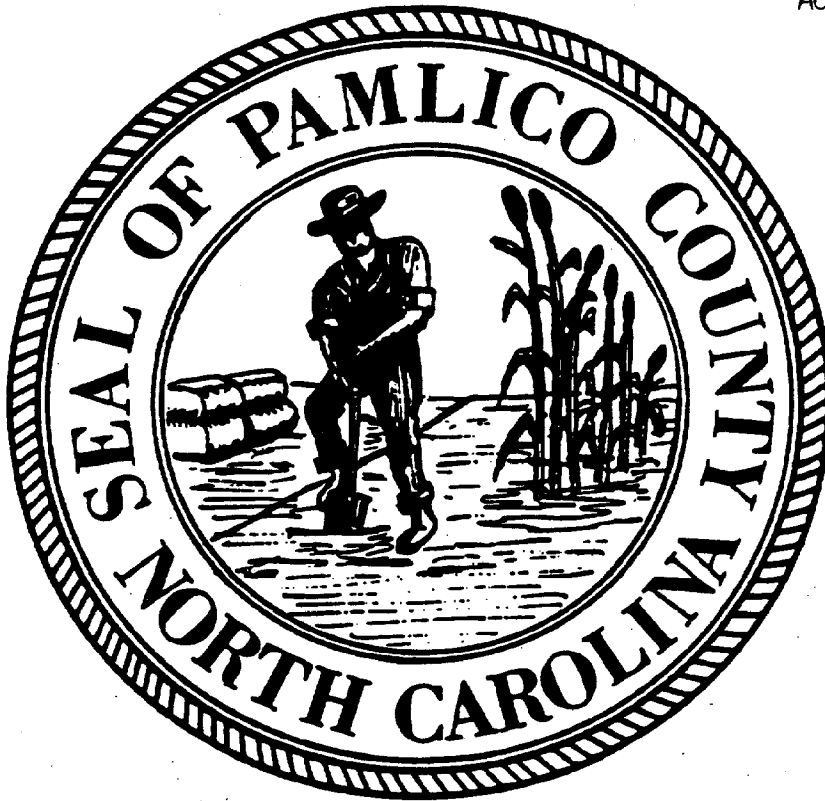


Land Use Plan  
Pamlico County North Carolina

AUG 1987



June, 1987

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Land Use Plan  
Pamlico County North Carolina

Adopted by the Board of County Commissioners of Pamlico County  
February 23, 1987

Certified by the North Carolina Coastal Resources Commission  
June 5, 1987

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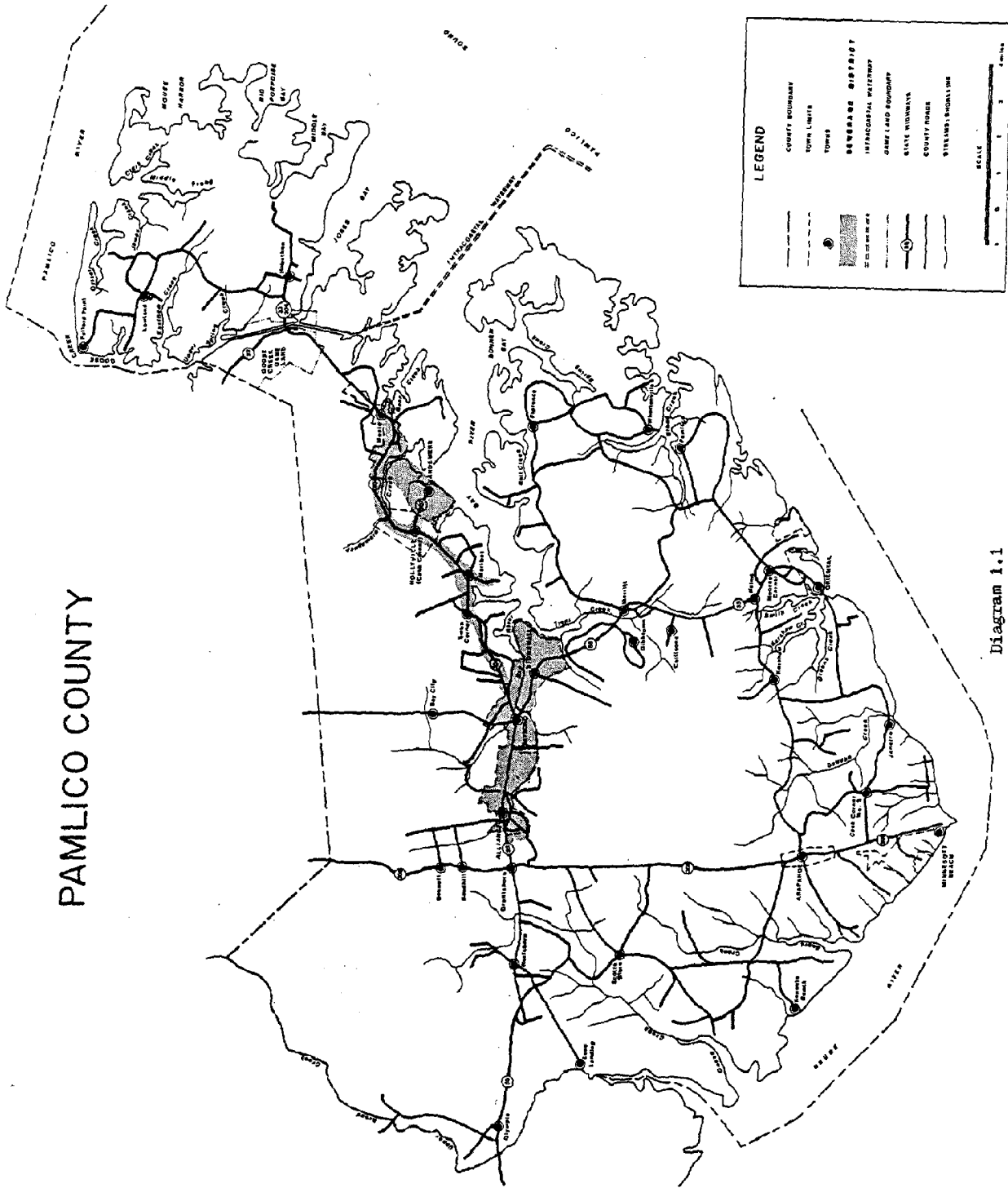
## Chapter 1.0

### Growth and Change in Pamlico County

#### Introduction

Pamlico County, located on a peninsula in eastern North Carolina, is a rich environment of land (213,400 acres) and water (151,000 acres). A variety of habitats is found throughout the county, including open sound waters, marshlands, and mixed pine-hardwood forests. This setting provides an extensive natural resource base for agriculture, forestry, fishing and recreation. A large portion of the county economic base is directly tied to farming, fishing, and forestry, or indirectly in food processing, with the recreation and retirement industry becoming a more important part of the economy. Thus, the economic base of the county is very closely tied to the natural environment.

Pamlico is a rural county with a total population of about 11,000 (see Table 1.1). There are seven small towns and several unincorporated communities with the county seat, Bayboro, being the largest with approximately 800 citizens. The county is bordered by water: Goose Creek and the Pamlico River on the north, the Upper Broad Creek forms the county's western boundary with Craven County; Pamlico Sound lies to the east; and the Neuse River to the south (see Diagram 1.1). The mixture of farmlands, trees, marshes and open water make Pamlico County an attractive place to live, work and visit.



### Population

Pamlico County is a distinctly rural area which is growing along with the rest of the coastal region and the state of North Carolina. Of thirty-two eastern North Carolina counties, Pamlico ranks 26th in total population. The estimated county population in 1985 was 10,976, a 5.6% increase over the 1980 population (see Table 1.1). This rate of growth is consistent with the 9.8% increase that was experienced between 1970 and 1980. Overall, the rate of growth in eastern North Carolina counties is 13.4%. The North Carolina Office of State Budget and Management has projected the Pamlico County population to be 11,854 by April 1990 (see Table 1.2).

The population density in the county is between 20 and 40 persons per square mile. According to the post office, there are 4,200 households in the county with an average of three persons per household. Approximately 11% to 14% of the population is sixty-five years of age or older and most of these people live alone.

Table 1.1

#### Population Estimates for Pamlico

	<u>1960</u>	<u>1970</u>	Percent Change 1960- <u>1970</u>	<u>1980</u>	Percent Change 1970- <u>1980</u>	<u>1985</u>	Percent Change 1980- <u>1985</u>
Pamlico County	9,850	9,467	-3.8%	10,398	9.8%	10,976	5.6%
North Carolina	4,556,155	5,084,411	11.6%	5,881,766	15.7%	6,253,951	6.3%

Source: N.C. Office of Budget and Management

Table 1.2

Population Projections for Pamlico County

	<u>1985</u>	<u>1990</u>	<u>2000</u>
Pamlico County	10,976	11,854	13,096
North Carolina	6,253,951	6,597,922	7,229,188

Source: N.C. Office of Budget and Management

Table 1.3 presents the age distribution for Pamlico County as well as for North Carolina as a whole. Table 1.4 further aggregates and summarizes this data. The age distribution is roughly the same as for the state, and the median ages are very close. The percentage of the population below the age of twenty is approximately 32%, nearly identical to the proportion at the state level. The percentage of Pamlico residents who are 65 or older is somewhat higher than for the state as a whole, some 13.7% as compared with 10.3%. Conversely, the percentage of Pamlico residents within the 20 to 64 age range is somewhat smaller than for the state as a whole (54.1% compared to 57.4%).

Table 1.3

Age Distribution of Pamlico Population in 1980

<u>Age</u>	<u>Pamlico</u>	<u>North Carolina</u>
Total Persons	10,398	5,881,766
Under 5 years	696	404,076
5 to 9 years	735	447,688
10 to 14 years	949	482,228
15 to 19 years	971	566,322
20 to 24 years	756	579,512
25 to 29 years	824	502,579
30 to 34 years	651	461,169
35 to 39 years	518	368,492
40 to 44 years	547	314,142
45 to 49 years	544	296,939
50 to 54 years	685	304,396
55 to 59 years	577	295,910
60 to 64 years	521	255,132
65 to 69 years	483	222,696
70 to 74 years	402	164,891
75 to 79 years	278	109,126
80 to 84 years	164	61,265
85 years and over	97	45,203
Median	32.1	29.6

Source: 1980 Census of Population

Table 1.4

Aggregate Age Characteristics of Pamlico County Population in 1980

<u>Age Groups</u>	<u>Pamlico County</u>	<u>North Carolina</u>
Under 20 years	32.2%	32.3%
20 to 64 years	54.1	57.4
65 and over	13.7	10.3
Median age	32.1 years	29.6 years

Source: 1980 Census of Population

Demographic Characteristics

Table 1.5 presents the ethnic composition of the county. Approximately 31.5% of the population of the county is black, and 68.5% are white. This compares with 22.4% black at the state level and 76.6% white. No other ethnic groups are reported for the county, although other categories are reported at the state level.

The education level of Pamlico residents (25 years or older) is reported in Table 1.6. About 6% of the residents have five years or less of elementary school, identical to the percentage for North Carolina as a whole. Forty-eight percent of Pamlico residents are high school graduates, and about 8% have had four or more years of college. As Table 1.6 indicates, these levels of education are somewhat lower than the state average. The median number of years of school completed by Pamlico residents was 11.8 in 1980, compared with 12.2 for the state as a whole.

Data are not available on seasonal population, but based on development patterns and new construction in the past few years, the number of part time residents and retirees in the county is increasing and will continue to grow and become a more significant factor in the county.

Table 1.5

Ethnic Composition of Pamlico County Population in 1980

	<u>Pamlico County</u>	<u>North Carolina</u>
Black	31.5%	22.4%
White	68.5	76.6

Source: 1980 Census of Population

Table 1.6

Educational Level of Pamlico County Population in 1980  
(persons 25 years and older)

	<u>Pamlico County</u>	<u>North Carolina</u>
Percent less than 5 years of elementary school*	5.9%	5.9%
Percent high school graduates*	48.0	54.6
Percent 4 or more years of college	8.1	13.2
Median years of school completed*	11.8	12.2

Source: 1980 Census of Population

\*Persons 25 years or older



Income and Poverty Status

As Table 1.7 indicates, Pamlico County suffers from a higher than average poverty rate, and lower income levels. Median family income in 1979, for instance, is about 16% lower than the median family income levels for the state of North Carolina as a whole. Mean family income and per capita income depict similar relationships. In fact, per capita income for Pamlico is approximately 21% lower than the state as a whole. The population of Pamlico families with incomes below the poverty level was 17.5% in 1979, substantially higher than the 11.6% of the families at the state level. The percentage of persons in Pamlico with incomes falling below the poverty level was 20.6% compared with 14.8% for the state as a whole. This statistic indicates that more than 2,000 Pamlico residents were considered to be living below the poverty level. This is an important statistic and suggests that the land use plan must be sensitive to the impacts of its policies on the needs and conditions of lower income residents of the county.

Table 1.7

Income and Poverty Status (1979)

	<u>Pamlico County</u>	<u>North Carolina</u>
Median family income	\$14,509	\$16,792
Mean family income	16,538	19,513
Per capita income	5,076	6,133
Percent families below poverty line	17.5%	11.6%
Percent persons below poverty line	20.6	14.8
Percent families below 125% of poverty line	22.7	16.9
Percent persons below 125% of poverty line	26.3	20.7

Source: 1980 Census of Population

## Chapter 2.0

### Existing Land Use and Development Trends in the County

#### Existing Land Use

Diagram 2.1 presents a generalized view of the patterns of existing land use in the county. The county consists of 364,400 acres, with 151,000 acres of this comprising water. Of the remaining 213,400 acres, forested land is the largest existing use, encompassing some 157,000 acres, or 74% of the county's total area (1980 Pamlico County land use plan). As Table 2.1 indicates, crops and pasture comprise approximately 33,500 acres, marshland comprises 19,000 acres and urbanized and developed areas in the county comprise approximately 2,900 acres.

Table 2.1

#### Existing Land Use

<u>Land Use</u>	<u>Acres</u>	<u>Percent</u>
Forested	157,000	74.0%
Crops and Pasture	33,000	15.7
Urbanized/developed	2,900	1.4
Marshland	<u>19,000</u>	<u>8.9</u>
Total	213,000	100.0

Source: 1980 Pamlico County Land Use Plan

# PAMLICO COUNTY

GENERAL PATTERN OF DEVELOPMENT

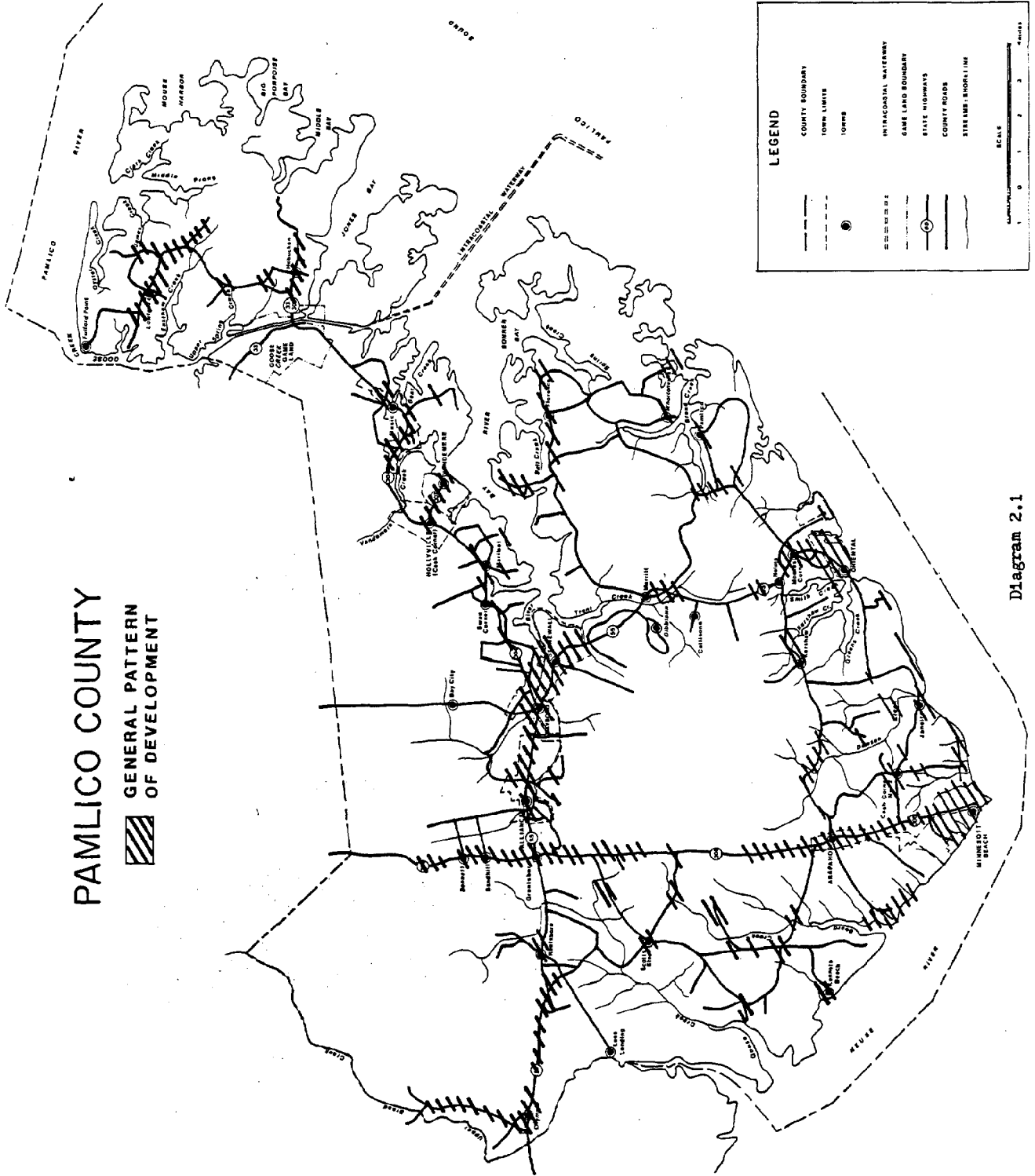


Diagram 2.1

### Trends in Land Use and Development

Recent development trends in the county can be analyzed by examining building permit information that includes new single family homes and townhomes as well as mobile homes. Table 2.2 displays the number of permits that were issued each year from 1979 through 1984. There was a peak in 1981 and 1982 of construction of new buildings that has dropped off since that time. However, the number of mobile homes brought into the county increased greatly from the previous years.

Aerial photography indicates that the majority of residents live along the major roads in the county and especially at the intersections of those roads. A comparison of 1975 and 1981 photography led to the conclusion that new houses in the county were being built alongside existing houses. Therefore, development in the county tends to be in the same general areas, (see Diagram 2.1) that is along major roads and in existing clusters.

Table 2.2

	<u>Building Permits Issued</u>					
	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
New buildings	50	59	75	76	63	49
Relocated buildings	15	14	6	12	7	3
Mobile homes	187	153	188	155	235	169
Single wide	164	136	174	143	210	153
Double wide	23	17	14	12	25	16

The most critical factor by far concerning development in the county is the suitability of the soils for wastewater disposal. Many of the soils in the county are not suitable for septic tank drainage fields, although this has been the primary method of waste disposal for years. Recent septic tank failures, and state legislation requiring strict compliance with state septic tank regulations has been cause for concern throughout the county.

New seasonal and vacation housing locating in the county appears more attracted to riverfront and sound shore locations (e.g., Jones Island). This development can cause pollution and other problems, in turn jeopardizing the quality of the local water and hence fishing recreation resources. In particular, the Towns of Oriental and Minnesott Beach are increasingly experiencing vacation and retirement development pressures. Agricultural runoff can also create serious water quality problems.

Additional critical factors concerning development are institutional and fiscal capacity, hurricane evacuation, aesthetic character, protection of environmentally-sensitive areas and peat and phosphate mining. Each of these problems and issues is discussed further in subsequent sections of the plan.

## Chapter 3.0

### Natural and Fragile Areas

As part of the coastal plain, Pamlico County lies on nearly level land that was formed during periods of higher sea level. The eastern two-thirds of the county, from the Pamlico Sound shoreline to the Minnesott Ridge, or Suffolk scarp which runs parallel to N.C. 306, is called the Pamlico Terrace. The highest points in the county are located along the ridge and are approximately 50 feet above sea level. To the west of the ridge is the Chowan Terrace which includes the remaining third of the county. Here the land is still relatively flat, but gently sloping areas 25-50 feet above sea level are common.

Numerous creeks and rivers run through the county, but flow is sluggish due to the flatness of the land. Ground water is usually plentiful in the area because of the underlying rock formations. The Yorktown formation is a surficial aquifer that is thickest along the Minnesott Ridge and reaches a maximum depth of 75 feet. Beneath the Yorktown formation is a very productive artesian aquifer known as the Castle Hayne limestone formation which is the main source of water in the county. Domestic wells tapping into this aquifer will yield 20 to 50 gallons per minute, and commercial wells can yield several hundred gallons per minute with little drawdown. The aquifer produces water that is generally hard with a variable content of iron, and is somewhat salty in some areas near the estuaries. Ph ranges from 7.2 to 8.2, and iron content ranges from .06 to .05 parts per million. Chloride content ranges from 10 to 40 parts per million, and is particularly low at depths exceeding 300 feet.

The soils, natural areas and fragile areas of the county are discussed in the remainder of this chapter.

Soils in any area are related to geology, relief, climate and vegetation. The underlying geologic material (sands, clays and marls) and low relief of Pamlico County have resulted in more than 50% of the soils in the area being classified as poorly drained by the Soil Conservation Service. Table 3.1 lists the categories used by the Soil Conservation Service and the percentages of land in Pamlico County that fall into each category.

The county can be divided into four areas based on relief and drainage: 1) uplands and sand ridges, 2) pocosins 3) flood plains and 4) salt marshes. The uplands and sand ridges are gently sloping areas of excessively drained and well drained soils with pockets of somewhat poorly to very poorly drained soils between the ridges. Pocosins are areas of thick deposits of organic material that appear to be flat, but have a very gentle slope from the center outward; therefore, runoff is moderate, but very slow. The floodplains along streams and the salt marshes both are nearly level areas and thus have very poorly drained soils.

Few areas in the county are naturally drained because of the lack of slopes. As a result, artificial drainage must be undertaken through small, open ditches. These low, badly drained areas are less appropriate for development, and best reserved as wildlife and natural areas.



Table 3.1

Soil Drainage Classes

<u>Description</u>	<u>Percent of Land</u>
Very poorly drained	50.8%
Poorly drained	28.6
Somewhat poorly drained	6.0
Moderately well drained	9.9
Well drained	2.3
Excessively drained	0.2
Small areas of water	2.2

General soils maps produced by the Soil Conservation Service show broad areas that have a distinctive pattern of soils, relief and drainage. A map at this scale can be used to compare the suitability of large areas for general land use. These areas have been defined by grouping together several soil types that share common characteristics. These groups of soil types, referred to as associations, are listed in Table 3.2. The numbers in the table correspond to the accompanying map (Diagram 3.1). This map was drawn from a preliminary draft and actual boundaries may be shifted slightly in the final version to be produced by the Soil Conservation Service. Onsite investigation is necessary to precisely define and locate soils within one of these areas to plan for intensive use. Detailed soils maps at a larger scale are available and would be useful for onsite surveys.

The pattern of vegetation in Pamlico County follows that of soils and topography. Along the estuarine shorelines, aquatic plants are found and along the Minnesott Ridge, longleaf and loblolly pines grow. The majority of

# PAMLICO COUNTY

## GENERAL SOILS

(See text for key)

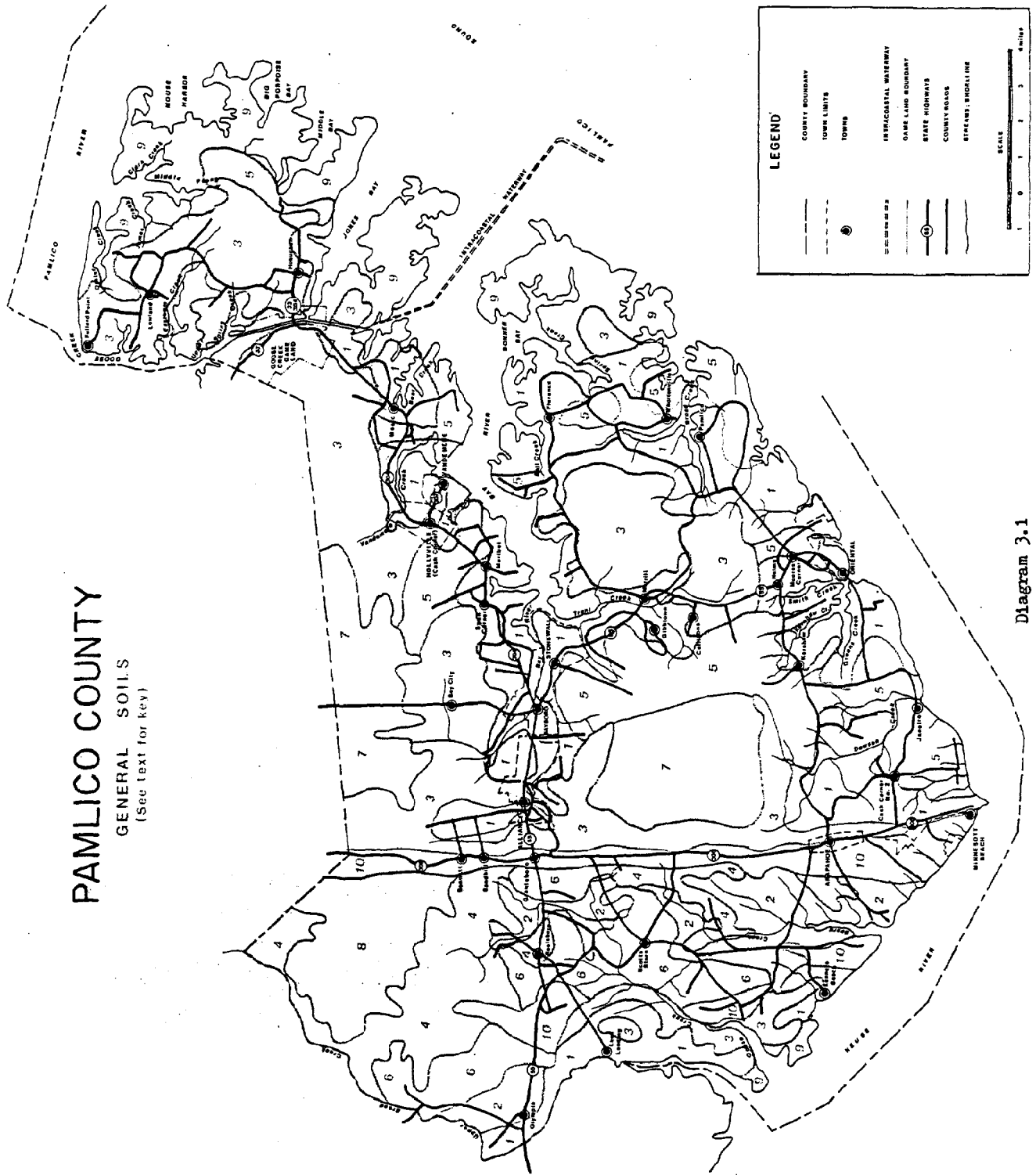


Diagram 3.1

Table 3.2

Key To Soils Map

<u>Number</u>	<u>Soil Association</u>
1	Yonges-Altavista-Fork
2	Goldsboro-Lynchburg-Norfolk
3	Stockade-Arapahoe-Wasda
4	Paxville-Rains
5	Argent-Brookman-Wahee
6	Leaf-Craven-Lenoir
7	Belhaven-Dare
8	Croatan-Dare
9	Lafitte-Hobucken
10	Leon-tomahawk-Rutledge

vegetation includes the saltgrass, rushes, cane, and cordgrass plants of the marsh areas as well as, several varieties of oaks (swamp chestnut, laurel and cherrybark), maples, gums, poplars, and pines found in mixed hardwood flats.

As mentioned previously, pocosins are areas of thick organic material that appear to be flat, but are slightly higher in the middle. Pocosins have a dense undergrowth of vines and plants, mixed with pond pines. Cypress and oak are found in some of the higher areas.

The Soil Conservation Service has grouped soils according to their limitations for field crops in a general way (Diagram 3.2). In Pamlico County most soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices. Some have severe limitations that reduce the choice of plants further or that require special conservation practices. Other soils have very severe limitations that reduce the choice

# PAMLICO COUNTY SOIL LIMITATIONS FOR FIELD CROPS

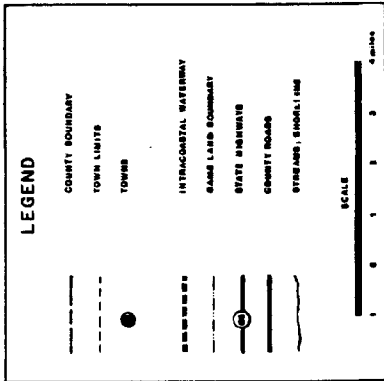
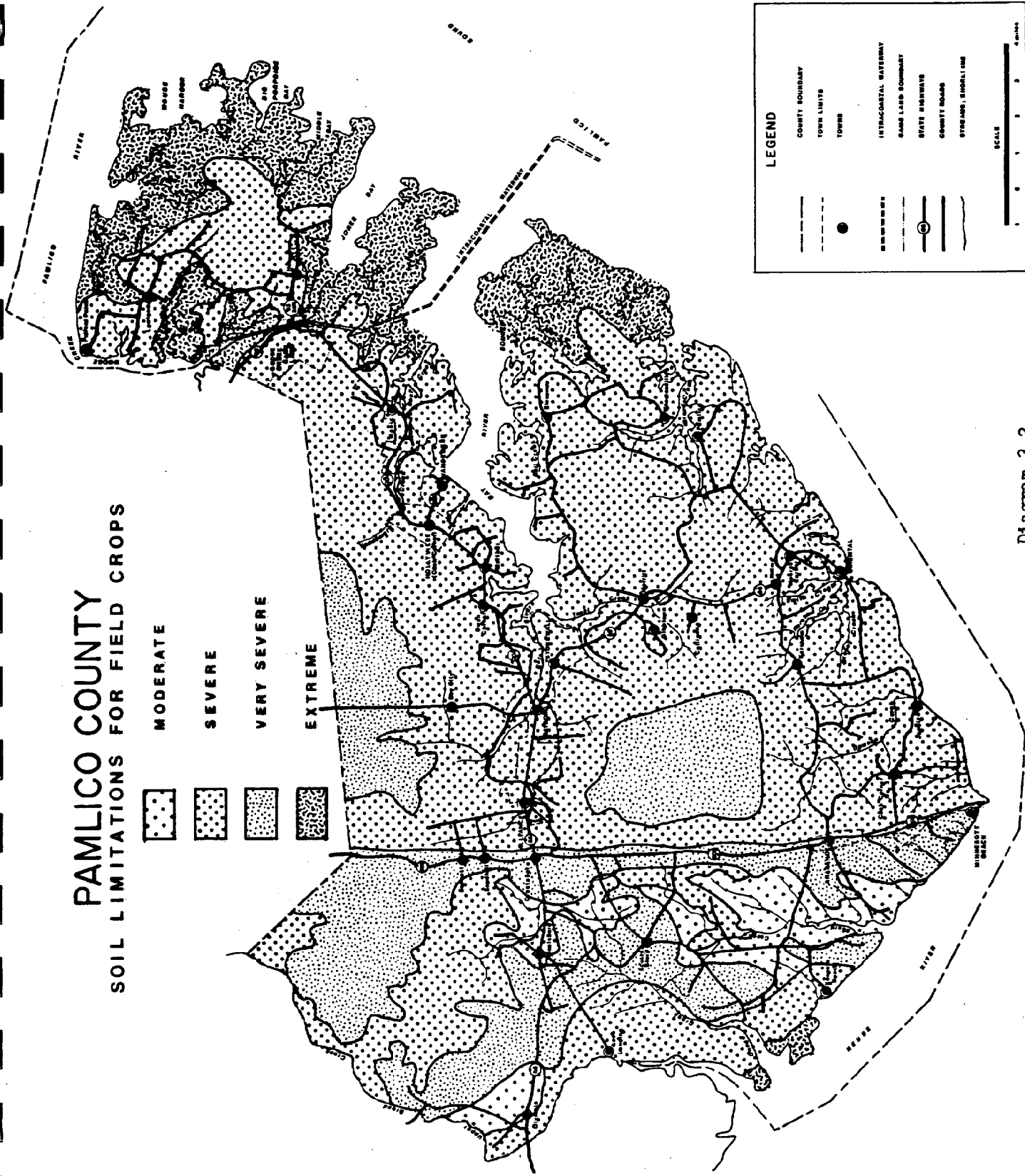
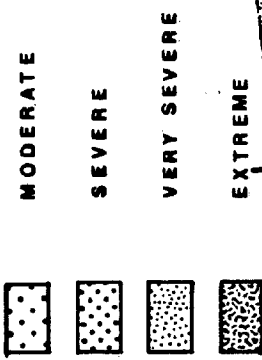


Diagram 3.2

of plants to an even greater extent or that require very careful management. A few areas have soils with extreme limitations that nearly preclude their use for commercial crop production.

In most evaluations (U.S. Department of Agriculture and the State of North Carolina Department of Health and Human Services) soils with severe, very severe or extreme limitations are not suitable for septic tanks.

The protection of farmland in the county is addressed more specifically in Chapter 5.0.

The varied plant communities, landforms and patterns of land use create natural habitats for deer, squirrel, rabbit, fox, quail, mourning dove, songbirds, raccoon, mink, muskrat, otter and opossum. There are also a small number of black bear in the northern part of the county near Mesic and Hobucken. Rare or endangered species that have been sited within Pamlico County include the American alligator, red-cockaded woodpecker, bald eagle, peregrine falcon, and short-nosed sturgeon.

Along the Bay River, Neuse River and Pamlico Sound, fish and shellfish can be found along with ducks, geese, herons and shorebirds. Impoundments have been created in some areas to attract waterfowl and the Goose Creek State Game Lands provide additional areas for wildlife conservation and hunting.

The shorelines of Pamlico County include primary nursery areas for young finfish and crustaceans (see Diagram 3.3). The initial growing season for these species is spent within the estuarine system because of factors such as water temperature and salinity; they also find protection from predators in the grasses and shallows or the nursery areas.

# PAMLICO COUNTY

 PRIMARY NURSERY AREAS

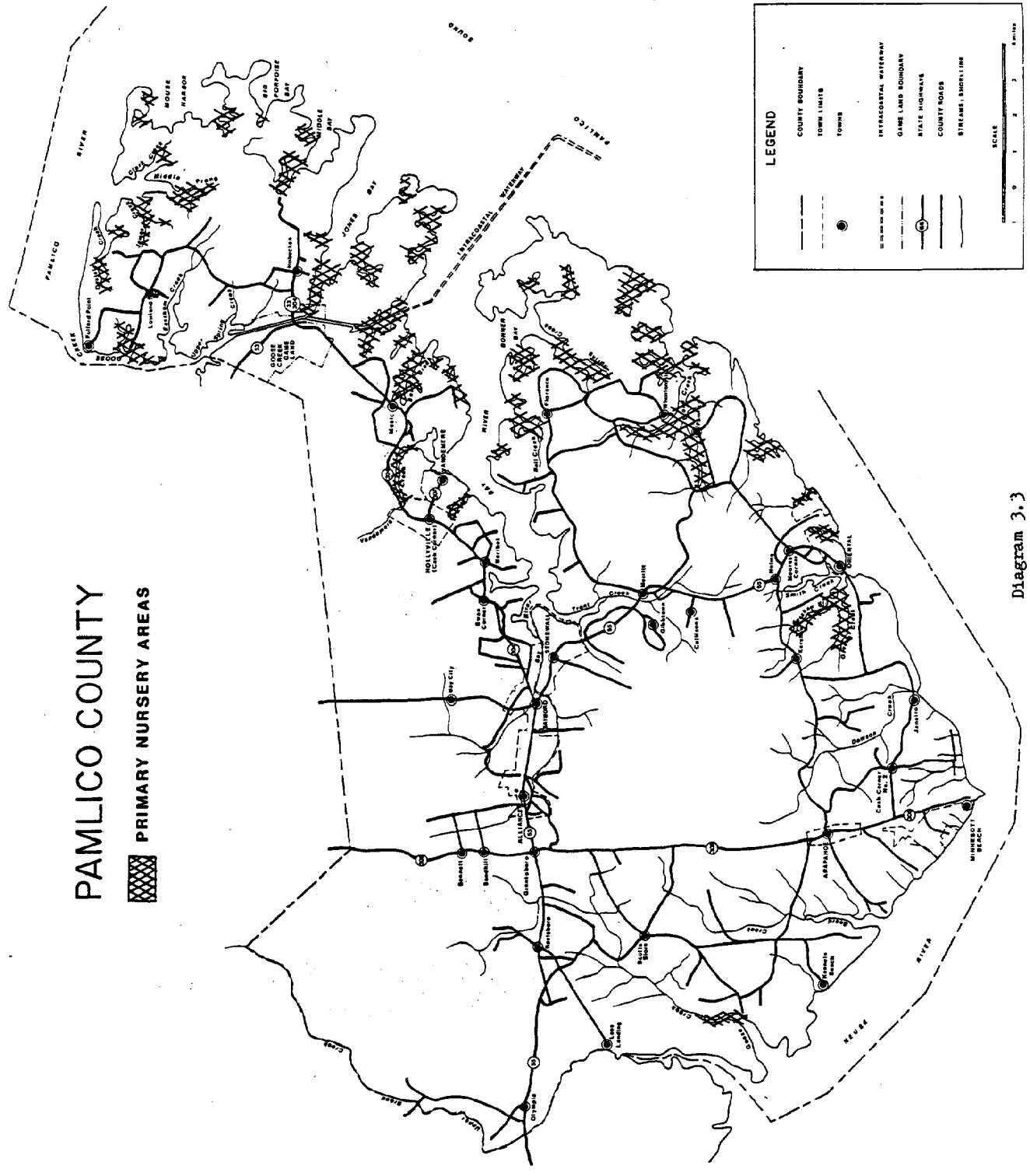


Diagram 3.3

An intensive study carried out by Peacock and Lynch (1982) identified six important natural areas within Pamlico County. All of these support some rare plant and/or animal species, but were not selected solely on that basis.

Questions that Peacock and Lynch asked during the survey of sites throughout the county were:

1. Does the site have regional, state or county-wide significance as a natural area?
2. Are there unusual habitat conditions present?
3. Has the site recovered from or escaped prior disturbance?
4. Is the site representative of a type of habitat which is rapidly being converted to other land uses?
5. Would loss of habitat constitute an irretrievable loss of resources to Pamlico County?

The selection of the final sites was based on "size and age of canopy species, biologic, edaphic and hydrologic diversity, extensiveness of habitat(s) and contiguity with other natural areas, absence of intensive disturbance and recovery from past disturbance, and the presence of a full range of communities and ecological conditions functioning as a system" (Peacock and Lynch). The natural areas chosen by Peacock and Lynch are identified on Diagram 3.4 and listed in Table 3.3.

Table 3.3

Natural Areas

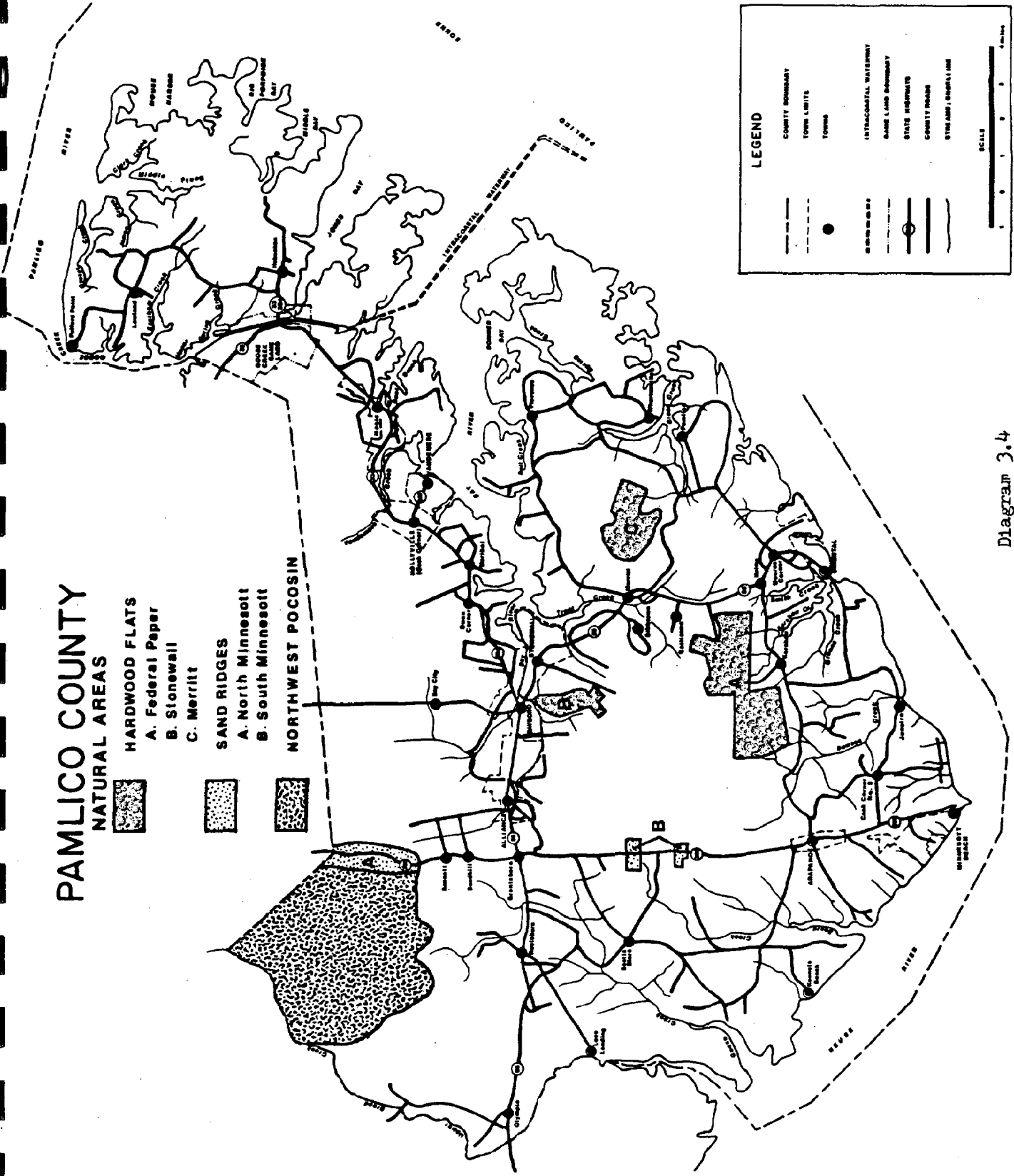
<u>Natural Area</u>	<u>Acreage</u>
<u>Hardwood Flats</u>	
A. Federal Paper	2,400
B. Stonewall	425
C. Merritt	1,500
<u>Sand Ridges</u>	
A. North Minnesott	1,250
B. South Minnesott	380
Northwest Pocosin	12,500

# PAMLICO COUNTY NATURAL AREAS

**HARDWOOD FLATS**  
 A. Federal Paper  
 B. Stonewall  
 C. Merritt

**SAND RIDGES**  
 A. North Minnesota  
 B. South Minnesota

**NORTHWEST POCOSIN**



**LEGEND**

- COUNTY BOUNDARY
- TOWN LIMITS
- Towns
- INTRACOASTAL WATERWAY
- STATE LAND BOUNDARY
- STATE HIGHWAYS
- COUNTY ROADS
- STATE AID / STATE AID LINE

SCALE  
0 5 10 Miles

Diagram 3.4



Under the Coastal Area Management Act (CAMA) several primary natural areas called Areas of Environmental Concern or AEC's are designated. Among those that have relevance to Pamlico County are: (1) coastal wetlands; (2) estuarine waters; (3) public trust areas; (4) estuarine shorelines; (5) coastal areas that sustain remnant species; (6) complex natural areas; (7) unique coastal geologic formations and (8) significant coastal historic architectural resources. Each of these Areas of Environmental Concern is discussed below as they apply to Pamlico County.

Coastal wetlands are defined by CAMA regulations to include "any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides ... provided this shall not include hurricane or tropical storm tides" (07H.0205). These are extremely productive ecological environments, which provide essential nutrients for various species of fish and shellfish, and provide feeding and nesting areas for waterfowl and wildlife. These areas also serve to reduce shoreline erosion, and serve to filter pollutants and excessive nutrients. These areas also serve as natural flood mitigation devices, in their ability to act as "sponges," retaining and absorbing flood waters. Some 60,019 acres in the county are included in low tidal and upland marshland areas and thus fall into this category (1980 Land Use Plan). The majority of these areas are located adjacent to Pamlico Sound in the Northeastern portion of the county. A substantial acreage of marshland is also found along the county's creeks and rivers.

The CAMA program places a high priority on protecting and enhancing these natural areas. The stated management objective for these areas is the following:

To give highest priority to the protection and management of coastal wetlands so as to safeguard and perpetuate their biological, social, economic and aesthetic values; to coordinate and establish a management system capable of conserving and utilizing coastal wetlands as a natural resource essential to the functioning of the entire estuarine system.

CAMA regulations stipulate which uses and land activities are appropriate and which are not for such natural areas. Conservation uses and water-dependent uses are to be given priority here. Such land uses as residences, businesses and restaurants, hotels, motels, and trailer parks, among others, are considered unacceptable under the CAMA provisions.

Estuarine waters include "all the water of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters ..." (7H-0206(a)). Waters in Pamlico County classified as estuarine are listed in North Carolina Fisheries Regulations for Coastal Waters; Department of Natural Resources and Community Development, Division of Marine Fisheries at p129 et seq. As with coastal wetlands, CAMA regulations stipulate that conservation of these waters should be given highest priority, followed by water-related activities.

Public Trust Waters are defined by CAMA to include all waters of the Atlantic Ocean and lands thereunder from the mean high water mark to the seaward limit of state jurisdiction. Some artificially-created bodies of water are also classified as public trust waters. In Pamlico County, there are some 348 miles of bay and estuarine shoreline, and 29 bays, rivers and creeks, which are classified as public trust waters. Under the public trust doctrine these areas are held in trust by the state for the public to use for navigational and recreational purposes.

Estuarine shorelines are defined in the CAMA regulations to include those "non-ocean shorelines which are especially vulnerable to erosion, flooding, or

other adverse effects of wind and water and are intimately connected to the estuary." These are areas which are considered to be dry land. The entire shoreline in Pamlico is included in this zone. The geographic range of this area is specified in CAMA regulations as extending "from the mean high water level or normal water level along the estuaries, sounds, bays and brackish waters ... for a distance of 75 feet landward" (7H-0209(b)).

The specific use standards stipulated under CAMA for development in these areas are the following:

- (1) All development projects, proposals and designs shall substantially preserve and not weaken or eliminate natural barriers to erosion, including, but not limited to peat marshland, resistant clay shorelines, cypress gum protective fringe areas adjacent to vulnerable shorelines.
- (2) All development projects, proposals and designs shall limit the construction of impervious surfaces and areas not allowing natural drainage to only so much as is necessary to adequately service the major purpose or use for which the lot is to be developed. Impervious surfaces shall not exceed 30 percent of the AEC area of the lot, unless the applicant can effectively demonstrate, through innovative design, that the protection provided by the design would equal to or exceed the protection by the 30 percent limitation.
- (3) All development projects, proposals and designs shall comply with in the mandatory standards of the North Carolina Sedimentation Pollution Control Act of 1973...
- (4) Development shall not have a significant adverse impact on estuarine resources.
- (5) Development shall not significantly interfere with existing public rights of access to, or use of, navigable waters or public resources.
- (6) No major public facility shall be permitted if such facility is likely to require extraordinary public expenditures for maintenance and continued use, unless it can be shown that the public purpose served by the facility outweighs the required public expenditures for construction, maintenance, and continued use.
- (7) Development shall not cause major or irreversible damage to valuable, documented historic architectural or archaeological resources.

A final category of AEC's relevant to Pamlico County are those which contain natural and cultural resource areas. Several types of AEC's are contained within this category, including: (1) coastal areas that sustain remnant species; (2) coastal complex natural areas; (3) unique coastal geologic formations; (4) significant coastal archaeological resources; and (5) significant coastal historic architectural resources.

AEC's within the category of fragile natural and cultural resource areas are not designated in advance, but rather are created under special nomination and designation procedures. These areas may be nominated to the Coastal Resources Commission (CRC) at any time by any person or group. Upon nomination, the Division of Coastal Management (DCM) conducts a preliminary evaluation which is presented to the CRC for their endorsement. If endorsed, the DCM conducts a more detailed evaluation of the site, including a management plan and use standards. After reviewing this detailed report, and conducting a public hearing on the proposed designation, the CRC can then officially designate the fragile natural and cultural resource area as an AEC. Once designated, any development within the AEC must be consistent with the management's plan and use standards.

Coastal areas sustaining remnant species are defined as including land which supports "native plants or animals determined to be rare or endangered (synonymous with threatened and endangered)... " While no areas have been designated by the Coastal Resources Commission, the Peacock and Lynch natural areas study did identify such areas.

Coastal Complex Natural Areas are defined as "lands that support native plant and animal communities and provide habitat qualities which have remained essentially unchanged by human activities." The 1980 land use plan identifies the following areas in the county as satisfying these criteria:

Large pocosin areas in Pamlico County should be considered complex natural areas. The two largest and most significant are the Bay City Pocosin located north of N.C. Highway 55 between the western county line, Goose Creek Island, and Beaufort County and the Light Ground Pocosin in central Pamlico County between Minnesott Beach and Bayboro. These pocosin areas should be considered fragile and should only be used on a limited basis by select farming and forestry operations. Any mining of the large peat deposits located in these pocosin areas should be performed with strict compliance to relevant environmental regulations.

The CAMA regulations define unique coastal geologic formations to include "sites that contain geologic formations that are unique or otherwise significant components of coastal systems, or that are especially notable examples of geologic formations or processes in the coastal area." While no such areas have been designated in the county, the 1980 plan identifies an area on Benner's Plantation (in Dawson Creek area) which contains pleistocene marine invertebrate fossils and fluestrial vertebrate fossils.

Areas of significant coastal archaeological resources contain "archaeological remains (objects, features, and/or sites) that have more than local significance to history or pre history." No such areas have been identified in Pamlico County.

Significant coastal historic architectural resource areas are defined as "districts, structures, buildings, sites or objects that have more than local significance to history or architecture." Relatively few historically-significant structures exist in Pamlico County. One identified in the 1980 land use plan was the China Grove House, built in 1790 (one-half mile east of Dawson's Creek Bridge on State Road 1302). Historic and archaeological resources are discussed further in Chapter 10.0.

Goal - Protection of Natural and Fragile Areas

It is the goal of Pamlico County to preserve and protect its natural resources and environmentally-sensitive and fragile areas. To the extent possible, these important natural areas should be maintained in an undeveloped state.

Policies - Protection of Natural and Fragile Areas

1. The county will attempt to discourage development in areas where soils are particularly unsuited for septic tank use.

2. The county supports the objectives of CAMA in managing and regulating Areas of Environmental Concern.

3. The county will continue to carefully restrict the extent of public and private wastewater disposal entering the public trust waters within and bordering the county.

4. The county will ensure that future development near shorelines stringently adheres to state sedimentation control regulations and that all appropriate actions are taken to minimize nonpoint pollution from agricultural, forest and other resource-oriented activities.

5. The county will seek to preserve the unique natural areas identified by the Peacock and Lynch study, including protecting them from any adverse impacts from industrial development. The county's Environmental Impact Assessment Ordinance is useful in evaluating proposed development.

6. The county will encourage development and site design in shoreline areas which minimize the extent of impervious surfaces and storm water runoff.

7. The county will review the adequacy of existing setback requirements for coastal wetlands and the estuarine shoreline and ensure that sufficient buffers exist to minimize the effects of pollution and runoff. The county

will encourage development and site designs which maximize the distance from these sensitive areas and size of buffers around coastal wetlands.

8. The extension of future sewer and water lines, and other public investments, will be undertaken in such a way as to minimize future development pressures on the sensitive natural areas identified in this chapter.

9. The county recognizes the recreational and other positive uses of natural areas and will consider policies for their protection. The county will initiate a study to consider options available for preserving these areas and to determine which natural areas should be afforded the highest priority.

10. The county will consider incentives which will encourage the maintenance of privately owned sensitive areas, including estuarine islands, in their natural state.

11. The county will take whatever future actions are necessary, including the regulation of development and the placement of septic tanks and other sewage disposal systems, to ensure the protection of groundwater resources.

12. Because of the general unsuitability of the soils in Pamlico County to accommodate septic tanks, and the threats posed to local water quality, priority should be given to the timely but careful development of a sewer system in the county (see Chapter 11.0). The use of package treatment plants will be given careful consideration.

13. The Environmental Impact Statement process required for certain development will be used to diminish the possibility of the despoliation in natural and fragile areas.

14. The Subdivision Ordinance is being studied and a mobile home park ordinance is being prepared.

15. The use of non-selfpropelling floating homes or boats for permanent residences (for more than two continuous weeks) will be discouraged.



## Chapter 4.0

### Economic and Industrial Development

Without a local and regional economic base residents would not be able to remain in Pamlico County. Furthermore, developing and expanding the county's economic base and local economic activities are essential to enhancing the quality of life for residents of Pamlico county. Given the relatively high percentage of county residents below the poverty level, expanding employment opportunities and increasing income levels should be an important priority.

Much of the regional employment base, as discussed earlier, is resource-oriented, with heavy reliance on agriculture, forestry, fishing and mining. Table 4.1 presents a list of employed persons in Pamlico County by type of industry. Approximately 18% of local workforce was employed directly in these resource-related industries in 1980. Table 4.1 indicates that employment in other sectors is also extensive. Approximately 18% of the local workforce is employed in manufacturing, with about half of this in the manufacture of nondurable goods (e.g., food and allied products) and half in the manufacture of durable goods (e.g., furniture, lumber and wood products, machinery and transportation equipment).

Approximately 13% of the workforce is employed in retail trade, and 7% in wholesale trade. A relatively large portion (21%) of the workforce is employed in the services (a large portion of this is education and health-related areas). Public administration comprised about 8% of the workforce, about 3% in finance, insurance and real estate, and about 5% in transportation, communications and public utilities. About 300 workers, or about 8% of the workforce, were employed in construction.

Table 4.1  
Industry of Employed Persons in Pamlico County

	<u>Pamlico</u>
Employed persons 16 years and over	3,734
Agriculture	264
Forestry and fisheries	239
Mining	159
Construction	294
Manufacturing	671
Nondurable goods	375
Food and kindred products	117
Textile mill and finished textile products	153
Printing, publishing, and allied industries	6
Chemicals and allied products	62
Durable goods	296
Furniture, lumber and wood products	115
Primary metal industries	4
Fabricated metal industries, including ordnance	8
Machinery, except electrical	31
Electrical machinery, equipment, and supplies	2
Transportation equipment	127
Transportation, communications, and other utilities	170
Railroads	-
Trucking service and warehousing	51
Other transportation	48
Communications	30
Utilities and sanitary services	41
Wholesale trade	258
Retail trade	476
General merchandise stores	30
Food, bakery, and dairy stores	166
Automobile dealers and gasoline stations	74
Eating and drinking places	82
Finance, insurance and real estate	116
Banking and credit agencies	62
Insurance, real estate, and other finance	54
Services	792
Business services	21
Repair services	53
Private households	50
Other personal services	70
Entertainment and recreation services	17
Professional and related services	581
Hospitals	75
Health services, except hospitals	100
Elementary and secondary schools and colleges	314
Other educational services	15
Social services, religious and membership organizations	53
Legal, engineering, and other professional services	24
Public administration	295

Source: 1980 Census of Population

Table 4.2 presents the occupation of Pamlico County workers. The largest occupational category is operators, fabricators and laborers, in which about 24% of the workforce falls. Managerial and professional specialty occupations comprised about 15%, and technical, sales and administrative support occupations about 19% of the workforce. About 11% of the workforce is employed in service occupations, and about 13% is employed in farming, forestry and fishing occupations.

Table 4.2

Occupation of Employed Persons for Pamlico County

	<u>Pamlico</u>
Employed persons 16 years and over	3,734
Managerial and professional specialty occupations	548
Executive, administrative, and managerial occupations	254
Officials and administrators, public administration	13
Management related occupations	37
Professional specialty occupations	294
Engineers and natural scientists	42
Engineers	31
Health diagnosing occupations	10
Health assessment and treating occupations	19
Teachers, librarians, and counselors	168
Teachers, elementary and secondary schools	117
Technical, sales, and administrative support occupations	713
Health technologists and technicians	59
Technologists and technicians, except health	48
Sales occupations	200
Supervisors and proprietors, sales occupations	47
Sales representatives, commodities and finance	39
Other sales occupations	114
Cashiers	50
Administrative support occupations, including clerical	406
Computer equipment operators	-
Secretaries, stenographers, and typists	107
Financial records processing occupations	78
Mail and message distributing occupations	10
Service occupations	426
Private household occupations	48
Protective service occupations	30
Police and firefighters	13
Service occupations, except protective and household	348
Food service occupations	101
Cleaning and building service occupations	124

Table 4.2 (Continued)

Farming, forestry, and fishing occupations	498
Farm operators and managers	115
Farm workers and related occupations	135
Precision production, craft, and repair occupations	649
Mechanics and repairers	199
Construction trades	250
Precision production occupations	167
Operators, fabricators, and laborers	900
Machine operators and tenders, except precision	193
Fabricators, assemblers, inspectors, and samplers	94
Transportation occupations	152
Motor vehicle operators	125
Material moving equipment operators	56
Handlers, equipment cleaners, helpers and laborers	405
Construction laborers	42
Freight, stock and material handlers	70

Source: 1980 Census of Population

Goal -- Economic and Industrial Development

It is the goal of Pamlico County to encourage future economic growth and development to provide adequate employment and income levels for all residents of the county.

Policies -- Economic and Industrial Development

1. The county will continue to encourage the location of small scale industrial development.
2. The county will not welcome future energy facilities, industrial and economic growth which has substantial negative effects on the natural environment and the high quality of life which currently exists in the county. For instance, the county is not interested in attracting a large, polluting industry, even though such an industry might generate substantial employment and economic activity for the county.
3. The county does not wish to promote future industrial growth or energy facilities at the expense of its existing traditional economic base, namely farming, forestry and fishing. For instance, the county does not wish to encourage the location of an industry if it will substantially impede the

future of the fishing, farming, forestry or recreation industries.

4. The county will review the adequacy of its existing industrial and commercial sites, to ensure that they are consistent with the goals and objectives of this plan.

5. The county recognizes that the aesthetic and recreational qualities of the area represent important economic resources, and will seek to protect these resources in the future. The county recognizes that vacation and second-home recreational housing will become an increasingly important part of the local economy, and will seek to accommodate this economic sector to the greatest extent possible. However, the county will seek to ensure that such future development does not have negative effects on the natural environment and does not serve to undermine the other goals and policies delineated in this plan.

6. The construction of the public sewer system will be used to focus development where it will be less likely to conflict with the policies of this plan.

## Chapter 5.0

### Agriculture, Forestry and Fishing

The many miles of navigable waterways, extensive forests and productive soils have provided a rich natural resource base for fishing, forestry, and farming since the county was settled. The towns of Bayboro, Vandemere, Pamlico and Oriental grew from small fishing settlements at the heads of rivers, creeks and bays. Later, as the road system developed, people moved into the interior to farm.

Agriculture is the leading industry in Pamlico County. Wheat, oats, rye, corn, cotton, peas, rice, potatoes, cattle, hogs and sheep were early agricultural products. By 1879 the leading crops were corn, cotton and sweet potatoes, but pests later caused cotton and sweet potato production to die off.

Table 5.1 presents some basic information about farming and agriculture in Pamlico County, derived from the Federal Census of Agriculture. In 1982, approximately 44 thousand acres were contained in 136 farms. This constitutes about 20% of the county's acreage. The average farm size in 1982 was 324 acres. Comparing 1978 and 1982 data indicates that while the number of farms in the county is declining, the average size of the remaining farms is increasing. This parallels a national trend as farms become increasingly mechanized and specialized. The number of acres in farmland has remained roughly the same, though it increased slightly between 1978 and 1982. The average per farm value of land and buildings was \$336,463 in 1982, registering a substantial increase since 1978. The average per acre value of land and buildings in Pamlico County farms was \$1,076 in 1982.

Table 5.1

Characteristics of Agriculture in Pamlico County

	<u>1978</u>	<u>1982</u>
Number of Farms	174	136
Acres in farms	42,597	44,045
Average size in acres	245	324
Approximate county land area	213,400	213,400
Proportion of county land in farms	19.5%	20.2%
Average per farm value of land and buildings	\$232,718	\$336,463
Average per acre value of land and buildings	\$870	\$1,076

Source: Census of Agriculture for 1978, 1982

As Table 5.2 indicates, of the acreage in Pamlico farms, about 30,000 acres are used as harvested cropland. The majority of Pamlico farms, according to the 1982 Census of Agriculture, were involved in growing cash grains (94 farms). A substantial number (20 farms) produced other field crops, specifically tobacco (14 farms) and sugar crops, Irish potatoes, hay, peanuts and other field crops (6 farms) (see Table 5.3).

Table 5.2

Farm Land in Pamlico County

	<u>1978</u>	<u>1982</u>
Total cropland acres	30,023	32,445
Harvested cropland acres	28,129	30,718
Cropland used only for grazing	573	297
Total woodland acres	11,188	9,927

Source: 1982 Census of Agriculture

Table 5.3

Types of Farms in Pamlico County in 1982  
(Farms by Standard Industrial Classification)

	<u>Number of Farms</u>
Cash grains	94
Field crops, except cash grains	20
-cotton	--
-tobacco	14
-sugar crops, irish potatoes, hay, peanuts and other field crops	6
Vegetables and melons	2
Fruits and tree nuts	3
Horticultural specialties	2
Dairy farms	--
Poultry and eggs	--
Animal specialties	--
General farms, primarily livestock	--

Source: 1982 Census of Agriculture

Table 5.4 presents the market value of the agricultural products produced by Pamlico County farms. In 1982, these products were valued at nearly \$12 million. The average value of farm products was \$88,151 in 1982. As Table 5.4 indicates, and as already noted, the largest cash value productions is in the area of grains (corn, grain, wheat, soybeans, etc.), which amounted to more than \$6 million dollars in 1982 and other crops produced market values of over \$3 million dollars. Tobacco production accounted for about \$2 million dollars.



Table 5.4

Market Value of Agricultural Products Sold by Pamlico Farms

	<u>1978</u>	<u>1982</u>
Total Sales	\$10,691,000	\$11,989,000
Average per farm	61,442	88,151
Grains (corn, grain, wheat, soybeans, etc.)	4,776,000	6,193,000
Tobacco	2,308,000	1,875,000
Vegetables, sweet corn and melons	390,000	490,000
Nursery and greenhouse products	31,000	---
Other crops	2,027,000	3,033,000
Livestock, poultry and their products	1,155,000	376,000

Source: 1982 Census of Agriculture

One important characteristic of agriculture in Pamlico County is its dependence on artificial drainage. Because of the county's high water table most of the county's agricultural soils are classified as containing wetness limitations. Consequently, drainage is necessary to farm in most of these soils and an extensive surface drainage network of canals and ditches exists throughout the county (CRC, Ltd. 1984).

The largest use of land in Pamlico County is for forestry operations. Historically, tar, pitch turpentine and lumber were important forest products. County extension agent estimates of receipts for timber sales put them at over \$3.6 million for the county in 1983 (CRC, Ltd. 1984a). The 1983 timber harvest was estimated at 296,500 cords of pulpwood and 5.48 million board feet of saw timber.

Loblolly pine is the most important commercial timber species grown in the county because of its high market value. The loblolly pine is well adapted to the soils and climate of the area and grows quickly making it easy to establish and manage. In addition to pines, several varieties of oak, and maples, gums, hickories, and poplars are used to produce wood products.

Several large timber companies own substantial areas in the county. Table 5.5 presents the acreage owned in the county by the primary companies. Timber and wood products represent an important component of the local economy and future land use planning and management in the county should attempt to enhance and protect these resources. These resources also represent important recreational resources, which could be used for hunting and other outdoor activities. Protecting the county's forest resources will also protect its visual and aesthetic character.

Table 5.5

Commercial Timber Companies in Pamlico

<u>Companies</u>	<u>Ownership in Pamlico County</u>
Weyerhaeuser	36,116.14 acres
Texas Gulf	16,336.00 acres
Taylor	14,051.20 acres
Total	66,503.34 acres

Source: 1980 Pamlico County Land Use Plan

Commercial fishing was Pamlico County's second leading industry in 1983, generating over \$7 million in dockside earnings and substantially more in the processing, wholesale, and retail trade of fish products. County landings, in weight and value, for the last six years are shown in Table 5.6. Throughout this period, the county has consistently ranked third in value landed among coastal counties, after Dare and Carteret. Principal species landed are shrimp, flounder, blue crab, grey sea trout, croaker, and spot.

Major fishing ports in the county are Lowland, Hobucken, Vandemere, Bayboro, Pamlico, and Oriental. A total of 848 commercial vessel licenses were purchased in 1983, consisting of 272 full-time licenses, 188 part-time, and 388 pleasure. (The figure of 272 full-time licenses is misleading, as it is doubtful that all of these vessels were used by bona fide full-time fishermen. Only 108 of these vessels were over 25 feet in length; 111 were under 21 feet, and undoubtedly many of these were probably not used full-time.) The county had 58 licensed seafood dealers in 1983, with the greatest concentrations in Lowland, Bayboro, and Oriental.

Agriculture, forestry and fishing are not always complimentary economic sectors. It is clear that agricultural and forestry activities can create severe negative environmental impacts on fish habitats, and thus on the long-term sustainability of the fishing resource. Runoff into sensitive estuarine areas is a problem. Farming drainage canals often empty into primary nursery areas or into creeks leading to these nursery areas. Freshwater runoff can reduce the value of estuarine nurseries by reducing average salinities.

Table 5.6

Seafood Landings, Pamlico County, 1978-1983

<u>Year</u>	<u>Landings</u> (thousands of pounds)	<u>Dockside Value</u>
1983	14,022	7,135,000
1982	14,020	7,688,000
1981	17,329	6,710,000
1980	21,381	9,737,000
1979	19,524	6,573,000
1978	15,412	4,317,000

Source: Preliminary seafood landings, N.C. Division of Marine Fisheries, Morehead City, N.C., as cited in CRC, Ltd. 1984a

Juvenile forms of a number of species of fish and shellfish have been found to be more abundant in nursery areas where no man-made drainage existed and where salinity levels were more stable (see CRC, Ltd. 1984a). Farming and forestry practices can also create substantial sedimentation problems, as well as the introduction of nutrients into estuarine areas, such as nitrogen and phosphorus. Pathogenic bacteria is also introduced through animal wastes, and human wastes from malfunctioning septic tanks. Together this off-site pollution constitutes a serious threat to the fishing resource upon which the county heavily depends.

Goal - Agriculture, Forestry and Fishing

It is the goal of Pamlico County to protect and strengthen the agricultural, forest and fishing sectors which today comprise such an important part of the local economy. It is essential that the county do everything it can to protect the natural resource base upon which these economic sectors rely.

The county also recognizes that certain agricultural and forestry practices may have adverse impacts on the long-term productivity of the land, on the productivity of estuarine waters, and on the environmental health of the county. It is a goal of the county to support the modification or elimination of these deleterious practices, so as to ensure the long-term productivity of the county's resource base and to protect the quality of life of county residents.

Policies - Agriculture, Forestry and Fishing

1. The county will, to the extent possible, direct future growth and development away from the most productive agricultural and forest lands in rural areas. Future development will be encouraged to locate on less productive land in existing communities or transition areas.

2. The county values its forestlands as both economic resources and aesthetic and recreational resources. To the extent possible it will discourage future development in highly productive forested areas. The county will take whatever actions it can to encourage the retention of these areas in their current uses.

3. The county supports and encourages the use of sound forest management practices. This should include an adequate restocking of forestry after harvest.

4. The county recognizes the economic importance of fishing and will manage future growth and development to minimize damage to commercial fishing resources. Among other policies, the county will seek to restrict the extent of damaging erosion and runoff, and the entrance of other pollutants into sensitive coastal waters (see Chapter 3.0). More specifically, the county will seek to modify agricultural and forestry practices which have negative environmental consequences through at least the following means:

- a. The county should consider additional funding for specific projects and manpower needs in resource conservation that have a strongly demonstrated need and a high probability of success.
- b. The county should develop a closer working relationship with the Bay River Soil and Water Conservation District, and should encourage and assist the District in expanding its scope and funding support in becoming a more aggressive advocate of resource conservation.
- c. The county should request the General Assembly to provide counties with the ability to require conservation plans on the installation of appropriate conservation treatments as a condition of eligibility for use-value property tax assessment.
- d. The county should initiate formation of an ad hoc county water management task force to bring together the disparate local interests in water management and to begin work towards a comprehensive water management plan for the county.

5. Marinas are an important part of water based activity in the county but if not located and managed carefully can contribute to the degradation of the water that makes that activity possible. The county, therefore, endorses all the state policy that applies to the location and management of marinas and further discourages them from locating in primary nursery areas, shellfishing areas and other highly sensitive areas. It encourages each marina in the county to make pump out facilities available and to use best practices to avoid spillage of fuels, wastes and other pollutants.

## Chapter 6.0

### Mining

Within the sedimentary rock that underlies Pamlico County, phosphate pellets occur in varying amounts. Beds of phosphate-rich sand may exist throughout the county, but are more likely to be found in areas where the average rock composition is sand. Thus, the highest concentrations can be expected in areas of greater than 75 percent sand and moderate concentrations where the rocks are 50 to 75 percent sand (Diagram 6.1). Texas Gulf owns land in the county that could be mined for phosphate, although no mining is taking place currently.

In addition to phosphate, Pamlico County contains rich deposits of peat. Peat is found in the marshes and in areas known as pocosins (Diagram 6.2). There are three major pocosin areas within the county: the Light Ground, Bay City, and Northwest. The Light Ground pocosin contains the most suitable peat for energy production and ranges from 0-12 for mining peat within this area, but the lack of a firm market for peat has delayed mining operations.

# PAMLICO COUNTY POTENTIAL DEPOSITS OF PHOSPHATE

Moderate concentration  
(50 to 75 percent sand)



High concentration  
(Greater than 75 percent sand)

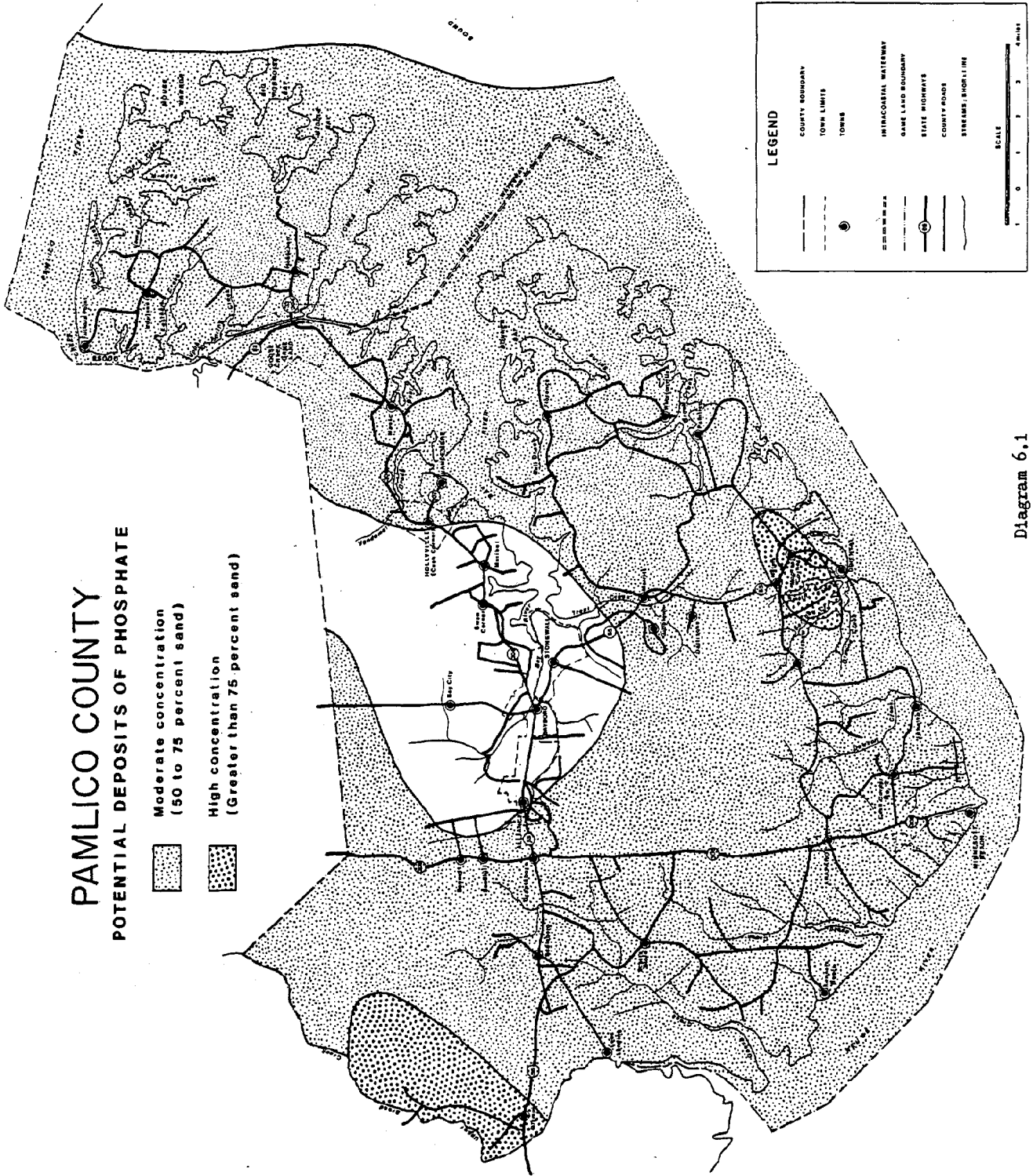
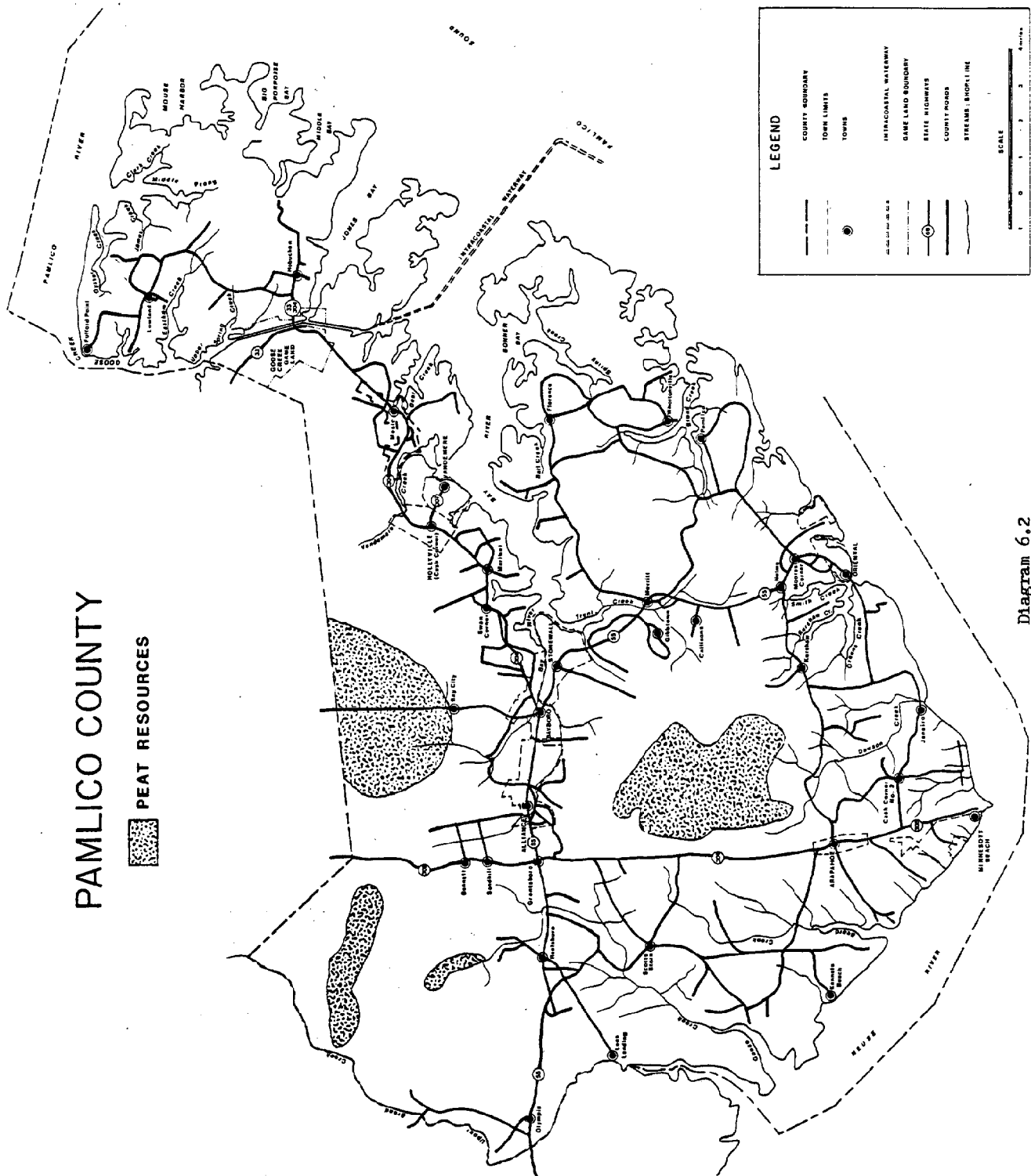


Diagram 6.1













# PAMLICO COUNTY

 PEAT RESOURCES

**LEGEND**

-  COUNTY BOUNDARY
-  TOWN LIMITS
-  TOWNS
-  INTERCOASTAL WATERWAY
-  GAME LAND BOUNDARY
-  STATE HIGHWAYS
-  COUNTY ROADS
-  STREAMS, SHOPLINE

SCALE  
0 1 2 Miles

Diagram 6.2

Goal - Mining

It is the goal of Pamlico County to encourage the development of these local peat and phosphate deposits provided that such development will not have a serious negative effect on the other natural resources in the county and that such development will make a positive contribution to the economic, social and psychological well-being of the people of the county. It is especially important that the development of these non-renewable resources does not hinder the development or continued use of renewable resources, such as farmland, forestland or the estuaries.

Policies - Mining

1. The adjacent natural environment and human activities should not be adversely affected to an unreasonable degree, including such features as:
  - a. water quality and quantity, both of surface waters and ground waters;
  - b. the natural function of streams, wetlands and estuaries;
  - c. air quality;
  - d. wildlife and fish populations
  - e. the natural beauty of the county; and
  - f. farming, fishing, tourism, forestry, and other economic activities.
2. The development of the resource should have a positive economic and fiscal impact on the county in both the short- and long-term.
3. Once the peat or phosphate is removed, the site should be restored to a condition either approximating its original natural state, or capable of supporting productive uses of the land which are compatible with the land use plan.

## Chapter 7.0

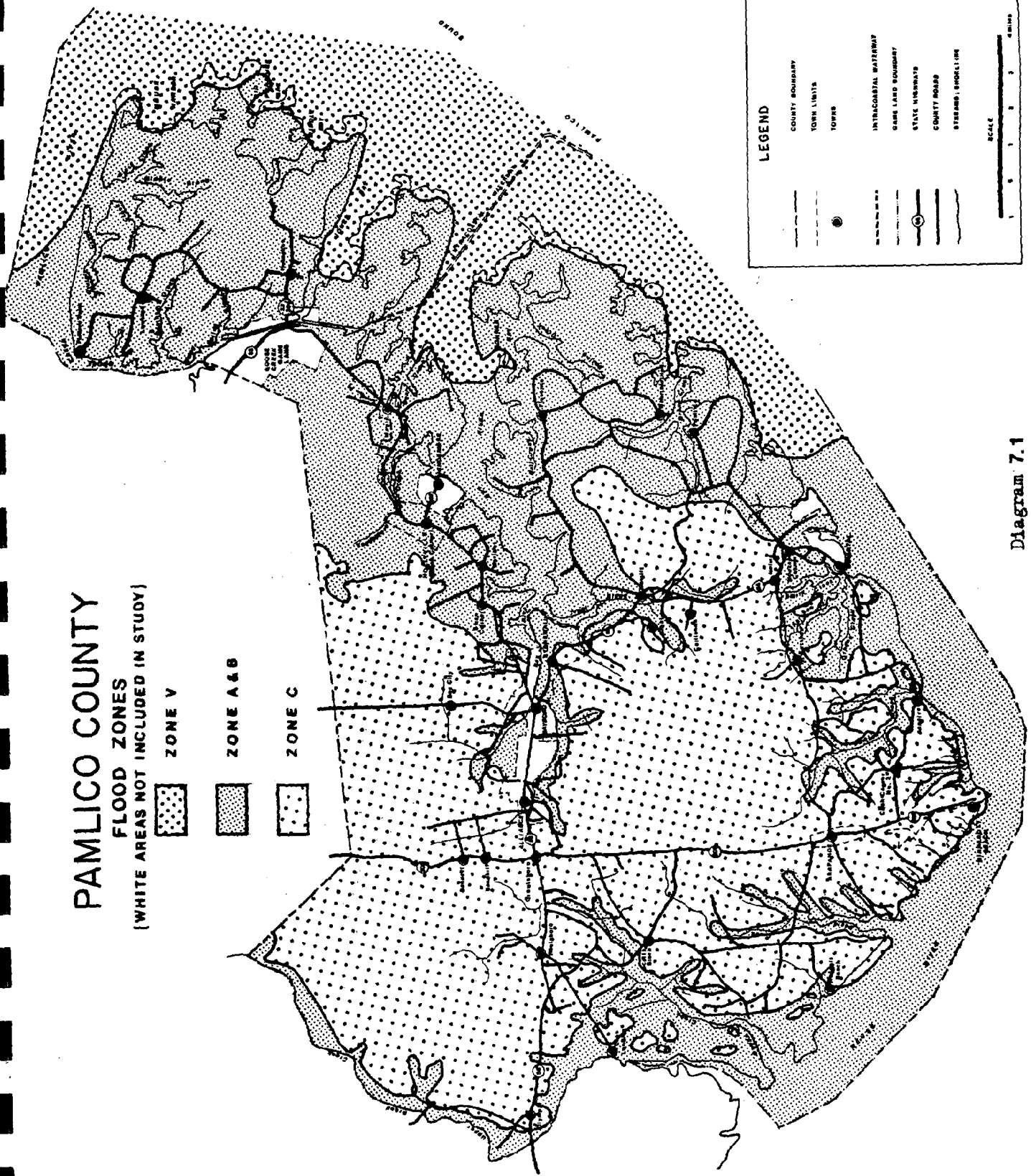
### Mitigation of Natural Hazards

#### Hurricanes and Coastal Flooding

Coastal North Carolina experiences hurricanes, tropical storms and severe extratropical cyclones usually referred to as northeasters. Since 1900, fifty-six hurricanes have passed across or close to the North Carolina coast. Of these fifty-six storms, twenty-one were major hurricanes, and twelve of those were destructive in Pamlico County. During major hurricanes that occurred in the mid 1950's, flood elevations of 6.1 to 8.7 feet at Oriental, 5.5 to 6.5 feet at Hobucken, and 5.6 to 8.9 feet at Bayboro were recorded (FEMA 1984).

Flood Insurance Rate maps have been completed for unincorporated areas of Pamlico County by the Federal Emergency Management Agency (FEMA). The 100-year flood has been adopted by FEMA as the base flood for purposes of floodplain management measures. This line represents the level that water would reach during a flood that is expected to occur on the average of once during a 100-year period. This means that there is a 1% chance of a flood of that magnitude occurring during any one year. The 500-year flood is used to indicate additional areas of flood risk in the county. Floods of this magnitude have a 0.2% chance of occurring during any one year.

Diagram 7.1 shows the approximate boundaries of flood insurance zones which represent areas of flood potential or hazard. The areas designated as Zone V are special flood hazard areas along the coast that would be inundated



# PAMLICO COUNTY

FLOOD ZONES  
[WHITE AREAS NOT INCLUDED IN STUDY]

ZONE V

ZONE A&B

ZONE C

**LEGEND**

- COUNTY BOUNDARY
- TOWN LIMITS
- TOWNS
- INTRACOASTAL WATERWAY
- GAME LAND BOUNDARY
- STATE HIGHWAYS
- COUNTY ROADS
- STREAMS, SPOEK LINE

SCALE 0 1 2 3 4 MILES

Diagram 7.1

by the 100-year flood and that have additional hazards due to the velocity of storm waves. The V zone generally extends inland to the point "where the 100-year flood depth is sufficient to support a 3-foot breaking wave." Because of the additional hazards associated with high energy waves, the National Flood Insurance Program regulations require much more stringent floodplain management measures in these areas, such as elevating structures on piles or piers.

Due to the scale of the map, zones A and B were combined. These areas are between the V zones and the 500-year flood line and are subject to 100-year floods. The third category shown, Zone C, is subject to only minimal flooding.




In 1986 the U.S. Army Corps of Engineers prepared maps of coastal North Carolina using a computer based model. This model, SLOSH (Sea Lake Overland Surge from Hurricanes), projects the flooding that will occur as a result of hurricanes of a large variety of characteristics (e.g., wind speed, direction, time, etc.). Diagram 7.2 shows the composite of these projections for storms in categories 1 and 2, 3, and 4 and 5 using the Safir-Simpson Scale: Number 1, winds between 74 and 95; Number 2, winds between 95 and 110; Number 3, winds between 111 and 130; Number 4, winds between 131 and 150; and Number 5 with winds over 150 miles per hour.

The two diagrams (7.1 and 7.2) show that virtually the entire county and all of its development is subject to some degree of flooding in the most extreme conditions.

The land use plan guidelines for CAMA were modified in the spring of 1983 to specifically address hurricane hazard mitigation and post-storm reconstruction. Local land use plans must now incorporate mitigation policies and post-storm reconstruction plans. The mitigation and reconstruction

# PAMLICO COUNTY

## SLOSH AREAS

-  Areas flooded by Categories 1&2
-  Additional areas flooded by Category 3
-  Additional areas flooded by Categories 4&5

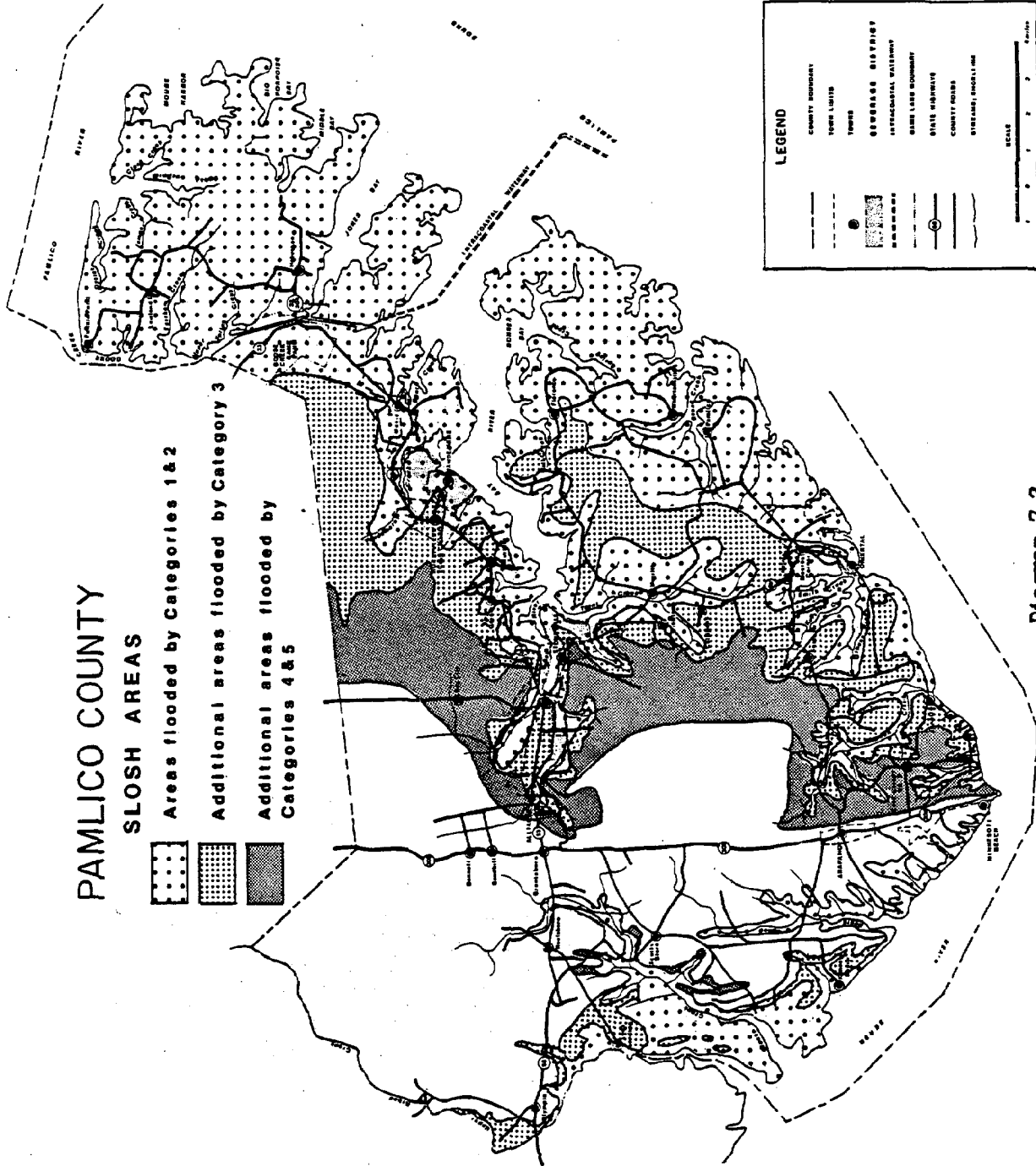


Diagram 7.2

policies that localities are required to prepare must consider at least the following:

1. Separate policies which deal with the effects of high winds, flooding, wave action and erosion for those hazard areas where such forces may be expected;
2. Means of dealing with structures and uses which do not conform to the hazard mitigation policies;
3. Means of encouraging hotels, restaurants, and similar large commercial structures to locate outside of erosion-prone areas;
4. Policies which deal with the acquisition of parcels located in hazard areas or rendered unbuildable, for the purpose of public access (Section .0203 (b)(a)).

The development of post-disaster reconstruction policies are intended to assist localities in making development and redevelopment decisions in the aftermath of a hurricane or severe storm, where the pressures to rebuild are great and where opportunities for careful deliberation are often few (see McElyea, Brower and Godschalk). Reconstruction guidelines are to address, among other things: "the timing and completion of damage assessments; the timing and imposition of temporary development moratoria; and the development of standards to which repairs and reconstruction shall conform" (.0202 (a)(b)(iv)).

Localities are to establish schedules for staging reconstruction "according to established priorities assigned to the restoration of essential services, minor repairs, major repairs and new development" (.0203 (a)(b)(v)). Localities are also required to prepare policies to direct the repair and reconstruction of public facilities, and to consider their possible relocation outside of high hazard zones. Consideration must also be given to the establishment of a "reconstruction task force," to oversee post-storm recovery and to deal with the policy questions which arise during the reconstruction phase.

While these requirements are intended to be most relevant in oceanfront localities, Pamlico County is vulnerable to the effects of hurricanes and coastal storms given its large amount of sound and river shoreline.

#### Shoreline Erosion

Shoreline erosion is a natural hazard existing in the county. Of the 348 miles of bay and estuarine shoreline, with 30 miles classified as critical and 24 miles classified as non-critical erosive shoreline (1980 Land Use Plan). These erosive areas exist along the Neuse River and along portions of creeks and streams...

"... extending southeast from Kennels Beach around Wilkinson Point then northeast to a point approximately halfway between Janiero and Oriental, then continuing from a point just west of Coddle Creek to a point just west of Broad Creek. The positions of the shoreline from Wilkinson Point northeast are generally low and also subject to flooding while the shoreline southwest of the Wilkinson Point area are high banked shorelines dropping off sharply where the land meets the water" (1980 Plan, p. 59).

#### Goal -- Mitigation of Natural Hazards

It is the goal of Pamlico County to minimize the risks to human life, and the risks to public and private property posed by hurricanes, coastal flooding, shoreline erosion and other natural hazards.

#### Policies - Mitigation of Natural Hazards

1. The county supports the objectives of the Natural Flood Insurance Program. Future development located in coastal floodplains will be subject to the elevation and floodproofing requirements specified under the regular phase of the National Flood Insurance Program.



2. To the extent possible, the county will minimize the extent to which people and property are placed at risk in designated flood hazard areas.

3. The county will take efforts to inform residents and prospective landowners of the nature and extent of the coastal flood hazard by publicizing the hazardous areas and encouraging the schools, civic clubs and others to spend some of their time becoming aware of the hurricane hazard.

4. The county will attempt to discourage future development in high hazard erosion areas.

5. The future location of public facilities and structures will take into consideration the existence and magnitude of natural hazards. To the extent possible, such public investments will avoid hazardous locations. However, where location in high hazard areas is inevitable, such structures or facilities will be designed so that future damages from hurricanes and other natural hazards are minimized.

6. The county will consider the formation of a post-hurricane recovery and reconstruction task force, as recommended in the CAMA storm hazard planning provisions. This team would provide oversight and direction during the reconstruction phase and would assist in the identification of mitigation opportunities.

7. The county will establish a post-hurricane damage assessment team, also recommended under the new CAMA provisions. This team will facilitate the acquisition of federal and state disaster assistance funds, will facilitate decisions concerning rebuilding and reconstruction, and will also assist the reconstruction task force in identifying mitigation opportunities that may be present following a hurricane or coastal flood.

8. The county should be prepared to take advantage of the opportunities to mitigate future hurricane and storm losses following the occurrence of a hurricane or severe coastal storm. These opportunities may take the form of relocation of damaged structures outside of particularly hazardous sites, the public acquisition of high hazard areas, and other policies which reduce the permissible density at which redevelopment can occur. To ensure that hasty redevelopment does not occur, and that opportunities to mitigate future natural hazards are not foreclosed, the county will consider an ordinance to permit local officials to impose a temporary reconstruction moratorium following a major disaster.

9. Septic tanks and drainfields which are substantially damaged must be repaired or reduced in accordance with the rules and regulations in effect at the time the repairs or replacement takes place.

10. The county will consider ways it can reduce exposure to natural hazards in the future through public acquisition of high hazard parcels. Such acquisition could be coordinated with other needs and objectives of the county, including the protection of important natural areas, and provision of adequate recreational facilities.

11. The county will periodically evaluate the capacity of its existing road and transportation system to evacuate residents in the event of a hurricane or severe coastal storm. It should identify any trouble areas and take appropriate actions to correct these problems. The county must make particular efforts to ensure that residents in the Goose Creek Island area are able to evacuate in a timely manner. The evacuation plan is currently being reviewed and will be revised with the assistance of the North Carolina Division of Emergency Management.

12. The county will periodically evaluate the adequacy of existing designated hurricane shelters. This evaluation must consider both the

structural adequacy of the buildings and their location relative to hurricane hazards.

13. The county will periodically conduct simulated hurricane evacuation and emergency management drills to familiarize county officials and residents with emergency procedures.

## Chapter 8.0

### Traffic and Transportation

The use of the automobile is the primary mode of transportation for Pamlico County residents. The importance of this mode of transportation, and the quality and condition of county thoroughfares upon which it depends, is evident by the relatively large number of residents who must commute substantial distances to work daily. As Table 8.1 indicates, in 1980 some 1450 Pamlico residents, or approximately 41% of the county's workforce, had to commute a distance equivalent to 30 minutes or greater of travel time. 893 residents, or one-quarter of the local workforce, traveled 45 minutes or more to work daily. The importance of the street and road system is further indicated by Table 8.2 which shows that few alternative transportation modes are currently being used.

Table 8.1

#### Travel Time for Pamlico County Workforce in 1980

Mean travel time	28.2 minutes
Less than 10 minutes	749 workers
10 to 19 minutes	761 workers
20 to 29 minutes	558 workers
30 to 44 minutes	557 workers
45 or more minutes	893 workers
workers 16 years and over who did not work at home	<hr/> 3518 workers

Source: 1980 Census of Population

Table 8.2

Modes of Transportation to Work for Pamlico County Residents in 1980

Workers 16 and over	3,673
Percent worked outside area of residence	42.3%
Modes of transportation	
Private automobile	3,253
Public transportation	56
Bicycle	15
Motorcycle	2
Walked only	156
Others means	106
Worked at home	85

Source: 1980 Census of Population

A thoroughfare plan for the county was developed by the State Department of Transportation, and adopted by the county in 1971. Under this plan roads in the county are classified as minor arterial, major collector roads or minor collector roads. Two segments of minor arterial are identified as existing in the county: the north-south Highway 306 between Minnesott Beach and Bennett (and north to Aurora), and east-west Highway 55 between Grantsboro and Olympia (west to New Bern). (See Diagram 1.1.) The remainder of Highway 55, and Highway 304 generally between Bayboro and Goose Creek Island are identified as existing major collector roads. The only road improvement proposed in the 1978 plan is the construction of a bridge to Minnesott Beach from Carteret County, and thus to connect this minor arterial to the South.

Goal - Public facilities and services

It is the goal of Pamlico County to provide its residents with adequate levels of essential public services and facilities. These facilities and services will be provided in a cost-efficient manner and will be provided at levels commensurate with growth and development in the county.

Policies - Public facilities and services

1. The county recognizes the negative environmental and public health reports of heavy reliance on septic tanks and places a high priority on the establishment of central sewerage system in the county. It will take all future actions necessary to bring about this system, including the funding and other recommendations contained in the sewerage feasibility studies.

2. Until such time as a central public sewerage system is available, and in areas where service from this system would not extend, the county should encourage the use of package treatment plants.

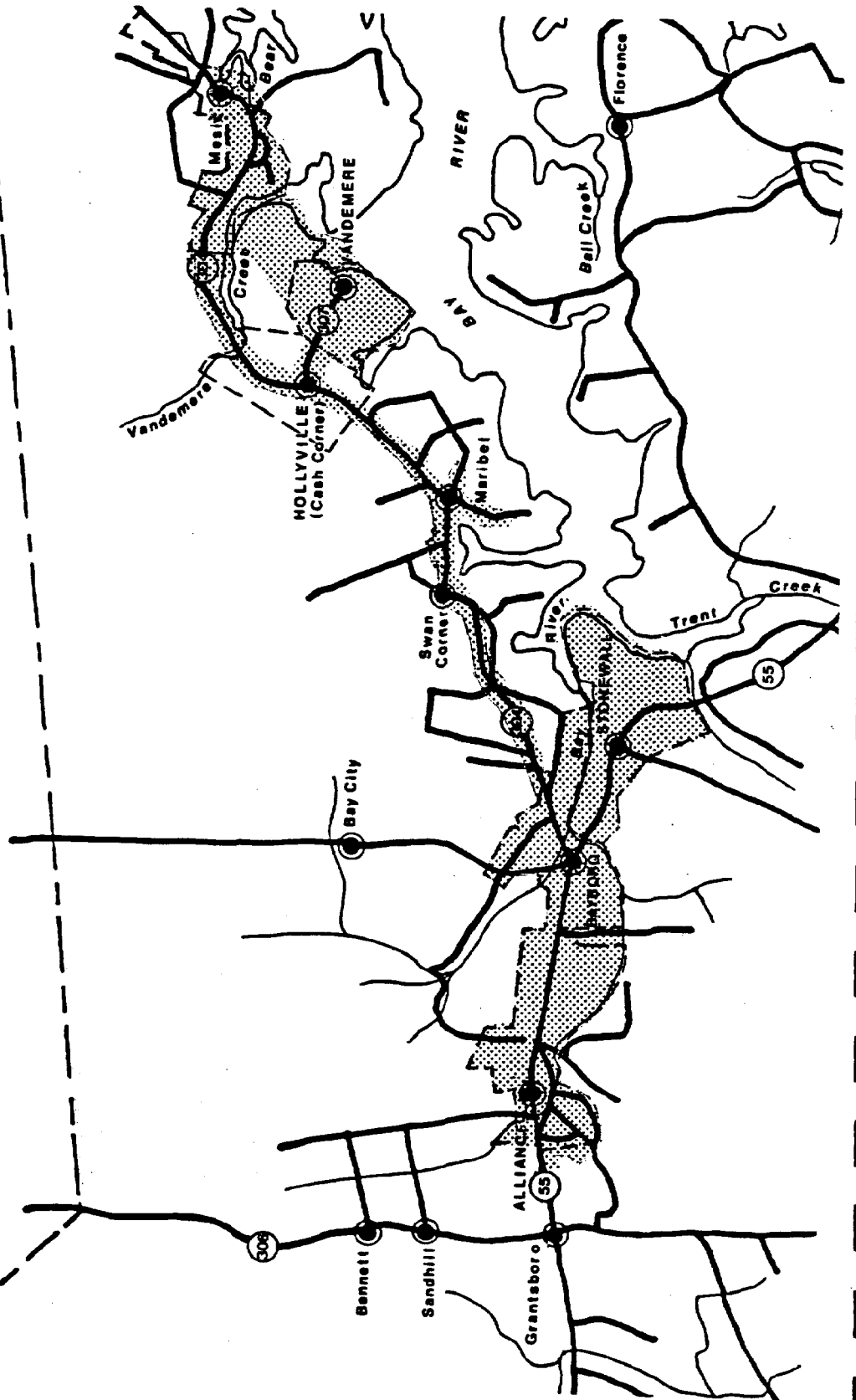
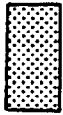
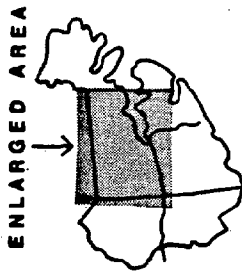
3. The county should take all actions possible to ensure that existing collection and treatment systems operate within their permitted effluent discharge levels.

4. The county should take whatever actions are necessary to ensure that septic tank failures are corrected and damage to water quality is minimized (e.g., Chapter 3.0 also).

5. The county will make appropriate improvements and extensions of the local water systems commensurate with future levels of growth and development.

6. To the extent possible, the county will finance future sewer and water improvements, and other public services and facilities according to the benefit standard. This standard suggests that those individuals who most benefit from such services and facilities ought to bear the greatest proportion of the costs.

BAY RIVER METROPOLITAN SEWERAGE DISTRICT



Scale: 1 inch = 0.2 miles

A 201 wastewater facilities planning study was completed for the county in 1979. This study, required for local eligibility for federal grant funds, considered several alternative wastewater treatment and collection facilities (see Moore, Gardner and Associates, Inc., 1979b). This study concluded that the most appropriate facility was a centralized land treatment system serving all municipalities plus unincorporated areas. The proposed system would be regional in nature and would serve all of Alliance, Bayboro, Mesic, Stonewall, Vandermere and portions of the county (see Diagram 11.2). Treatment capacity would be .2 million gallons per day (GPD), with a land treatment facility to be located northwest of Bayboro (Moore, Gardner and Associates, 1979a). Prior to the completion of 201 study, the Bay River Metropolitan Sewerage District was created as a legal entity.

A follow-up study completed in October of 1979 provided a detailed examination of the financial feasibility of the proposed system. Total project costs were estimated then to be \$5,888,200, of which \$3,031,200 was expected to be covered through grants from EPA. It was also predicted that the county would be eligible for additional funds from the Farmers Home Administration and State Clean Water Bonds. The local share of the project could be financed through the issuance of bonds.

The sewerage project was approved by the Palmico County voters in a referendum in September of 1986. It has been estimated that construction of the system will begin in early 1987 and will take about 18 months.



Wastewater disposal

Public sewerage has been recognized as a major problem since 1969. It has already been indicated that the suitability of soils in the county to accommodate system tank use is low, and that the need for some form of public sewerage system is great. While most areas in the county are unsuited for septic tanks, this has been the primary sewage disposal technique. The county health department has granted septic tank permits on a conditional basis instead of imposing a total moratorium on new building.

A recent survey of septic tank performance conducted by the Department of Human Resources, Shellfish Sanitation unit, in conjunction with the Pamlico County Health Department included a majority of the area within the BRMSD (Bay River Metropolitan Sewerage District; see below). The study was conducted during the drier, low water table period of the year; yet, 356 citations were issued for improperly operating septic tanks.

The number of existing malfunctioning septic tank systems and the extensive preparations required to allow development of marginal new systems clearly indicate the need for a central sewer system (p. 3-3).

Although a central sewerage system does not currently exist in the county, several wastewater collection or treatment plants are in use. Three public facilities with such systems in use are: Pamlico County Courthouse Square (package treatment plant); Pamlico County High School (sewage lagoon); Pamlico County Junior High School (sewage lagoon). At least two of these three systems have been reported to be in violation of the discharge limits established under their NPDES permits. Two seafood processing plants in the county -- Gaskill Seafood Company, Inc. of Bayboro and Pamlico Packing Company of Vandermere -- also hold NPDES discharge permits. These plants (only requiring screening) are apparently meeting the limitations of their permits.

# PAMLICO COUNTY COUNTY WATER SYSTEM

Approximate area  
served by county  
water lines

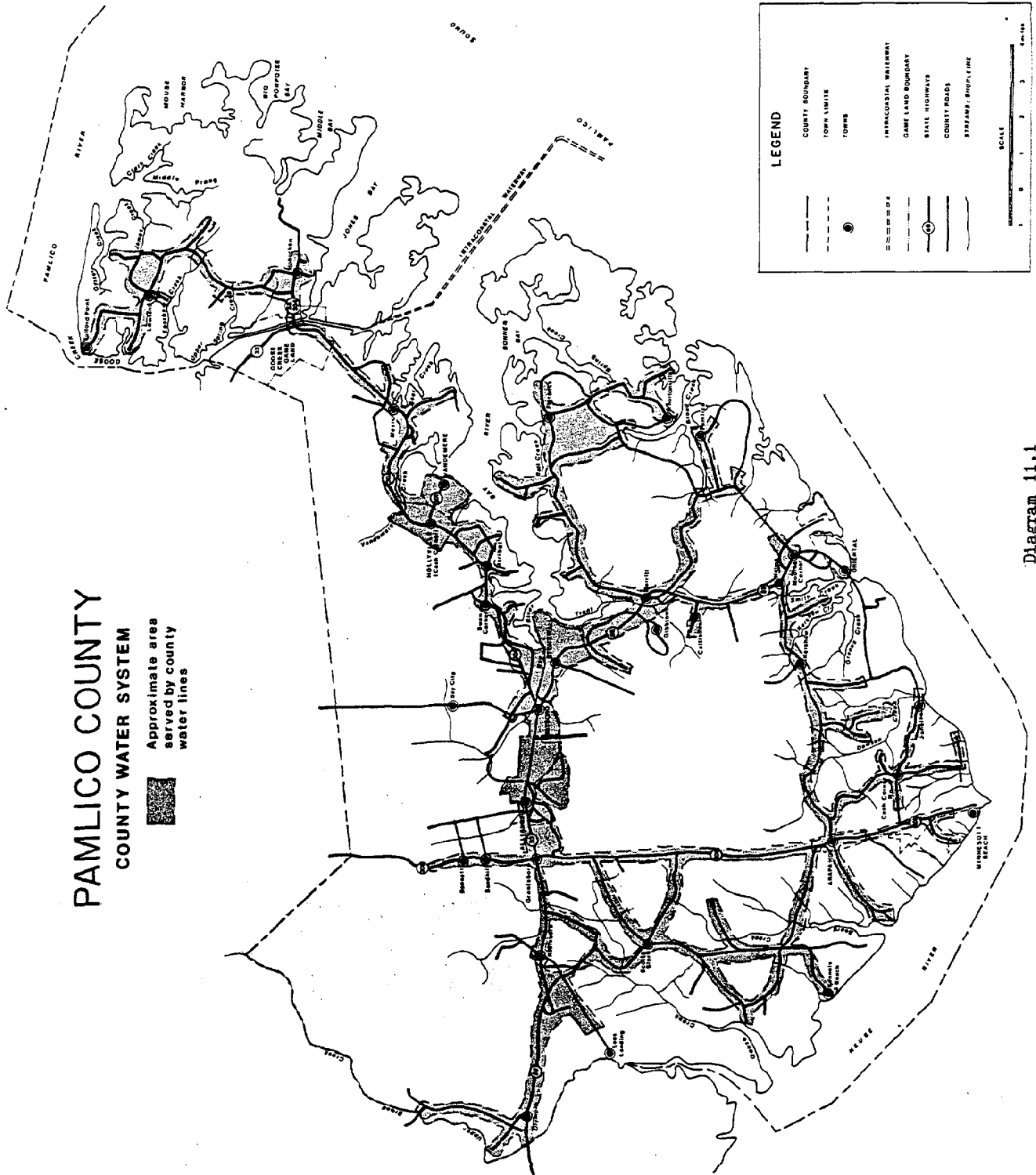


Diagram 11.1

The county presently operates a public water system. County water lines have been laid along many of the roads that run through the county (see Diagram 11.1). Current development patterns correlate with this system which further illustrates the trend of growth in the area.

At the present time there are 230 miles of line carrying an average of 16,400,000 gallons per month, which is estimated to be approximately 40 percent of the total capacity of the system. The county draws water from Castle Hayne aquifer which exhibits very little draw down at the county's wells. Approximately 80 percent of the county residents are on the water system and others are adjacent to the lines, but are not hooked into the system. There are three pump sites located in the county (Bayboro, Grantsboro, and Vandemere) with two wells at each of these sites. An elevated tank was constructed at Lowland as a safeguard to protect against a water shortage in the event that the water line running across the intracoastal waterway to Goose Creek Island is damaged.

Any future extensions to the county water system are likely to depend on the availability of grant money from the State or the FHA. The addition of feeder lines to the system would bring approximately 100 more residents on the system, but this would cost around \$150,000.

In addition to the county system, municipal systems are also operated by the Towns of Oriental (about 400 connections) and Minnesott Beach (about 150 connections).

## Chapter 11.0

### Public Facilities and Services

#### Water Supply and Service

Three aquifers currently supply the water needs of the county (CRC, Ltd 1984b). The deepest and most extensively used of the three is the Castle Hayne aquifer. Varying in thickness from 200-400 feet and buried at depths ranging from 80 feet in the western part of the county to over 350 feet in the northeast, the aquifer is composed of shell limestone and beds of calcareous sand. It is highly productive: domestic wells easily yield 20-50 or more gallons per minute, and large diameter commercial wells produce several hundred gallons per minute with very little breakdown.

Above the Castle Hayne lies the Yorktown aquifer, containing interbedded layers of sand, shell, and clay. The sand and shell beds yield moderate quantities of water, and small diameter wells can generally provide a supply adequate for domestic use. Above this, in the western part of the county, the unconfined or water table aquifer provides an adequate source of water to shallow wells.

The quality of water in the Castle Hayne and Yorktown aquifers is similar; it is characteristically hard and alkaline and may contain significant iron. Chloride content is for the most part low, but in the eastern part of the county residual salt water or contamination from brackish surface waters may result in high chloride levels. Hydrogen sulfide may also occur in the Castle Hayne in this area. Water quality in the unconfined aquifer, on the other hand, is generally soft and free of odor, though often with a high iron content. Chloride contamination is very low in inland areas but higher along the coast.

schools for joint utilization of facilities, will continue to pursue the concept of a joint county-state park, and will continue to encourage or develop nature trails and neighborhood parks. The county will continue to obtain funds and resources for recreation from the private sector.

2. The county acknowledges the critical importance of its natural open space areas to the quality of life in the county and will do what is possible to protect and preserve these areas. This policy has also been expressed in other components of the plan.

3. The county should modify its subdivision ordinance to ensure that future development projects incorporate and set aside sufficient open space. This could be accomplished, for example, through clustering requirements. As well, such developments should incorporate neighborhood recreational facilities, such as tot lots and playgrounds, sufficient to serve neighborhood needs. Future development should also be required to contribute to the provision of larger, community-wide parks and open spaces.

4. Both the recreation master plan and the previous county land use plan have identified access to the water as a critical and important recreational resource for the county. In the future the county will work to expand water access points (for boating, swimming, etc.). Future private development along the water should also be required to incorporate, to the extent that this is feasible, public access (or at least not foreclose opportunities for public access). This policy is particularly applicable to larger projects and developments.

5. The county supports the protection of its historically-significant buildings and archaeological resources.

facility will include several ballfields, a track, a jogging trail, a nature trail, and tennis courts, among other facilities. The facility is located on Ireland Road, off Highway 55.

The need to obtain and develop water access identified in the recreational plan is further supported in the 1980 Land Use Plan:

Present public access areas to the waters surrounding Pamlico County is very limited. At the present time the county does not own any public beaches or other recreational areas adjacent to water. There are three wildlife boating ramps in use and also a public ramp at Vandermere. The county policy is to support and encourage the development of public facilities which will insure every county resident with easily accessible access to the water. (1980 Land Use Plan, p. 144)

The plan also lays out a number of long term recreational goals for the county (five to fifteen years). Among these are: the need for a joint county-state park, the need for nature trails, the need for neighborhood park facilities, and the continued solicitation of funds for recreational purposes.

#### Goal - Recreation and Open Space

It is the goal of Pamlico County to expand open space and recreational opportunities commensurate with future growth and development. The county will ensure that such opportunities are of appropriate type, quality, quantity and location so that all residents of the county are able to take advantage of them. The county acknowledges, as well, the importance of these opportunities for attracting tourists, and seasonal visitors, and it is the goal of the county to accommodate these recreational needs as well.

#### Policies - Recreation and Open Space

1. To the extent possible, the county will seek to implement the goals and objectives identified in the Master Plan for Parks and Recreation. More specifically, and consistent with the plan, it will continue to develop its 88-acre centralized recreation facility, will seek to coordinate with county

Table 10.1

Recreational Courtsites in Pamlico County

- |                                                                                                                                                                                            |                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| 1. Lowland                                                                                                                                                                                 | Tennis court, two stationary basketball goals-asphalt; |
| 2. Hobucken                                                                                                                                                                                | Tennis court, one permanent basketball goal-asphalt;   |
| 3. Mesic                                                                                                                                                                                   | Tennis court, one swing-around basketball goal;        |
| 4. Vandemere                                                                                                                                                                               | Tennis court, two permanent basketball goals-asphalt;  |
| 5. Oriental                                                                                                                                                                                | Tennis court;                                          |
| 6. Arapahoe                                                                                                                                                                                | Lighted tennis court and two basketball goals;         |
| 7. Reelsboro<br>Olympia                                                                                                                                                                    | Lighted tennis court, asphalt;                         |
| 8. Multi-purpose courts built by the Pamlico County Board of Education with six-foot fencing at the ends of two courts. Located at Pamlico County Junior High School and made of concrete. |                                                        |

Source: 1980 Pamlico County Master Plan for Parks and Recreation

House; Jephtha Holton House; the Pamlico County Court House; the Reel House; and the Smith House). Also identified are several important archaeological sites, including: the Paradise Shores Hammocks, the Middle Bay Site and the Vandemere Site. A number of scenic pocosin and wetland areas are also identified in the SCS survey.

Among the specific immediate goals outlined in the recreation plan are: the preparation of an administrative manual; the identification of current recreational resources; and the solicitation of private funds for recreation projects. Among the short-range goals (three to five years) are the following: the need to coordinate with schools for joint utilization of facilities; the construction of a centralized recreation complex, and the utilization of water resources. The need for a centralized recreation complex was addressed in 1984 with the purchase, with the aid of a Land and Water Conservation Fund matching grant, of an 88-acre tract of land. When fully completed this

## Chapter 10.0

### Recreation and Open Space

Pamlico is a county rich in recreational and open space resources. To address the recreational needs presented by future growth, the county's Recreation Commission prepared a master plan for parks and recreation which was adopted by the county in 1980. This plan establishes recreational goals for the county, provides an inventory of existing facilities, and identifies immediate, intermediate and long-range facility needs. Among the general goals enumerated in the 1980 plan are the following:

1. Endorse the concept that recreation is a basic need in the life of every individual.
2. Facilities and programs shall take full advantage of existing resources.
3. The Department will cooperate fully with local advisory boards and commissions, the Board of Education and with other concerned agencies in its efforts to provide for the recreation needs of the residents of the County.
4. The quality of the recreation experience and its contribution to the growth and development of the participant is of utmost concern.
5. The Department should coordinate efforts with other agencies in order that a total recreation program may be offered to the citizens of Pamlico County.

The 1980 recreation plan identifies a number of existing facilities in the county. Among these are eight multi-purpose courts in eight different communities (see Table 10.1) and tennis courts, a play lot and basketball court in Bayboro. A number of scenic and historic areas have been identified by the Soil Conservation Service, including a number of historically-significant buildings (China Grove Plantation; Alonza Holton



Policies - Housing

1. The county acknowledges that there are a significant number of substandard housing units in the county, and will take whatever actions it can in the future to facilitate the renovation and rehabilitation of the housing in the future. This will include efforts to secure federal and state funds for such rehabilitation.

2. The county will ensure that through its development regulations and other local policies it provides for a range of housing choices.

3. The county will ensure that it does not discourage the construction of affordable forms of housing in the county.

4. The county will seek to prevent any incompatibilities between different types of housing, and between housing and other types of land uses. For example, adequate buffers will be required between residential and commercial uses.

5. To the extent possible, the county will protect and enhance the integrity of existing residential neighborhoods in the county.

6. The county will encourage and/or require future housing development to adhere to innovative site designs which reduce the extent of their intrusion on the county's natural environmental and natural resources (see other accompanying chapters).

Table 9.1

Characteristics of Housing in Pamlico County

	<u>Pamlico County</u> <u>1980</u>	<u>North Carolina</u> <u>1980</u>
Total housing units	5,011	2,274,737
Total occupied units	3,064	2,043,291
Median rooms (occupied housing)	5.3	5.2
Lacking complete plumbing (for exclusive use; occupied housing)	11.4	4.1
Owner occupied	3,064	1,397,425
With 1.01 or more persons per room (occupied)	4.7	4.5
Median value	36,000	36,000
Median contract rent	125	134
Vacancy rate - homeowner	1.0	1.5
Vacancy rate -rental	8.4	7.8

Source: 1980 Census of Housing

county. The value of owner occupied units is exactly the same as the average for the state as a whole, and the median contract rent is very similar to the state's as well.

The 1980 census confirms the existence of a fairly high percentage of seasonal or vacation housing. Of the total housing units of 5,011 reported in 1980, some 906 or about 18% were found to be vacant, seasonal or migratory (this excludes temporarily vacant units).

Goal - Housing

It is the goal of Pamlico County to ensure that adequate levels of housing exist for existing and future residents, and that this housing stock provide an adequate diversity of price and type.

## Chapter 9.0

### Housing

The housing stock in any locality is an important component of the local quality of life. Analysis of recent housing data indicates a number of important facts about housing in Pamlico, and raises a number of important planning issues for consideration. Table 9.1 presents several crucial statistics concerning the county's housing stock. The 1980 census of housing indicates that 83% of the year round housing units in the county are owner occupied.

The existence of inadequate and substandard housing in the county can be detected from several statistics. As Table 9.1 indicates, 11.4 percent of the occupied housing in the county is lacking complete plumbing. This amounts to some 350 dwelling units. This is considerably higher than the proportion of such housing existing at the state level. As well, some 144 units, or 4.7% of total year round occupied dwelling units contain more than 1 person per room, the generally-accepted standard for overcrowded housing. While this is about the same percentage that exists at the state level, this represents a considerable number of dwelling units. An effective CDBG Program has made a significant impact on this problem but there is more to be done.

Availability of local housing is often gauged by very low vacancy rates. As Table 9.1 indicates, the vacancy rate for owner occupied housing is low, the vacancy rate for rental housing in the county is relatively high. This is somewhat surprising given the low number of units of rental units in the

transportation routes. Among other things the county should seek to limit the proliferation of individual driveways and accessways, and should encourage creative development projects which incorporate common access points and well-designed internal traffic flows. The county will discourage the proliferation of strip commercial development along its roads and thoroughfares and will encourage or require the development of common access points.

5. The county recognizes that a major segment of the population may have serious transportation problems and will take whatever actions are possible to provide adequate transportation services to these individuals. The county will investigate the feasibility of a limited form of public transportation (e.g., through the use of county vans, school buses during off hours, a dial-a-ride service, etc.) to provide access to key destinations both within and outside of the county. The county will seek the cooperation of neighboring jurisdictions in providing such services.

6. Future road and street improvements should be designed so as to minimize their impact on fragile and sensitive areas and to preserve the aesthetic resources of the county.

7. The county recognizes the importance of not shifting the burden of current expenses to future residents, industries or generations and will, therefore, explore ways of insuring that new development pays its own way by, among other things requiring that new residential development pay for required infrastructure.

8. The county recognizes the importance of the military to the national security and also to the local economy but also recognizes the importance of recreational and agricultural activities to the overall quality of life in Pamlico County in the long term and therefore it is the policy of the county that military activity in and around the county be consistent with the policies of this plan to the maximum extent feasible.

### Goal - Traffic and Transportation

It is the goal of Pamlico County to provide an adequate street and road system to provide for the safe and easy movement of traffic in the county. It is the county's goal to provide adequate transportation services for all residents of the county.

### Policies - Traffic and Transportation

1. The county should make whatever future road and street improvement are necessary to ensure that traffic congestion and dangerous traffic conditions do not exist. To this end the county should update, or request that the state update, the 1971 thoroughfare plan.

2. The county acknowledges the importance of its road and thoroughfare system for encouraging future economic and industrial development in the county. The county should in the future identify key street and road inadequacies and work to eliminate them. It appears, for instance, that a primary deterrent to future industrial growth in the county is the absence of a major north-south route. To the extent possible, the county will work to provide such a route.

3. Future road and street improvements should take into consideration the presence of hurricane and coastal storm hazards. Future roads in the county which may serve as evacuation routes in the event of a hurricane might be elevated, for instance. Where possible future streets and roads in the county should be located outside of high hazard flood areas. The county should carefully examine the capacity of the existing bridge and ferry system to evacuate residents in a sufficient period of time (see Chapter 7.0).

4. Because much of the recent development in the county has occurred along its roads and thoroughfares, the potential congestion and safety problems presented by this pattern of development are substantial. The county should work to carefully regulate future growth and development along these

As Table 8.4 indicates, some 530 dwelling units in the county did not have access to any type of private vehicle in 1980. These statistics suggest that the county should consider the feasibility of initiating limited forms of public transportation. These types of services could include van-pool, limited dial-a-ride services, or special transportation services provided by county social service agencies. Collaborating with other nearby jurisdictions is also a possibility.

Table 8.4

Vehicles Available to Pamlico County Households  
(by dwelling unit)

Total:		
None		530
1		1166
2		1265
3 or more		717
Automobiles		
None		641
1		1867
2		965
3		205
Trucks or vans		
None		2210
1		1290
2		173
3 or more		5

Source: 1980 Census of Housing

The outdated nature of this thoroughfare plan suggests the need for a full analysis of existing street and road conditions, and the preparation of an updated list of needed street and thoroughfare improvements.

In developing this list of needed improvements, consideration should be given to the importance of such improvements to economic growth and development in the county. One of the primary deterrents to industrial development in Pamlico has been the lack of a major north-south route. Although ferries do cross the Pamlico and Neuse Rivers, they are not suitable for heavy commercial traffic. Upgrading of roads and the construction of bridges to the north and south would increase the development potential of the county.

There are indications that a substantial segment of the Pamlico County population, particularly the poor and the elderly, experience mobility problems. Problems may exist in finding transportation to healthcare, hospital, shopping and other facilities or in finding adequate transportation to and from employment. As Table 8.3 reiterates, the county contains a relatively high proportion of these low-mobility groups.

Table 8.3

Potential Mobility Problems in Pamlico County

	<u>1960</u>	<u>1970</u>	<u>1980</u>
Percent housing units in the county without automobiles	--	23.8%	14.4%
Percent families in the county under poverty line	--	27.6%	17.5%
Percent individuals over 65 years of age	9.0%	11.7%	13.7%

Source: 1960, 1970 and 1980 Census of Population  
1970, 1980 Census of Housing

7. The county will prepare, and periodically update a capital improvements program.

8. In future decisions concerning the extension of public services and facilities, such as sewer and water service, the county will carefully consider the impacts of these decisions on other local goals and objectives. Public sewer service, for instance, may encourage inappropriately heavy growth in sensitive environmental areas in the county (see Chapters 3.0 and 7.0 in particular).

9. The future existence of a public sewerage system in the northern portion of the county has substantial implication for future growth management. Because these will be the areas which will be best able to accommodate future growth, with the least amount of environmental degradation, higher densities of growth should be designated to occur here. Zoning and other regulatory measures should be modified to funnel future development to these areas, and away from non-serviced and more environmentally-sensitive areas of the county.

10. Within the sewerage district, priority should be given to permitting and/or encouraging future growth increase contiguous with existing towns and settlements (i.e., Bayboro, Alliance, Stonewall).



## Chapter 12.0

### Protection of Aesthetic and Visual Resources

Pamlico is a rural, undeveloped county containing numerous aesthetic resources. Among them are its river and sound shorelines, its visual access to water, its wetlands and forestland, its farmland and open fields, and its wildlife. Residents of Pamlico County value the beauty and serenity of the landscape and should seek ways to protect these resources.

While future growth and development can offer many benefits, including employment and increases in the local tax base, it can also serve to undermine these unique visual resources of the county. Future growth and development in the county can occur, however, in ways which minimize the destruction of the natural beauty of the county. The county can, for example, require future developments to protect, through clustering and innovative site designs, large amounts of land in open space and undeveloped uses. The visual integrity of the shoreline can be protected by requiring homes to be setback from the water to such a distance that they are visually unintrusive. Heavy use of vegetative buffers can minimize visual intrusion as well. There are, then, a host of zoning and site design provisions the county can adopt to ensure that the destruction of visual resources in the county is minimized.

In addition to the loss of natural beauty that development often precipitates, the manmade environment is often itself visually unattractive. The county should take steps, for example, to ensure that the height and scale of future building are consistent with the existing rural and small town environment. The fact that historically much of the development in the county has occurred along its primary roads and thoroughfares may raise an additional

set of visual problems. Strip commercial development can occur, creating a visual mess of signs, lights, logos and automobile congestion. Through careful control of development along the county's thoroughfares, this type of visual intrusion can be avoided.

There are a number of architectural, archaeological, and historic resources in the county that are important not only for their intrinsic value but also for their support to the general quality of life in the county. This can also contribute greatly to the value of the county as a resort area. An architectural inventory was done in the late 1970s that should be useful for a number of planning purposes, historic preservation efforts, historic tours, tourism, etc.

Goal - Protection of aesthetic and visual resources

The county recognizes the importance of its visual and aesthetic resources and it is the goal of the county to protect the natural beauty and the present high scenic quality of the environs. Future growth and development in the county should not be achieved at the sacrifice of these important local qualities.

Policies - Protection of aesthetic and visual resources

1. The county will modify its zoning and other development controls in order to encourage future project designs which are sensitive to their visual impact. Future development should be encouraged or required, through site design and other public review processes, to minimize their impacts on the scenic and visual environs.

2. The county will consider the need to regulate and manage the location, size and design of signs. The need to prepare and adopt a county sign ordinance will be carefully studied.

3. The county will consider the imposition of a building height limitation on future growth. The county will prohibit the construction of buildings whose scale is not consistent with the county's rural and small town atmosphere.

4. The county will manage the location, intensity and design of future commercial growth to minimize the visual clutter which typically results from strip commercial development. The county will modify its zoning regulations to prevent this type of commercial development.

5. The county will encourage or require future development to incorporate landscaping and vegetation which increases the visual attractiveness of future development. The county will review its existing zoning regulations and site design criteria with these needs in mind.

6. The county will discourage major alterations of the natural environment, such as the loss of trees, during future land development.

7. Future development should be managed to maintain the public's visual access to the water. The ability of residents and visitors to see the water is an important visual resource that must be protected.

8. The county recognizes the importance of wetlands, forestlands, and farmlands to the visual integrity of the area and will seek to minimize the impacts of future growth on these resources.

9. Future development should be encouraged to provide visual buffers which minimize their visual intrusion on the community. Visual buffers are particularly important along major roads and thoroughfares in the county.

10. The county recognizes the importance of protecting the visual integrity of the county's river- and sound- shoreline, as seen by boaters and other water users. Development along the shoreline will be regulated and designed so as to minimize its interference with this visual perspective.

11. The county recognizes the importance of architectural, archaeological and historic resources within the county and encourages their preservation.

12. The county will encourage all future development, especially large scale development, to carefully consider the architectural, aesthetic and archaeological resources of the development site and the vicinity and to preserve those resources to the maximum extent feasible. The county also strongly encourages all developers and builders in the county to consult with appropriate local, state and federal agencies and associations in determining the location and value of these resources.

## Chapter 13.0

### Land Classification System

This chapter presents the land classification system and maps for Pamlico County. The land classification system permits the county to attach the specific goals and policies developed in the previous chapters to particular geographical areas in the county. The land classification maps permit the county to designate areas where future development should be encouraged, natural areas which should be protected and conserved, and areas where only agricultural and other less intensive uses should be permitted. The land classification system is at once a way to implement goals and policies, and a proposed land use design which must itself be implemented by thorough subsequent land use, capital facility and other decisions of the county.

The land classification system and maps for Pamlico County uses several classification areas. These are described below and delineated on the land classification map.

#### 1. Transition

Transition areas designate areas within the county where future growth and development is likely or desirable. Several different transition classifications are designated, indicating different levels of public services and permissible development intensity.

(a) Transition I. Lands designated as Transition I are those areas where the most intense future development in the county will be encouraged. As land classification maps indicate, these areas located within the Bayboro Sewerage District are expected to receive public sewer service in the near

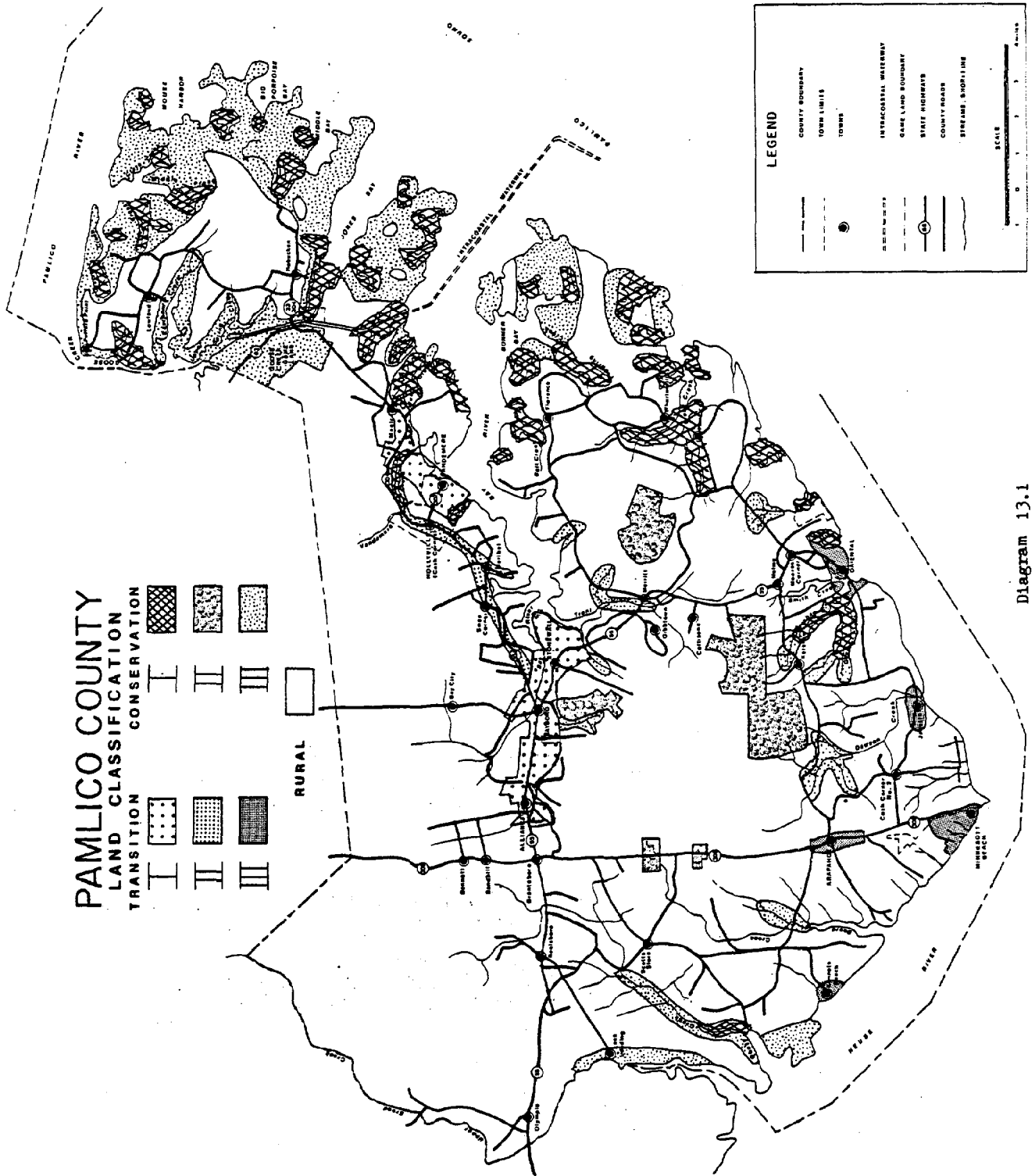


Diagram 13.1

future. Moreover, these are areas which are contiguous to existing towns and development nodes. It is the county's policy to encourage relatively intense development in a compact and contiguous manner. Should public sewer service for some reason not become available to these areas, these lands would be reclassified as Transition III (see below). Transition I areas hold the highest priority for future development in the county. The county should encourage, to the extent possible, these areas to be developed before the other transition areas.

(b) Transition II. These are areas also within the Bayboro Sewerage strict and are expected to receive public sewer service in the near future. They, however, are located along the major transportation route, and not directly contiguous to existing towns and development centers. While it is the county's policy to encourage future development in such areas, the intensity of this development in non-contiguous areas should be considerably lower. As with Transition I areas, should sewer service not become available, these lands would be reclassified as Transition III (see below).

(c) Transition III. These are areas which are contiguous to existing towns and development centers, but which will not receive public sewer service in the near future. Because development in these areas must rely upon septic tanks the permissible development here will be lower than for the previous two transition categories. Because of the availability of public sewer in Transition Areas I and II, the county places lower priority on future growth and development in Transition III areas. Should public sewer service be extended at some future date to areas designated as Transition III in this plan, such areas would be reclassified as Transition I, and treated accordingly.

## 2. Conservation

The conservation classification is intended to identify sensitive and irreplaceable natural areas that require protection from future growth and development. These are areas which should be preserved, where possible, in their undeveloped state, and should not be classified as transition in the future. Several different conservation areas have been designated for Pamlico County, representing different aspects of the natural environment to be protected.

### (a) Conservation I -- Primary Nursery Areas

These are lands along the Bay River, Neuse River and Pamlico Sound which are critical nursery areas for fish and shellfish and important habitats for waterfowl and other wildlife species.

### (b) Conservation II -- Important Natural Areas

This classification is used to designate important natural areas identified by the Peacock and Lynch Study. These areas include hardwood flats, sand ridges and pocosins (see Chapter 3.0) and encompass important natural habitats which support rare and significant plant and/or animal species.

### (c) Conservation III -- General

This classification includes all additional conservation areas in the county not included in categories I and II. Included are sensitive estuarine and shoreline areas, and lands adjacent to important creeks and tributaries. This category incorporates areas designated as conservation by the county's 1980 land use plan.



### 3. Rural

All remaining lands in the county are designated as rural. These are areas which are principally used for agriculture, forest management, mineral extraction and other non-urban uses. It is the objective of the county to protect these resource areas from intensive development pressures. While small amounts of future development will be permitted in these areas, this development will be of very low intensity and should generally be related to the resource base and compatible with existing land uses in these areas. Significant urban growth and development should be directed, to the extent possible, to designated transition zones. Public sewers will not be extended into the rural area. Water lines will be extended, by and large, only to alleviate existing problems but not to encourage development in the rural area.

## Chapter 14.0

### Implementation

It is recognized that a great many of the policies enunciated elsewhere in this plan lack specific implementation and enforcement provisions. The primary reason for this is that this is a plan, a plan that is like a road map, which sets out the direction in which one must travel in order to reach a desired destination. It does not, however, select the means for getting there, how long it will take, how much it will cost, etc. This is the next step and will require careful study.

The second reason that this plan does not go very far in proposing implementation and enforcement measures is that, like most of coastal North Carolina, the citizens, voters, and taxpayers of Pamlico County are reluctant to adopt policies which they perceive as having even the potential for infringing on their freedom. Thus many implementation measures will have to be carefully considered and drawn if they are to succeed.

But the county also recognizes that without some guidance future development may likely destroy the very quality of life that now exists in Pamlico County and is treasured by its residents. It is also recognized that large scale development and small scale development have different impacts and can, therefore, be dealt with differently.

The county will seek the assistance of the Coastal Resources Commission in exploring the feasibility of formulating a land development policy that would:

1. Guide development in a way to achieve many, if not all, of the policies of this plan;

2. impose only minimal guidance measures on small scale development which will have little impact; but will
3. impose more extensive guidance measures on large scale development which will have a substantial impact.

Chapter 15.0

Public Participation

In the formulation of this plan it was discussed in a number of public meetings held by the Planning Board. Public comment was invited and received. The Planning Board and the Board of Commissioners held a joint meeting on January 19, 1987 to discuss the plan. A public hearing was held on February 23, 1987 by the Board of Commissioners prior to its adoption.

It is the policy of Pamlico County to encourage its residents to be involved in the formulation of public policy, and will continue to do so.

## Chapter 16.0

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