density, location and phasing of development.

To illustrate: Calvert has elected to follow a controlled planned slow growth policy which will encourage development to concentrate only at

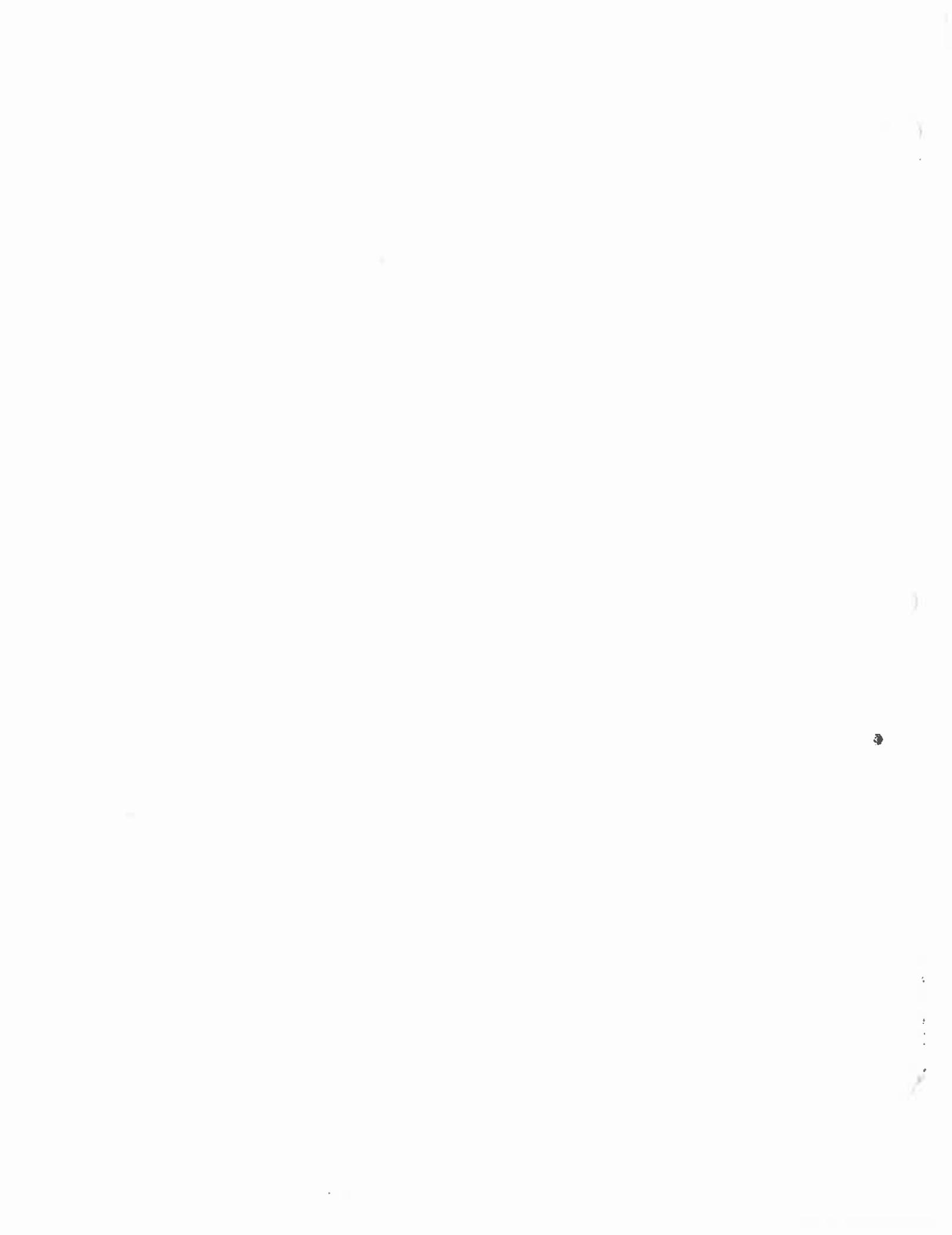
selected points within the County. In terms of transportation planning, this will mean that circulation facilities will need to be approached conservatively, so that development is not encouraged in the wrong places. The conservative approach recognizes that highways tend to foster higher density development because of the increased accessibility of land adjacent to the highway, and major interchanges or intersections tend to beget urban concentrations. Because of this, the growth nodes shall be the only area to receive interchanges or breaks in the transportation system so that the natural flow of goods and services can impact the greatest number of people, and concentrations will occur where desired. Where little or minimal development is desired, no new transportation alignments shall be planned.

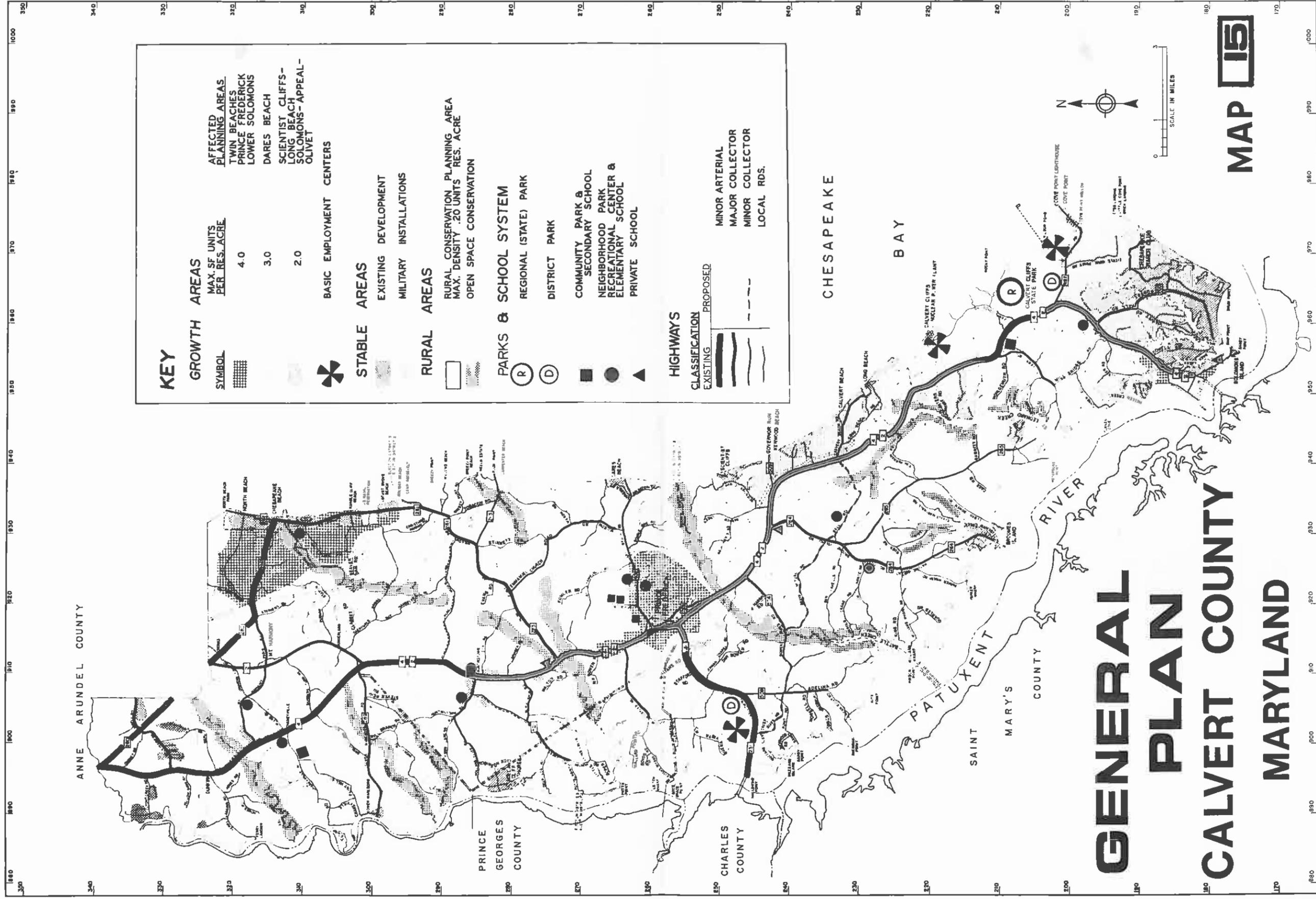
In the process of formulating the Transportation Plan for Calvert County as graphically depicted by Map No. 15 and Map No. 16 investigation was made of the following components: the pedestrian system, highway system, railroad facilities, water transportation, air transportation, and mass-transit or public transportation.

PEDESTRIAN SYSTEM

Being accustomed as we are to the use of the automobile to get from place to place, it is easy to forget that the basic transportation mode is the pedestrian. Although one can travel much faster and farther in a machine, one must nearly always get from the place of origin to the machine and from the machine to the destination on foot. Pedestrian facilities in general, and sidewalks in particular, are needed in residential and commercial districts.

Pedestrian pathway systems would be infeasible and a bit ridiculous in the Rural-Conservation Planning Area of the County because of the very low density expected. But within the higher intensity growth nodes, such as at the Twin Beaches, at Prince Frederick, and at the lower Solomons area, pedestrian systems seem both feasible and desirable. The overall objective of any pedestrian system should be to separate pedestrian travel from vehicular rights-of-way so that a direct and uninterrupted link between two or more destinations might be achieved. Pedestrians of all ages, but especially the aged and the very young, should be able to use the pathways safely.





The advantages of properly designed pedestrian systems would be many, some of which are: (a) provide an alternative to the automobile for short trips, (b) give a healthy yet functional reason for people to exercise more, (c) allow children in neighborhoods to meet safely without having to cross dangerous streets, (d) free adults from the role of chauffeurs to their children, (e) allow a mobility choice to older persons who are no longer allowed to drive an automobile, and (f) provide a scenic bicycling area for the community.

For pedestrian circulation to be a viable alternative to other transportation modes, certain conditions must be true. First and foremost, there must be a suitable mechanism by which pedestrian systems are designed, funded and built. Through adequate regulations and design standards, developers (rather than County or municipal governments) could be required to provide attractive pedestrian networks in the higher density development nodes in the County. Second, pedestrian systems must be aligned so as to be a natural walking or cycling path between destinations, because people tend to take the shortest path between two points. Third, the distance between destinations must not be too long or people will elect to drive rather than walk. Planning experience has shown that people are usually willing to walk for up to 15 or 20 minutes to get to a destination. Fourth, the pedestrian system must be attractive, hold interest, and be safe to users. Fifth, each system must be properly maintained and improved, as necessary, by developers, homeowners associations, or other private interests who own a particular development. Maintenance should not be the burden of the County government unless the pedestrian system and open space network has been dedicated and accepted by the County.

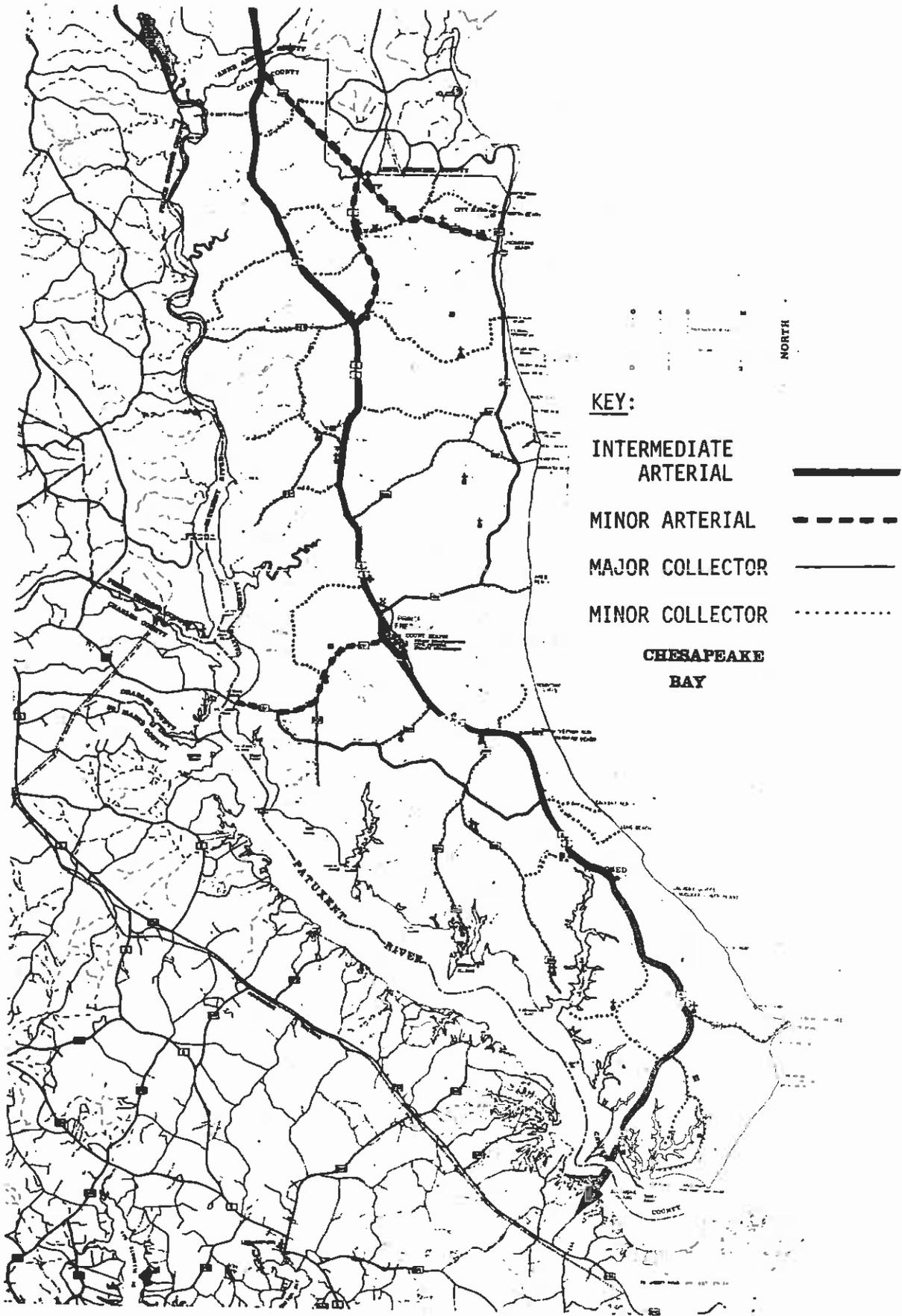
A good method to achieve attractive pedestrian systems is through proper site plan review. The reviewing committee should look for how carefully the proposed design makes use of the intimate scale of visual perception. That is, pedestrians travel at a speed of about 2-4 miles per hour whereas an automobile travels usually from 25-60 miles per hour in normal trips. This difference in speed between the pedestrian and automobile driver means that the user of a path sees his surroundings in greater detail so that small scale design refinements are noticed. For example, in commercial or industrial projects the pedestrian

systems should relieve the monotony that expansive asphalt or concrete parking areas can bring. Distinctive landscaping, a change in relief to avoid long expanses of pavement, preservation of unusual or attractive natural features, artful graphics, tasteful application of colors, and/or suitable street furniture can help to give a more human-scale to the surroundings. In pedestrian proposals within shopping areas, the site plan reviewers should encourage design solutions which facilitate window shopping, have other paths provide access to areas with flower beds or fountains, and still other paths into quiet areas where shoppers can sit, picnic, or enjoy the shade or the sunshine. In public places there is the special need of providing a place where people can show off or view others because for various psychological reasons, people love to watch one another. In residential areas, pedestrian systems do not necessarily need to have an obvious viewing place because emphasis is usually towards the functional, yet informal and inviting lifestyle of children's play.

Overall, in all pedestrian applications, attention must be given to the type of materials used, the kind of textures that are exposed for viewing and touching, the color used, the weathering capability of the furniture or hardware, the planned and accidental art forms, and the overall attempt to avoid monotony in design.

HIGHWAY SYSTEM

In accordance with controlled slow growth policies, proposed highway improvements are to be minimal during the design period. In the Rural-Conservation Planning Area existing highway systems are to be utilized and maintained, but few major improvements are to be made. The new improvements which do occur will be those required to serve existing and planned developments. This policy, however, does not preclude the purchase or dedication of adequate rights-of-way for future highway construction. Five classifications of highways found in Calvert County are shown below: Intermediate Arterial, Minor Arterial, Major Collector, Minor Collector and Local. These five highway categories have the following characteristics:



COUNTY ROAD SYSTEM

Highway Classification	Right-of-Way	Functional Classification
Intermediate Arterial	120'-300'	Traffic Movement
Minor Arterial	100'-150'	1. Traffic Movement 2. Access to Subdivisions
Major Collector	80'-100'	1. Traffic Movement 2. Access to Subdivisions
Minor Collector	60'-80'	Access to Property and higher class roads
Local Roads	30'-60'	Access to abutting property

Routes 2-4. The major, and only intermediate arterial, highway serving all areas of the County is Route 2-4. This highway is currently being upgraded to a four lane facility south from Prince Frederick to the Solomons. Proposed improvements along this highway during the design period are: (1) Complete the dualization south of Prince Frederick, as a high priority item, (2) complete the Solomons Patuxent River Bridge connecting Routes 2-4 in Calvert County to Route 5 in St. Mary's County, (3) make the highway, where possible, a "Controlled Access" Highway, avoiding frequent ingress-egress points, providing service roads along side and running parallel to the direction of the controlled access highway to handle start and stop local traffic, (4) limit major on grade intersections to essential locations such as access to designated growth nodes and collector roads.

Route 231. This is an east-west Minor Arterial highway linking the central portion of the County to Charles County. No major improvements are proposed for this highway in the design period, since the road is currently adequate to serve the new Calvert County Industrial Park and other existing nearby development. Any further improvements during the design period would only serve to stimulate development in this area where growth is to be minimized. At some future date, dualization will be required and rights-of-way for such improvement should be acquired without delay.

Beach Highway. The most significant highway improvement proposed during the design period is a Beach Highway to meet the design standards for a "Major Collector" with an 80' - 100' right-of-way. Rather than construct an entirely new road, it is recommended that improvements be made to the Dares Beach Road, the Wilson-Tobacco Road, and Route 261 into the

Twin Beaches (refer to Map 16). This north-south link along the northeast coastal area of the County will be valuable for both local traffic and tourism. With the anticipated population gains in the Dares Beach, Prince Frederick and Twin Beaches Planning Areas, internal circulation in the Northeast portion of the County will become critical. A secondary function of this new alignment will be to provide a departure point whereby scenic overlooks might be constructed along the Chesapeake Bay and the commercial and tourist enterprises in this section of the County might be serviced.

Route 260. Continued dualization as projected in the State 20 Year Plan should be adequate to serve anticipated population increases.

County Roads. The County should have a systematic, precise procedure for the selection of County roads to be constructed, reconstructed or improved, and a long range County road plan. The development of a County road plan calls for a detailed comprehensive road planning survey including an inventory of roads, traffic counts, origin and destination surveys and their analysis. Included in the inventory should be a "sufficiency rating" of roads based upon condition with respect to the several elements, including drainage, width, surface type, shoulder width and type, roadbed structure, passing and stopping sight distance, design speed, traffic service, major drainage structures, special safety hazards and signing. Annual road programs should be based on traffic needs and "sufficiency ratings."

Private Roads. There are many roads in the County which are in private hands, but which serve as public roads, mostly as access to residential lots. These roads originated as farm roads as a part of normal County growth, or as roads constructed in the development of the early subdivisions. Design and construction standards of many of these roads are substandard and inadequate. Current County procedures (Subdivision Regulations require County approval of the design and construction of roads in new subdivisions.)

Maintenance of private roads is generally provided on a basis of developer/subdivision resident agreement, and may be unsatisfactory to both parties as well as County agencies responsible for providing citizen services.

For many of these roads, the usage rate is minimal as is the maintenance cost. Most are below County standards, but the standards to

which they were built are in many cases adequate for their present and near term usage. Small as the maintenance needs are, the roads often suffer from inadequate attention because of neglect by the owner, or administrative problems of financial capacity in the users group that attempt to maintain the roads cooperatively. These roads are essential for utility, sanitary services and public safety uses.

The County should accept title to roads constructed in subdivisions platted prior to the adoption of the County Zoning Ordinance in 1967 and provide maintenance appropriate to the standard to which they were built. Such roads would be County roads, to be considered with all other roads in the County inventory for maintenance and improvement.

Such a program should include the following features:

a. County accepts a road only if both the owner of the road and a majority of the property owners served by it wish it to become a County road.

b. Incentives are provided by the developer and citizens to make County ownership attractive to all interests.

c. Provisions to protect the taxpayers and the County from incurring inordinate costs in case inadequate roads are proposed for County acceptance.

RAILROAD FACILITIES

In many parts of the nation, railroads are an important element of the transportation network for the movement of goods, services, and people, but in Calvert no railroads or rail facilities exist. In view of the type of industry that is attracted to the County and in light of the known natural resources found in the County, it is unlikely that railroad services will be developed.

WATER TRANSPORTATION

Marinas are located in the Twin Beaches, at Breezy Point, the Long Beach area and around Solomons. Even so, water transportation is mainly undeveloped at present. Boating in the County is related primarily to recreation and commercial fishing and other seafood uses. It is quite plausible that an evolution may occur in water transportation especially oriented around boating, tourism and recreation, which will place a premium on the development of water-oriented facilities.

In accordance with existing marina developments and the density allocations outlined earlier in this chapter, it is recommended that any new water related developments occur mainly in the Solomons-Appeal-Olivet, Scientist Cliffs-Long Beach, and Twin Beaches Planning Areas.

AIR TRANSPORTATION

Although the County does not have a commercial airfield or airport of its own, Calvert County is within easy access of three major airports: the Baltimore-Washington International Airport near Baltimore, the Dulles International Airport near Washington, D.C., and the Washington National Airport. In addition, there are two major military airfields nearby, Andrews Air Force Base in Prince George's County and the Patuxent Air Test Station at Lexington Park, St. Mary's County.

Within the County, there are six private airfields and within the Tri-County Region of Southern Maryland, there are fourteen facilities, ten of which are small private landing strip operations, two are basic utility airports, and two are military installations.

Within the development of the three designated basic employment centers in Calvert (See Map No. 15), there may be a future demand for air facilities. An Airport Commission and engineering consulting firm are now studying the feasibility of establishing a County airport.

MASS TRANSIT OR PUBLIC TRANSPORTATION

At present there is limited public transportation in Calvert County. There is a bus which runs once daily in the morning to Washington, D.C. and makes a return trip in the afternoon. Public transportation exists for school children — the public school buses transport some 95% of the school population from their neighborhoods to the school sites.

Current transportation guidelines indicate that public buses operating on a regular schedule throughout the County would probably not be a viable enterprise due to the general sparsity of the population; however, some form of limited service that would operate on a daily basis over the major roads with a call system for dispatch to a specific point to pick up passengers might prove successful with a governmental subsidy.

Senior Citizen Transportation is an ongoing

program which is being financed by County/State/Federal funds. It is a successful productive program and merits continuation, even if the outside funding is discontinued. The service is available not only to senior citizens, but to handicapped people of all ages. Services available should be publicized more widely.

Taxis are available in Calvert County, but most citizens are unaware of their existence, or how much they cost. While taxi service is not presently regulated, future changes may create a need for such regulation. County government should review the possible need for regulation periodically. While the need for taxi service is not expected to expand greatly in the planning period, it does provide a necessary service for those who permanently or temporarily lack access to an automobile. For this reason, efforts should be made to retain viable taxi service.

FREIGHT SERVICE

Freight service in Calvert County is frequently unsatisfactory. Rate structures vary between carriers and the difficulty of finding rate and carrier information further compound the problems of utilizing freight service. The relatively small number of carriers operating in Calvert County is partially attributable to its rural nature with low population density and its peninsula shape which often results in empty truck miles and consequential high costs.

Feasible means to improve the freight service in Calvert County are limited. Hopefully, completion of the bridge connecting Solomons and St. Mary's County will improve carrier efficiency and thus lower costs. Better information distribution regarding freight carriers and rates could perhaps enable more informed decisions on the part of the customer seeking the lowest cost and fastest service possible.

COMMUNITY FACILITIES PLAN

The provision of public facilities can serve as an important stimulus to growth, whereas the exclusion of public facilities tends to retard urban development. The cause-effect relationship between urbanization and public facilities is perhaps most directly observed in the case of highways, utilities and school facilities. Since highways were discussed in the transportation plan, utilities and school facilities are discussed herein along with the other important public facilities of communications, public safety, health care, solid waste disposal and parks and recreation.

GOVERNMENT FACILITIES

The space available for County Government is becoming inadequate. Study should begin in the near future to explore possibilities for expanded office space. Possible sources of additional space

include: a second wing on the north side of the Courthouse, or a new office building located on the existing Courthouse property, or rental of private and State owned office space. The need for additional space is closely correlated with the need to adopt more efficient and modern office methods. As the problems facing Calvert County become more numerous and complex, the County's capacity to meet these problems must adjust accordingly.

COMMUNICATIONS

Postal Facilities. Postal facilities and services can be upgraded to meet future demand. When the County reaches the population concentrations envisioned, it is likely that the post offices in the Twin Beaches and Solomons may have enough revenues to advance to a first class rating. Second and Third class stations will likely continue in the other planning areas. The Rural-Conservation Planning Area will, no doubt, continue to have only fourth class facilities.

Telegraph. Because of the increasing reliance on the toll free telephone office for Western Union messages, it is unlikely that County residents will need a Western Union substation within the County during the design period. Residents will continue to phone their messages to central receiving offices outside the County.

Radio and Television. It is unlikely that there will be sufficient population concentrations to warrant the establishment of a television studio in the County during the foreseeable future. As the County grows, there may be a market for an additional local radio station to carry local news and programs.

Telephone. The Chesapeake and Potomac Telephone Company of Maryland estimates that it will have facilities to expand their services to meet any increased future demand within the County, regardless of location.

Newspapers. Due to the essentially rural character of the County and the availability of major papers in Washington, D.C. and Baltimore, it is not likely that the County will have a major newspaper in the future but the local publications will continue to serve the residents' needs.

PUBLIC SAFETY

Police Protection. Police facilities for the County are concentrated in Prince Frederick. As the County population increases, additional decentralization of facilities may prove desirable. Substations may be needed in the more heavily built-up growth nodes in the southern portion of

the County and additional services may be needed in the Twin Beaches area to serve the unincorporated County areas not served by the North Beach and Chesapeake Beach police departments.

There have been proposals to divide the County Sheriffs Department into three functional branches (correctional, civil and law enforcement). Positive features of such a division would include specialization of personnel and more efficient internal operation.

Fire and Rescue Service. The existing fire and rescue facilities are described in Chapter Two. The present goal is to service a five mile radius surrounding each station. Construction is underway for additional combination fire and rescue facilities in the Huntingtown area, the Dunkirk-Fairview area and plans are being developed for one in the St. Leonard and Lusby area.

When development reaches urban densities in the major growth nodes, engine companies should be within two miles and a ladder company within three miles. To effect this level of service, it will be necessary for additional facilities to be built. Probably one additional fire and rescue station will be needed in the Port Republic area, and a second new facility may be needed in the northern part of the Solomons-Appel-Olivet Planning Area.

Performance standards should guide future placement and level of service for fire and rescue facilities. Companies serving the Twin Beaches, Prince Frederick and lower Solomons area should be able to supply for a 4 hour duration water at a rate of 1,000 to 1,500 gallons per minute. Other less densely populated area such as Dares Beach and Scientist Cliffs to Long Beach should have fire-fighting capacity and protection of 500 to 1,000 gallons per minute for a 4 hour duration.

Operating and staffing the fire and rescue facilities will be increasingly more important. It is probable that the existing volunteer organization will not be able to cope with future demand and some full-time staff personnel will be required.

Civil Defense. It is anticipated that the Maryland State Civil Defense Agency will continue to provide appropriate facilities and communication networks to function in case of state or local emergency situations. The State service will be in proportion to population increases during the design period, and operations

will still likely remain centered in Prince Frederick.

Emergency Evacuation Plan for the Calvert Cliffs Nuclear Power Plant

A Site Emergency Plan for Units No. 1 and No. 2 of the Calvert Cliffs Nuclear Power Plant has been prepared by BG & E and approved by the Atomic Energy Commission, The Federal Power Commission, The Maryland Civil Defense and Emergency Planning Agency and the Calvert County Civil Defense and Emergency Planning Office. It provides for both on-site and off-site emergency procedures.

The on-site (within the confines of BG & E property) emergency procedures are the full responsibility of the Gas & Electric Company. Off-site (affecting citizens of areas outside BG & E property) emergency procedures are the responsibility of County authorities with the Calvert County Civil Defense Office designated as the coordinating County agency.

The plan may be summarized as follows:

- (a) Declaration of a state of emergency may be announced by BG & E and designated as Category 1, 2 or 3. Category 1 requires evacuation within 24 hours, Category 2 within 5 hours and Category 3 requires immediate evacuation. The initial evacuation takes place within a two mile radius of the plant site and the area may be extended as specific conditions require.
- (b) Warning for the evacuation and designation of the evacuation category will be given by radio announcement and by personal notification of residents by State and local police units and by other public agencies. Means of notification may include loud speakers on automobiles and helicopters, telephone and personal contact.
- (c) After the alert warning and notice of evacuation have been given, the area will be checked for personnel who might be remaining therein. The area will be sealed by public agency personnel for protection of health and property.
- (d) Evacuation will be accomplished by personal transportation or by County transportation to designated holding areas. Emergency facilities at those holding areas will be provided by the County.
- (e) Action will be initiated by BG & E and other agencies for correction of the hazard and the hazard to health and welfare will be monitored by State Department of Health and Mental Hygiene radiation specialist teams. The all clear or safe signal will be given by the same means as the evacuation warning at which time individuals will be free to return to their places of residence.

HEALTH CARE

Hospital. The Calvert Memorial Hospital is a 78 bed acute general hospital located on Route 2-4 about one mile north of Prince Frederick. It is operated as a private non-profit tax exempt corporation by a Board of Directors consisting of 17 members chosen from the citizens of Calvert County. To alleviate current over-stressed conditions and to provide sufficient facilities for the future, a hospital expansion has been proposed.

A study of health care supply and demand in the Tri-County region indicates that by the year 1976 Calvert County will require approximately 30 to 40 additional acute general hospital beds. These bed requirements were derived using the state-wide factors for hospital care. The study also revealed that the County lacks adequate out-patient facilities for "walk-in-walk-out" patient care. Frequently the Emergency room at the Calvert Memorial Hospital is used extensively for out-patient cases whereas separate examining rooms for use by visiting specialists or staff doctors is needed.

There may be future demand for "surgicenters" supported by a team of 12-15 doctors who perform office surgery and out-patient care. Two such centers, one located in the Owings Area and another one in the Solomons-Appel-Olivet Planning Area, could supplement the health care offered at the Calvert Memorial Hospital.

During the design period it is also forecast that specialized and complex surgery will continue to be done at major hospitals in Baltimore and Washington. Perhaps after 1990, there may be sufficient population concentrations to warrant the establishment of a large regional hospital for the Tri-County region which would provide, among other diversified services, complex surgical care.

Public Health Services. In the past several years, Calvert's Public Health Department has been making tremendous strides in diversifying the number and quality of the public services offered. During the design period of this plan, it is forecast that the personnel and facilities of the health department will be expanded in proportion to future service needs of the population. Existing services will be continued in child health, maternity care, family planning, venereal disease, tuberculosis, and mental health. The Health

Department will also continue to be responsible for supervising health regulations pertaining to sewerage and water supply, and food handling operations. In addition, inspection and management of sanitary land fill operations will also fall on the Health Department.

Ambulance Service. Ambulance service is provided by ten ambulances operated from North Beach, Dunkirk, Huntingtown, Prince Frederick and Solomons. As the population increases and more demands are made on this service, it is unlikely that enough volunteers can continue to be available on a twenty-four hour basis. Equipment in ambulances is becoming more and more complex and the trend is towards trained Para-Medic ambulance attendants. In the future, trained paid staff members will be required to ensure efficient twenty-four hour ambulance service.

Nursing Homes. The two nursing homes in the County are operating at near capacity and are doing a satisfactory job with the existing population. As the population of aged persons increases there will be an increasing need for more long term bed facilities. Expansion of existing or new facilities by approximately 40-50 beds appears to be indicated during the design period.

Solid Waste Disposal. The County has adopted a solid waste management plan upon recommendations of a consultant employed to study the problem. Responsibility for direction of the program has been assigned the Health Department, and parts of the plan have been implemented. Plans are being developed to operate a central county sanitary landfill near Barstow, and to close the remaining two landfill sites. Six cubic yard trash containers (Green Boxes) have been distributed throughout the County as depositories for family trash and garbage; the boxes are emptied by County contract collection service. Improvements in the program are required to provide more sanitary and efficient disposal of trash and garbage, and to cope with increasing quantities of other types of trash, junk and discarded items.

UTILITIES

Fuel Oil and Gas. It is anticipated that suitable grades and quantities of fuel oil and gas will be available to meet both domestic and commercial demands between now and the year 1990.

Electricity. Both of the utility companies serving the County have developed and submitted

to the Maryland Public Service Commission Ten Year Plans reflecting their proposed expansion to serve the needs of their service areas. BG & E proposes to expand both its generating capacity and its transmission line capacity; SMECO proposed to increase the capacity of its transmission line serving the County, and to obtain increased electrical power from PEPSCO. The increases proposed appear adequate to serve the needs of the County; the proposed proliferation of transmission lines poses significant environmental impacts which cause grave concern to many citizens.

Water Service. The Comprehensive Water and Sewerage Plan for Calvert County was closely coordinated with the emerging land use policies of this document so that servicing priorities for the future might be coordinated with the intended population growth nodes.

Highest priority for new water service has been assigned to the Solomons Sanitary Subdistrict, with lower priorities given expansion of the Prince Frederick system and the Calvert County Industrial Park. Improvements in the North Beach and Chesapeake Beach systems will also be needed to adequately serve anticipated growth.

Sewer Service. Like the water servicing plan, the Sewer Service Plan was also recently revised.

Highest priority for additional sewerage service has been assigned to extension of sewer lines to the Calvert Memorial Hospital and a new system in the Solomons Sanitary Subdistrict, with lower priorities given the Calvert County Industrial Park and other expansions in the Prince Frederick area. Improvements in the North Beach and Chesapeake Beach systems will also be required to service anticipated growth.

As in the case of water service planning, the sewerage service areas correspond with the land use planning areas documented in this plan so sewerage servicing will be in conformance with land use policies of controlled slow growth. Neither water nor sewerage service is planned for the Rural-Conservation Planning Area of the County.

CULTURAL AND EDUCATIONAL FACILITIES

Clubs, Organizations. It is anticipated that during the design period the national civic organizations, philanthropic societies, professional groups, cultural groups, social clubs, farm

organizations, and church groups will continue to be an important part of community life in the County.

Land acreage for quasi-public uses have been allocated in each Planning Area. To illustrate how these acreage allocations were made: it is assumed that churches average three to five acres per site. Usually it takes 5,000 people to support three churches so a population of 41,500 people by 1990 will support about 24 churches taking up between 72 to 120 acres.

It is forecast that residents will continue to enjoy the sports teams and events in Baltimore and Washington, D.C. and residents will likewise rely on their proximity to Baltimore and Washington for major cultural activities.

Public Library. As County funds and population concentrations dictate, it is possible that between now and 1990 two branch libraries might be needed to supplement the main Prince Frederick Library and bookmobile program. Branch libraries could be conveniently located as part of multi-purpose community centers in the Twin Beaches and Solomons-Appel-Olivet Planning Areas in the years ahead.

Schools. The Board of Education has been making significant progress in recent years to improve the level and quality of educational programs in the County. The Calvert school authorities recognize the future of the County lies in providing quality education for all ages and economic groups. Educational programs are especially important in breaking the existing cycle of poverty among a segment of the County's population. It is their aim, while working on the cure, to give greater attention to the prevention. For example, mental retardation is being approached in a preventive way by setting up instruction and professional care dealing with family planning, prenatal care, infant care, early childhood development, day care and preschool education, consumer education, adult skill classes, nutrition and menu planning and meal preparation. All of these facets of the community experience can contribute to the ultimate success or failure of pupils in the school system.

School facility planning has to be closely related to population concentrations. In Calvert, the overall guide for new facility planning for kindergarten through grade five is to have approximately 600 children per school and 90

square feet per pupil. For grades six through eight in the middle schools, 800 students per school is the recommended standard with 115 square feet per pupil. For the high school grades nine through twelve, 130 square feet per pupil is needed and about 1,200 students per high school is considered desirable in Calvert. The Vocational-Technical Center requires a Standard of 180 square feet per pupil and special education centers require 190 square feet per pupil.

Between now and 1985 (further projections are not available at this time), the School Board estimates a need for the establishment of two additional schools in the County: a new elementary school (Mutual Elementary) on Balls Graveyard Road in the First District, and a new middle school, also for District No. 1 (south) with a capacity of 800 students.

PARKS AND RECREATION

In 1973 the County adopted a Comprehensive Park, Recreation and Open Space Plan for Calvert County. The objective of the Park Plan was to provide "a comprehensive guide to the orderly acquisition and development of parks, recreation and open space land and facilities over the foreseeable future." The findings and recommendations of this document are summarized below.

Existing Facilities

There is a total of 1,348 acres of public park and recreation land in Calvert County. Tables 8.10 to 8.13 summarize the existing facilities available to Calvert Residents.

**TABLE 8.10
INVENTORY OF PUBLIC
RECREATION LAND
CALVERT COUNTY, MARYLAND**

Acres in County Parks (Mt. Harmony	
Fish Pond, Route 231 Park,	
Dixon Tract)	97
Acres in The School District	
(All County Schools)	351
Acres in State Parks (Calvert	
Cliffs State Park)	1,404
TOTAL ACRES	1,852

From the tables it can be seen that except for schools, the only public recreation land is the newly acquired 10-acre Dixon Tract and the

Harmony Pond in District No. 3, the Route 231 Park in District No. 2 and Calvert Cliffs State Park,

which has very limited development, in District No. 1. The State Park is the only public waterfront area of any size but offers limited access to the water because of the Cliffs.

Future Recommendations

The Recreation Plan recommends five different functional types of parks. These types are: Regional Parks, District Parks, Community Parks, Neighborhood Parks and Block Parks. Below is a description of each type of park and a brief explanation of the facilities which should be found in each.

Regional Parks provided by the State, should have a minimum of 500 to 1,000 acres, and be located within an hours drive of all the population. Fifty percent or more of the park should be undeveloped. Water should be available in some form such as a lake, reservoir or stream. Facilities should include trails of all kinds, nature study, picnicking, camping, water based recreation and playgrounds.

District Parks should be County or State sponsored parks of 100 acres or more, located within a half hours drive of the using population. This type of park should provide facilities for most of the following activities: picnicking, camping, water based recreation, hiking, riding, nature study, field and court games, golf, etc.

Community Parks or inter-neighborhood parks, should serve a series of neighborhoods with those facilities not possible in a neighborhood park. Typical facilities which can be provided are: par-3 golf course, swimming pool, field games area, court games area, picnic units, skating rinks, apparatus areas, trails, nature study, community center, etc. There should be a community park within 15 minutes drive of everyone. Middle School sites are often suitable to provide the space needed for this kind of park.

Neighborhood Parks built by developers or the County depending on the situation, should range in size from five acres upward, and there should be one within a twenty minute walk of each residence in the growth planning areas. An elementary school and site can often be developed to serve this purpose. Schools so used do double duty in the community with a resultant savings in taxes. This type of park should provide children's apparatus, arts and crafts areas, court areas, softball diamonds, an area for field games, and horseshoes.

Block Parks, also known as locality parks or tot-lots, should be built by developers and located where there is insufficient space for a neighborhood park. Block Parks can range in size from a building lot upward. Facilities generally should include children's apparatus and some benches; other facilities will depend on the size of the area. Small urban landscaped areas can also fit this classification.

The Park and Recreation Plan further recommends Stream Valley Parks. Since it will be very taxing on the county government to even construct and maintain the other recommended improvements, it is recommended that development of stream valley parks be delayed until a later date. The land for the stream valley parks will not be developed during the interim since all 50-100 year flood plains, freshwater

swamps, tidal marshes, coastal beaches and escarpment areas will be mandatorily preserved in all planning areas. If at a later date there is sufficient demand for Stream Valley Parks then this land will still be available for hiking trails, bicycle paths, bird watching areas, Ecological Study Centers, etc.

Calvert County is in an enviable position since there are unlimited potentials for all kinds of recreational development to serve present and future generations of County residents. There are beautiful creeks, wide open fields, wooded area and the fantastic shoreline. Steps are being taken to provide for the future needs of the County but it will be necessary to continue to act to increase and improve the number of Parks and recreational facilities so that residents may continue to enjoy natural open spaces.

TABLE 8.11

**INVENTORY OF SCHOOL RECREATION FACILITIES
CALVERT COUNTY, MARYLAND**

	PLAY APP.	BASEBALL	BASKETBALL OUTDOORS	FOOTBALL	SOFTBALL	TENNIS	TRACK	HARD SURFACE AREA	SOCCER	AUDITORIUM	GYM	MULTI-PURPOSE ROOM
Calvert Senior High		1	X	1	1		1		1		1	1
Calvert Middle		1	X		2	2					2	
Appeal	X		X		1			1				1
Northern School (Grades 6-12)		1	X	1	2		1	1			2	
Mount Harmony	X	1			2							1
Central	X		X		1							1
Island Creek	X				1							1
Huntingtown	X		X		1							1
Beach	X		X		1			1				1
TOTAL	6	4	7	2	12	2	2	3	1	0	5	6

TABLE 8.12

INVENTORY OF OTHER PUBLIC RECREATION FACILITIES

CALVERT COUNTY, MARYLAND

Calvert Cliffs State Park - 1404 Acres

Play apparatus
Picnicking
Hiking
Rest rooms

TABLE 8.13

STATE RECREATION AREAS NEARBY

Point Lookout State Park - 705 Acres

(60 miles from Prince Frederick)

Play apparatus	Picnicking
Swimming	Boating
Fishing	Camping
Hiking	

Greenwell State Park - 603 Acres

(40 miles from Prince Frederick)

To be developed as a park for the handicapped.

St. Clements Island - 64 Acres

(40 miles from Prince Frederick)

Swimming	Boating
Picnicking	Fishing

Cedarville State Park - 340 Acres

(25 miles from Prince Frederick)

Play apparatus	Picnicking
Fishing	Camping
Hiking	Rest rooms

Cedarville State Forest - 3,516 Acres

(25 miles from Prince Frederick)

Hunting
Hiking
Fishing

Doncaster State Forest - 1,485 Acres

(40 miles from Prince Frederick)

Hunting
Hiking

Smallwood State Park - 473 Acres

(40 miles from Prince Frederick)

Play apparatus	Fishing
Picnicking	Rest rooms
Hiking	Historic site

PLAN FOR DESIGNATION OF AREAS OF CRITICAL STATE CONCERN

In 1974 State legislative action, effective July 1, 1974, added to Article 66B of the Maryland Annotated Code a requirement that the County Comprehensive Plan include an element describing "recommendations for the determination, identification, and designation of areas within the county which are of critical state concern." Although countless hours were spent by the legislature in attempts to define and establish guidelines for designation of "areas of critical state concern," the State Land Use Bill as enacted did not include either definitions or guidelines.

Since the County recommendations for, and subsequent state designation of areas of critical state concern may have significant impact on county development patterns, the County recommendations should be made only after thorough study, deliberations, public hearings and formal action by the Board of County Commissioners.

The following procedures should comply with the requirements of State law and enable the County to exercise due process in the development of its recommendations:

1. Establish a County Land Use Board with the specific function and responsibility of preparing recommendations for designation of areas of critical state concern.

2. Provide that the County Land Use Board establish definitions and guidelines for selection of county areas of critical state concern.

3. Provide that the County Land Use Board prepare its recommendations in coordination with other County agencies.

4. Provide that recommendations of the County Land Use Board be presented, after review and comment by the Planning Commission, to the Board of County Commissioners for public hearing after public notice and posting of property as required for land reclassification (rezoning) cases.

5. Provide that after public hearing the Board of County Commissioners prepare a finding of facts and on such basis transmit its recommendations to the Department of State Planning.

6. Upon designation of areas of critical state concern by the Department of State Planning, provide that appropriate County maps be posted

and that administrative procedures for implementation of local and state controls be initiated.

IMPLEMENTATION

1 2 3 4 5 6 7 8 9

CHAPTER NINE

Implementation

Without appropriate development regulations, the plans contained in Chapter Eight cannot be realized. For this reason, considerable attention has been directed towards recommending implementation techniques and revised regulatory controls which will be appropriate and workable for Calvert County. It should be emphasized from the outset that the recommendations of this chapter should not be taken as the sole means of attaining the County goals and objectives. The recommendations contained herein will need study and refinement in the years ahead in the give and take political process which seeks to promote the best interest of the general public.

THE IMPLEMENTATION PLAN

This Comprehensive Plan should not be viewed as a one shot, long term document that will force Calvert County to adhere to one course of action for the next twenty years. Planning is a continuing process and this Plan should be updated as conditions and attitudes in the County change. The tools for implementing the Plan include the Zoning Ordinance, Subdivision Regulations, Sediment Control Ordinance, Standards and Specifications for Roads, Historic District Ordinance, Capital Improvement Program, Codes and other appropriate County regulatory and program documents. The following recommendations with reference to existing and proposed regulatory controls are consistent with plans and policies enumerated in the preceding chapters, and if adopted, should effectively implement provisions of the Comprehensive Plan.

ZONING ORDINANCE REVISIONS

Zoning is essentially a means of insuring that land uses are properly situated in relation to one another, that there are provisions for desired development types, in appropriate areas and acreages, and that land uses are compatible with environmental constraints. It allows for control of development density in zoning districts so that property can be adequately serviced by public

facilities such as the street, school, recreation, health and utility systems. Zoning is both a method of encouraging a particular type of development in suitable and desired areas, and a method of protecting existing land uses from encroachment by new and unsuitable uses.

Calvert County's present Zoning Ordinance should be revised to guide development according to the adopted goals and objectives. Zoning Ordinance changes which require consideration include:

(1) **Minimum Lot Sizes.** Existing requirements in the R-1 and R-2 districts are believed to be inadequate where long term dependence upon individual septic systems exists. Minimum lot size requirements should be increased to approximately three-fourths of an acre in areas where no community sewerage system is programmed within six (6) years, as identified in the Comprehensive Water and Sewerage Plan.

(2) **Planned Group Multi-Dwelling Projects.** As the development nodes are realized, there will be an increasing need for flexibility in the design, construction and sale of structures. Consideration should be given to provisions for "zero lot line" development in such projects. This could permit individual lot and structure ownership where units share common walls.

(3) **Zoning Map Changes.** Examination should be made of the appropriateness of the existing Conservation District boundaries; preliminary study indicates that some areas should be reduced in size and some new Conservation Districts established in stream valleys. Other zoning map changes may be needed to permit limited development of designated villages. Villages designated for additional development should clearly have a history of multiple family land ownership, be located on land suitable for residential development, and have adequate existing access to county or state roads. Designation of Industrial Districts should be evaluated and undeveloped industrial zones reclassified where the land is not suitable for industrial development, where transportation access is inadequate, or where long term commitments to agricultural or conservation uses have been made.

(4) Clustering. Further refinement of the clustering provisions are needed. Primary concern is focused on preserving the long term overall density integrity. Clustering provisions are not intended to increase overall density, and revisions are needed to insure that open space generated by this subdivision technique will not be developed in the future.

(5) Residential Planned Community District. The existing procedure for creation of an "RPC" District is not workable and offers little advantage either to the County or to a developer. Further study regarding the possible advantages and use of a "Planned Unit Development" provision in the Zoning Ordinance should be continued.

(6) Residential Subdivisions in the Agricultural District. To maintain compatible uses in the Agricultural District, and to ensure that proposed residential subdivisions will have essential public services, restrictions should be placed upon the residential subdivision of land in the Agricultural District. Consideration should be given to classification as an exceptional use, subject to approval of the Board of Appeals, the establishment of a residential subdivision in the Agricultural District which contains six (6) or more building lots with an average size of less than five (5) acres each.

(7) Preservation of Prime Agricultural Land. The irretrievable loss of prime agricultural land is a matter of grave concern, from both an environmental and a food production standpoint. The State Department of Agriculture is actively working on potential programs, such as the establishment of "Voluntary Agricultural Districts" combined with the purchase of development easements, as a means of solving this problem. The County should actively participate in the development of state plans and legislation, and seek solutions to the special problems of Calvert County.

SUBDIVISION REGULATIONS

Subdivision Regulations are a second key tool in the implementation of the land use, transportation and community facilities plans. The County Subdivision Regulations apply to all areas of the County except the incorporated municipalities of North Beach and Chesapeake Beach.

Subdivision Regulations govern the process of converting land into approved building sites. This

is accomplished through plat approval procedures, during which the Planning Commission and other County agencies review proposed preliminary subdivision plans and act to approve in accordance with adopted standards and regulations. Subdivision regulations restrict development of unsafe land, require compatibility with other plans, acceptable design, and provisions for streets, utilities and open space.

The existing subdivision regulations require several revisions to effectively implement the policies adopted in this Plan. Significant revisions to be considered include the following:

(1) Definitions. New definitions should be added to distinguish between "major subdivisions" and "minor subdivisions." Subdivisions of five (5) lots or less should be defined as "minor subdivisions" and subjected to minimal administrative procedures.

(2) Controls and Application. Only the subdivision of land for other than building purposes, and subdivision by court order should be exempted from the provisions of the subdivision regulations; all lots created for building purposes should be submitted to the Planning Commission for approval prior to recorded sale or conveyance.

(3) Requirements for a Subdivision. Further clarification of the term "unsafe land" is needed so that appropriate restrictions may be applied concerning slopes, wetlands, marshes, flood plains, etc.

(4) Completion of roads and streets. The provisions for acceptance of bond or guarantee for completion of roads and streets should be eliminated; roads and streets in a subdivision should be completed before lots are conveyed or building permits are issued.

(5) Dedications. Steps should be taken to assess new subdivisions for the public costs they generate. Revisions should be made to requirements for dedication of land to permit the payment of fees in lieu of dedication, and to provide for dedication of space or payment of fees for all subdivisions.

SEDIMENT CONTROL ORDINANCE

Provisions of the Ordinance should be refined to provide better control of potential sediment hazards, both on-site and off-site, and both during and after completion of grading, clearing or other earth change. Provisions for storm water management should be incorporated in this or some other appropriate County ordinance.

STANDARDS AND SPECIFICATIONS FOR ROADS AND STREETS

Existing County controls are inadequate for the types of construction and development taking place. Revised regulations should provide for several roads standards to accommodate a range of transportation needs. Detailed specifications should be included to facilitate road design, construction and inspection.

COUNTY CODES

Building, Electrical and Plumbing Codes should be reviewed to assure that they are appropriate to the specific needs of Calvert County, and do not inhibit the use of materials and techniques which can improve quality or reduce construction costs. A Housing Code should be adopted to establish acceptable standards for dwellings.

UTILITY IMPROVEMENTS

Calvert County annually updates its Comprehensive Water and Sewerage Plan. Included in the plan are the priority listings for water and sewerage servicing during the following twenty year period. The priorities for services are in conformance with this plan. It must be understood that areas provided with water and sewerage service are subject to great development pressures, not only by the property owners and potential purchasers, but also by the government agencies who wish to operate the facilities on a self-sustaining basis.

CIRCULATION IMPROVEMENTS

In line with the County's desire for a slow population growth, the road improvements recommended in the Transportation Plan have been deliberately minimal so that growth pressures can be minimized in the Rural-Conservation Planning Area. By controlling access, creating special turning lanes, and improving the traffic signals along existing roads, Calvert County should be able to provide adequate circulation with few major road improvements. Where major road improvements are foreseen, immediate action should be taken to identify, reserve or acquire adequate right-of-way, with construction delayed until actual need exists. Consideration should be given the establishment of and support of a public transportation system.

CAPITAL IMPROVEMENTS PROGRAM

An important technique for implementation of this Plan is proper fiscal management of public improvements. It is important that subdivision approval be dependent upon availability of public

facilities, but in order for a government to require this kind of orderly growth, it is necessary that it adopt some form of capital programming and budgeting.

The County should adopt a ten year public improvements program, including one year capital improvement budget and year by year capital improvement program for the ensuing five year period.

The advantage of having a disciplined procedure for building capital improvements is that Calvert County can use capital budgeting as a tool to prevent lags between private development and the extension of public facilities. In other applications around the nation, efforts to control growth by requiring that private development be phased with the local government's capacity to provide services and build public facilities has usually withstood the test of reasonableness.

DESIGNATION OF AREAS OF CRITICAL STATE CONCERN

To comply with requirements of State Law, it is proposed that a County Land Use Board be appointed and procedures initiated to develop appropriate recommendations concerning designation of County areas of critical State concern to the Department of State Planning.

ENVIRONMENT AND NATURAL RESOURCES

Conservation and/or preservation of the environment and natural resources must be a consideration integrated in all County programs and planning. There is no focal point for such considerations at present in the County staff, County agencies, or citizens groups. Consideration should be given the establishment of an Environmental Advisory Council to advise the Board of County Commissioners and County agencies on matters of significant concern. Consideration should be given also to augmenting the County staff to include professional environmental expertise. The conservation and efficient use of natural resources, such as timber, should be studied and adequate controls adopted to prevent destruction or depletion.

CONCLUDING REMARKS

It should be emphasized that for this or any other county plan to be implemented, both the citizens and elected officials must work closely together to achieve County goals and objectives, because planning results require both public support and government action.

During the period of this Comprehensive Plan there will be instances when individual property owners will come before officials requesting development or reclassification approvals. Most requests will be routine and easy to respond to based on policies and regulations developed from this Plan. The revisions proposed in this Plan should also provide for efficient and equitable protection of the public interest. While there must be enough flexibility of regulatory enforcement to avoid undue infringement of individual rights, such flexibility must not mean that inadequate attention or protection is given the general public welfare.

In closing, it is reminded that regulation details must be refined and negotiated through public discussion and legislative action. Perfect plans and perfect regulations do not exist. The recommendations of this Plan suggest some of the ways of achieving the County's General Plan by the year 1990. As Calvert County learns to live with planning goals and with more development controls, its citizens can then focus their short-term objectives more closely and adjust their Zoning Ordinance, Subdivision Regulations and other implementation techniques so that all development regulations may work together towards achieving the County Comprehensive Plan for the year 1990.

APPENDIX

CITIZEN PARTICIPATION

Comprehensive plans should represent the collective desires of the citizens affected by such plans. The articulation of expressed desires into a single plan is necessarily a proposition involving difficult compromises.

The development of this plan involved several extensive efforts to infuse direct citizen input. Direct contact was made with many local citizens groups and governmental agencies. An opinion survey was taken by distribution and publication in local newspapers of a questionnaire designed to elicit public attitudes toward basic issues facing Calvert County. Upon completion of a preliminary draft of the Comprehensive Plan, major portions of the plan were presented orally to citizens groups and were published in local newspapers. During the months of April, May and June approximately 400 citizens actively participated in a planning effort known as the Pleasant Peninsula Plan (PPP) process. Twelve topical committees were formed during the PPP with each submitting a report after study of the draft plan and extensive discussion of major issues under their area of concern. Each of these committee reports was considered during the process of developing a second preliminary draft of the Comprehensive Plan. The second draft of the proposed County plan was printed, distributed and discussed at a series of public presentations held in each of the County's three Election Districts. A public hearing held on September 18, 1974 was the culmination of this Comprehensive Planning effort.

This Plan, as adopted, represents a concerted effort to produce a working document that is sensitive to the views of all the citizens of Calvert County. To the extent that this has been achieved, a debt of gratitude is owed to all citizens, citizen groups, and public agencies that assisted in the development of this Plan. Their continued awareness and interest in the future of Calvert County will ensure that Comprehensive Planning in Calvert County will be an ongoing process with constant relevance to the issues facing the County.

REFERENCES

COMPREHENSIVE

- Allen Organization. Calvert County Parks and Recreation Plan. 1973.
- Hamilton Associates. Program for Development, Calvert County Hospital. 1971.
- Henningson, Durham and Richardson. Calvert County Solid Waste Plan. December 1973.
- Maryland State Highway Administration. 20 Year Highway Needs Study. January 1974.
- Maryland State Highway Administration. State Highway Improvements Program - Primary and Secondary. January 1974.
- Planning Office (Calvert County). Comprehensive Water and Sewerage Plan, 1974 Revision. July 1974.
- Stottler, Stagg and Associates. Comprehensive Water and Sewerage Plan. December 1973.
- Tri-County Council. Comprehensive Regional Plan for the Tri-County Region of Southern Maryland. May 1973.

ECONOMIC

- Maryland Department of Economic Development. Community Economic Inventory. June 1970.
- Maryland Department of Economic and Community Development. Maryland State Program for Local Government Community Development.

ENVIRONMENTAL

- Angelos Demetriou, A.I.A. Land Use Inventory. August 1973.
- Henningson, Durham and Richardson. Shoreline Erosion Study - Ship Point to Cove Point. January 1972.
- Maryland Department of State Planning. Summary of Flood Related Studies in Maryland. July 1973.

Maryland Department of State Planning. Summary of Flood Related Studies
(Revised). January 1974.

Maryland Departments of State Planning, Natural Resources, and Economic
and Community Development. Wetlands in Maryland. September 1973.

Maryland Department of Economic and Community Development. Directory
of Science Resources for Maryland. February 1974.

Smithsonian Institution. Natural Areas of the Chesapeake Bay Region,
Criteria for Natural Areas Ecology Program. May 1974.

Soil Conservation District, Department of Agriculture. Southern Maryland
Resource, Conservation and Development Project. January 1974.

INFORMATIONAL

Calvert County Planning Office. Data and Statistics Booklet for Calvert
County. January 1974.