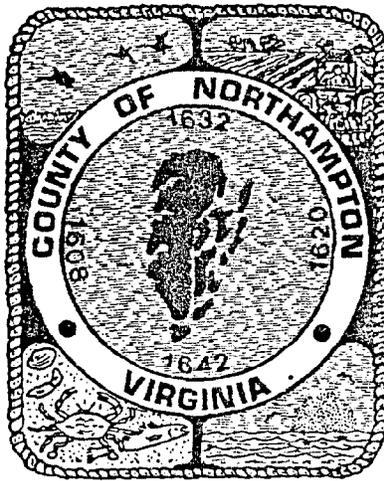


ANALYSIS OF CONDITIONS

AND

ZONING ISSUES



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INFORMATION CENTER

NORTHAMPTON COUNTY

VIRGINIA

AUGUST 1988

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ANALYSIS OF CONDITIONS
AND
ZONING ISSUES

NORTHAMPTON COUNTY
VIRGINIA

AUGUST 1988

PLANNING MANAGEMENT ASSOCIATES, LTD
NEWPORT NEWS, VIRGINIA

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ANALYSIS OF CONDITIONS AND ZONING ISSUES
NORTHAMPTON COUNTY, VIRGINIA

I. INTRODUCTION

This report provides a general framework of physical information about Northampton County which serves as the basis for analyzing the conditions that will influence required zoning regulations.

Northampton County has been the subject of various state and local studies on a variety of land use topics. These studies have been reviewed and consolidated in this study along with some original research, observations and interviews with staff and other county officials.

Section two reviews the general County growth in population and economy as primarily found in the report, Socio-Economic Data: Comprehensive Plan Background which provides a thorough analysis of all points of interest. Section two of this report highlights and updates some of the key findings of the comprehensive plan background report. The County has been experiencing such a tremendous change in land use conditions over the past two to three years that the most recent demographic and economic statistics do not yet reflect these changes.

Section three reviews existing land use conditions, topography, erosion and water resources. Planning Management Associates produced a land use conditions inventory of all parcels of land over 25 acres. The summary of this data base is found in this section.

The fourth section is a delineation and analysis of the Planning Analysis Areas as determined by Planning Management Associates. These study areas were identified as a means of evaluating the conditions particular to a specific region in the county as well as those conditions commonly experienced by the county as a whole. Issues were identified for each of the planning areas.

The final section is a summary of the issues observed in the analysis of Northampton County as well as the goals and courses of action suggested by the Comprehensive Plan Update. To these issues and goals are added some preliminary notes as to appropriate zoning ordinance related recommendations.

II. GROWTH OF THE COUNTY

The purpose of this section is not to duplicate the extensive analysis found in the report, Socio-Economic Data: Comprehensive Plan Background. Instead, this section will highlight upon and update the historic, socio-economic, and land use information which impact on decisions important to the development of the Zoning Ordinance.

A. HISTORY OF COUNTY

The Eastern Shore "...is a country that may have prerogative over the most pleasant places of Europe, Asia, Africa and America...Heaven and earth never agreed better to frame a place for man's habitation."

From Captain John Smith's notes and maps of Eastern Shore, 1612.

The history of the development of the Eastern Shore begins with a branch of the Algonquin Indian Tribe who called the area Accomack which means "on-the-other-side-of-the-water place". These original inhabitants numbered about 2,000 at the time of the first European landings.



COUNTY LOCATION

The first recorded landing was in 1603 by Captain Bartholomew Gilbert, a nephew of Sir Walter Raleigh. The landing was unsuccessful in that all of the landing party, including Captain Gilbert, were killed by the Indians.

In June, 1608, Captain John Smith from Jamestown made a successful landing on the Eastern Shore, traded with the Indians and made the first known map of the mainland and major islands; the earliest copy of this map found was published in 1612.

June, 1614 brought the first purchase of land from the Indians to be used as an outpost for the Virginia Company and the first permanent habitation of the area occurred in the fall of 1620. By 1635 there were approximately 396 people.

The Eastern Shore began the process of dividing into two counties as early as 1663 with an Act of the General Assembly. The taxable population at that time was 707. The newly formed county of Northampton quickly built the first courthouse on the Eastern Shore in 1664 at Town Fields on the northern side of King's Creek. However, by 1670 the Shore was once again united and then redivided in 1674. Continued political maneuverings prevented a permanent fixation of the boundary line between Northampton County and Accomack County until 1688.

By the 1703 Census, Northampton County had a population of 2081 and 99,384 acres of land patented. This represented 90 percent of its total land area. By this same time U.S. Route 13 had a major portion of its foundation established by a major roadway system that ran through the length of the Eastern Shore.

Following restoration of the county (after the Civil War) to self rule in 1870, the county was divided into three "townships": Franktown, Eastville and Capeville. Although the name "township" has been altered to Magisterial District, the boundaries concepts remain today as they were established over a hundred years ago.

Agriculture and fishing have been the major industries in Northampton County since its first habitation. Other industries have prospered in their time, including cloth making in the 1700's, coach assembling and castor oil manufacturing in the early 1800's and commercial ice plants in the early 1900's. The area was seen as a great recreational spot throughout the 1800's and 1900's and supported numerous resort hotels. But it is the land and water that has been the main force of the local economy. Protection of these important industries led to legislation as early as the 1840's for conservation of fishing areas. In 1891 legislation called for the surveying and protecting of oyster beds so that they would not become depleted by over harvesting.

The County grew from a population of 707 in 1663 to 17,300 in 1950 to a population of over 14,625 by 1980. The development of the County has come from a richness of natural resources in the land and in the sea and from an appreciation by its people of a unique quality of life.

B. DEMOGRAPHICS

1. Population Trends and Projections

Until recently, indicators suggest that Northampton County is experiencing slow change in total population. The change is so gradual that the two official state agencies that provide estimates or projections do not agree on whether the population is slowly growing or slowly declining since the 1980 Census. The University of Virginia Center for Public Service (formerly Tayloe Murphy Institute) shows a gradual decline in its yearly estimates of the population through year 1985. In 1986 the Center's estimate increased slightly to the level of the 1981 estimate. The State Department of Planning and Budget projects slow growth for the county through years 1990 and 2000.

The following table gives the figures from both of these agencies as well as historical census data, showing the substantial decline (of about 2,500 people) from 1960-1970 and the growth (of about 200 people) from 1970-1980.

TABLE 1
POPULATION TRENDS AND PROJECTIONS
NORTHAMPTON COUNTY, VIRGINIA

Year	Census Data	U. Va. Estimates	State Planning & Budget Projections
1960	16,966		
1970	14,442		
1980	14,666		
1981		14,500	
1982		14,400	
1983		14,400	
1984		14,300	
1985		14,300	
1986		14,500	
1990			14,800
2000			14,910

Sources: U.S. Census, 1960, 1970, 1980; University of Virginia, Center for Public Service; Virginia Department of Planning and Budget

An examination of recent school enrollment shows that from 1980 through 1982 both elementary and high schools were losing enrollment. From 1982 through 1985 the elementary schools have been gaining students and the decrease in high school students appears to have slowed. This may be a reflection of a recent upturn in the birthrate which has been experienced nationally as well as statewide. The first impact is in elementary schools and later in high schools.

TABLE 2
SCHOOL ENROLLMENTS, NORTHAMPTON COUNTY, VA.

Year	Elementary Enrollment	Change From Prior Year	High School Enrollment	Change From Prior Year
1980-81	1,500	NA	978	NA
1981-82	1,494	-6	910	-68
1982-83	1,940	-4	866	-44
1983-84	1,513	+23	855	-11
1984-85	1,553	+40	821	-34

Source: Virginia Department of Education, Annual Report of the Superintendent of Public Instruction; PMA analysis.

Housing units authorized in the county also have increased since 1982, especially with the increase of multi-family units in 1983 and 1984 and a considerable increase in single family conventional units in 1986.

TABLE 3
HOUSING UNITS AUTHORIZED, NORTHAMPTON COUNTY, VA.

	1980	1981	1982	1983	1984	1985	1986
MOBILE	32	38	46	44	44	55	69
SF	30	15	16	33	28	33	58
DUPLEX							
3-4 UNITS						4	
5+ UNITS				28	98		
-DEMOLITIONS		-1	-3	-1	-3		-3
TOTAL UNITS	62	52	59	104	167	92	124

Source: U. Va. Center for Public Service

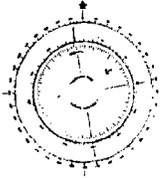
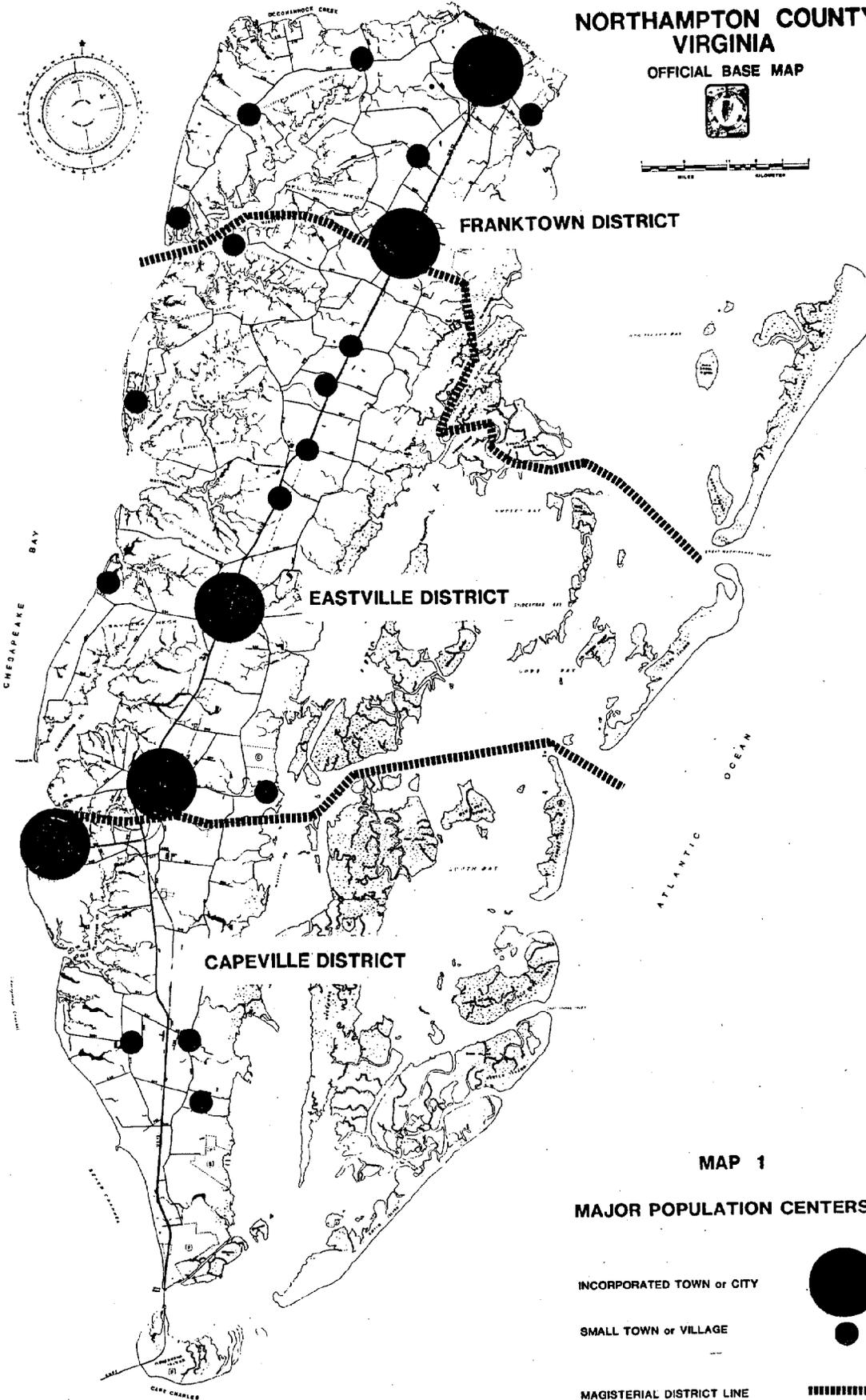
Overall it appears that the county may have experienced some population decline in the very early 1980's, but may now have reverted back to a pattern of gradual population growth. The Virginia Department of Planning and Budget projects 14,800 persons by year 1990 and 14,910 persons by year 2000. These projections obviously do not take into consideration the new developments that are now in progress within the County.

2. Population Distribution Within the County

An analysis of year-round housing units shows that during the decade of 1970-1980, outside of the towns, the Eastville District grew the most and the Capeville District lost housing units. Franktown grew a little. All of the towns experienced slow growth except for Cape Charles and Exmore which showed decreases in housing units. The area map on the following page shows the borders of the magisterial districts and major rural villages and incorporated towns.

NORTHAMPTON COUNTY VIRGINIA

OFFICIAL BASE MAP



FRANKTOWN DISTRICT

EASTVILLE DISTRICT

CAPEVILLE DISTRICT

MAP 1

MAJOR POPULATION CENTERS

INCORPORATED TOWN or CITY



SMALL TOWN or VILLAGE

MAGISTERIAL DISTRICT LINE



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TABLE 4
YEAR-ROUND HOUSING UNITS, NORTHAMPTON COUNTY, VA.

	1970 CENSUS UNITS	1977 FIELD STUDY UNITS*	1980 CENSUS UNITS	CHANGE 1970-80	AVERAGE ANNUAL % CHANGE
<u>HOUSING UNITS OUTSIDE TOWNS</u>					
TOTAL RURAL CAPEVILLE	1145	1007	1001	-144	(1)
TOTAL RURAL EASTVILLE	1225	1501	1896	671	5
TOTAL RURAL FRANKTOWN	1164	1201	1195	31	0
TOTAL OUTSIDE TOWNS	3534	3709	4092	558	2
<u>HOUSING UNITS INSIDE TOWNS</u>					
CAPE CHARLES	742	724	700	-42	(1)
CHERITON	274	281	295	21	1
EASTVILLE	86	94	95	9	1
EXMORE	563	557	559	-4	(0)
NASSAWADOX	229	238	250	21	1
BELLE HAVEN (pt)	40	50	57	17	4
TOTAL TOWNS	1934	1944	1956	22	0
TOTAL NORTHAMPTON COUNTY	5468	5653	6048	580	1

* Includes re-adjustment of 190 units in field study from rural areas to towns also includes shift of 150 units from Capeville to Eastville rural districts in 1970 and 1977 figures to conform with re-districting in 1980 Census

Sources: 1970 & 1980 Census; 1977 field study by PMA; PMA adjustments

The 1980 Census only classified 90 units as seasonal for the whole county (Capeville, 34; Eastville, 33 and Franktown, 23). Therefore the summer population distribution would not be significantly different from that indicated by the year-round units analysis. Field observations support this as many previously seasonal homes have become permanent dwellings, particularly in the Smith and Silver Beach areas.

3. Future Population Potential

One problem in using recorded population and housing trends as a basis of projecting future population is that they do not reflect the pressure for development that Northampton County is presently experiencing. As of June, 1988, 202 subdivisions providing for 3,305 lots have been recorded and more are in the planning process. A summary of the subdivision activity follows in subsection III.C.

The target of most of this development appears to be the upscale retirement market and the locations that are in demand in the larger tracts along the Chesapeake Bay. If all of the housing units that are in the planning process were to materialize into sales and fulltime occupants, the County is in line for a very large population increase over the next decade. While it is not possible to predict with reliability how the market will respond to this massive private investment in residential sites, it is safe to predict that it will have a large impact on the County's resources.

C. ECONOMY

Mirroring demographic trends, the Northampton County economy shows little change from 1980-1987. The county is rural, mainly agricultural, and has shown little change in agriculture or employment indicators. Other economic statistics such as income and retail sales have mainly shown slow growth, slower than the state average.

1. Agriculture

The following table shows a relatively stable picture of county agriculture from 1978-1982, the latest agricultural census available.

TABLE 5
AGRICULTURAL TRENDS, 1978-1982
NORTHAMPTON COUNTY, VIRGINIA

	1978	1982
Farms with sales of \$20,000+	184	184
Land in farms (acres)	59,433	60,108
Average size of farms (acres)	323	327
Average value of land & buildings per acre	\$1,129	\$1,386

The strength of the agricultural economy on the Eastern Shore, compared with the state average is shown in the following 1982 agricultural comparisons:

	Average Size of All Farms (acres)	Average Market Value of Products Sold
Northampton County	253	\$90,054
Accomack County	254	\$114,222
Virginia	182	\$31,005

Source: Northampton County Comprehensive Plan, 1984

2. Other Private Sector Employment

Private sector employment in Northampton County has shown little or no change over the past five years. Employment has grown in Accomack County during that period, as well as statewide. The little growth in employment would as a rule account for the low level of population growth because it takes jobs to support population. An exception to this is retirement housing which increases population without a need to provide jobs to support the residents. There are, however, some jobs created by construction and the increased services required of new residents.

TABLE 6
PRIVATE SECTOR EMPLOYER ESTABLISHMENTS
EMPLOYMENT AND AVERAGE CHANGE, 1983-1987

	No. of Establ. 2nd Q 1983	No. of Establ. 1st Q 1987	Av. Annual Percent Change	Average Employment 2nd Q 1983	Average Employment 1st Q 1987	Av. Annual Percent Change
Statewide	97,922	117,381	5.0	1,655,079	2,033,093	5.7
Accomack	615	645	1.2	7,929	8,929	3.2
Northampton	274	273	-0.1	3,372	3,368	.0

Source: Virginia Employment Commission, Covered Employment

3. Income

Wages on the Eastern Shore are low and losing ground compared with the state average. They are higher in Accomack than in Northampton County. In 1987 Northampton County wages were only 59% of the state average. Agricultural wages actually decreased between 1980 and 1987.

TABLE 7
AVERAGE WEEKLY WAGE EARNINGS

	STATE		ACCOMACK		NORTHAMPTON	
	1980	1987	1980	1987	1980	1987
Agriculture, Forestry, Fisheries, Mining	\$184	\$234	\$230	\$223	\$215	\$178
Construction	293	366	212	237	206	252
Manufacturing	302	413	170	245	147	214
Transportation, Communicat, & Other Utilities	367	536	311	451	298	353
Trade	211	270	158	193	168	175
Finance, Insur. & R. Estate	267	448	215	321	237	271
Services	240	360	199	250	165	227
TOTAL AVERAGE	\$264	\$363	\$184	\$243	\$165	\$214
AS PERCENT OF STATE	100	100	70	67	63	59

Source: Virginia Employment Commission, Covered Employment

Median family income in Northampton County as reported by Tayloe Murphy Institute was 61% of the state average:

	1979		1986	
	Income	% of State	Income	% of State
Northampton Co.	\$12,131	61	\$18,864	61
Accomack Co.	13,497	67	21,134	68
Virginia	20,018	100	31,148	100

4. Real Estate Values

Real estate valuation in the county has shown slow growth over the last few years. The largest increase was in buildings and improvements between 1986 and 1987 and that was approximately 3%, about even with inflation.

Again, this is not reflecting the rise in value of property near the Bay which is now being targeted for residential development. It may take several years for the impact of this new development and potential development to result in a larger increase in tax valuation. But it appears to be only a matter of time before that happens.

TABLE 8
REAL PROPERTY VALUATION

	1984-85	1985-86	Percent Change From Prior Yr.	1986-87	Percent Change From Prior Year
Land	\$136,311,900	\$136,667,800	0.26	\$136,446,500	-0.16
Bldgs & Improv	120,561,700	122,268,500	1.42	126,074,700	3.11
Total Valuation	256,873,600	258,936,300	0.80	262,521,200	1.38
Real Estate Levy	\$1,967,976	\$1,983,772	0.80	\$2,010,160	1.33

Source: Virginia Department of Taxation, Annual Report

D. TRAFFIC

The County has 48.76 miles of arterial and primary roads. These include: U.S. Route 13, including Business 13 through Cheriton, Eastville and Exmore, sections of Bypass 13, and primary roads Routes 178, 183, 613 and 184.

The "Transportation" section of the Northampton County report, Socio-Economic Data: Comprehensive Plan Background, goes into a thorough analysis and comparisons of specific types of traffic and specific locations changing traffic patterns within the County. That report indicates that between Exmore and Eastville, traffic volume on arterial and primary roads increased between 1974 and 1983. However, between Eastville and the Bay Bridge Tunnel, volume decreased for this same time span. The business sections of U.S. 13 reflect these same findings.

The Chesapeake Bay Bridge Tunnel plays a major role in the increase of traffic through Northampton County. Since its opening in 1964, the Chesapeake Bay Bridge Tunnel has attracted an increasing number of drivers through the Eastern Shore. Since 1980, traffic through Northampton County has increased 39 percent as shown in the following table.

TABLE 9
CHESAPEAKE BAY BRIDGE TUNNEL
AVERAGE DAILY TRAFFIC

	1980	1984	1987	% CHANGE 1980-87
PASSENGER CARS	3250	3500	5500	
SINGLE UNIT TRUCKS/BUSES	940	1175	295 *	
TRAILER TRUCKS	470	500	663	
TOTALS	4660	5157	6458	39%

SOURCE: VDH & T - Average Daily Traffic Volumes on Interstate, Arterial and Primary Routes, 1980, 1984, and 1987

* VDH&T have changed statistical gathering methods and are currently including pickup trucks and vans in the passenger car category, accounting for the dramatic changes in these categories.

The Chesapeake Bay Bridge and Tunnel District report that for the first six months of 1988, in excess of 1.062 million vehicles have passed through the Bridge Tunnel for an average daily traffic count of 5902 total vehicles. Projections indicate that by the end of the year the average will substantially exceed last year's figures.

III. ANALYSIS OF GENERAL LAND USE CONDITIONS

A. GENERAL INFORMATION

Northampton County is located on the southern half of the peninsula in Virginia, known as the Eastern Shore. The Eastern Shore includes Accomack County to the north and Northampton County to the south. Northampton County has a land area of 226 square miles from Fisherman's Island to Occohannock Creek.

1. Topography

There are three noticeable topographical corridors running the length of the county. The first is the bayside corridor which faces the Chesapeake Bay with a varied coastline consisting of 25 foot bluffs, 50 foot dunes to flat sandy beaches and marshlands at and below sea level. The entire coast is incised with a complex system of creeks. The middle ridge is the high ground between the Chesapeake Bay and the Atlantic Ocean and runs between 25 to 40 feet above sea level. The seaside corridor drops down from the 25 foot contour to land that is visible at low tide and under water at high tide. There is an extensive tidal marsh system between the fastland on this seaside coast and the barrier islands off of the coast with a few deep water channels leading to the Atlantic.

The Eastern Shore contains seventy percent of Virginia's total oceanside shoreline and fifteen percent of the total tidal shoreline. Northampton County has 261.4 miles of shoreline. The majority of the shoreline, 193.7 miles, is located on the bayside, with 39.9 miles located seaside and 27.8 miles located around the barrier islands. Only 62.2 miles of shoreline are beaches (23% of the total shoreline) and 38.7 miles are dunes (14.8% of the total). The rest of the shoreline is low or low with some bluffs.

SHORELINE

Bayside	193.7 Miles
Seaside	39.9 Miles
Around Barrier Islands	27.8 Miles
Total	<u>261.4 Miles</u>

In addition, Accomack and Northampton Counties contain 47 percent of the state's salt marsh acreage. There are 28,054 acres of wetlands in Northampton County. The following table indicates the amount of wetlands in the county according to location.

TABLE 10
WETLAND ACREAGE

LOCATION	TOTAL WETLAND ACREAGE
OCCOHANNOCK CREEK	151
OCCOHANNOCK NECK	35
NASSAWADOX CREEK	380
CHURCH NECK	38
HUNGARS CREEK	472
OLD TOWN NECK	3
THE GULF	49
SAVAGE NECK	1
CAPE CHARLES	55
OLD PLANTATION CREEK	163
KIPTOPEKE	82
FISHERMANS ISLAND	429
TOTAL BAYSIDE	2,246
MILL CREEK	766
DUNTON COVE	529
MOCKHORN BAY	456
RAMSHORN BAY	557
HOLT NECK	1,165
MACHIPONGO RIVER	3,431
TOTAL SEASIDE	6,904
BARRIER ISLANDS	18,904
TOTAL COUNTY WETLANDS	28,054

SOURCE: VIMS, Shoreline Situation Report:
Northampton County, 1974

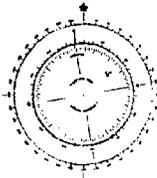
These wetlands are not simply an interesting topographical item; they are of national importance in that they play a vital role in the marine food chain - supplying food, providing habitat and nesting grounds for a multitude of organisms, waterfowl and marine creatures; providing an important feeding ground for migrating birds from Canada to South America; and acting as a huge cleansing ground for pollutants in the waters. Any development which destroys or even disturbs these areas risks endangering not only wildlife and marine life, it also threatens the economic livelihoods of county residents and destroys the very reasons many individuals have chosen to live in Northampton County. Legislation may attempt to protect the wetlands themselves, but development surrounding the wetlands, if uncontrolled, will create the same kind of damage.

2. Erosion

The VIMS, Shoreline Situation Report for Northampton County summarizes the erosion problem in the county as severe. Many areas of

NORTHAMPTON COUNTY VIRGINIA

OFFICIAL BASE MAP



MAP 2

EROSION RATES

- SEVERE (3 ft or more) 
- MODERATE (1 - 3 ft) 
- SLIGHT (under 1 ft) 

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the county as early as 1974, were labeled "severe - critical" in that structures and people were endangered. Since 1974 more development has occurred and the situation is only worsening with each new structure and each new subdivision platted.

VIMS uses the following ratings to describe shoreline erosion:

Slight erosion is under one foot per year.
 Moderate erosion is one to 3 feet per year.
 Severe erosion is anything over 3 feet per year.

Map 2 illustrates the extent of the shoreline erosion problems in Northampton County.

Along the Chesapeake Bay, erosion is primarily caused by northwest or north winds in conjunction with weather fronts passing through the area in the late fall, winter and spring. To a lesser degree, southwest or south winds in the summer can also cause damage. Most of the shoreline directly facing the Chesapeake Bay experiences from moderate to severe levels of erosion.

The seaside of the county is protected from erosion by the barrier islands. These islands, however, experience extreme erosion and accretion levels. The erosion on the seaside is predominately a result of "northeasters" and the infrequent hurricanes. These storms cause erosion through powerful wave action and one to three foot storm surges which push the waves further onto the islands.

The following table summarizes the VIMS report by providing erosion rates for site-specific areas of the county.

TABLE 11
 SHORELINE EROSION RATES

GENERAL LOCATION (ft/yr)	SEGMENT STUDIED	LENGTH	EROSION RATE
OCCOHANNOCK	Sparrow Point	7300 ft	1 - 3(southern part) 6 (northern part)
	Battle Point	5000 ft	5
	N. of Downing Beach	7000 ft	5
	Silver Beach	7400 ft	5.7
CHURCH NECK	Shooting Point	6500 ft	2 - 3
	S. of Westerhouse Crk	4700 ft	2
	Great Neck	12000 ft	2 (southern quarter)
	Great Neck Spit	2800 ft	2 - 3
SAVAGE & OLD TOWN NECKS	Old Town Neck	6500 ft	5 - 6 (n. 1000 ft)
	Tankards/Smith Beach	13000 ft	7 - 20
	Custis Pond	9800 ft	3 + (northern third)
	Old Orchard	3300 ft	none
	Westcoat Point	3000 ft	3 +

CAPE CHARLES	Owens Landing	4400 ft	3 + (s.w. quarter) 1 - 3 (remainder)
	Cape Charles City Beach	2800 ft	1 and under
	Cape Charles Harbor	2600 ft	none
	Spoil Area	6000 ft	none
	Allegood Pond	6000 ft	3 +
KIPTOPEKE TO FISHERMAN'S IS.	Costin Pond	5000 ft	5
	S. of Elliots Creek	3400 ft	5
	Pond Drain	7800 ft	Accretion: 1-2
	Butlers Bluff	7000 ft	1 - 3
	Kiptopeke Beach	6400 ft	Accretion: 26
	Latimer Siding	5200 ft	2.5
	Wise Point	10000 ft	1 - 3
	Fisherman's Island	32000 ft	25 - 40 (west side) Accr: 15-50 (s. side)
BARRIER ISLANDS	Hog Island		Accretion: 9 (n. end) 18 (southern end)
	Cobb Island		16
	Wreck Island		34
	Ship Shoal Island		irregular
	Myrtle Island		19
	Smith Island		23

SOURCE: VIMS, Shoreline Situation Report: Northampton County, 1974

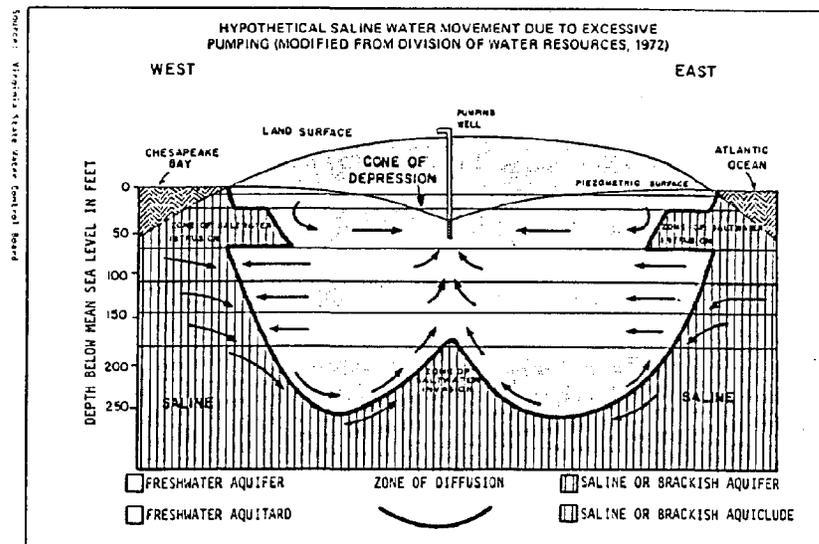
Whether the shorelines are eroding or shifting due to a combination of erosion and accretion, development along the shore will be affected. All development along all of the shorelines requires special consideration concerning setback requirements and erosion mitigation measures. Problems such as those experienced at Silver Beach and Smith Beach can be predictably repeated along the bayside. If original developers do not take these problems into account in the design of any type of development, then in time, the county may be pressured into very costly protection measures by existing owners who are faced with deteriorating property lines.

3. Groundwater Water Resources

At first glance, Northampton County appears to have an endless supply of water. Bounded by the east by the Atlantic Ocean and the west by the Chesapeake Bay and countless large and small creeks cutting in from the larger water systems. However, none of these water sources provide any potable water to Northampton County. The only source of freshwater for Northampton County is precipitation.

Precipitation in the form of rain and snow filters into the groundwater aquifers. Aquifers are most easily described as natural underground water storage areas. It is into these aquifers that wells are drilled in order to supply all of the water needs in the county. In Northampton County the two major aquifers are comprised of sand, which basically supplies the shallower domestic wells, and clay, which is tapped into by the deeper wells for industrial and municipal use.

However, the system is extremely fragile and can be upset by excessive pumping from deep water wells. When excessive pumping occurs a cone of depression develops which disrupts the natural process. The pumping draws such an huge amount of water out of the aquifer that the water level in the aquifer is reduced and the small percent of precipitation available to recharge the acquifer is insufficient. The cones of depression can cause saltwater interference in some wells. There are cones of depressions in Cape Charles, Cheriton and Oyster caused by excessive pumping. The cone of depression in Cape Charles has stabilized, but the one in Cheriton caused by KMC Foods and the ones in Oyster caused by H. Allen Smith and C & D Seafood continue to cause interference in wells. These firms have agreed to mitigation measures which should alleviate some of the problems. The following diagram shows the effects of overdrawing water resources.



The State Water Control Board estimates that there are between 29 and 78 million gallons of water per day available on the Eastern Shore with an average usage of 14.5 million gallons per day to a peak usage of 21.75 million gallons per day. This suggests that the aquifers are not over utilized at the present time. Although to prevent further cones of depressions or other contamination problems, heavy water users need to be located on the central corridor where the land is higher and the depths to the saltwater sources are greater. Smaller wells need to be located sufficiently far away from these large wells to prevent interference from the large drawdown and reduced water levels in the shallower wells.

Water quality is generally good although studies have shown some localized problems with high iron content; higher chloride levels, usually caused by salt water - fresh water interference; and some nitrate problems, caused by pollution. Usually only the shallower wells will experience these problems, especially if they are located near the cones of depression. These problems also arise in particularly wet periods when water tables rise above septic systems.

4. Utilities

There are presently three municipal water systems in Northampton County: Cape Charles, Exmore and Eastville. The largest system, Cape Charles, was built in the 1930's and serves about 1550 persons within the town limits. The well capacity is about half a million gallons per day and the use is about 144,000 gallons per day or just under 100 gallons per person per day. Exmore public water system was first installed in the 1940's and expanded in 1967. The system serves Exmore and some of the Belle Haven area or approximately 2000 people. The smallest municipal system is in Eastville and serves about 400 people. The three systems are deep wells and water is stored in elevated storage tanks. Eastville and Exmore do not have a treatment facility and do not see a need for one in the near future. Cape Charles does have a treatment facility providing iron removal and chlorination.

The three systems serve a population of about 3950 or approximately 27% of the total county population. However, water use by these systems represents only about 8.2% of the total water consumption of the county. The following table summarizes the municipal systems in Northampton County.

TABLE 12
MUNICIPAL WATER SYSTEMS IN NORTHAMPTON COUNTY

	<u>Cape Charles</u>	<u>Eastville</u>	<u>Exmore</u>
1982 Estimated Population Served	1550	400	2000
1982 Estimated Average Daily Withdrawal	144,000 gals.	36,000 gals.	122,000 gals.
Rated Daily Capacity	400,000 gals.	150,000 gals.	400,000 gals.
Storage Capacity	200,000 gals.	75,000 gals.	200,000 gals.

SOURCE: Eastern Shore Water Supply Plan - Draft, State Water Control Board 1984.

The majority of the county relies on individual well systems which are also used by industrial, commercial, institutional and agricultural consumers outside of the service areas. Average daily consumption in 1984 was 3.7 million gallons per day. On a regular basis, residential use accounts for the majority of water consumed. However, daily consumption severely rises by 90% during the peak period, May through September. These rises are caused by irrigation, increases in transient population at campgrounds and summer homes, migrant labor, increases in restaurant and motel use, seafood processing, and increases in resident consumption. The major user during this peak period is agriculture, through irrigation. The fluctuations caused by increases in water usage, especially by the seafood processors and agricultural consumers, sometimes cause short term water shortages through the lowering of water levels and higher occurrences of well interferences of saltwater and other impurities.

Cape Charles operates the only public sewage collection and treatment system in the county. The original collection system existed for over sixty years. A treatment facility was built in 1982 and in 1986 a new collection system was built. It has an expanded capacity of 500,000 gallons with a 135,000 gallon per day usage. This accounts for only 16% of the county population.

The majority of the county relies on septic tanks systems, cesspools and pit privies. A summary of the methods used in the county for wastewater disposal in the following table.

TABLE 13
RESIDENTIAL WASTEWATER DISPOSAL, 1970-1980

	Population	Public Sewer	Septic Tk. Cesspool	Other Means	Year-Round Hous. Unit
1970	14,442	778	2,657	2,031	5,466
1980	14,625	934	3,948	1,160	6,042

SOURCE: 1970, 1980 Census of Population

The high water tables and predominate soils have been cited as causes for existing and potential groundwater contamination. The following table by Betz Environmental Engineers rates the potential contamination problems by location.

TABLE 14
POTENTIAL SEPTIC TANK PROBLEM AREAS

Town or Area	Housing Density (house/10 acres)	Soil Rating (slight, moderate, severe)	Problem Potential (possible, likely very likely)
Nassawadox	15	slight to severe	likely
Eastville	10	slight	possible
Cape Charles	25	severe	very likely
Cheriton	20	severe	very likely
Exmore	25	moderate to severe	very likely
Treherneville	10	slight	possible
Silver Beach	20	slight to moderate	very likely
Oyster	15	severe	very likely
Cheapside	20	slight	likely
Townsend	10	slight	possible
Willis Wharf	15	severe	very likely
Vaucluse	15	slight	possible
Fairview	15	slight to moderate	likely

SOURCE: Betz Environmental Engineers, Inc., 1976

Their findings suggest that the housing densities in certain locations within the county are too high. By reducing the densities to approximately eight units per 10 acres, the contamination problems experienced or possible would be reduced or eradicated entirely. Since all studies seem to indicate that a county sewage treatment system would be extremely costly at this time, development regulations need to reflect the ability of the land to absorb the discharges of development using existing technology.

B. EXISTING LAND USE

Historically, Northampton County has been an agricultural community with the land and sea providing the basis of the economy. Land use patterns have reflected the economy. They still do in that cropland and woodland continues to be the predominant land use. The following table from the comprehensive plan background report is a explanation of land use patterns.

TABLE 15
EXISTING LAND USE

USE	ACRES	TOTAL LAND AREA (%)
CROPLAND	51,100	22.22
WOODLAND	35,925	15.62
SINGLE FAMILY	3,797	1.65
MULTI-FAMILY	3	0.00
COMMERCIAL	123	0.05
INDUSTRIAL	102	0.04
INSTITUTIONAL	715	0.31
HIGHWAYS/UTILITIES	2,505	1.09
TIDAL MARSH	35,000	15.22
SALTWATER BAYS/CREEKS	96,000	41.75
COASTAL BEACH	4,500	1.96
Total	229,770	100 Percent
Less Marshes, creeks and beaches	- 135,500	
Total Hard Lands	94,270	

SOURCE: NHC, Socio-Economic Data: Comprehensive Plan
Background, 1985

What is interesting to note from the information above is the actual percentage of hard land that is actually developed. If the marshlands, bays and creeks and beaches are subtracted from the total acreage (229,770-135,500 = 94,270 total hard lands), only 7245 acres are actually developed. This is only 7.7% of the total hard land acreage. Of this 7245 acres, almost 35% is for roads and utilities and 52% involves residential development. Non-agricultural, economic development, i.e. industry, commercial, and institutional uses account for only 13% of existing development.

This information is alarming in that the development pressures currently experienced by the County are only the tip of a huge potential iceberg. Ninety-two percent of the total hard lands of the Northampton County can be viewed as potential development.

The county has recorded 745 parcels of land of 25 acres or more. Of these parcels 169 are owned by out-of-county residents. Table 16 shows the number of parcels by size for each of the county's districts: Capeville, Eastville and Franktown.

TABLE 16
SIZE AND LOCATION OF LARGE PARCELS, 1988

ACRES	TOTAL PARCELS	CAPEVILLE	EASTVILLE	FRANKTOWN
25 THRU 49	231	79	79	73
50 THRU 99	248	46	114	88
100 THRU 199	190	45	96	49
200 THRU 499	63	15	32	16
500 THRU 999	9	0	6	3
1000 AND OVER	4	2	1	1
TOTALS	745	187	328	230

SOURCE: Northampton County Tax Records and PMA analysis

The following table shows the current land use of the large parcels for each district. Overall, 95% of these parcels are in agricultural land use categories.

TABLE 17
LAND USE OF LARGE PARCELS, 1988

LAND USE	TOTAL PARCELS	CAPEVILLE	EASTVILLE	FRANKTOWN
SF RES SUBURB	30	1	4	25
COMMERC/INDUST	4	3	1	0
AGRIC 20-99 ACRES	457	116	193	148
AGRIC 100+ ACRES	251	61	130	60
NOT RECORDED	3	0	0	3
TOTALS	745	181	328	236

SOURCE: Northampton County Tax Records and PMA analysis

Both tables show that the Eastville District contains the largest number of large parcels of land, whereas Capeville has the smallest numbers of parcels. These large parcels of land are targets for agricultural conversion and subdivision development.

C. SUBDIVISION GROWTH

Prior to the 1970's, when agriculture was a stronger economic sector nationwide, only about 14 subdivisions were recorded in a decade in Northampton County. Average lot sizes in those subdivisions were less than a half acre. During the 1970's, as agriculture became increasingly less profitable, 81 subdivisions were recorded and the average lot size rose to about 1.25 acres. With a year and a half still to go in the 1980's, 80 subdivisions have been listed (69 recorded, 11 approved, 6 pending and 1 preliminary) and the average lot size is approaching two acres (1.9 acres). Table 18 shows these trends for five decades.

TABLE 18
SUMMARY OF SUBDIVISIONS, PAST 50 YEARS

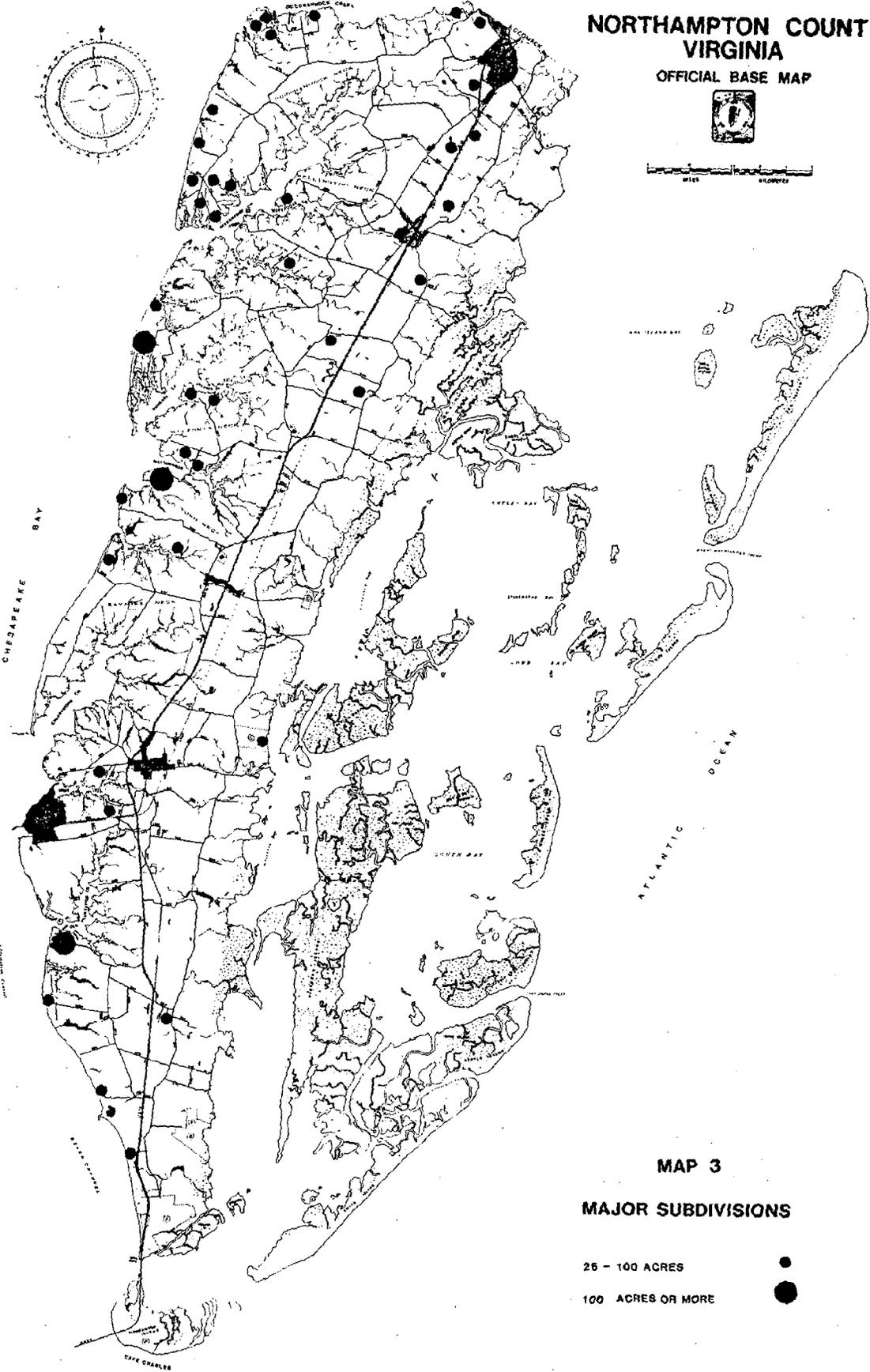
DATE	NUMBER OF SUBDIVISIONS	ACRES	LOTS	AVERAGE LOT SIZE	AVERAGE LOT SIZE ADJ. FOR SUBD. SIZE
1940'S	14	132.00	353	0.37	0.34
1950'S	14	262.00	614	0.43	0.41
1960'S	13	132.00	329	0.40	0.37
1970'S	81	1338.32	1057	1.27	1.18
1980'S	80	1836.75	952	1.93	1.90
TOTALS	202	3701.07	3305		

Since 1939, Northampton County has recorded 184 separate subdivisions. This total does not include 18 subdivisions in the process of becoming recorded at the time of the beginning of the study. The map on the following page gives the location of the major subdivisions within the county. A listing of the latest subdivisions can be found in Appendix A. This listing gives the name of the subdivision, the approximate total acreage, the approximate number of lots, the approximate size of the lots, and the date recorded.

The total acreage of subdivisions for the past fifty years is 3,701 with an approximate total of 3,305 lots. Prior to the mid-1970's, few subdivision lots were over one acre. Since 1976, most lots have tended to be over an acre. For purposes of analyzing where recent subdivisions are occurring, the county was hypothetically divided lengthwise into three corridors. Corridor 1 stretches along the Chesapeake Bay. Corridor 2 is bisected by Rte. 13 and Corridor 3 extends along the ocean side of the county. If we look at the most recent years, it is apparent that most of the subdivided acreage is in Corridor 1 (see table on SUBDIVISIONS, 1980's, in the appendix.) For the last 10 years, 1979-1988, Corridor 1 near the Bay contained 59% of the subdivisions but over 80% of the acreage and lots in the subdivisions. Corridor 2, the most inland part of the county, contains most of the remaining subdivisions. Only 4 subdivisions containing less than 2% of the lots or acreage were located in Corridor 3 on the Ocean side of the county.

NORTHAMPTON COUNTY VIRGINIA

OFFICIAL BASE MAP



MAP 3

MAJOR SUBDIVISIONS

25 - 100 ACRES

100 ACRES OR MORE

PM PLANNING
MANAGEMENT
ASSOCIATES

10231 Warwick Blvd. Newport News, VA 23601

A description of a typical subdivision recorded in the 1980's in Northampton County could be described as follows:

LOCATION:	BAYSIDE CORRIDOR
TOTAL ACRES:	under 5 acres
TOTAL LOTS:	under 5 lots
ACCESS:	private road
LOT SIZE:	almost 2 acres per lot

These smaller subdivisions are more scattered throughout the county and tend to pose a smaller and more evenly divided impact on natural resources than the huge corporate resort communities that are recently being proposed.

IV. PLANNING ANALYSIS AREAS

Northampton County is in many ways a very diverse environment. The county cannot be simply evaluated in any uniform fashion. There are very distinct regions within the county that offer very divergent opportunities for development and yet possess very divergent land use problems as well.

The bayside coast includes not only the land fronting on the Chesapeake Bay, it also includes five large creek drainage areas: Occohannock Creek, Nassawadox Creek, Hungars Creek, Cherrystone Inlet and Old Plantation Creek. These drainage areas all have things in common, but also have unique features worthy of note and recognition. Different development pressures are experienced in the different regions. However, the areas possess natural land features that require consideration when developing land use regulations. These problems and opportunities appear to have been disregarded at times by development. This coast also is the primary target for new legislation for the protection of the Chesapeake Bay. This has caused a great deal of speculation in the area as well as a rush for subdividing large parcels in anticipation of greater land use restrictions.

The development corridor is the high ground between the 25 foot contour lines between the bayside and seaside. Within this corridor virtually all the development has taken place: all of the major towns and most of the smaller towns and villages, the major roads and the railroad. While it would not be accurate to call all of the area "urban", it is the area where much development is occurring that could be defined as urban in nature--such as the towns cited in the Comprehensive Plan as areas of concentrated growth where water and sewer facilities would be expanded where not already available.

The region along the seaside falls noticeably down from the 25 foot contour line to the wet water mark. This area has not developed as much as the bayside. There are small subdivisions and water oriented industries and farmlands.

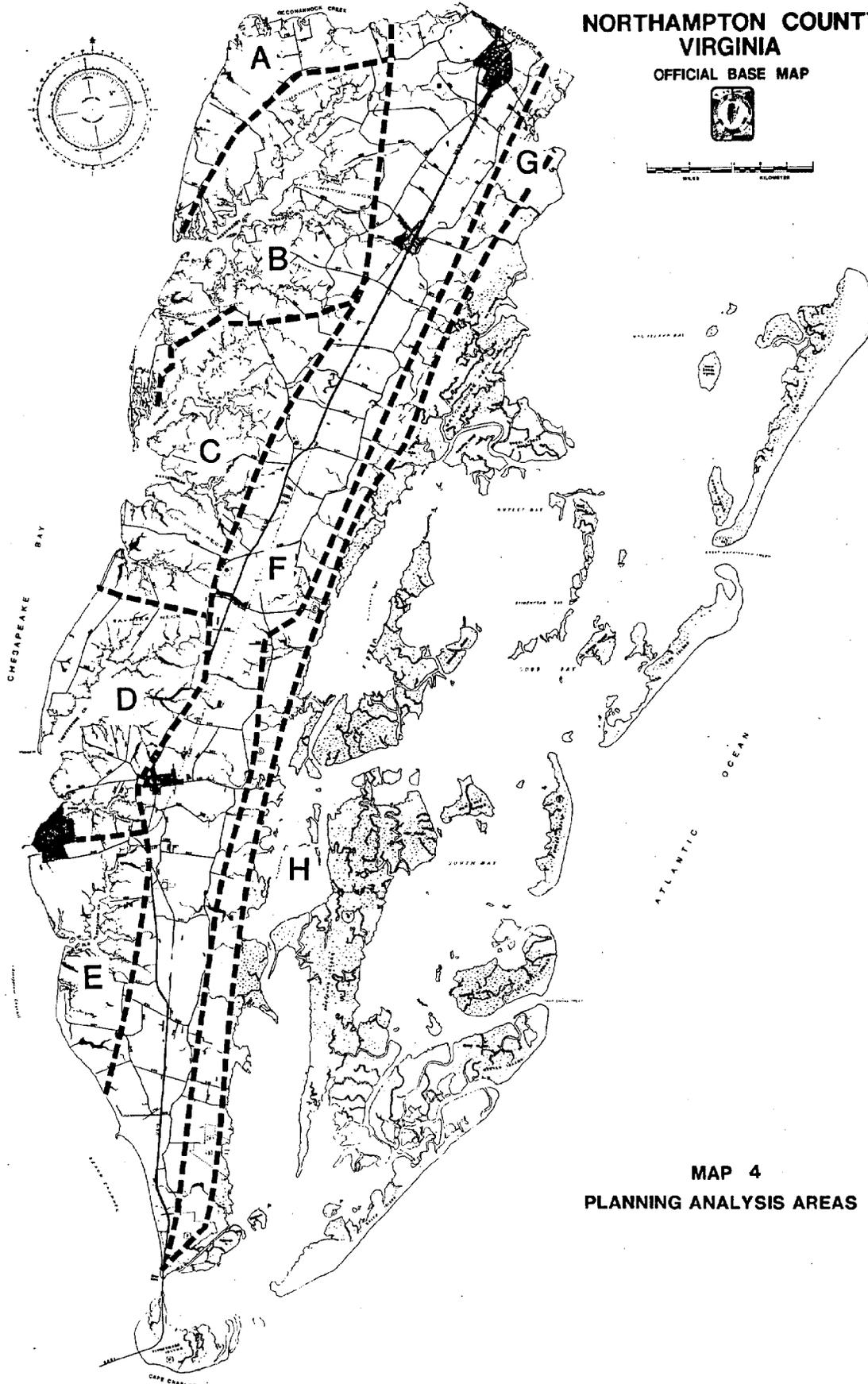
The final area evaluated is the wetlands and lands of the Barrier Islands. This area is for the most part under the ownership of state and federal conservation agencies, who are attempting to protect one of the most environmentally important regions of the entire United States. This area might appear to be secure from overdevelopment. However, development that occurs on the entire peninsula affects these fragile conservation and wildlife areas. It is possible that because of poor planning and land use controls on lands adjacent to conservation areas, the ability of the conservation agencies and land and wildlife projects to fulfill their missions would be totally negated. For this reason, this region is an important area for analysis.

The following section identifies the major regions of the County and discusses land use concerns, such as drainage, elevation, flooding, erosion, existing development patterns, development pressures and initial issues observed.

The map on the following page illustrates the different Planning Analysis Areas to be discussed.

NORTHAMPTON COUNTY VIRGINIA

OFFICIAL BASE MAP



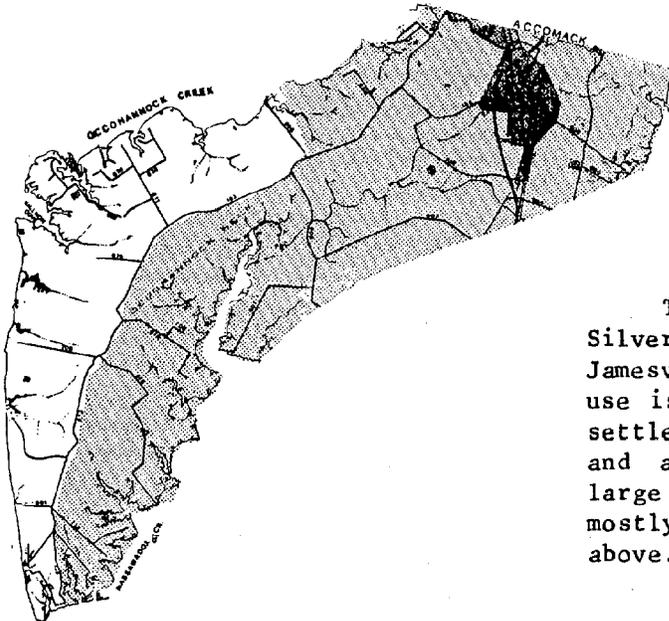
**MAP 4
PLANNING ANALYSIS AREAS**

PMAC PLANNING
MANAGEMENT
ASSOCIATES

10227 Wilmers Blvd. Norfolk, Va. 23501

A. OCCOHANNOCK CREEK BASIN AREA

1. General Description:



The Occohannock Creek Basin is an area in the northern end of the County bounded to the north by the Occohannock Creek, to the east by the Chesapeake Bay, to the south by routes 183/613 and to the west by the Town of Exmore.

The area is zoned primarily A/R with Silver Beach, Old Neck, Wardtown and Jamesville zoned R-20. Predominant land use is agriculture with some residential settlements along the Creek, on Route 183 and at Silver Beach. There are some large commercial farms active along 183- mostly along highlands at 20 feet or above.

2. Drainage, Elevations and Flood Zones:

The delineated area drains north into Occohannock Creek and its tributaries.

Routes 183/613 are situated on high ground (20 - 30 ft.) out towards Jamesville, then the roads drops down gradually to Silver Beach. Along all the coastal and tributary areas the land is very low, mostly under 10 feet, and falls in Flood Zone A category (100 year flood zone). This Flood Zone A covers over 800 feet on both sides of some of the creek beds in the Occohannock Creek Area and includes the entire area from Johnson's Cove to Battle Point, over 1500 feet back from the Bay.

3. Erosion:

Most of the bay side waterfront lands in the Occohannock Neck experience severe erosion. The five mile stretch of the Neck facing the bay experiences five to six feet of erosion per year. Silver Beach is eroding at a rate of 5.7 feet per year. Already in recent history one road and one and a half rows of housing have disappeared due to erosion over the past 45 years. Another road (the main access road) and the other half of the row of housing are threatened now. Sparrow Point has experienced up to 12 feet of erosion per year at the top end of the point to 6 feet of erosion in other areas. The land facing Occohannock Creek experiences 5 to 6 feet of erosion at Old Neck, but further up the Creek experiences little erosion.

4. Existing Development Patterns:

4. Existing Development Patterns:

The major existing communities in this area include Silver Beach on the Bayside, Wardtown and Jamesville on Route 183, and Old Neck on Occohannock Creek. Silver Beach consists of over 100 small cottages once used as vacation cottages on leased land. The property has now been subdivided into a couple of hundred small lots, most of which cannot be developed because of current land use regulations. Of the existing housing over 60 are owned as permanent places and are used for residences most of year.

The 1980 Census showed that approximately 346 people lived in the Occohannock Creek Area, mostly in Jamesville or Silver Beach. The only incorporated town in the area is Exmore which borders on the east.

5. Development Pressures:

All of the areas offering water access are facing very strong development pressure especially along the major inlets and property on the Bay waterfront. A large part of the area is already saturated with subdivision activity although very little land has been actually developed. The new subdivisions being plated or developed are located primarily in Flood Zone A and are under 8 feet elevation.

New development includes Kirkwood's large PUD (674 acres) south of Battle Point which includes a large area in Flood Zone A with elevations at around or below 10 feet and which is experiencing an average erosion rate of 5 feet per year. Drainage problems in the PUD are evident from the amount of standing water observed in ditches and on lots. The proposed development includes 950 housing units on 263.6 acres.

Other potential areas for development include the already subdivided areas around Old Neck between Killmon Creek and Concord's Wharf. Although smaller in scale than the Peaceful Beach PUD, there are a large number of subdivisions with less apparent attention to drainage, circulation and pollution problems.

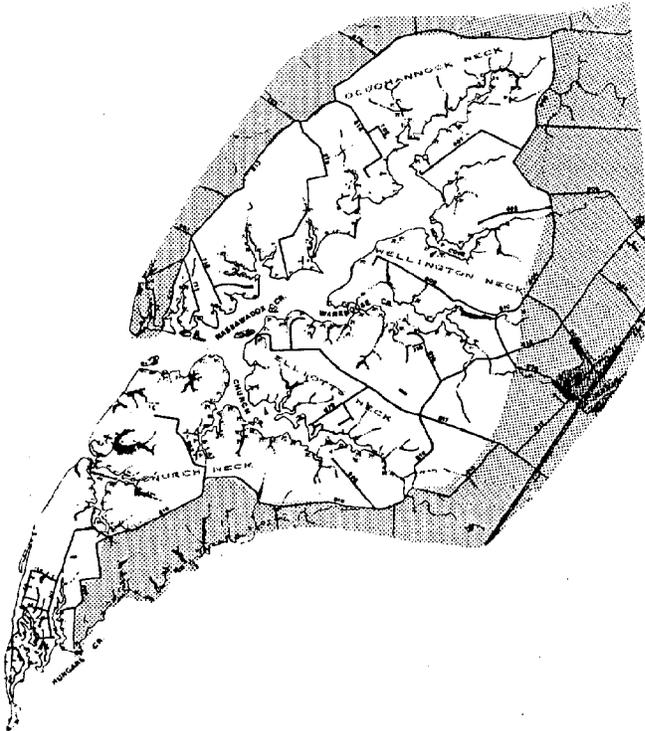
6. Issues:

- * Major development, potential and actual, is occurring in Flood Zones and areas with extremely high water tables which lack adequate drainage.
- * Given the soil conditions, there may be an over optimistic view of the development capabilities of the area.
- * Almost the entire shoreline is facing critical erosion problems which will only be exacerbated by excessive development. People are attracted to the area because it does provide some sandy beach areas (as compared with the seaside which is mostly marshland). However without appropriate land use

regulations to protect property from erosion combined with appropriate erosion mitigation measures by the developers, the area may prove to be a costly investment. Unfortunately some of the mitigation measures necessary to control the erosion (e.g. rip rap) may reduce the amount of open sandy beach area and therefore reduce the attractiveness of the area for beach uses.

- * The amount of development being proposed for the area may contribute negatively to the environmental conditions of the Bay and may be in serious conflict with the goals and objectives to be realized by the recent Chesapeake Bay Agreement and legislation.
- * At present there does not appear to be extensive conversion threats where farms do not offer access to water. However, since waterfront property also requires road access, as development occurs along the waterfront, the access areas will probably also experience pressures to sell and convert the farmlands to other uses.

B. NASSAWADOX CREEK AREA



1. General Description:

The Nassawadox Creek area is south of the Occohannock Creek and is bounded on the north by Routes 183/613, to the east by Routes 606 and 619, to the south by Route 619 and to the west by the Chesapeake Bay. The Nassawadox Creek area is a complex system of a series of creeks and inlets, the major ones include: Warehouse Creek, Church Creek and Holly Grove Cove which flow into the Nassawadox Creek and Westerhouse Creek which flows into the bay south of Nassawadox Creek.

Most of the area is zoned A/R with the area around Franktown and Vaucluse zoned A20. The region is used mostly for agriculture with some large active farms. Sparsely populated residential areas can be found around the creeks.

2. Drainage, Elevations, and Flood Zones:

The land areas form fingers reaching out to the bayside in between the creek system. Roads (e.g. Routes 619, 617, 610) have been built along the highest ridge in the fingers. The area tends to drain from these ridges to the creeks on both sides of the roads.

Elevations below 10 feet are largely confined to the creek boundaries. All areas around the creeks, inlets and tributaries are in Flood Zone A which can expect high to moderate degrees of flooding. High flood hazards are particularly experienced at Great Neck Spit.

3. Erosion:

Erosion is a problem faced by all areas facing the Chesapeake Bay. The areas along Church Neck have moderate erosion problems (1 - 3 feet per year), but have been considered non-critical due to the lack of housing and other structures.

Erosion rates for the bayside are between 2 and 3 feet per year with the highest erosion problems experienced at Great Neck Spit and Shooting Point. The lands along the creeks are experiencing little to no erosion problems.

4. Existing Development Patterns:

Existing development consists largely of independently built homes of county residents with some housing clusters along the creeks. Most roads have one or two houses at the end. Route 614 has a strip of FHA housing. The largest existing subdivision in the area is Vaucluse at the end of Route 619 which by 1976 had all of its original 300 lots sold, although little actual development occurred. Recently, however, the area has begun to be developed by the owners of the lots for year-round and second homes.

5. Development Pressures:

The area has not undergone the large amount of subdividing that Occohannock Creek area has undergone in the past five years. However given the large number of creeks and inlets and the amount of accessible waterways, it can be but a matter of time before this area is targeted for development.

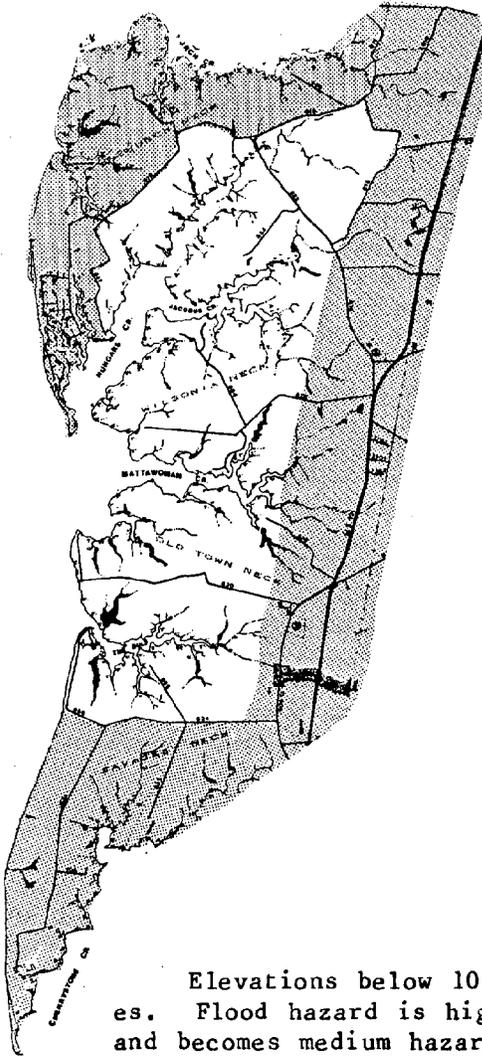
Also, there are large amounts of active farmland in area. This land is located along main roads but not in water access areas. Some of these, where linkage to water courses are possible, are prime targets for conversion to resort development and related uses.

6. Issues:

- * As mentioned above, the farmlands are possible targets for conversion to other uses once the area along the creeks have been identified for residential and recreational development.
- * The area is relatively undeveloped and is in an opportune position to be regulated against development which negatively affects the wetlands and Chesapeake Bay. In other words, there is not as much damage here to "un-do" as there is in other areas of the County.
- * The 30-50 smaller inlets or fringes branching off from the main creeks provide opportunity for waterfront development. The flood zones are confined to creek areas making this area ideal for water front development on a large scale.
- * Although the erosion problems are moderate along the bayside and considered non-critical because of the absence of development, as this area becomes more developed, these problems will be upgraded to critical and will benefit from appropriate land use regulations.

C. HUNGARS CREEK/MATTAWOMAN CREEK/THE GULF AREA

1. General Description:



This area is bounded on the north by Route 619, to the east by the 25 foot contour line, to the south by Routes 634 and 606 and to the west by the Chesapeake Bay. Like the Nassawadox Creek Area, this region is made up of a complex waterway system comprised of three major creeks, Hungars Creek, Mattawoman Creek and The Gulf. Hungars Creek, Mattawoman Creek and their respective minor creeks merge into a single inlet located about 5 miles north of The Gulf.

Almost the entire region is zone A/R except for the area around Silver Beach which is zoned A20. The area is used almost exclusively for agriculture with some isolated scattered housing along some of the creeks and at the ends of some of the roads.

2. Drainage, Elevation, and Flood Zones:

As with most of the bayside areas, roads have been located on the higher central ridges of the fingers of land and include Routes 623, 628, 630 and 634. These central ridges are under 20 feet in most of this area. The area drains from these ridges towards the creeks.

Elevations below 10 feet are confined to creeks and creek branches. Flood hazard is high around the Hungars Creek and The Gulf inlets and becomes medium hazard in creek areas, which are mostly affected by storm surges from the Bay. Flood lines do not extend back into land areas sufficient to limit development except in areas of upper reaches of the creeks.

3. Erosion:

This district is relatively free from serious erosion except in Old Town Neck and Smith Beach. The erosion in northern most sections in Old Town Neck is severe and critical and averages 5 -7 feet per year. Approximately 700 feet at the end of the spit eroded away in the 27 years between 1943 and 1967.

One of the most serious areas of erosion in Northampton County is along the bay between Smith Beach and Tankards Beach. This segment of land averages between 7 and 20 feet of erosion each year. This erosion rate is critical for the developed areas at Smith Beach.

4. Existing Development Patterns:

The area around Vaucluse and Bridgetown in the northern section of this region, and Smith Beach at southern end are the only major development clusters. Smith Beach, like Silver Beach, is an older cottage community made up of retirement homes and vacation cottages. There are a few other randomly located subdivisions of 10-25 lots on creeks, but the creeks are mostly undeveloped. Some historic and private homes are located at road ends. Active farms are found on the higher ground near the roads.

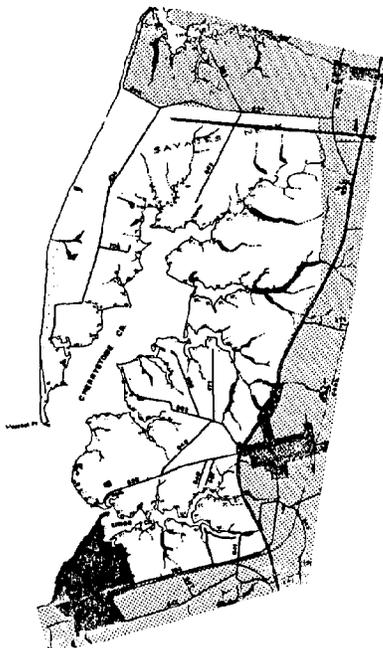
5. Development Pressures:

The region is not currently experiencing subdivision and development pressures found in other regions of the County. The lack of beaches around the creeks may make this area less attractive initially to development. However, where navigable water access is available, there is the potential for some type of retirement or second home development. Once this development begins to occur, the farms will become vulnerable to conversion.

6. Issues:

- * The creeks in this water system contain a valuable oyster producing environment. Development of any kind must be planned cautiously in order not to destroy this fragile environment.
- * The eroding shoreline, especially in Old Town Neck and along the Smith Beach/Tankards Beach section require development regulations that protect both property and shoreline.
- * Farmlands offering water and road access will become susceptible to land use conversions.
- * An issue to be repeated for the entire County involves the overdevelopment of the areas fronting on water. The private purchase and development of all the beach areas restricts public access for County residents. Additionally, the practice of narrow front lot design in order to offer more waterfront lots in subdivisions increases the pollution problems in the Bay which recent legislation is attempting to reduce.

D. CHERRYSTONE INLET AREA



1. General Description:

This district includes areas draining into Cherrystone Inlet from Route 634/606 to the north to Route 184 leading into Cape Charles to the south. The eastern limits are primarily defined by Route 13 or the 25 foot contour shelf with the Chesapeake Bay making up the western boundary. Cherrystone Inlet and King's Creek are the two primary tributaries into the Bay.

The district contains R-20 zoning in the Route 639 - Route 640 and Mill Creek triangle and in the upper parts of King's Creek to Route 184 and Route 13. The remaining portions of the district are zoned A/R.

2. Drainage, Elevation and Flood Zones:

Due to the primary dune system found on Savage Neck, this area tends to drain towards the Inlet even though it is located on the Bay. Most of the district drains into the Cherrystone Inlet or its tributary creeks.

This area is generally lower in elevation than the upper areas; almost all of the district falls below the 15 foot contour with large portions of the waterfront below 10 feet, particularly along Cherrystone Creek and its tributary creeks. Because of the lack of elevation, large portions of this district face high flood hazards. The areas past Tankards Beach to the end of Savage Neck are in Flood Zone A. In some of these areas as much as 2,000 to 5,000 feet on all sides of the inlet are in this high risk flood zone. The risk is lowered to medium in the upper half of Cherrystone Inlet.

3. Erosion:

Sections of this district experience severe erosion problems. From Smith Beach to Custis Pond erosion rates vary between 7 and 20 feet per year. From Custis Pond to Remus Creek, the north third of the area has over 3 feet of erosion per year with the lower two-thirds having almost no erosion problems. The spit between Old Orchard and Westcoat Point lost 3900 feet of land in the years between 1959 and 1972. Although this figure suggests a 300 foot per year erosion rate, VIMS reports indicate that it is more likely that most of the erosion occurred in a few severe storms rather than yearly, with a more typical erosion rate over 3 feet per year.

4. Existing Development Patterns:

The Town of Cape Charles is the major development center of the area. Serviced both by water and rail, the Cape Charles Harbor offers a shipping terminal for the county. There is some development starting to occur in the areas surrounding Cape Charles.

Cherrystone Campground (700+ sites) has been established for several years. The campgrounds draw between 30,000 - 35,000 visitors to the County each year.

The remaining parts of the district are sparsely populated with farms and historic homes. Most existing development is found around Route 639/640.

5. Development Pressures:

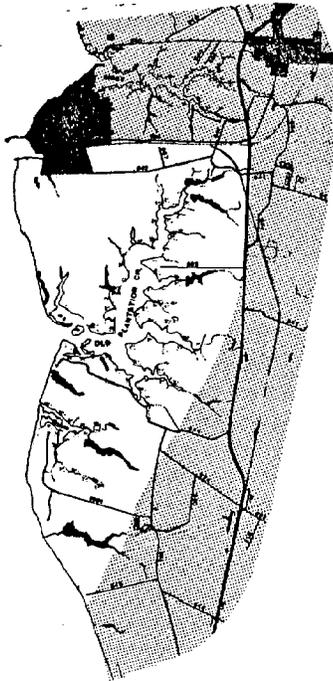
The areas around Cape Charles can continue to expect development pressures given the growth and attraction to Cape Charles. Although the highland along roads is still being farmed, conflict between development and farming will continue as the area responds to the resort market. One response to the resort and tourism market is the proposed State beach at the end of Savage Neck. Given the erosion problems and existence of the primary dune system, this may be the most environmentally sensitive development proposed for the area.

6. Issues:

- * In some areas tidal flats block passage into some of the creeks, thus limiting the potential for water-oriented resort development.
- * However, other areas, especially around the primary dunes along Savage Neck and Cherrystone Inlet and King's Creek, may pressure farms into conversion to resort or residential development.
- * In addition to other shoreline erosion problems cited, this area has an important environmental feature - sand dunes along parts of Savage Neck. One subdivision has already been started in a dune area in another part of the county which will present problems of continuous wind erosion for portions of the dunes disturbed by road grading. This environmentally fragile system needs to be protected from developmental disturbance.
- * It has been suggested as one of several areas for development as a state park. An extension of this park north could encompass the primary dune system and protect it from development.
- * The areas around the Inlet and creeks can expect considerable development pressures. Over development of the creek areas may negatively impact on the Chesapeake Bay.

E. OLD PLANTATION CREEK AREA

1. General Description:



This district includes areas draining into Old Planation Creek from Route 184 leading into Cape Charles to the north. With Route 13 and the 25 foot contour shelf defining the eastern and southern (to Picketts Harbor) limits and the Chesapeake Bay making up the western boundary. The major waterways in the district include Old Plantation Creek, Elliots Creek and Pond Drain.

The area south of Cape Charles to just north of Allegood Pond is a Planned Industrial zone (PI) with a small Industrial General (IG) zone in the northern-most section off of Route 184. The district contains R-20 zoning around Route 184. The remaining portions of the district are zoned A/R.

2. Drainage, Elevation and Flood Zones:

Most of this district lies very low - not much of the land is above 15 feet except for the dune areas south of Elliots Creek. Almost all of the land around Costin Pond is below 10 feet. This area tends to drain towards the bay or creeks. The area around the dunes drains towards Elliots Creek away from the Bay since the dunes are over 50 feet in some places.

Because of the lack of elevation, large portions of this district face high flood hazards. From Allegood Pond to just past Elliots Creek is a Flood Zone A area. In some areas, as much as 1,500 to 2,500 feet on all sides of the inlet are in this high risk flood zone. The flood risks are high around all of the water edges and drop to medium past the edges.

3. Erosion:

The areas around Old Plantation Creek are fairly stable. However, other sections of this district experience severe erosion problems. Around Allegood Pond the erosion rate is 3 feet per year. From Costin Pond to Elliots Creek the rate is severe - about 5 feet per year. The

rate becomes moderate (1 - 3 feet per year) south of Pond Drain. The area around Pond Drain experiences an accretion rate of 1 - 2 feet per year, while the area just north of Picketts Harbor experiences an erosion rate between 1 to 3 feet per year.

4. Existing Development Patterns:

Cape Charles Harbor provides the focus of the majority of existing development, mostly involving harbor-related industrial and commercial development. The rest of this area involves scattered housing on creeks at the ends of roads.

5. Development Pressures:

The areas around Cape Charles can continue to expect industrial and commercial development pressures. Residential development is beginning to occur in several areas. Three major subdivisions are in the early stages of development. Bayview and Edgewater subdivisions on Hunts Wharf are to be golf communities on approximately 300 acres with about 750 single family units. This will be tied into Chesapeake Shores on Old Plantation Creek, which is also about 300 acres of single family housing. To the north of Pond Drain, Bayridge is planned to be a large lot development of about 100 single family homes. This site is one of four evaluated as a possible state park. This subdivision is mostly undeveloped, although the swimming pool has been built and one access road has been cut into one of the primary dunes. The Picketts Harbor area is not yet faced with development pressures, although it most likely will in the not too distant future.

Because of the wide beaches, the areas north of Allegood Pond and around Pond Drain would provide excellent public recreation areas.

6. Issues:

- * The dune system in this area has already experienced developmental penetration which may cause permanent damage to the fragile environmental structures. The system needs to be safeguarded in such a way as to allow for development without harming the dune system.
- * VIMS reports (1974) have suggested that the areas around Costin Pond and Elliots Creek have low future potential use because of the high risk of flooding and severe erosion rates which would necessitate very expensive erosion mitigation measures. Yet, this is the very area being developed into large subdivisions.
- * The areas around the Inlet and creeks can expect considerable development pressures. Over development of the creek areas may negatively impact on the Chesapeake Bay.

F. CENTRAL CORRIDOR AREA

1. General Description:

Through the center of the County, from Accomack County to Kiptopeke, a long rectangular shelf is formed by the 25 foot contour line. Within this shelf, most of the high grounds of the county are located. This includes the areas within U.S. Route 13, Route 600 (old U.S. 13), all incorporated towns except Cape Charles and most of the unincorporated village communities. (Map on the following page.)

Zoning in this long section is mixed. The areas around the villages are mostly zoned residential with a mixture of industrial and commercial zones around Exmore and Bayside/Fairview. Other commercial zones are dotted along U.S. 13. The remaining areas are mostly zoned A/R.

2. Drainage, Elevation and Flood Zones:

The 25 foot contour line forms a rectangular pattern on both sides of the peninsula. This shelf is very pronounced along the eastern edge of the County on most roads leading off of Route 600. The land within this corridor ranges in elevation from 25 feet to a little over 40 feet, except along the bluffs south of Picketts Harbor which may be as high as 55 feet.

The area drains to both sides of the shelf, except for the area on the bayside from Picketts Harbor south which drains seaside because of the high bluffs along the bay.

Because of the high shelf, very little of the corridor is in serious risk of flooding.

3. Erosion:

The southern-most tip between Butlers Bluff and Kiptopeke is the only section of the corridor with water frontage. Butlers Bluff and Latimer Siding experience moderate to low erosion (0 - 3 feet). Kiptopeke Beach has an accretion rate of 26 feet per year around the pier dropping off on both sides of the pier.

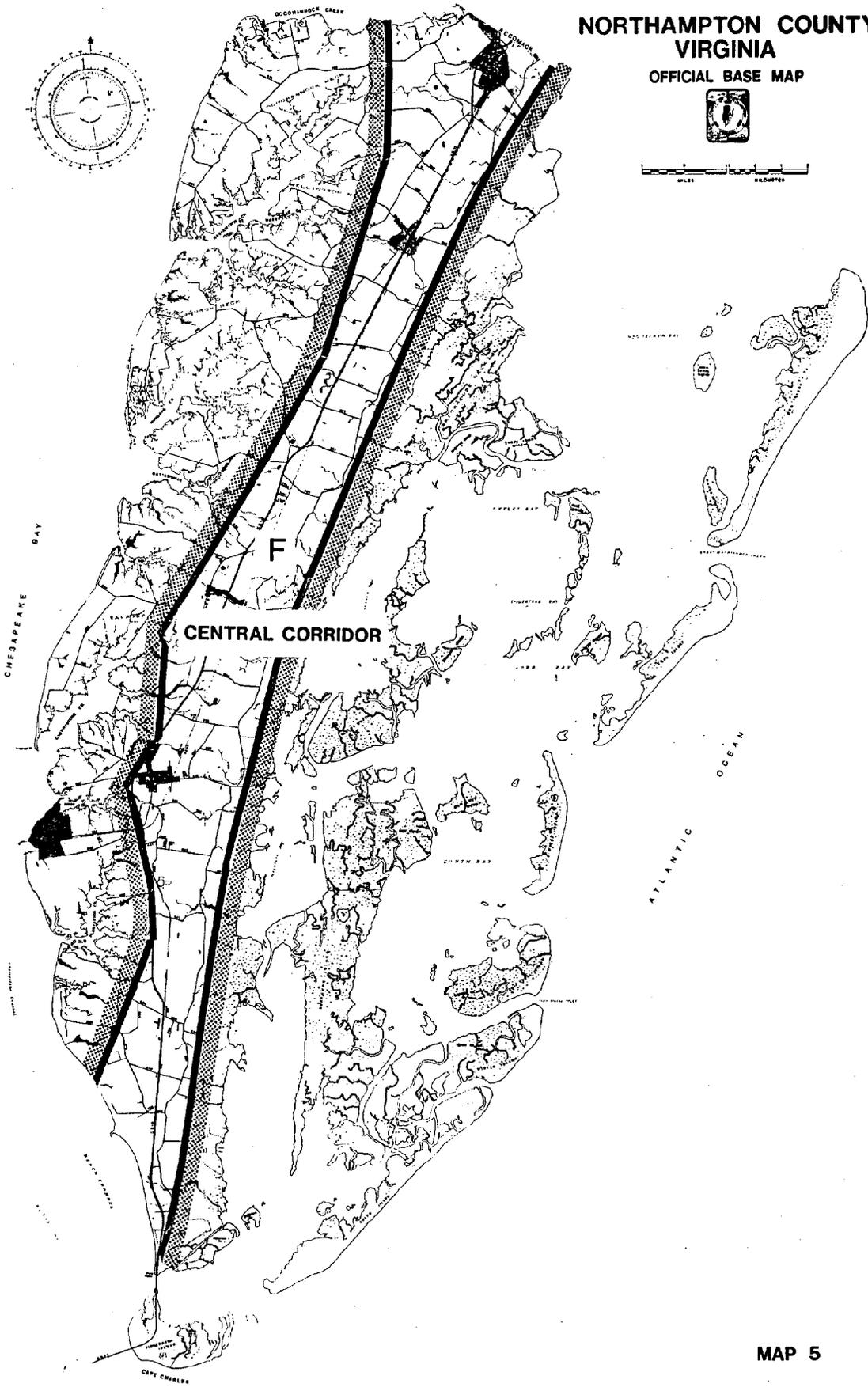
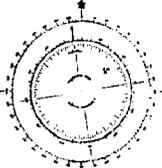
4. Existing Development Patterns:

Most of the development and population of Northampton County lies within this corridor. It is a mixture of towns, villages, spot commercial development, industry, agriculture, aquaculture and other uses. Residential development consists of small subdivisions, mobile homes, and single isolated single homes. Mobile home parks are common and strip housing and subdivisions can be found intermittently on the roads connecting U.S. 13 and Route 600.

Major towns or village areas include: Belle Haven, Exmore, Franktown and Nassawadox to the north; Treherneville, Martin Siding and Eastville in the central part of the corridor; and Cheriton, Cheapside and Capeville in the southern section.

NORTHAMPTON COUNTY VIRGINIA

OFFICIAL BASE MAP



MAP 5

PM PLANNING
MANAGEMENT
ASSOCIATES

10227 Warwick Blvd Newport News Va 23601

The area does contain farms and farm-related services located between villages and along U.S. 13.

5. Development Pressures:

The development pressures in the northern section of the corridor appear to be of a commercial nature - with two shopping centers proposed for the near future locating almost across from one another.

The development pressures in the southern section are waterfront residential subdivisions along the bluffs. One subdivision covers 1100 acres, including bluffs and primary dunes near Butlers Bluff. An existing subdivision would become a major campground at Kiptopeke Beach.

The development pressures throughout the corridor will consist of tendency towards strip commercial and residential development around existing villages and towns and along U.S. 13.

6. Issues:

- * Farmlands along U.S. 13 will continue to face conversion pressures for non-farm development.
- * U.S. 13 will continue to attract commercial and other development.
- * Expansion around the towns will lead to expanded water and sewer needs.
- * The character of the County will be altered if strip development occurs along U.S. 13.
- * Over development of U.S. 13 will slow down traffic movement if direct access is not regulated in some manner.

G. SEASIDE CORRIDOR

1. General Description:

This district runs the entire length of the County from the Accomack County line to Cape Charles. This consists of the land lying between the Central Corridor and the marshlands of the Barrier Islands. It consists of a strip ranging in width from 1/2 to 2 miles. The western boundary is formed by a shelf marked approximately by the 25 foot contour line. Although the area is considered seaside, the sea is relatively difficult to observe from the land due to the extensive marshlands and Barrier Islands. (Map is on the following page.)

The district is zoned A/R except for the towns of Oyster, Willis Wharf and Magotha which are R-20 zoning. Oyster and Willis Wharf also have Commercial Waterfront (CW) zones.

2. Drainage, Elevations and Flood Zones:

While the western boundary of this district is marked by the 25 foot contour area, the land drops off very rapidly as one moves to the east. This reduces the available high ground to a narrow strip, almost all of which is under 25 feet. Most of the district is below 10 feet. Oyster, for example, is between the 5 and 10 foot contour lines. This makes the area particularly susceptible to flooding. The entire length of the district is in Flood Zone A from between 1,000 to 7,000 feet back from the shoreline. Most of the development in this corridor is found within this high risk flood zone. The area drains seaward and into the small inlets.

3. Erosion:

The erosion rates for the entire seaside corridor are slight to none.

4. Existing Development Patterns:

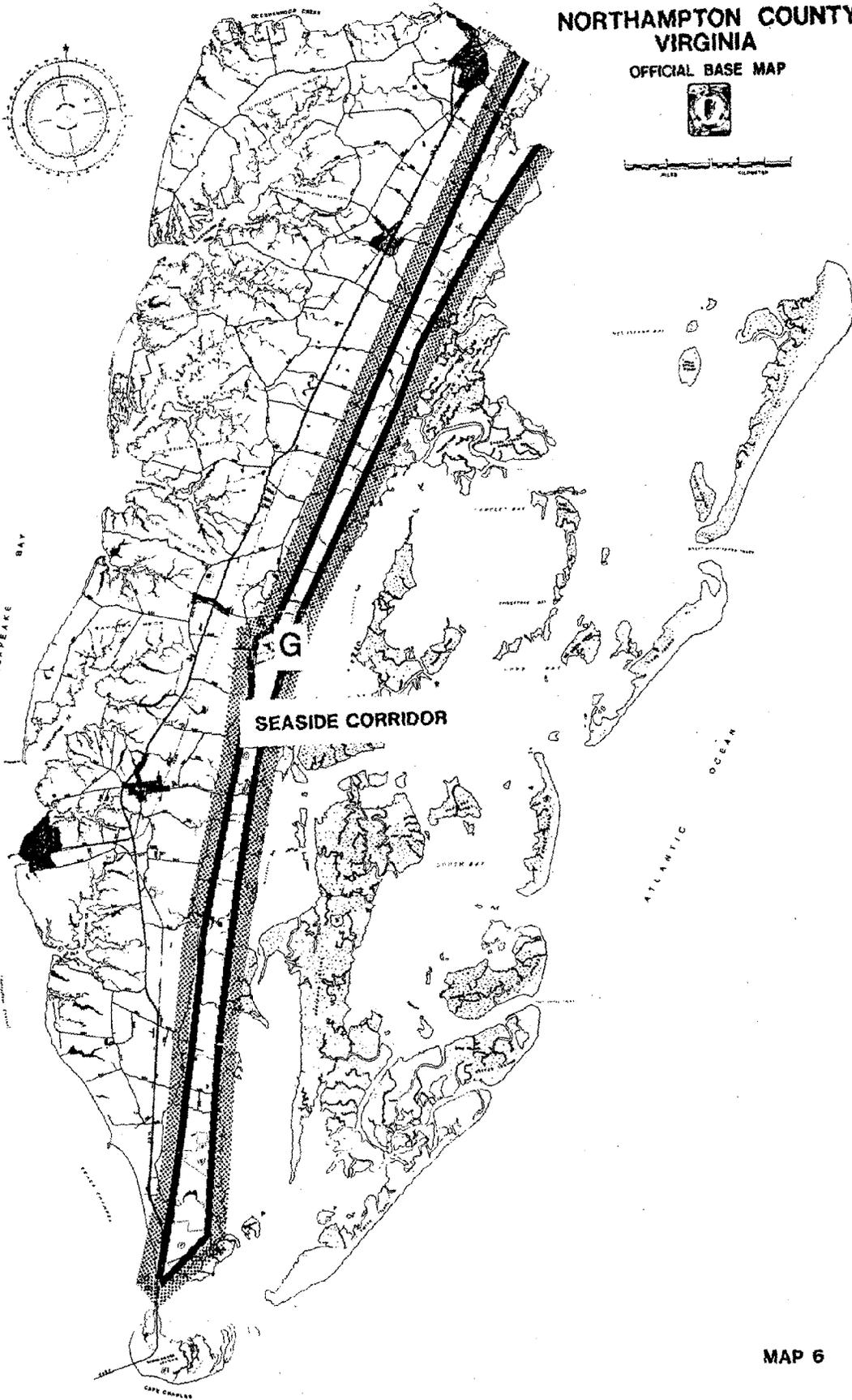
Existing development within this area is limited to several older fishing villages (Oyster, Magotha and Willis Wharf), the old Air Force Station and a scattering of small subdivisions or mobile home parks (approximately 50% of the homes in the area are estimated to be mobile homes). Individual houses may be found along existing roads. Most of the few inlets to the ocean are occupied by private fishing facilities.

There are several smaller active farms within the strip but limitations on land and low elevation make the area not practical for major farms. Conversions to commercial green houses and related are examples of uses well suited for this area.

Large parcels in this area are being purchased by the Nature Conservancy as part of the Virginia Coast Reserve, including a 1400 acre farm at Brownville for its headquarters. In addition, the County owns a 60 acre tract at Indian Town Neck and 50 acres at Cape Charles which is in the process of becoming a county recreational facility. The County also owns boat docks at Red Bank, Willis Wharf and Oyster.

NORTHAMPTON COUNTY VIRGINIA

OFFICIAL BASE MAP



MAP 6

PM PLANNING
MANAGEMENT
ASSOCIATES
1021 Market Blvd. Norfolk, VA 23502

U.S. Fish and Wildlife recently acquired Cape Charles Air Force Station and is now known as "Eastern Shore of Virginia Wildlife Refuge.

5. Development Pressures:

There appears to be little opportunity to establish oceanside uses primarily because of the lack of visibility of the water. The prospect for development in this area is likely to be a continuation of what is now there.

Also, due to the extensive wetland and environmental habitats found in this area, the Nature Conservancy and other environmental groups have been purchasing considerable tracts of land or conservation easements in order to protect the area from development.

6. Issues:

- * Mobile home parks and individual mobile homes are located throughout this area. Are land use measures necessary to control the use and location of the mobile homes?
- * Some conflict of uses may be experienced between commercial and pleasure boats in the few ocean inlets along the seaside.
- * Because of the lack of beaches and ocean vistas, this area is not yet subject to the development pressures of the bayside.

H. BARRIER ISLANDS & WETLANDS CORRIDOR

1. General Description:

Along the entire length of the seaside of the County runs a marshlands corridor bounded on the east by Barrier Islands. This area is considered to be one of the most important ecosystems in the eastern United States. Included in this corridor are Fisherman's Island National Wildlife Refuge, Eastern Shore of Virginia Wildlife Refuge, and the Virginia Coast Reserve. The Virginia Coast Reserve is part of the Nature Conservancy and now comprises 35,000 acres of Barrier Islands and marshlands along the seaside of the Eastern Shore. (Map is on the following page.)

2. Drainage, Elevation and Flood Zones:

The elevation of the area is between high tide and sea level generally. It includes boat channels, tidal flats, marshlands, etc. The fastland in the area is between 0 and 5 feet elevation. All of this corridor is in Flood Zone A.

3. Erosion:

Although the Seaside Corridor is experiencing little erosion, the Barrier Islands on the other hand are experiencing considerable severe erosion. The erosion ranges from 16 feet per year on Cobb Island to 34 feet per year on Wreck Island. Ship Shoal Island fluctuates considerably and the northern end of Hog Island has an accretion rate of 9 feet per year.

4. Existing Development:

The Barrier Islands have few remaining structures on them, mostly old Coast Guard Stations and old sports clubs, including one on the northern end of Hog Island which is now owned by the Nature Conservancy and which will be converted into a place for research, retreats and workshops.

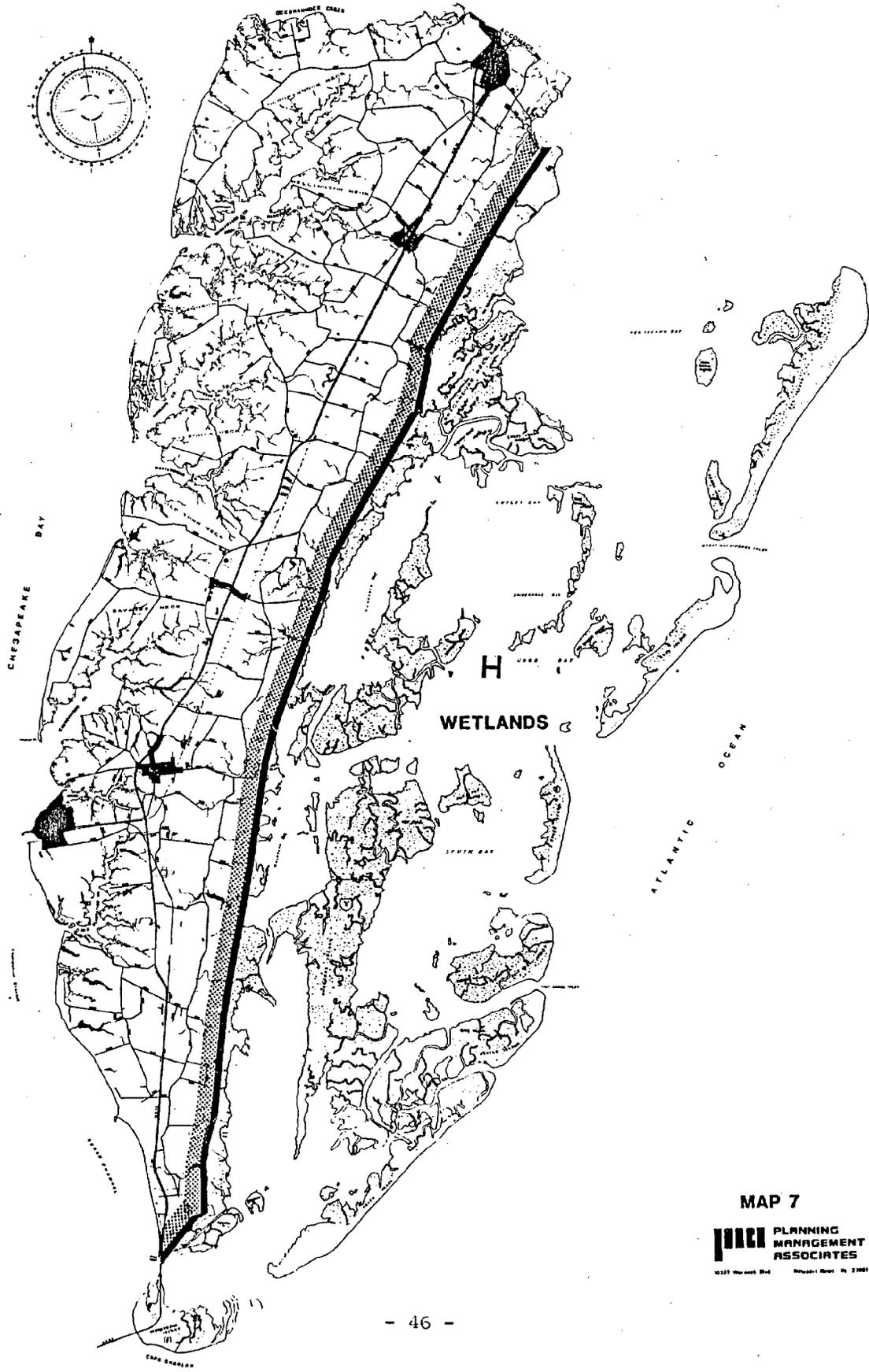
5. Development Pressures:

The only development in this corridor will be for conservation and related uses, including nature walks, interpretive centers, workshops and research stations.

6. Issues:

- * This corridor (at least in Northampton County) is being strongly protected by the state and federal conservation agencies. The development of this area as a major conservation zone is to be encouraged and protected.
- * However, it is recognized that overdevelopment anywhere on the Eastern Shore will impact on the fragile ecosystem considered to be so important. Land use and development anywhere in Northampton

County needs to be regulated in a manner that ensures that the wetlands and marshes are not harmed in any way.



MAP 7

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MANAGEMENT
ASSOCIATES**
1121 Market Blvd. Project No. 17001

V. LAND USE ISSUES AND GOALS

A. COMPREHENSIVE PLAN GOALS RELATED TO LAND USE

The development policy stated in the Northampton County Comprehensive Plan is: "to promote agriculture, seafood, tourism and light industries and to protect and enhance its fragile environment and resources while permitting environmentally compatible economic growth and improvement to the cultural and socio-economic well being of its citizens both present and future." Towards these objectives the plan lists goals, many of which may be addressed by land use policies and regulations:

- Goal "Promote a quality of living environment and an efficient and effective commercial and industrial pattern providing employment and housing opportunities for the citizens of the County."
- Goal "Recognize potential new growth areas and establish same with appropriate land use controls."
- Goal "To maintain and improve upon the existing major communities and village centers presently defined within the County."
- Goal "Protect and maintain the transportation purpose of the County's highway system, which is the provision of a safe and efficient highway system that adequately moves goods and people through and throughout the county for all purposes."
- Goal "To promote a quality light industrial environment and an efficient industrial pattern."
- Goal "To maintain a strong commitment to assist the disadvantaged and needy citizens."
- Goal "Support tourism as a basic industry."
- Goal "Provide for the preservation and optimal use of our potable water resources."
- Goal "Provide for the preservation of our groundwater and tidal resources."
- Goal "Develop and manage environmental programs with a concern for their impact on the water resources."
- Goal "Reduce point and nonpoint source nutrient loadings to maintain dissolved oxygen concentrations necessary to support living resources of the Bay and seaside."
- Goal "Provide for the restoration and protection of the living resources."

Goal "Expand upon water-based recreation by identifying and acquiring needed access areas on the Chesapeake Bay for use by the general public."

Goal "Provide for suitable recreation areas and facilities to meet local and tourism needs in concert with Northampton County Parks and Recreation Department and state and federal agencies."

B. SUMMARY OF ISSUES GENERATED BY REPORT

Issues have been identified in this report for planning areas in the three corridors. Issues and opportunities identified for Corridor 1, the Bay side corridor are summarized here:

- o Farmlands offering water and road access will become susceptible to land use conversions.
- o Over development of creek areas may negatively impact on the Chesapeake Bay.
- o The practice of narrow front lot design in order to offer more waterfront lots in subdivisions increases the pollution problems in the Bay.
- o High risk of flooding and severe erosion rates would necessitate expensive erosion mitigation measures.
- o Private purchase and development of all the beach areas restricts public access for County residents.
- o There is a need to protect valuable oyster producing environments.
- o The dune system is a fragile environment which needs to be safeguarded.
- o Areas that are relatively undeveloped are in an opportune position to be regulated against development which negatively affects the wetlands and Chesapeake Bay.
- o A State park has been suggested on the bayside, e.g. Savage Neck; an extension of this park north could encompass the primary dune system and protect them from development.
- o Smaller inlets or fringes branching off from main creeks provide opportunity for water front development away from the flood zones.

Issues identified for Corridor 2, the most inland portion of the County are:

- o Farmlands along U.S. 13 will continue to face conversion pressures for non-farm development.

- o U.S. 13 will continue to attract commercial and other development.
- o Expansion around the towns will lead to expanded water and sewer needs.
- o The character of the County will be altered if strip development occurs along U.S. 13.
- o Over development of U.S. 13 will slow down traffic movement if direct access is not regulated.

Corridor 3 issues are:

- o This corridor is being protected by the state and federal conservation agencies. Protection of this area as a major conservation zone is to be encouraged.
- o Land use needs to be regulated in a manner that ensures that the wetlands and marshes are not harmed.
- o Mobile home parks and individual mobile homes are located throughout this area. Possible controls on use and location may be needed.
- o Some conflict of uses may be experienced between commercial and pleasure boats in the few ocean inlets along the seaside.
- o Because of the lack of beaches and ocean vistas, this area is not yet subject to the development pressures of the bayside.

C. ISSUES, GOALS AND STRATEGIES

The following table relates issues noted in this report to the goals and action strategies of the County's Comprehensive Plan.

TABLE 19
LAND USE ISSUES, GOALS AND STRATEGIES

CORRIDOR	LAND USE ISSUES	GOALS - COMPREHENSIVE PLAN DRAFT, 1988 REVISION	STRATEGIES - COMPREHENSIVE PLAN DRAFT, 1988 REVISION	ZONING ORDINANCE
ONE	1.1 Along Bayfront farm-lands are becoming susceptible to land use conversions to large subdivisions & PUDs	Recognize potential growth areas and establish within them appropriate land use controls limiting development except under highly regulated circumstances	Develop standards under zoning site plans & subdivis. ordinance Develop land use intensity and density based on land capabil. & needed publ. utilities	Limit development in farm areas to strict agricultural uses & farm related accessory uses (15.1.490 provisions for preservation of agricultural & forest lands)
		Maintain and improve existing major communities and village centers	Delineate villages and community clusters thru land use plan Maintain Exmore & Cape Charles as employment ctrs. thru zoning	Require any development for other uses to obtain special use permit
			Strictly control split and strip commercial and residential development along U.S. 13	Establish a conversion review process & criteria under site plan/use permit review
				Limit residential uses to farm dwellings to very low density, say 5 acre sites or a density of 0.2 units/acre.
				Define subdivision ordinance to require such subdivisions as subject to subdivision regulations
	1.2 Over development of creek areas may negatively impact on the Chesapeake Bay because of concentration of run-off and possible infiltration of septic tanks	Develop & manage environmental programs for impact on water resources	Require new developments to use best Management practices	Establish zoning & subdivision requests to require minimum width of lots fronting on Bay or any creek
	1.3 Narrow lot design for more waterfront lots increases pollution in the Bay	Reduce point & nonpoint source nutrient loadings	Require central sewer & water systems for large developments	Stipulate in subdivision ordinance that any lot within (500 ft.) of stream have back-up site for septic tank (on site)
	1.4 High incidence of flooding in low areas and severe erosion rates limit usability of shoreline	Provide for preservation of groundwater & tidal resources	Require central sewage & water systems for large and moderate developments until community or sub-regional system is in place	Continue Flood Zone Overlay District using Federal Flood Zone Maps as basis for identifying flood potential areas
			Develop standards under zoning site plans & subdivis. ordinances to limit development in areas unfit for permanent construction	Define regulations establishing the distance from erosion prone shoreline to permanent buildings that would assure a reasonable life of a building, i.e. 75 years
			Identify areas that may be hazardous because of potential flooding or erosion	

1.5 Private purchase and development of all beach areas restricts public access for County residents

Expand water-based recreation by identifying & acquiring needed access areas on the Chesapeake Bay for general public

Pursue development of a park & public beach through land use controls & a capital improvements program; seek State & Federal financial assistance

Provide credits & bonus to private development which contains a public beach (extra lots)

1.6 There is a need to protect valuable oyster producing environments

Demand better management of marine resources by all state agencies

Encourage additional funding to support inspection & enforcement & funding for replenishment of depleted oyster grounds

Possible: Z.O. to label oyster grounds as area to be protected

Reduce/control point & nonpoint sources of toxic materials to attain level not harmful

Demand strong enforce. of NPDES program by State thru legislat.

Oyster beds protected as objective of Chesapeake Bay Protection Zone (see 1.8)

Reduce point & nonpoint source nutrient loadings

Work with SCS to reduce metal & organic run-off

Require central sewer & water systems for large developments

Require new developments to use best Management practices

1.7 The dune system needs to be safeguarded

Recognize potential growth areas and establish them with appropriate land use controls

Develop standards under zoning site plans & subdivis. ordinance overlay zone patterned after Historic Zone

1.8 Areas that are relatively undeveloped are in an opportune position to be regulated against development which negatively affects wetlands and the Bay

Develop land use intensity and density based on land capability & needed publ. utilities

Establish a Chesapeake Bay protection zone overlay

Provide for preservation of groundwater & tidal resources

Require central sewer & water systems for large and moderate developments until community or sub-regional system is in place

1.9 A State park has been proposed for Savage Neck; an extension of this park north could protect the primary dune system from development

Support Tourism as a basic industry

Protect & preserve scenic, cultural & historic areas thru strong land use controls

Develop natural resources within limits of fragile environment

<p>1.10 Smaller inlets branching off main creeks are inland from the flood zone and provide opportunity for waterfront development</p>	<p>Recognize potential growth areas and establish them with appropriate land use controls</p>	<p>Develop standards under zoning site plans & subdivis. ordinance Develop land use intensity and density based on land capabil. & needed publ. utilities</p>	<p>Establish zoning & subdivision requests to require minimum width of lots fronting on Bay or any creek</p> <p>Stipulate in subdivision ordinance that any lot within (500 ft) of such stream have back-up site for septic tank (on site)</p>
<p>TWO 2.1 Farmlands along U.S. 13 will continue to face conversion pressure for non-farm development</p>	<p>Recognize potential growth areas and establish them with appropriate land use controls</p>	<p>Develop standards under zoning site plans & subdivis. ordinance Develop land use intensity and density based on land capabil. & needed publ. utilities</p>	<p>See 1.1. Limit conversion of farms except under use permit Review conversion per 2.0. criteria</p>
<p>2.2 As U.S. 13 continues to attract commercial and other development, access to businesses will become difficult; also strip commercial and advertising will become unseightly</p>	<p>Maintain and improve existing major communities and village centers</p>	<p>Delineate villages and community clusters through zoning Maintain Exmore & Cape Charles as employment ctrs. thru zoning</p>	<p>Develop a village zone format; zones that apply to smaller villages XXX Define zoning districts appropriate for urban communities in these towns</p>
<p>2.3 Expansion around the towns will lead to expanded water and sewer needs</p>	<p>Provide for preservation of groundwater & tidal resources</p>	<p>Require central sewer & water systems for large and moderate developments until community or sub-regional system is in place</p>	<p>Put in subdivisions Define appropriate zoning for urban towns, developing area-residual, etc.</p>
<p>2.4 Character of the County will be altered if strip development occurs along U.S. 13</p>	<p>Recognize potential growth areas and establish them with appropriate land use controls</p>	<p>Develop standards under zoning site plans & subdivis. ordinance Develop land use intensity and density based on land capabil. & needed publ. utilities</p>	<p>Define density by standards Establish a controlled growth overlay development zone 1000 feet each side U.S. 13 and restrict development within corridors that is compatible with County's goals for minimum conflict with big traffic corridor</p>
<p>2.5 Over development of U.S. 13 will increase traffic hazards and lead to unattractive strip development along entry into County</p>	<p>Protect & maintain transportation purpose of County's highway system</p>	<p>Strictly control spit and strip commercial and residential development along U.S. 13</p>	<p>Establish a controlled growth overlay development zone 1000 feet each side U.S. 13 and restrict development within corridors that is compatible with County's goals for minimum conflict with big traffic corridor</p>

<p>THREE 3.1 The seaside corridor is protected by state and federal conservation agencies. A major conservation zone is to be encouraged</p>	<p>Demand better management of marine resources by all state agencies</p>	<p>Encourage additional funding to support inspection & enforcement & funding for replenishment of depleted oyster grounds</p> <p>Demand strong enforce. of NPDES program by State thru legislat.</p>	<p>N/A Zoning</p>
<p>3.2 Land use should be regulated to protect wetlands and marshes</p>	<p>Reduce/control point & nonpoint sources of toxic materials to attain level not harmful</p> <p>Reduce point & nonpoint source nutrient loadings</p>	<p>Work with SCS to reduce metal & organic run-off</p> <p>Require new developments to use best Management practices</p> <p>Require central sewer & water systems for large developments</p>	<p>Establish wetland marsh conservation zoning district Restrict uses therein</p>
<p>3.3 Mobile home parks and individual mobile homes may need to be regulated for use and location</p>	<p>Recognize potential growth areas and establish them with appropriate land use controls</p>	<p>Develop standards under zoning site plans & subdivis. ordinance</p>	<p>Z.O. defines where permitted</p> <p>Subdivision ordinance may create mobile home parks or special type of subdivision thereby including standards for their use</p>
<p>3.4 Conflict of uses may be experienced between commercial and pleasure boats in the few ocean inlets</p>	<p>Protect & preserve scenic, cultural & historic areas thru strong land use controls</p> <p>Develop natural resources within limits of fragile environment</p>	<p>Zoning may establish use permitting keeping boats & may limit number, but not determine if they are for pleasure or business</p>	
<p>3.5 Seaside corridor lacks beaches and vistas and is not yet subject to development pressures</p>	<p>Support Tourism as a basic industry</p> <p>Protect & preserve scenic, cultural & historic areas thru strong land use controls</p> <p>Develop natural resources within limits of fragile environment</p>	<p>Seaside development zone With limited development rights existing thru use permits & etc.</p>	

ENDNOTES

1. This section is taken from two primary sources, both of which provide an excellent chronological history of the Eastern Shore:

Ralph T. Whitelaw, Virginia's Eastern Shore, 1968.

Nora Miller Turman, The Eastern Shore of Virginia, 1964.

2. There have been numerous studies relating to the topography and natural resources of the Eastern Shore and, specifically, Northampton County. These studies evaluate the unique features of the region and the problems that require special attention. Most of the studies in print, however, occurred before the strong development push currently experienced by Northampton County and their results and findings may reflect this absence of development. Important studies relating to this section include:

Accomack-Northampton Planning District Commission, Natural Resource Inventory, 1982.

Office of the Secretary of Commerce and Resources, Proposals for Coastal Resources Management in Virginia (draft), 1977.

State Water Control Board, Groundwater Conditions on the Eastern Shore of Virginia, 1975.

State Water Control Board, Computer Simulation Model for Groundwater Flow in the Eastern Shore of Virginia, 1977.

State Water Control Board, Ground Water Resources of the Eastern Shore of Virginia, 1982.

State Water Control Board, Eastern Shore Water Supply Plan (final draft), 1987.

Virginia Institute of Marine Science, Shoreline Situation Report: Northampton County, Virginia, 1974.

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APPENDIX A
SUBDIVISIONS, 1980'S

Number	Name	Acres	Number	Size	SIZE/ACRES	SIZE * LOTS	Recorded	ROAD ACCESS	Location
	Bleak Hs. Manor I	13.5	3	4.5	4.5	13.50	1980	Public	2
	Louise Moore	1	2	0.5	0.5	1.00	1980	Public	2
	Normac	2	4	0.5	0.5	2.00	1980	Public	2
	E. Williams	22	4	5.5	5.5	22.00	1980	Private	1
	J. Norling	2	1	2	2	2.00	1980	Private	2
	111 Della Beach	2.4	5	0.6	0.6	3.00	1980	Private	1
	E. Williams	12.44	2	6.22	6.22	12.44	1980	Private	1
	112 Mary Dillard	1.5	5	0.25	0.25	1.25	1980	Private	1
	115 B.E. Williams	70	11	6.5	6.5	71.50	1980	Private	1
	121 Oak Ridge	18	3	6	6	18.00	1981	Public	2
	120 Old Neck Landing	26	10	2.6	2.6	26.00	1981	Private	1
	Bleak House Manor	4.4	8	0.55	0.55	4.40	1981	Private	2
	Austin Ward	6	6	1	1	6.00	1981	Private	1
	George Vincent Jr.	5.5	3	2.75	2.75	8.25	1981	Public	2
	108 Richard & Kathl'n Asby	6.9	2	3.5	3.5	7.00	1981	Public	1
	119 Wilsonia Landing	70	28	2.5	2.5	70.00	1982	Private	1
	116 Silver Beach Est	22.5	9	2.5	2.5	22.50	1982	Public	1
	Carlton Smith	8	2	4	4	8.00	1982	Private	1
	Various Owners	24	4	6	6	24.00	1982	Private	1
	Cherrystone Woods	2	4	0.5	0.5	2.00	1982	Public	1
	Evergreen	24	2	12	12	24.00	1983	Private	1
	107 H.M. Arnold	47.5	5	9.5	9.5	47.50	1983	Private	1
	Ray View Cove	1.5	2	0.75	0.75	1.50	1983	Public	1
	114 Great Pine Harbor	35	20	1.75	1.75	35.00	1983	Public	1
	118 Summer Acres	8.25	11	0.75	0.75	8.25	1983	Publ./priv	2
	127 Kings Creek Landing	14.5	29	0.5	0.5	14.50	1983	Private	1
	122 Yerdly Pt- APPROX # LOTS	120	24	5	5	120.00	1983	Private	1
	Town Field East	2.4	4	0.6	0.6	2.40	1984	Public	2
	H.M. Arnold	2.6	2	1.3	1.3	2.60	1984	Private	1
	Town Field West	3	3	1	1	3.00	1985	Public	2
	Ralph Long	2.5	1	2.5	2.5	2.50	1985	Private	2
	Ralph Long	5	2	2.5	2.5	5.00	1985	Public	2
	R. Huether	15	3	5	5	15.00	1985	Private	2
	Ruth Roberts Est	30	5	6	6	30.00	1985	Public	1
	Louis Rock	3.75	5	0.75	0.75	3.75	1986	Public	3
	Pleasant Grove Village	12	12	1	1	12.00	1986	Publ./priv	1
	F&F Estates	3	3	1	1	3.00	1986	Private	2
	Eden Head	12	6	2	2	12.00	1986	Private	1
	D Charnock	8	4	2	2	8.00	1986	Private	1
	Fairview Manor	2	4	0.5	0.5	2.00	1986	Public	3
	F&F Estates	3	4	0.75	0.75	3.00	1986	Public	2
	F&F Estates	4.5	6	0.75	0.75	4.50	1986	Public	2
	126 Tysen Meadows	25	20	1.25	1.25	25.00	1986	Publ./priv	2
	M Gregory	2	1	2	2	2.00	1987	Private	1
	Robert Becker	1	2	0.5	0.5	1.00	1987	Public	2
	127 Kings Creek Landing	17.5	17	0.5	0.5	8.50	1987	Private	1
	Shep Davis Subdiv	35	10	1.25	1.25	12.50	1987	Private	1
	125 Latimers Bluff	35	7	5	5	35.00	1987	Public	1
	Malen	13.75	11	1.25	1.25	13.75	1987	Private	1

