



# **Beaufort County Joint CAMA Land Use Plan 2006 Update**

October 2009

Core Land Use Plan

The Preparation of this plan was financed in part through a grant provided by the North Carolina Coastal Management Program, through funds provided by the Coastal Zone Management Act of 1972, as amended, which is administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration.

# Beaufort County Joint CAMA Land Use Plan 2006 Update

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# Beaufort County Joint CAMA Land Use Plan 2006 Update

## Background and Overview

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The Beaufort County Planning Area consists of the unincorporated areas outside of municipal planning areas and the Towns of Aurora, Belhaven, Chocowinity, Pantego, and Washington Park. This area, like much of the less urbanized North Carolina coastal counties, has experienced modest growth over the past 30 years. However, emerging coastal real estate markets coupled with expanding community infrastructure suggest that the planning area will experience accelerated growth over the next 20 years. The population forecast predicts a community of nearly 58,000 permanent residents during the 20-year planning horizon. In addition, there will be a significant seasonal population.

The CAMA Land Use Plan is one of the major tools that the community will use to manage this growth. The plan will help the county and the towns ensure that new development and new land uses are compatible with the small-town, rural atmosphere that is valued by residents; the plan will help the area plan for essential services to meet the needs of its permanent and seasonal population; and it will help protect the essential coastal resources that define the planning area's life style.

This CAMA Land Use Plan is an update of the plan that the Board of Commissioners adopted and the CRC certified in 1998. Beaufort County is one of the twenty coastal counties that are required to adopt and to periodically update a land use plan. The requirement for land use planning is one result of the North Carolina Coastal Area Management Act, which was adopted in 1976. The content of the coastal land use plans and the update schedule is determined by planning rules established by the Coastal Resources Commission (CRC).

Municipalities are not required to prepare land use plans. However with the consent of the CRC, they may prepare their own plan or they may join with other municipalities and/or the county and prepare a joint plan. Beaufort County and the Towns of Aurora, Belhaven, Chocowinity, Pantego, and Washington Park have elected to prepare a joint plan.<sup>1</sup> The growth and develop-

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<sup>1</sup> The City of Washington and the Town of Bath are preparing their own plans.

ment policies and the future land use map contained in this plan cover the planning jurisdictions of the county and the five participating towns. The map on page ix shows the extent of the planning area.

The content and design of the Beaufort County Joint Land Use Plan emphasizes four major objectives:

1. The plan helps create patterns of land use and development that help ensure that current and future residents are able to live in quality communities and to have easy access to jobs and goods and services.
2. It helps support choice in types of neighborhoods and housing and to help ensure that affordable housing is available regardless of economic situation.
3. The plan seeks to provide land use and development patterns that will support efficient delivery of important public services.
4. The plan helps protect sensitive environmental systems and lands, particularly coastal resources and water quality, and seeks to protect people and property from unreasonable risk.

A Citizens Steering Committee that was appointed by the Board of Commissioners and the Boards of the towns oversaw the development of the plan. The Steering Committee used input from citizens gained at two community workshops and their own knowledge of the community to identify key planning issues to be addressed by the plan and to develop a *future vision* that provides focus for the plan. The *future vision* describes what the planning area should look like in the future; it does not attempt to predict how it will look.

The Steering Committee also considered an extensive array of technical information about the planning area before developing the plan. The technical information included a study of population structure and change, mapping and description of natural systems, assessment of environmental quality, current use of the land, and availability of public services. This information helped the Steering Committee form judgments about how many people and houses to plan for, where the best suited and the least suited land is located, and how to accommodate future residents while ensuring that the planning area's coastal environment is protected.

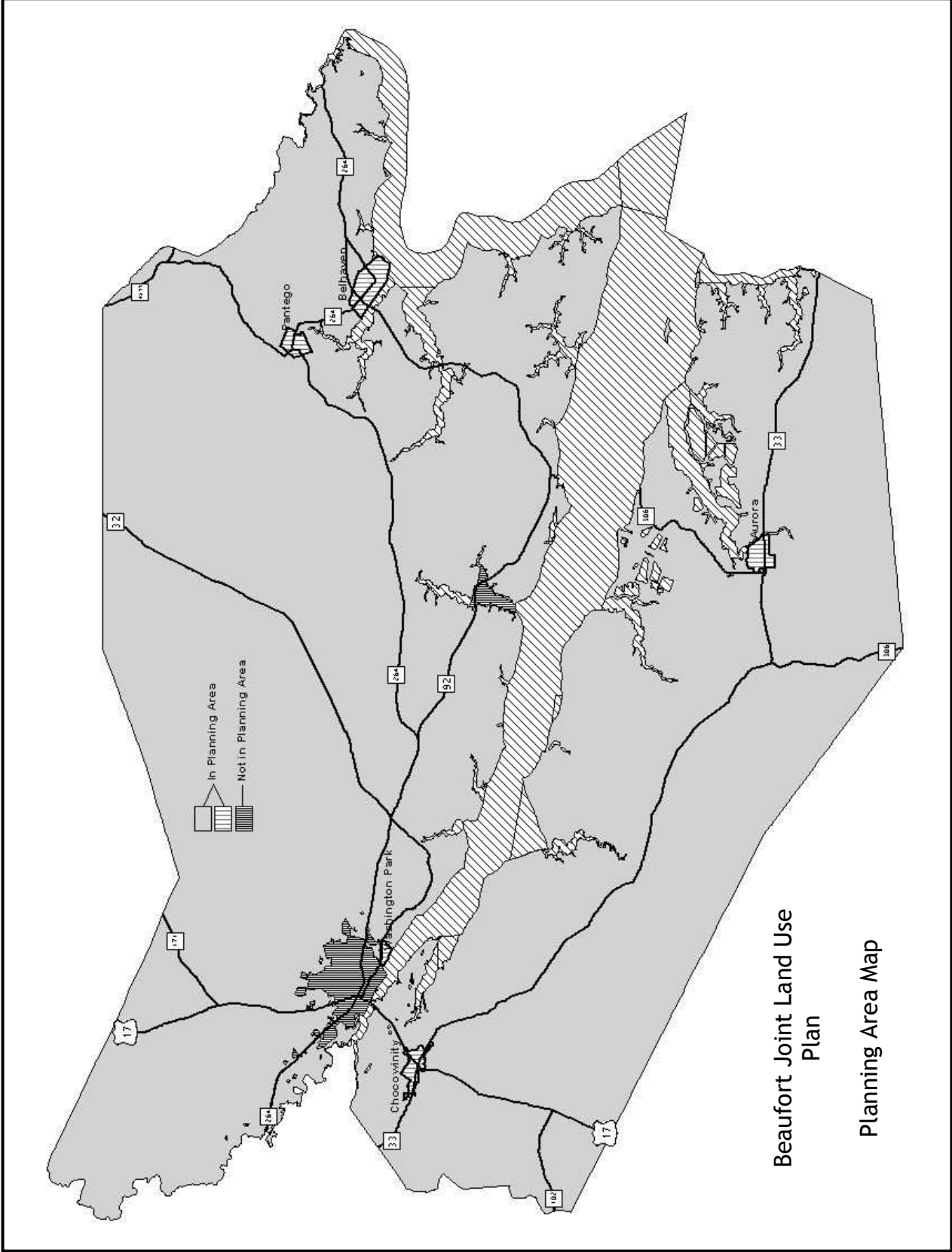
The Steering Committee agreed on a preliminary draft plan and then held a community "open house" to provide residents of the planning area with an opportunity to learn about the plan and to make comments about what they liked and did not like about it. The current draft of the plan takes these comments into account.

The plan has six parts:

- Part I.** Description of *community concerns and aspirations* and a community *planning vision*. Discussion of this plan component begins on page I-1. It includes a sketch of the growth and development-related issues in the planning area that emerged from the citizen participation process and the work of the Land Use Plan Steering Committee. It also includes the planning vision that provides a valuable foundation for land use and development goals and the policies for growth and development.
- Part II.** *Analysis of existing and emerging trends*. This component of the plan, which begins on page II-1, provides the technical basis for policy development. It includes trends and forecasts of population, housing and the local economy; it details the opportunities and limitations presented by the planning area's natural systems; it provides a discussion and analysis of existing land use and recent trends; and it provides information on important community facilities. An analysis of land suitability synthesizes this information. A *build-out study* that is based on existing development patterns, natural system limitations, and the capacity of current community wastewater services provides a benchmark for assessing development policies. And finally, there is a section that provides detailed information on the five towns participating in the plan update.
- Part III.** *Land use goals, growth and development policies and future land use plan map*. The planning area's land use and development goals are found on page III-1. These goals evolved directly from the planning area's planning vision and they provide a road map for working toward the planning. The land use and development policies, which begin on page III-3, provide specific on guidance on decisions, programs, and projects to help the planning area achieve its goals. The goals and policies are reflected in a map of planned future land use with descriptions of land classifications. The *future land use plan map* and related descriptions of land classifications begins on page III-25.
- Part IV.** *Tools for Managing Development*. Describes the tools - policies, programs, and projects - that the planning area local governments will use to implement the plan.

**Part V.** *Policy Analysis.* Provides details on the required consistency and policy analysis.

**Part VI.** *Land Use Plan Amendment.* Provides information on the steps and procedures required to amend the plan when it is certified by the CRC.



Beaufort Joint Land Use  
Plan  
Planning Area Map

# Part I. Citizen Participation Process, Community Concerns, and Planning Vision

The description of planning concerns and identification of planning themes provides a backdrop and overall guidance for the update of the county's land use plan. Identifying the major planning themes involved two steps. In step one, the Land Use Plan Steering Committee (Steering Committee) appointed by the Board of Commissioners identified the general driving forces that will influence land use and development in Beaufort County through the 20-year planning horizon.

In step two, residents and property owners participated in two workshops to help identify issues and concerns related to six major land use topics. One workshop was held at Northside HS and the other at Southside HS in order to make it as convenient as possible for citizens to attend.

The six planning topics discussed at these meetings are listed below:

- Public access to public trust waters
- Land use compatibility
- Infrastructure (sewer, water, roads) capacity
- Natural hazards
- Water quality (surface water and shellfish harvesting areas)
- Local concerns

The planning themes and community concerns are described in following section.

## A. Planning Themes and Public Concerns

The priority issues, concerns, and opportunities expressed in each of these topic areas at the community meetings resulted in the identification of broad planning themes. These themes, described below, focus the plan on the most important issues and opportunities, help make sure the plan addresses community concerns, and make it responsive to the goals for managing the county's coastal resources.

## **1. Public Access**

Focus first on the county's existing public access locations. Develop policies to help ensure that they adequately serve the community and identify feasible opportunities to enhance them. Where possible, provide guidelines to make access locations are accessible to residents with all abilities where possible.

If the Board of Commissioners determines that there is an inadequate number, develop a long-range strategy for expanding access sites. Take advantage of property owned by public agencies and non-profits, such as the Washington Park Bridge replacement site or flood buyout property owned by the county.

Link access sites with other facilities such as bikeways, greenways, and trails to create an access system.

Maps produced by the Mid-East RCD and the Tar-Pamlico Foundation are a resource for developing an access system.

## **2. Land Use Compatibility**

Guide development and other uses of resources in a way that avoids or minimizes environmental impacts and avoids risks to public health and safety.

Plan for appropriate development that is compatible with surrounding uses and capability of the land.

Encourage expansion of natural gas to serve industrial users.

## **3. Infrastructure Carrying Capacity**

Recognize that sewer is essential for proper development of most areas of the county. Develop a priority system that sets immediate, mid-range, and long-range goals for sewer development and expansion.

Targeted expansion of current sewer services as a growth generator.

Address the size, location, and management of any development or expansion of sewer systems to protect the quality and productivity of Areas of Environmental Concern and other important natural areas.

Protect wells and cooperate with regional programs to protect aquifers since groundwater is the source of most drinking water.

Address completion of 4-laning of US 264.

Promote the eastern Pamlico River Bridge to provide satisfactory north-south access and to improve regional linkages.

Encourage expansion of natural gas along shortest routes, where feasible, to serve high-end industrial users.

#### **4. Natural and Manmade Hazards**

Establish development policies to minimize threats to life and property associated with development located in or adjacent to hazard areas.

Only allow development that minimizes the risk to life or property or the quiet enjoyment of property in established communities; that minimizes negative impacts on existing resource-based economic activities, such as farming; or that does not threaten important natural areas or wildlife resources.

#### **5. Water Quality**

Address any water quality threats to protect quality of life and to support the county's major economic development resource.

Focus on maintaining and improving status of navigable waters, which are the county's major marketing tool.

#### **6. Local Concerns**

OLF (MOA) incompatible land use. Plan should prevent this type of development or activity.

Farming remains a strong part of the county's economy and residents value the rural landscape. Protect farmland.

Encourage economic development and job creation. Expansion of eco-tourism is a viable alternative that can create jobs and protect valued natural resources.

Dilapidated and abandoned mobile homes blight the landscape. Plan for effective ways to eliminate them.

Plan should support nonprofit organization efforts to protect the environment that are consistent with the goals of the plan.

## **B. Planning Vision**

The Planning Vision for Beaufort County is based on the values and concerns expressed by the Steering Committee and the residents and property owners who participated in the community workshops held throughout the county. The Vision provides an illustration of what the county wants to become and what it will be like in the future. **The Vision does not necessarily describe what exists.** The Vision also provides some basic land use and development principles that will guide goal setting for land use and development and the content of policies to achieve these goals.

“...Beaufort County is recognized on North Carolina’s coast for its natural beauty and its quality of life. The county’s natural beauty is characterized and scenic character is defined by the Pamlico River and the Pungo River and the many creeks and streams that feed these rivers. Its marshes and wooded swamps offer landscapes that are unparalleled. The county maintains a balance between development and the environment. The towns provide well-planned community infrastructure that supports growth and economic development and protects the quality of the environment.

Beaufort County protects its lifestyle by giving preservation of natural resources and protection of water quality the highest priority. The county cooperates with state and federal agencies to protect coastal wetlands from harmful development. Important freshwater wetlands are intact and they continue to store, clean water, and provide a rich habitat for a rich diversity of plants and animals. The county protects surface waters from degradation by storm water and polluting discharges and they remain clean.

The county offers a variety of choices in community settings for its residents, ranging from more urban-type residential areas located in and near its incorporated areas, where services are available, to the second home and retire-

ment communities and more rural development. Homes on working farms are a major feature of the county's rural landscape.

The unincorporated areas of the county contain a variety of housing types to meet the needs of the county's families of all ages and income ranges. Yet, most residences are single-family. Manufactured homes are accepted as a quality, affordable housing option and they are encouraged to locate in high quality parks that provide all of the services required for a stable neighborhood. Owners properly dispose of manufactured homes when they reach the end of their useful life.

Business land uses and industrial uses that provide services and jobs are located so that they are convenient to the county's residential communities but do not conflict with the residential environment.

The county avoids incompatible land uses that negatively impact the county's important natural areas or its wildlife resources that do not support the county's economic development efforts that create hazards or disrupt the residents' quiet enjoyment of their property.

The county supports economic development in other areas by identifying the best land for business and industry, considering a variety of factors such as surrounding land uses, transportation and utilities, and environmental conditions uses, and working with other agencies, state and local, and developers and property owners to ensure that it has the basic infrastructure in place to make it development ready.

Eco-tourism is a major economic activity creating quality jobs for the county's residents. Agriculture remains a major part of the county's economy, and the open spaces and vistas gained from working farms and managed woodlands contribute heavily to the county's quality of life.

Beaufort County continues to aggressively pursue with the NC Department of Transportation and the county's municipalities, the development of a high quality transportation system. The system includes the eastern Pamlico River Bridge and major highway facilities that provide safe and efficient movement of people and goods throughout the county.

The state provides a high level of maintenance to existing roads and rights-of-way and quickly makes improvements to address safety problems. The cleanliness of the county's roadsides is a model for the region. The county

encourages development patterns that enhance safety and protect the capacity of its existing roadway system.

Excellent county services support the quality of life offered by Beaufort County.”

## **C. Major land use plan themes**

These principles are an outgrowth of the key issues and concerns identified in this report plus the CRC management goals in the CAMA land use plan guidelines. These principles will help guide the planning team as it begins to evaluate alternative growth strategies and develop a sketch plan for further review by the Steering Committee.

- 1) Development and other uses of resources uses that are consistent with the capability and hazards presented by the county’s natural systems.
- 2) Help the county protect and enhance water quality.
- 3) Ensure that water, sewer, and roads are adequate to support planned development patterns and that they are expanded in a way that minimizes impacts on AECs and other fragile areas.
- 4) Use sewer as a tool to encourage proper development of the county. Set immediate, mid-range, and long-range goals for sewer development and expansion.
- 5) Encourage urban-type development near towns and other communities where services can be reasonably provided.
- 6) Only allow development that minimizes the risk to life or property or the quiet enjoyment of property in established communities; that minimizes negative impacts on existing resource-based economic activities, such as farming; or that does not threaten important natural areas or wildlife resources.
- 7) Encourage economic development and job creation. Expansion of ecotourism is a viable alternative that can create jobs and protect valued natural resources.

## Part II. Analysis Existing and Emerging Conditions

This part of the plan provides detailed information on the technical studies and information that provided an important base for developing the future land use map and the growth and development policies. The purpose of this information base is to suggest alternatives and to support formulation of policies. The information base includes the following sections:

- |  |  |
|--|--|
| A. Population, Housing, and Economy              | E. Land Suitability Analysis                   |
| B. Natural Systems Analysis                      | F. Build-out Analysis                          |
| C. Analysis of Existing Land Use and Development | G. Existing Policies - Implementation          |
| D. Analysis of Community Facilities              | H. Planning Information on Participating Towns |

### A. Population, Housing, and Local Economy

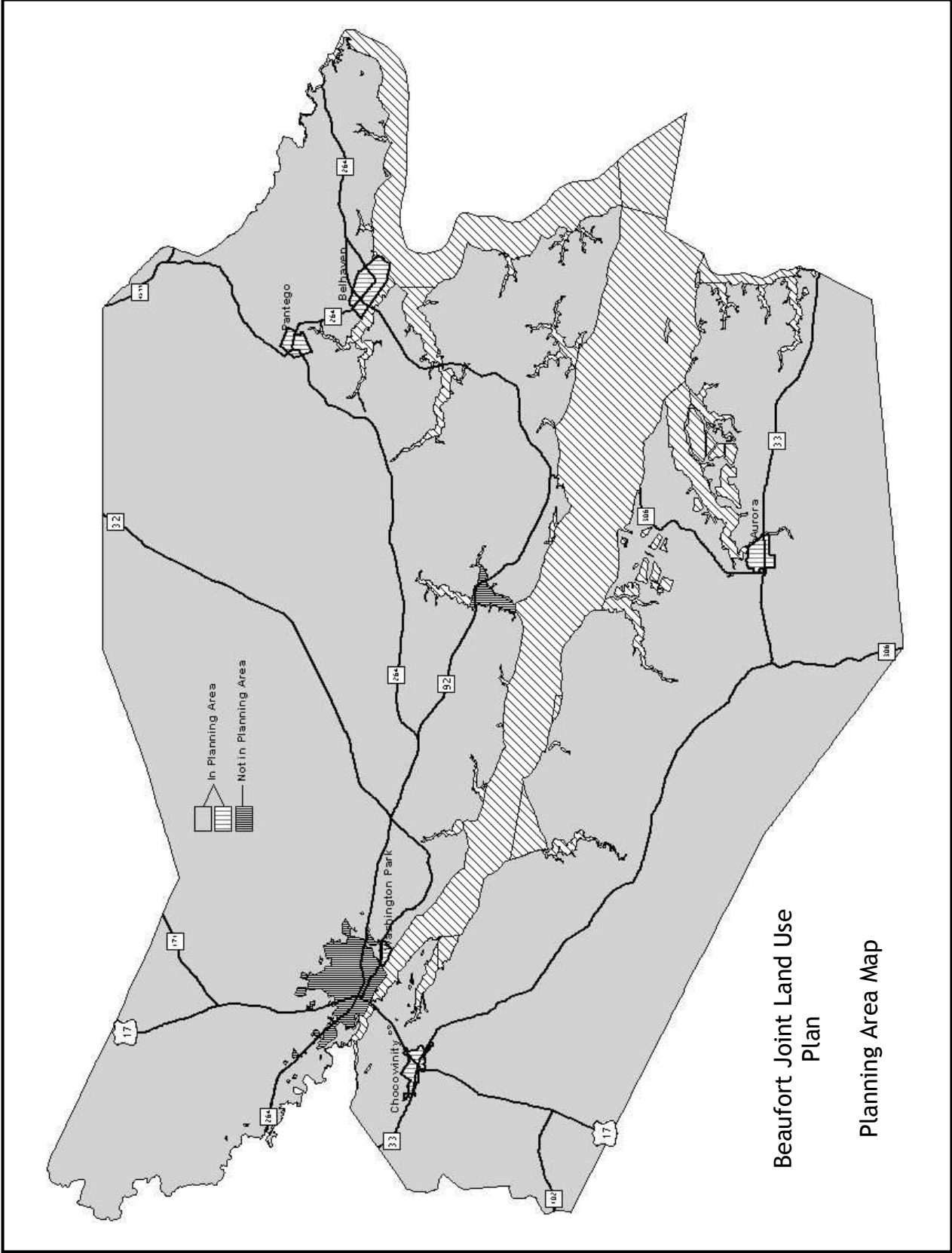
#### Background

This section provides an overview of the people who live in the planning area. The geographical area referred to as the *Planning Area* is illustrated on the following page in a Planning Area Map. It includes all of unincorporated Beaufort County and the following municipalities: Aurora, Belhaven, Chocowinity, Pantego, and Washington Park.

Data collected by the U.S. Census Bureau and the Bureau of Economic Analysis are the basis for much of the information presented in this part of the report. A good deal of this data is compiled by the NC Office of State Planning and is available online via LINC. In addition, the plan enhances this data through tables and graphs.

The analysis relies primarily on 2 benchmarks for comparison of local data: NC statistics for county level data and county statistics for sub-county level data such as Census tracts and municipalities. In some cases, accurate data is not available at the municipal level.

This information provides a “snapshot” of the people that live in the planning area, their needs, and the opportunities that exist.



Beaufort Joint Land Use  
Plan  
Planning Area Map

## 1. POPULATION CHANGE

Population growth and its community development partner, job growth, are major foundations of the CAMA land use plan. The planning area's population and employment decide to a large degree future land use and community infrastructure and service needs. They also determine the level of pressure on the community's natural resource systems. Population and job growth determine the amount of development that must be accommodated in the planning area. For most coastal counties, local governments must consider the needs and impacts of seasonal population as well as the permanent population.

The land use planning guidelines have specific requirements for population analysis. They require an analysis of *permanent population growth trends*, an *estimate of permanent and seasonal population*, and 5-year, 10-year, and 20-year projections of permanent and seasonal population.

### a) Permanent population

Table 1A below shows population growth trends in Beaufort County, the area within the planning area, and the area outside the planning area (Washington city and Bath). Beaufort County, like many counties in eastern North Carolina, is historically a slow growth area with a population growth rate well below the state as a whole. The planning area follows this trend. Between 1980 and 1990 the growth rate was 0.4% per year; between 1990 and 2000 the growth rate was 0.6% per year; and since 2000, the annual rate has been 1.0%.

With exception of Chocowinity, the number of people living in the Planning Area's municipalities declined steadily between 1980 and 2000. Overall, population in the municipalities declined by 13% during the period.

Table 1A  
Permanent Population Trends and Current Estimate  
Beaufort County and Planning Area

	1980	1990	2000	2005 (est.)
<b>Beaufort Co.</b>	40,355	42,293	44,958	46,077
<b>Planning Area</b>				
Aurora	698	654	583	572
Belhaven	2,430	2,269	1,968	1,936
Chocowinity	644	624	733	717
Pantego	185	171	170	171
Washington Park	514	486	440	439
total incorporated	4,471	4,204	3,894	3,835
Unincorporated area	27,263	28,775	31,173	32,116

	1980	1990	2000	2005 (est.)
Planning area total	31,734	32,979	35,067	35,951
Planning area pct. county	79%	78%	78%	78%
<b>Non-planning area</b>				
Washington city	8,414	9,160	9,619	9,836
Bath	207	154	272	290
total	8,621	9,314	9,891	10,126
Non-planning area pct. county	21%	22%	22%	22%

Source: NC State Data Center

Table 1A also illustrates the planning area's share of total county population. Over the last 25 years, the planning area permanent population has been approximately 78% of the county population.

### b) Seasonal population

The planning area's seasonal population is notable. According to the 2000 Census, up to 9% of the planning area's housing units were classified as *seasonal*, meaning that they may be used for vacation or recreational uses or that they may be used for migrant and seasonal labor. Using this ratio of seasonal to total housing units as a multiplier, an estimate of seasonal and peak planning area population is provided in the following Table 1B.

Table 1B  
Estimate of Seasonal and Peak Population  
Planning Area

	2005 Population Estimate		
	Permanent	Seasonal	Peak
<b>Beaufort Co.</b>	46,077	4,147	50,224
<b>Planning Area</b>			
Aurora	572	51	623
Belhaven	1,936	174	2,110
Chocowinity	717	64	781
Pantego	171	15	186
Washington Park	439	40	479
total incorporated	3,835	344	4,179
Unincorporated area	32,116	2,890	35,006
Planning area total	35,951	3,234	39,185

Sources: NC State Data Center; WBF1

### c) Population Projections and Plan Forecast

Table 1C below contains a set of three population projections for the planning area. Projection #1 is based on the State Data Center's projections for the county. This projection assumes that historical natural increase and net migration trends will continue into the future and it is considered to be the **least optimistic** of the three.

Projection #2 is more optimistic. It is based on a slight increase in the county's rate of natural increase and a net migration rate equal to the average of the middle 1/3 percentile of North Carolina counties. Projection #3 is the most optimistic. It is based on larger increase in natural increase and net migration equal to the average of the counties in the top 1/3 percentile.

**Projection.** For the purposes of this plan, projections are defined as *conditional statements about the planning area's future population based on a set of assumptions.*  
**Plan forecast.** This is the projection that is selected as the soundest base for developing the land use plan.

Table 1C  
 Permanent Population Projections

Year	Natural increase Births minus deaths	Net migration In-migration minus out- migration	Population
<b>Projection #1</b>			
2005			35,951
2010	(90)	719	36,580
2015	(91)	732	37,220
2020	(93)	744	37,872
2025	(95)	757	38,534
<b>Projection #2</b>			
2005			35,951
2010	-	1,240	37,191
2015	-	1,283	38,474
2020	-	1,327	39,802
2025	-	1,373	41,175
<b>Projection #3</b>			
2005			35,951
2010	72	3,775	39,798
2015	80	4,179	44,056
2020	88	4,626	48,770
2025	98	5,121	53,989

Sources: NC State Data Center; WBF

These projections have inherent assumptions about future conditions in eastern North Carolina, Beaufort County, and the planning area. These assumptions are described in Table 1D.

Table 1D  
Population Projection Assumptions

	Least optimistic	More optimistic	Most optimistic
Annual rate of natural increase	Equal to historic trend of deaths exceeding births -0.05%/year	Slight increase in births due to a slightly younger population. Reflects growth influence of Pitt County in NW. 0.0%/year	Moderate increase in births. +0.04%/year
Annual net migration (persons per 1000 population)	Equal to historic trend of in-migration slightly higher than out-migration. 40 persons/1000 population/decade	Moderate increase in net migration to equal the average of the middle 1/3 of NC counties. 69 persons/1000 population/decade	Significant increase in net migration to equal average of top 1/3 of NC counties. 210 persons/1000 population/decade
Wastewater collection and treatment	Septic tanks remain the predominant method of treatment; minimal expansion of municipal systems.	Septic tanks remain an important method of treatment; more aggressive expansion by municipalities. County provides assistance with expansions.	Septic tanks remain an important method of treatment; more aggressive expansion by municipalities. County provides assistance with expansions.
Transportation system development	US 17 by-pass constructed. No significant additional regional facilities.	US 264 4-laned to Hyde Co.	US 17 by-pass and US 264 4-lane completed. Significant additional regional connectors in place to provide access to interstate system.
Job creation	Job creation to match population growth requirements. Labor force participation at 45%.	Job creation pace increased in response to growth requirements. Labor force participation grows to approximately 50%.	Job creation pace increased in response to growth requirements. Labor force participation grows to approximately 50%.
Retirement/2 <sup>nd</sup> home growth	Slow growth of water-oriented real estate development.	Availability of community wastewater systems fosters growth in real estate development.	Availability of community wastewater systems and regional transportation fosters significant growth in real estate development.

It is the conclusion of the planning team that projection #3, the most optimistic projection, should be selected as the **plan forecast**. It is likely that Beaufort County's outstanding water resources, open spaces, attractive coastal, and historic resources provide an ideal setting for a vigorous real estate development process. In addition, anticipated future expansions of the planning area's wastewater systems near municipal boundaries will allow a faster pace of development without attendant public

health and water quality concerns. Finally, development of the transportation system will provide more significantly improved regional access.

d) **Peak Population Forecast**

Table 1E shows the forecast of peak population based on the permanent population forecast and the estimate of seasonal population. Due to continuing second home development in the county, the ratio of seasonal to permanent population is expected to increase slightly during the forecast period to 0.12.

**Table 1E**  
**Forecast of Permanent, Seasonal, and Peak Population**

Year	Permanent	Seasonal	Peak
2005	35,951	3,234	39,185
2010	39,798	3,980	43,778
2015	44,056	4,400	48,456
2020	48,770	5,365	54,135
2025	53,989	6,480	60,469

Source: WBF1

**Small area population changes.** Table 1F shows the 1990-2000 population changes at the Census Tract level. Two Census Tracts (CT) account for the bulk of the area’s population growth: CT 9909, which surrounds the Blount Cr. and Blount Bay area on the south side of the Pamlico River; and CT 9906 on the north side of the river from Broad Cr. to Bath Cr. Population increases in CT 9902 in the northwestern area adjacent to Pitt County and CT 9907 on the north side of the river between Bath Creek and the Pungo River were somewhat above the county average.

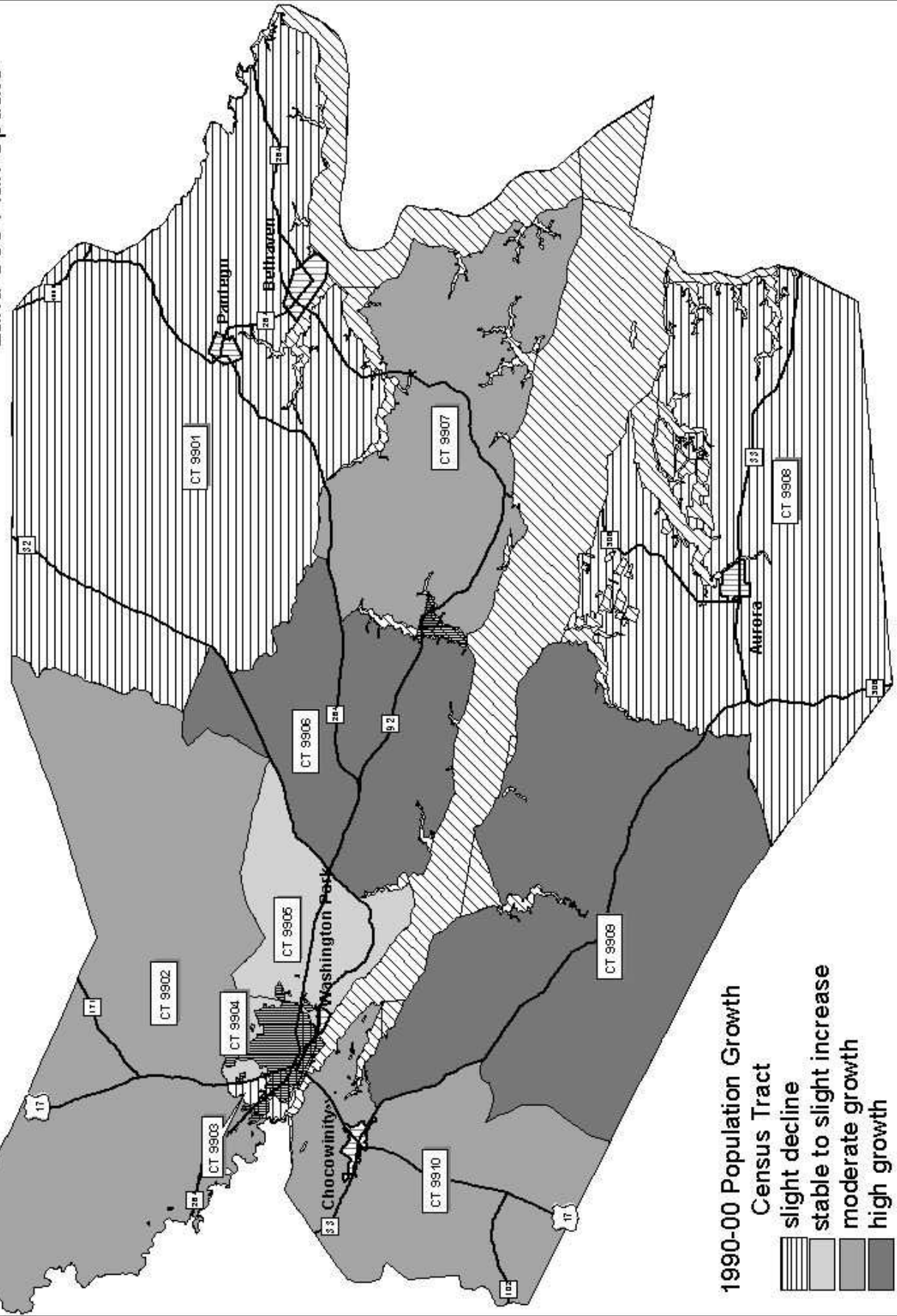
The population growth map on the following page illustrates the county’s growth trends.

**Table 1F**  
**Small Area Population Changes.**

Census Tract	Population Change in Census Tracts										
	9901	9902	9903	9904	9905	9906	9907	9908	9909	9910	Beaufort CO.
1990	5973	4518	4438	5204	7128	2356	2634	3005	2414	4613	42,283
2000	5575	5246	4167	5280	7746	2857	3042	2746	3104	5195	44,958
1990-00 Growth	-7%	16%	-6%	1%	9%	21%	15%	-9%	29%	13%	6%

Source: North Carolina State Data Center

Beaufort County Joint CAMA  
Land Use Plan Update



1990-00 Population Growth  
Census Tract  
 slight decline  
 stable to slight increase  
 moderate growth  
 high growth

## 2. AGE

Age characteristics are shown in Table 2. Beaufort County's population is older compared to NC as a whole. In 2000, the county's median age was 40.2 years and the state's median age was 35.3 years.

The most significant age groups in terms of numbers in comparison to the NC averages are the early school age children and older workers and retirees. Early school-age children, ages 5 to 14, make up 19% of the county's population as compared to 14% for NC. Older workers and retirees, taken as a group, comprise 43% of the county's population. For the state as a whole, this population age group is only 34% of the total population.

Table 2  
Population Age Characteristics

Area	Percent Population by Age Group							
	Pre-schoolers (Under 5)	Early school age (5 to 14)	Senior school age (15 to 17)	Post school age (18 to 21)	Younger workers (22 to 44)	Older workers (45 to 61)	Early retirees (62 to 74)	Senior retirees (74 and older)
BEAUFORT COUNTY	6%	19%	4%	4%	29%	24%	12%	7%
NC average	7%	14%	4%	6%	35%	20%	9%	5%

Source: NC State Data Center

## 3. Diversity

The racial and ethnic composition of Beaufort County's population is detailed in Table 3. Based on the number of racial and ethnic groups represented, the county's population diversity is somewhat high. Among the individual groups, whites make up 68% of the population and African-Americans make up 29%. Hispanics make up only 3.2% of the population but this ethnic group is projected to be the fastest growing.

Table 3  
Racial and Ethnic Composition

Area	Percent Population by Race/Ethnicity 2000				
	White	African-Am.	Native Am. And Others	Hispanic or Latino	Asian
BEAUFORT CO.	68.4%	29.0%	2.4%	3.2%	0.2%
NC	72.1%	21.6%	4.9%	4.7%	1.4%

Source: NC State Data Center

## 4. Education

Table 4 shows educational attainment. Based on the number of years of education completed, the overall education level in the county is average, when compared to the state as a whole. The number of people age 25 and above with less than a high school diploma is somewhat higher than the state. However, the percent of high school graduates in the county is well above the state average. For college graduates, the county falls somewhat below the state.

Table 4  
Educational Attainment

Area	Percent of Adult Population by Education Completed 2000				
	Less than high school	High school graduate	Some college, no degree	College graduate	Post graduate
BEAUFORT CO.	25%	34%	25%	11%	5%
NC	22%	28%	27%	15%	7%

Source: NC State Data Center

## 5. Housing and Housing Needs

**Overview.** The number of housing units in the county grew from 19,598 to 22,139 between 1990 and 2000. This is an increase of 13%, which is more than double the population increase. One factor in this discrepancy between population and housing unit growth is the long-term decline in average family and average household size, which means that the number of families and households increases faster at higher rate than the population.

The major growth was in the number of year-round units, which increased by 8% during the decade. Seasonal housing grew by only 25 units during the decade. These are seasonal and migratory units that are used or intended for use only in certain seasons, and they are not considered to be a major factor in developing land use policies.

Table 5A  
Trends in Household and Family Size

	Beaufort County Population Change in Households and Families			
	1980	1990	2000	2005
Average household size	2.82	2.59	2.42	2.31

Beaufort County Population Change in Households and Families				
	1980	1990	2000	2005
Average family size	3.33	3.12	2.89	2.79

Source: NC State Data Center

**Substandard housing.** The number of substandard housing units, as measured by lack of plumbing and/or kitchen facilities, dropped sharply during the decade, from 987 units to 661 units.

**Owners and renters.** Owners occupy 75 percent of the county's housing units.

Table 5B  
Housing Stock Characteristics

Year	Changes in Important Housing Characteristics Beaufort CO.							
	Housing Units	Seasonal Housing Units	Yr-Rnd Housing Units	Vacant Housing Units	Rent Occ. Units	Own Occ. Units	Mob. Homes Trail	Sub-standard Unit
2000	22,139	1,890	19,098	3,820	4,574	13,745	6,098	661
1990	19,598	1,865	17,733	3,441	4,184	11,973	4,691	987
1990-00 growth	13%	1%	8%	11%	9%	15%	30%	-33%

Source: NC State Data Center

**Types of structures.** Most homes, 65% of the total, are traditional single-family structures. However, the county's share of total housing units that are mobile or manufactured homes is nearly 1.75 times that of the state average. The number of mobile homes increased by 30% from 1990 to 2000. On the other hand, the number of multifamily dwellings is well below the state average, which reflects the overall rural character of the county.

Table 5C  
Types of Housing Units

Area	Types of Housing Units 2000				
	Single family	Duplex	Multi-family	Mobile homes	Other
BEAUFORT CO.	65%	3%	4%	28%	0%
NC	67%	3%	14%	16%	0%

Source: NC State Data Center

**Change in number of housing units.** With the exception of Pantego, all of the municipalities gained housing units from 1990 to 2000. Additional research is needed, but according to Pantego, unit losses in that community appear to be storm related.

Table 5D  
Change in Number Housing Units

	Housing Unit Change in Municipalities				
	Aurora	Bel-haven	Chocowinity	Pantego	Washington Park
2000	316	1,015	330	78	218
1990	310	980	290	82	199
Percent growth	2%	4%	14%	-5%	10%
CO. average	13%				

Source: NC State Data Center

**Households with needs.** While there are a significant number of households with housing needs, overall Beaufort CO. compares favorably with NC as a whole. The percentage of households with needs is either below or at the state average in all income categories (percent of median family income).

Table 5E  
Housing Needs

Income (median family income)	Households with Housing Problems by Income Either Cost Burden, Overcrowding, or Condition 2000			
	<= 30% MFI	30% to 50% MFI	50% to 80% MFI	>80% MFI
BEAUFORT CO.	63.1%	56.9	34.1%	11.2%
North Carolina	68.8%	56.4%	36.9%	10.8%

Source: US Department of Housing and Urban Development

Table 5F  
Median Family Income

Median Family Income (MFI) 2000	NC	Beaufort CO.
		\$46,335
30% MFI	\$13,900	\$11,400
50% MFI	\$23,200	18,900
80% MFI	\$37,100	\$30,300

Source: NC State Data Center

## 6. Income and Employment

**Income measures.** County incomes are *well below* the state average in terms either of per capita income, median family income, or median household income. Likewise, the percent of persons below the poverty level is *well above* the NC average, and the percentage did not change between 1990 and 2000.

Table 6A  
Income and Poverty Measures

Area	Beaufort CO. Income and Poverty 2000			
	Per Cap- ita In- come	Median Family Income	Median Hsld. In- come	Pct Per- sons in Poverty
BEAUFORT CO.	\$22,441	\$37,893	\$31,066	19.5
NC	\$27,071	\$46,335	\$39,184	12.3

Source: NC State Data Center

Table 6B  
Changes in Income and Poverty Measures

Beaufort CO. Changes in Income and Poverty 1990-2000					
	Per Cap Inc	Med. Fam. Income	Median Hsld. Inc.	Pers. in Poverty	Pct Per- sons Poverty
2000	\$22,441	\$37,893	\$31,066	8,642	19.5
1990	\$14,799	\$26,010	\$21,738	8,130	19.5

Source: NC State Data Center

**Employment.** The service and manufacturing sectors employed the most county workers in 2000. Percent of workers in services is somewhat lower than the state average and the percent in manufacturing is somewhat higher than the state. Other employment sectors are near the state average.

Table 7  
Employment by Major Industry, 1990-2000

Beaufort CO. Employment by Major Industry, 1990-2000 NC Percent Employment by Major Industry														
	Total full-time and part-time emp.	Farm emp.	Ag., for, fish., other	Mining	Const.	Manu.	Trans. and pub- lic utilities	Whsle. trade	Retail trade	Fin., ins., and r.e.	Serv.	Fed., civilian	Military	State and local
Beau- fort CO. 2000	24,001	728	710	X	1571	4817	965	1172	4034	965	5844	159	122	2908
Pct.		3%	3%	X	7%	20%	4%	5%	17%	4%	24%	1%	1%	12%
Beau- fort CO. 1990	23,406	965	522	X	1012	5640	784	1129	3726	780	(D)	132	159	2703
Pct.		4%	2%	X	4%	24%	3%	5%	16%	3%	(D)	1%	1%	12%
NC 2000%	4,924,918	2%	1%	0%	7%	16%	4%	4%	16%	6%	27%	1%	2%	11%

Source: NC State Data Center

X = not available or not disclosed

## B. Natural Systems

### 1. Natural systems inventory

#### a). AECs

**Overview.** Areas of environmental concern (AEC) are land and/or water systems where uncontrolled or incompatible development may cause irreversible damage and may result in destruction of the “very features of the coast that make it economically, aesthetically, and ecologically rich...”<sup>2</sup>

In Beaufort County, there are four AEC categories. The following are descriptions of these categories from the Coastal Resources Commission administrative rules (Subchapter 7H):

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**Coastal wetlands** are defined as any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial water-courses), provided this shall not include hurricane or tropical storm tides. Coastal wetlands are characterized by the presence of marsh plant species that are detailed in Subchapter 7H.

**Estuarine waters** include all the waters 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. The boundaries between inland and coastal fishing waters are set forth in an agreement adopted by the Wildlife Resources Commission and the Department of Environment and Natural Resources and in the most current revision of the North Carolina Marine Fisheries Regulations for Coastal Waters. In Beaufort County, the US 17 Bridge at Washington is the dividing line between coastal and inland waters, even though most of the inland water streams are downstream of the bridge.

**Public trust areas** are described in the CRC rules as follows:

- Waters of the Atlantic Ocean and lands there under from the mean high water mark to the seaward limit of state jurisdiction;
- Natural bodies of water subject to measurable lunar tides and lands there under to the normal high water or normal water level;
- Navigable natural bodies of water and lands thereunder to normal high water or normal water level as the case may be, except privately-owned lakes to which the public has no right of access;
- Waters in artificially created bodies of water containing public fishing resources or other public resources which are accessible to the public by navigation from bodies of water in which the public has rights of navigation; and

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<sup>2</sup> State Guidelines for Areas of Environmental Concern.

- Waters in artificially created bodies of water in which the public has acquired rights by prescription, custom, usage, dedication, or any other means.

**Coastal shorelines** include estuarine shorelines and public trust shorelines. The Estuarine shoreline AEC includes non-ocean shorelines extending from the normal high water level or normal water level along the estuarine waters, estuaries, sounds, bays, fresh and brackish waters, and public trust areas for a distance of 75 feet landward.

**Public trust shorelines** are non-ocean shorelines immediately contiguous to public trust areas located inland of the dividing line between coastal fishing waters and inland fishing waters and extending 30 feet landward of the normal high water level or normal water level.

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The planning area’s AECs and their development objectives are described in greater detail below.

(i.) Public trust area AEC. The public trust areas AEC covers all of the Pamlico and Pungo River systems within the planning area and all of their tributaries. The management objective for this AEC is “to protect public rights for navigation and recreation and to conserve and manage public trust areas so as to safeguard and perpetuate their biological, economic, and aesthetic value.”<sup>3</sup>

(ii.) Estuarine waters AEC. The county’s estuarine water AEC is a subset of public trust waters and it includes all waters of the planning area that are not designated as *inland waters*. The box below provides a general description of the planning area’s inland waters. A more detailed description is found at 15A NCAC 03Q .0202. Maps that show the delineation between coastal and inland waters may be ordered or obtained online from the NC Marine Resources Commission. Please refer to these sources for a detailed description.

General Description of Planning Area Inland Waters  
 Pamlico/Tar River and tributaries west of US 17 Bridge at Washington  
 Chocowinity Bay<sup>4</sup>  
 Blounts Cr.  
 Broad Cr.  
 Bath Cr.  
 Upper Goose Cr.  
 Durham Cr.  
 Upper reaches South Cr.  
 Smith Cr.

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<sup>3</sup> 15A NCAC 07H.0207

<sup>4</sup> US 17 bridge at Washington is the major dividing line between coastal and inland waters but majority of streams in this table are downstream of the bridge.

Pantego Cr.  
Upper reaches Pungo River

The use standards for the estuarine water AEC give highest priority to conservation of estuarine waters and their vital components. Second priority of estuarine waters use shall be given to those types of development activities that require water access and use which cannot function elsewhere such as simple access channels; structures to prevent erosion; navigation channels; boat docks, marinas, piers, wharves, and mooring pilings.

A map showing the planning area's AECs is available from the Beaufort County Planning Department.

**DWQ surface water classifications.** Beaufort County's estuarine and inland waters have a range of primary and supplemental water quality classifications that are assigned by the NC Environmental Management Commission. These are shown below:

SA HQW NSW      SC HQW NSW  
SB NSW          SC NSW  
C Sw NSW (inland waters only)

Please see subsection "g.)" for a discussion of water quality ratings for the planning area's surface waters.

### Estuarine Water Use Classifications

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**Class SC**

Tidal salt waters protected for secondary recreation such as fishing, boating and other activities involving minimal skin contact; aquatic life propagation and survival; and wildlife. Stormwater controls are required but there are no categorical restrictions on discharges.

**Class SB**

Waters classified for primary recreation, including frequent or organized swimming. Stormwater controls are required but are no categorical restrictions on discharges.

**Class SA**

Waters classified for commercial shellfish harvesting. Stormwater controls are required and no domestic discharges are permitted in these waters. Shellfishing prohibited in waters other than SA.

### Inland Water Use Classifications

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**Class C**

Fresh water managed for aquatic life propagation/protection and secondary recreation.  
Sw

Swamp Waters that are slow moving and that will naturally be more acidic and have lower levels of dissolved oxygen.

## Supplemental Classifications

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### **High Quality Waters (HQW)**

Supplemental classification intended to protect waters with quality higher than state water quality standards. In general, there are two means by which a water body may be classified as HQW. They may be HQW by definition or they may qualify for HQW and then be classified as HQW through the rule-making process. The following are HQW by definition:

SA (shellfishing),

ORW

Waters designated as Primary Nursery Areas or other functional nursery areas by the Marine Fisheries Commission

There are associated wastewater treatment and development controls enforced by DWQ. No restrictions are placed on the types of discharges allowed under this supplemental classification.

### **Nutrient Sensitive Waters (NSW)**

Supplemental classification intended for waters needing additional nutrient management due to their being subject to excessive growth of microscopic or macroscopic vegetation. In general, management strategies for point and non-point source pollution control require control of nutrients (nitrogen and/or phosphorus usually) such that excessive growths of vegetation are reduced or prevented and there is no increase in nutrients over target levels. Management strategies are site-specific.

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All waters in the planning area have the NSW classification. There are no Outstanding Resource Waters designated in the planning area.

**Primary nursery areas.** North Creek, Tooleys Creek, and Battalina Creek are estuarine primary nursery areas.

The Tar upriver of the railroad bridge at the City of Washington is a designated inland waterway primary nursery area, as are Duck Creek, Bath Creek, Mixon Creek, Porter Creek, Jacobs Creek, Jacks Creek, Bond Creek, Muddy Creek, Strawhorn Creek, South Prong Wright Creek, and Jordan Creek.

(iii.) AEC - Coastal shorelines.

The *estuarine shoreline* is a band of dry land that extends landward from the normal high water line a distance of 75 feet. It is intimately connected to the county's estuaries meaning that incompatible development within the estuarine shoreline can have serious impacts on estuarine water quality.

The *public trust shoreline* includes the non-estuarine shoreline immediately contiguous to public trust areas, which are located above the US 17

bridge at Washington. This shoreline AEC extends 30 feet landward of the normal high water level or normal water level.

The shoreline AECs are considered to be especially vulnerable to erosion and the adverse effects of wind and water. Key guidelines for land uses and development in these areas include:

- Should not weaken or eliminate the shoreline's natural barriers to erosion;
- Limit impervious surfaces to the amount necessary to support the use - may not exceed 30% of the AEC area;
- Develop or other impacts within 50' from normal water level may require approval from the Division of Water Quality; within 75 feet landward from normal water level may require CAMA permit.

The shoreline AECs are depicted on the AEC map. This map is available from the County Planning Department.

(iv.) AEC - Coastal Wetlands AEC. Beaufort County has approximately 9,300 acres of coastal wetlands. These wetlands form an important element of the estuarine system and they perform a variety of valuable functions:

- Provide decayed plant material and nutrients that support complex food chains in the estuaries.
- Support 90% of the states commercial fish and shellfish catch.
- Provide high quality habitat for waterfowl and other wildlife.
- Act as barriers against flood damage and control erosion between estuaries and uplands.
- Act as a trap for nutrients, sediment, and pollutants and help maintain estuarine water quality.

The wetlands are concentrated in four areas:

1. In the Upper Pungo River.
2. Pantego Creek.
3. Along the north side of the Pamlico River.
4. Chocowinity Bay.

The location of the coastal wetland AEC is illustrated on the AEC map (available from County Planning Department).

b). **Soil Suitability.**<sup>5</sup>

The Soil Suitability Map on the following page shows the patterns of soil suitability for traditional on-site soil absorption waste treatment systems in the county. The map is based on soil maps prepared by the USDA-SCS with interpretations by the Beaufort County Health Department. The Health Department interpretations are based on current state guidelines.

Most soils in the county are shown in the *likely unsuitable* or *unsuitable* categories. Soils in these two categories cover nearly 83% of the county. *Likely suitable* and *provisionally suitable* soils cover 17% of the county. According to information collected in the existing land use, approximately 34,000 acres of land classified as *likely suitable* or *provisionally suitable* are vacant.

Soils in the higher suitability categories tend to be concentrated in five areas:

1. Southern area along NC 306.
2. Blounts Creek area.
3. Chocowinity area.
4. North side Pamlico River between Washington and Bath Creek.
5. Northwestern area between US 17 and the Pitt/Martin line.

Planned development densities in areas not served by central sewer should be very low to account for soil limitations.

c) **Natural Hazards.**

According to the Hazard Mitigation Plan, flood events, either the result of localized storms or associated with hurricanes and n'oresters, are *highly likely*. The impacts of flooding may include loss of life, extensive property damage, and disruption of essential services.

**Special flood hazard areas.** As shown on the Natural Hazards Map (available from the County Planning Department), special flood hazard areas are concentrated in the eastern areas of the county along the Pungo River and Goose Creek and in the low-lying areas along the north shore of the Pamlico River and its tributaries. Special flood hazard areas include approximately 117,000 acres of land.

These areas present a significant hazard to persons and property without proper controls on land use and development.

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<sup>5</sup> All determinations regarding septic suitability must be made after on-site investigations. The soil information presented here is for general planning purposes only.

**Storm surge.** The Natural Hazards Map also shows the extensive areas of Beaufort County that are vulnerable to surge hazards associated with hurricane level storms. Depending on the level and severity of the storm, as much as 45% of the land area of the county may be impacted.

The extent of the impact in acres is shown in the chart below:

<b>Storm Category</b>	<b>Approximate Cumulative Acres Impacted</b>
1 to 2	110,350 acres
3	167,220 acres
4 to 5	237,950 acres

**Underground fuel tanks.** An underground storage tank (UST) that leaks (releases) represents a threat to the quality of groundwater. Most USTs are regulated, which means that they must be monitored for leaks, be protected from corrosion, and have spill and overfill prevention equipment. If a regulated tank ceases to be used, a site assessment is required and the tank must be removed from the ground or permanently closed in place. In Beaufort County there are 184 regulated underground storage tanks at 64 sites, according to NC Division of Waste Management’s UST Section.

Not all USTs are regulated. Heating oil tanks that store heating oil for use on the property where they are located are exempt from the regulations. Also, farm or residential motor fuel tanks that contain gasoline or diesel fuel of 1,100 gallons or less in capacity are not regulated. In addition, USTs under 110 gallons in capacity are not regulated.

Even though some USTs are not regulated, some groundwater regulations will apply if there is a leak or spill from the tank. If contamination occurs clean up will be required. The owner of any underground storage tank that leaks must contact the UST Section of the Division of Waste Management immediately after discovery at telephone number 252-946-6481.

North Carolina does not require that abandoned non-regulated USTs be removed from the ground but the UST Section recommends that any abandoned or out-of-use UST be removed, or at a minimum, the UST should be drained. The UST Section should be contacted regarding the use of any proposed on-site UST.

There is currently no state report available as to the number of non-regulated heating oil tanks actively being used or abandoned in Beaufort County.

Any above ground fuel tank must be installed and maintained in accordance with applicable local, state, and federal regulations. For additional information, it is advised to contact the NC Department of Insurance (919-755-3901) and the Beaufort County Building Inspector.

A leak from an above ground tank must be reported to the NC Division of Water Quality (DWQ) immediately. DWQ can be reached at 252-946-6481. Any chemical or petroleum spill must be contained and the area of impact must be properly restored.

Any soils excavated during demolition or construction that show evidence of chemical or petroleum contamination, such as stained soil, odors, or free product must be reported immediately to the local Fire Marshall to determine whether explosion or inhalation hazards exist. The UST Section must also be notified.

**d) Non-coastal wetlands.**

The coastal management process incorporates non-coastal wetlands as well as salt water wetlands, even though they have not received the same level of protection. The US Army Corps of Engineers defines wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency of duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated conditions.”<sup>6</sup>

Mapping from the NC Division of Coastal Management provides a rating scheme for non-coastal wetlands that reflects their overall importance from the standpoint of water quality protection, flood mitigation, and habitat. These ratings from least to most significant are *beneficial*, *substantial*, and *exceptional*. These ratings are used in the wetland analysis.

Since one of the major thrusts of the CAMA land use plan is water quality, only substantial and exceptional wetlands are mapped. These wetlands must be a part of the land development calculus to adequately protect water quality. These wetlands overlap with soil limitations and their development is either regulated USACOE, NCDWQ, NCDLQ, or the local health department. The total estimated acreage in substantial and exceptional wetlands is:

Substantial	138,000ac.
Exceptional	40,000ac.

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<sup>6</sup> US Army Corps of Engineers, *Wetlands Delineation Manual*.

The county's land use and development policies should address the most significant wetland areas in these categories.

e) **Fragile areas.**

The North Carolina Natural Heritage Program identifies several areas in Beaufort as significant due to their "elements of natural diversity." These elements may include "plants and animals that are so rare or natural communities of sufficient significance that they merit special attention as land use decisions are made."

The Fragile Areas Map (available from County Planning Department) shows the approximate location of these areas along with an indication of whether the area is in public or private ownership or control.

The county's land use and development policies should take into account the significance of these areas and the possible impacts of various land uses and development processes.

**Threatened and endangered species.** The NC Natural Heritage Program identifies five major animal and plant species that may be located in Beaufort County. These include Red Wolf, Red-cockaded Woodpecker, Rough-leaf Loosestrife, and Sensitive-joint vetch. The most important of these species are described in more detail below.

Rough-leaf loosestrife - Threatened

Rough-leaf loosestrife is native to the coastal plain and sandhills of North Carolina. The existing populations in North Carolina are located in the following counties: **Beaufort**, Bladen, Brunswick, Carteret, Cumberland, Harnett, Hoke, New Hanover, Onslow, Pamlico, Pender, Richmond and Scotland. Its habitat includes tidal marshes, non-tidal marshes, and shrub swamps, and non-tidal wetlands.

Sensitive-joint vetch - Endangered

Sensitive joint-vetch grows in the inter-tidal zone where plants are flooded twice daily. The species seems to prefer the marsh edge at an elevation near the upper limit of tidal fluctuation. It is usually found in areas where plant diversity is high (50 species per acre) and annual species predominate.

In North Carolina, sensitive joint-vetch appears to remain at a particular site for a relatively short period of time, and maintains itself by colonizing new, recently disturbed habitats where it may compete successfully among other early-successional species. It is frequently found in the estuarine shoreline zone of tidal rivers where sediments transported from upriver settle out and extensive marshes are formed.

The elimination of sensitive joint-vetch from many sites can be directly attributed to habitat destruction. Many of the wetlands where it occurred historically have been dredged and/or filled and the riverbanks stabilized with bulkheads or riprap. Other threats include sedimentation, competition from exotic plant species, recreational activities, agricultural activities, mining, commercial and residential development with associated pollution and sedimentation, impoundments, water withdrawal projects and introduced insect pests.

#### Red-cockaded woodpecker - Endangered

For nesting/roosting habitat, open stands of pine containing trees 60 years old and older. Red-cockaded woodpeckers need live, large older pines in which to excavate their cavities. Longleaf pines (*Pinus palustris*) are most commonly used, but other species of southern pine are also acceptable. Dense stands (stands that are primarily hardwoods, or that have a dense hardwood understory) are avoided. Foraging habitat is provided in pine and pine hardwood stands 30 years old or older with foraging preference for pine trees 10 inches or larger in diameter. Eighty to one hundred twenty-five acres of good, moderately-stocked, pine habitat, are required for foraging.

#### Bald eagle - Endangered

Bald Eagles live near large bodies of open water in estuarine and public trust shorelines and coastal wetlands where there are plenty of fish to eat and tall trees for nesting and roosting. In 1982, there were zero bald eagle nests in North Carolina. In 1998, there were 17 nests; in 2000, there were 34 nests.

#### f) **Composite environmental map.**

The Composite Environmental Map on the following page shows the extent and overlap of the county's major natural systems and features that are described in this section. This map provides a visual guide for locating areas that may have the less severe environmental limitations for development, or conversely, those areas that present the greatest opportunities. The map is a tailored version of the environmental composite map model provided by DCM. The DCM

model, while technically accurate, does not provide enough gradients in the resource patterns to be useful for developing policy. The tailored version is based on the features and classifications shown in the following chart.

Environmental Factor	Class I	Class II	Class III
Soil suitability	Likely suited to provisionally suited	Likely unsuited	Unsuited
Coastal wetlands	Not wetland		Coastal wetland
Non-coastal wetlands	Beneficial	Substantial	Exceptional
Flood hazard area (zones)		A and AE	VE and AEFW
HQW	>1 mi	<= 1 mi	

The classes shown in this table and on the composite map are defined below:

- Class I Land containing only minimal hazards and limitations that may be addressed by commonly accepted land planning and development practices.
- Class II Land containing development hazards and limitations that may be addressed by methods such as restriction on types of land uses; special site planning; or the provision of public services.
- Class III Land containing serious hazards for development of land where the impact of development may cause serious and irreversible damage to the functions of natural systems located there.

The map, located on the following page, is drawn to depict those areas with the most significant overlap of systems with the greatest limitation in the lightest shades of gray.

**g) Summary environmental conditions.**

The land use plan update includes a summary description of three environmental conditions to be addressed by the planning policies. These include water quality, the impacts of flooding, and the presence of significant natural resource areas. These areas are described in more detail below.

**Water Quality.** The *2004 Tar-Pamlico Basinwide Plan* prepared by the NC Division of Water Quality and the *Sanitary Survey Reports* for areas G-1&2 and G-8&9 are the primary sources for water quality information on Beaufort County's estuarine and public trust waters. Except for very small areas at the Martin-Washington County line north and the Craven County line south, the county is situated in portions of the following sub-basins of the Tar-Pamlico River system:

Sub-basin 03-03-05

Sub-basin 03-03-06

Sub-basin 03-03-07

The status of water quality in each of these sub-basins is discussed below, and the Water Quality Map (available from County Planning Department) shows water quality and shellfish harvesting conditions.

**03-03-05** (inland waters). This sub-basin covers a small area in western Beaufort. Included within this area is a portion of Chicod Creek, near Chocowinity, and a small stretch of the Tar River along the Beaufort-Pitt County line. Chicod Creek and the Tar River are in the *public trust waters* classification. The DWQ use classification for these streams is C NSW. Their use support rating is *impaired*.

All waters are Impaired in the fish consumption use category because of a statewide fish consumption advisory for mercury that applies to basins east and south of I-85. Chicod Creek from the source to the Tar River is currently impaired in the aquatic life category because of a severe stress bio-classification at a monitoring site. High turbidity, elevated total phosphorous, and low dissolved oxygen were also noted. The watershed is extensively ditched. There are areas where drain tiles under spray fields are connected directly to main-stream channels.

**03-03-06** (inland waters). This sub-basin covers a significant area of northwestern Beaufort County west of US 17 and bordering Pitt and Martin Counties.

Tranters Creek, which forms the county boundary with Pitt County, is the major stream in this sub-basin. It also includes Horse Pen Swamp, Latham Creek, and Old Ford Swamp. All of these waters are classified as C Sw NSW and their use support rating is *supporting*.

Recent hurricanes impacted streams in this sub-basin. The biological community in the streams can recover rapidly if in-stream habitat is maintained. De-snagging operations should carefully remove debris from stream channels to restore natural flow and leave enough in-stream habitats so the biological community can recover.

**03-03-07** (estuarine and inland). This sub-basin includes the Pamlico River and Pungo River systems which cover the area generally from the Pitt County line east of Washington to the eastern county line at the mouth of the Pungo River and Goose Creek.

Washington Area

The Pamlico has both fresh water and salt water classifications in western Beaufort near Washington and Chocowinity. From the Pitt County line to the US 17 bridge at Washington the river is classified as C NSW and its use support rating is *impaired*. From the US 17 bridge to a line opposite Washington Park, the classification is SC NSW and the use support rating is *impaired*.

The waters in Chocowinity Bay on the south side opposite Washington are classified as SB NSW and SC NSW. The use support rating of Chocowinity Bay is *impaired*.

Blounts Bay - Bath Creek Area

This area includes a 22-mile stretch of the Pamlico River from Washington Park to the mouth of North and South Creeks, plus its tributaries. The major tributaries in this area are Blounts Creek and Bay, Broad Creek, Little Goose Creek, Bath Creek and Durham Creek. The DWQ use classification and use support rating for each of these streams is shown in the following table.

<u>Stream</u>	<u>Classification</u>	<u>Use Support Rating</u>
Pamlico River, Washington Park to North Creek	SB NSW	Supporting
Blounts Creek	SB NSW	Not rated
Blounts Bay	SB NSW	Not rated
Durham Creek	SC NSW	Not rated
Broad Creek	SB NSW	Supporting (recreation)
Little Goose Creek	SC NSW	Supporting (recreation)
Bath Creek	SB NSW	Supporting

Pungo River - Goose Creek Area

This area includes the Pamlico River from South and North Creeks west to the county line; the Pungo River System; and the portion of Goose Creek and its tributaries located in Beaufort County. The DWQ use classification and use support rating for each of these streams is shown in the following table.

<u>Stream</u>	<u>Classification</u>	<u>Use Support Rating</u>
Pamlico River, South/North Creek to county line	SA HQW NSW	Supporting
South Creek	SA HQW NSW	Impaired (Closed to Shellfishing)
North Creek system	SA HQW NSW	Part Supporting/Part Impaired (Closed to Shellfishing)
Lower Pungo River	SA HQW NSW	Supporting
Upper Pungo River	SB NSW	Supporting
Pantego Creek	SC NSW	Impaired
Pungo Creek	SC NSW	Impaired
Satterthwait Creek	SA HQW NSW	Majority Impaired
Wright Creek	SA HQW NSW	Majority Impaired
Goose Creek	SA HQW NSW	Supporting
Spring Creek	SA HQW NSW	Supporting
Snode Creek	SA HQW NSW	Supporting
Campbell Creek	SA HQW NSW	Supporting

**Shellfish Harvesting Areas<sup>7</sup>.** Beaufort County has 4 shellfish harvesting areas as designated by the NC Shellfish Sanitation Section: G-1 and G-2 that cover the Pamlico River and Goose Creek areas and G-8 and G-9 that cover the Upper and Lower Pungo River area.

Areas G-1 and G-2 cover approximately 46,000 acres, of which approximately 650 acres are closed. For the G-1 area, there is no oyster production and clam production is judged to be *fair to good* for Rangia only. In the G-2 area, oyster production is judged to be *fair* and clam production is *fair* with some Rangia.

<sup>7</sup> G-1 area Pamlico River from line between Cousin Pt. To Reed Pt. and east to line from Wades Pt. to Cow Hole Bay.  
 G-2 area Pamlico River from G-1 area east to Hyde Co. line and then north in Pungo River to line from Fortescue Cr. to Satterwaite Cr.  
 G-8 area Pungo River from Fortescue Cr. to Satterwaite Cr. north to line from Durants Pt to mouth Pantego Cr.  
 G-9 area Pungo River from Durants Pt to mouth Pantego Cr. to Crabtree Bay.

Overall the Shellfish Sanitation Section considers the commercial value of shellfish in these areas to be *very poor* for G-1 and *poor to fair* for G-2.

Areas G-8 and G-9 cover approximately 21,200 acres, of which 8,175 acres are closed. Oyster production in these areas is judged to be *poor* and clam production for the Rangia is *good*. The Shellfish Sanitation Section considers the commercial value of shellfish in these areas to be *poor to none*.

**Water Quality Assessment.** The water quality assessments contained in the basinwide plan and the shellfish Sanitary Surveys indicate that there have been no material changes of water quality since the late 1990s, as measured by the parameters of the NC Division of Water Quality and the Shellfish Sanitation Section. However, there remain large stream segments that are *impaired* and that are *closed* to shellfish harvesting. The impairments and closures appear to be linked to the following factors:

1. Clusters of wastewater discharge sites (NPDES sites);
2. Non-point source pollution from run-off related to land development activities;
3. Run-off from agricultural and forestry activities.

There are numerous point-source wastewater discharges with NPDES<sup>8</sup> permits located in the vicinity of the impaired or closed areas. The shellfish sanitation survey documented a number of subdivisions located adjacent to closed shellfish areas. And finally, the agricultural areas in the northern area of the county have extensive ditch systems that may impact Pantego and Pungo Creeks specifically.

**Natural resources.** The Fragile Areas section on page II-21 describes fragile areas and contains information on unique and important natural resource areas in the county. These areas comprise a total of 78,818 acres. Approximately 13,000 acres, or 16%, is in public ownership or control; 55,525 acres, 70%, is in private ownership. There are 10,293 acres that are controlled by both public and private interests.

There are 12 active mining permits in Beaufort County according to NC Division of Land Resources records. Two of these permits are issued to the phosphate operations at Aurora. The remaining 10 permits are for sand or gravel operations.

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<sup>8</sup> National Pollutant Discharge Elimination System Permitting Process.

## C. Existing Land Use and Development

**Overview.** This section provides a “snap shot” of the current development situation in the county with respect to how the land is currently used and what development trends are emerging. It provides a base for projecting future development patterns and future land needs. The section includes a map of existing developed land, an assessment of growth areas in the county, and a forecast of future land needs. (The Existing Land Use Map is located on the following page.)

### 1. Existing Land Use Patterns.

Beaufort County and the Towns in the Planning Area have experienced relatively modest land development from the early 1990s to present. Some industrial locations have occurred and some enterprises have expanded. But overall, the county remains rural in character. The four towns are small and, with the exception of Chocowinity, their growth has been limited. Most of the growth and development in Beaufort County has taken place in the unincorporated area.

However, the towns serve a very important function in the overall development of the county. They provide centralized services to the families and businesses in the county. They are centers for retail goods and services, personal and professional services, and health care. In addition, they provide a range of community services that are available to all residents of the planning area.

From a land development perspective, the towns provide water and sewer services that have become essential supports for appropriate development in coastal areas. These services are discussed in more detail in the following section.

### 2. Existing Conditions

**Planning area overview.** Table 8A provides a summary of existing land uses in Beaufort County. Forestland maintained for commercial forestry is the major land use. Approximately 333,700 acres are devoted to timber production. Of this total, Weyerhaeuser, with approximately 144,500 acres, owns the lion’s share.

Cropland is the second largest land use with an estimated 145,000 acres. This total is an increase from an estimate of 110,400 acres of cropland in the current land use plan (1998).

The PCS Phosphate Company is the major industrial land user in the planning area. The company controls approximately 43,000 acres in the vicinity of the Aurora Planning Area.

Land for rural development totals approximately 9,200 acres. This development is located in the unincorporated areas and generally concentrated along roads and highways on single lots, farmsteads, and small subdivisions. In addition, the county has traditional rural communities or clusters that include residential and supporting rural retail uses. These clusters include approximately 5,600 acres.

The federal and state land ownership totals 9,700 acres. The major federal holding is the Voice of America complex located northwest of Washington, which covers 2,800 acres. The State of North Carolina owns a total of 6,680 acres. The Van Swamp, which is located in the northern boundary of the planning area and controlled by the Wildlife Resources Commission, includes approximately 2,000 acres; Goose Creek State Park on the Pamlico River covers approximately 1,350 acres.

As in most other coastal counties, water is a strong development attraction. Four of the five municipalities in the planning area are located on navigable waters. Several older developments are located on the water, and current development trends favor these locations.

Table 8A  
2005 Generalized Existing Land Use - Planning Area

Land Use Category	Acres
Forestland	306,400
Cropland	123,500
Extractive	43,000
Total resource-based uses	472,900
Municipal planning areas (please see descriptions below)	21,900
Industrial uses	12,000
Rural development	9,200
Rural cluster development	5,600
Total land in use	509,600
State and Federal land	9,700
Water acreage	81,000
Total acres	600,300

### 3. Municipal Development Characteristics

Table 8B below provides a profile of the development characteristics in the municipalities and immediate surrounding areas in the planning area. As expected, most of the land is divided into lots of less than 1 acre. The average lot size for lots with buildings is 0.65 acres. The average lot without a building is slightly larger at 0.77 acres.

Detailed information on existing land use in the municipalities is found in Section H., page II-43.

Table 8B  
Municipal Development Profile

	Total acres	Parcels >100ac		Lots with Structures			"Building lots" without Structures		
		Number	Total acres	Number	Acres	Average lot size (ac.)	Number	Acres	Average lot size (ac.)
County	528,452	-	-	18,750	14,277	0.76	19,261	17,885	0.93
Aurora area	726	1	107	388	307	0.79	433	356	0.82
Belhaven-Pantego area	13,729	15	4,952	1,213	676	0.56	1,359	904	0.67
Chocowinity area	9,700	7	1,423	846	683	0.81	797	776	0.97
Washington Park	100	-	-	230	75	0.33	81	20	0.25
Totals for municipalities	24,255	23	6,482	2,677	1,741	0.65	2,670	2,056	0.77

Source: WBF; Beaufort County Tax Records

### 4. Growth Areas

The 10 census tracts (CT) are the base for analyzing sub-area growth and development trends. Two census tracts account for the bulk of the area's 1990-2000 population growth and both are water-oriented. CT 9909, which surrounds Blount Cr. and the Blount Bay area on the south side of the Pamlico River grew by 29% during the last decade; CT 9906 on the north side of the river from Broad Cr. to Bath Cr. grew by 21%.

CT 9902, 9907, and 9910 grew at rates *somewhat above* the county rate. CT 9907 is another water-oriented area located between Bath Cr. and the Pungo

River. CTs 9902 and 9910 are in western Beaufort and are influenced by regional growth trends.

The Population Growth Map on page II-34 illustrates growth areas in the county.

## **5. Historic Properties**

Most of Beaufort County's documented historic areas<sup>9</sup> are located within the planning areas of the City of Washington and the Town of Bath, which are not covered by this plan. However, the planning area includes the following properties listed on the National Register:

Belfont Plantation in the Latham vicinity on SR 1411.

Belhaven City Hall in the Town of Belhaven.

Pantego Academy in the Town of Pantego.

Rosedale in the Wharton vicinity on SR 1407.

Ware Creek School in the Blounts Creek vicinity on SR 1103

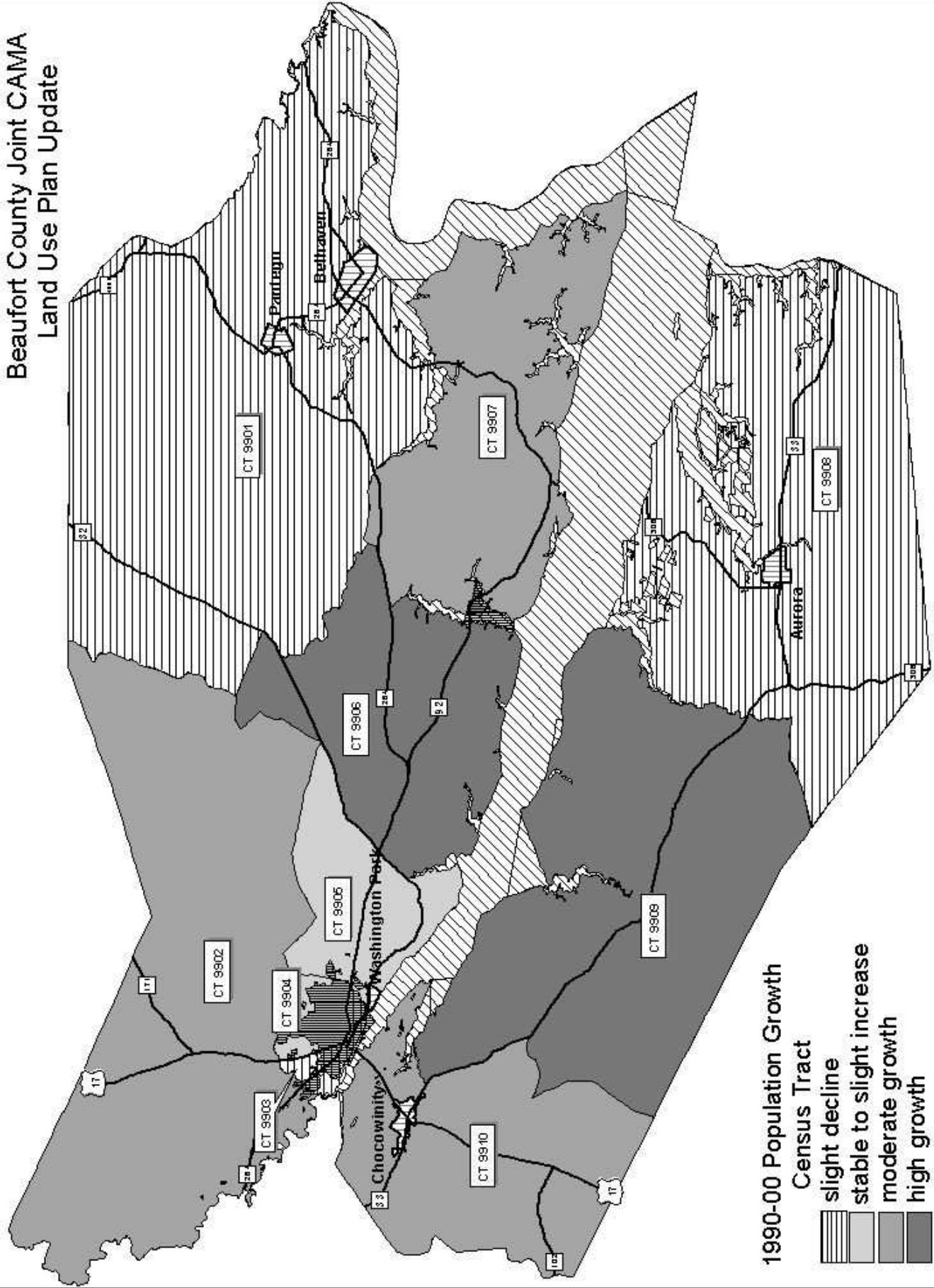
Zion Episcopal Church in the Jessma vicinity on US 264.

The general locations of these properties are shown on the existing land use map.

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<sup>9</sup> Currently listed on the National Register.

**Beaufort County Joint CAMA  
Land Use Plan Update**



## D. Community Facilities

**Overview.** Community facilities - roads, water, and sewer - can be the major growth generators and directors for the planning area, and they are a major base for developing land use policies. This section provides information on existing facilities and any significant planned upgrades.

### 1. Roads

The county Thoroughfare Plan identifies 5 types or classes of roads in the planning area:

**Principal arterials** carry substantial volumes of regional, statewide and interstate traffic and provide a link to higher level facilities, such as interstates. They exist solely to serve traffic and not to provide access to property. Significant measures are required to protect the traffic-carrying functions of these facilities.

**Minor arterials** join cities and larger towns and carry intra-state and intra-county traffic with minimum interference to traffic movement. These facilities are not intended to provide access to property.

**Major collectors** serve major intra-county travel corridors and traffic generators and provide links to the arterial system. These facilities may also provide access to property as a secondary function.

**Minor collectors** collect traffic from local roads and provide access to rural communities and connections to the arterial system via major collectors. These roads may also provide access to property.

**Local roads** provide basic access to residential, commercial, and other similar types of property. They are connected to major or minor collectors.

These roadway designations provide guidance for the development of land use policies that facilitate the movement of people and goods in the county, that enhance traffic safety, and that protect carrying capacity of the valuable highway network.

The ratio of highway traffic volumes to capacity is an excellent planning guideline for assessing conditions on the primary highway system. The following ratios are used:

<u>Traffic volume/capacity</u>	<u>Congestion level</u>
<0.5	low
0.5 to 0.75	moderate
0.75 to 1.0	heavy
1.0 to 1.5	severe
>1.5	critical

According to traffic volume and capacity projections in the Beaufort County Thoroughfare Plan, segments of the primary highway system will experience severe to critical traffic congestion conditions. These areas include US 17 south of Chocowinity and north of Washington; US 264 from NC 32 to Yeatesville and between Pantego and Belhaven; and NC 33 from NC 306 to Aurora. The transportation policies encourage upgrade of US 17 and US 264. In addition, they focus on preserving system capacity.

The two major highway improvements recommended in the Thoroughfare Plan are the US 17-Washington Bypass and 4-laning of US 264 from Washington east to Belhaven. The US 17 by-pass is a component of the current NCDOT Transportation Improvement Program (TIP). This facility is a major driving force considered in the land use plan update. Studies reported by the Wisconsin DOT<sup>10</sup> indicate that long-term business impacts of by-passes on existing businesses are minimal but that there may be significant short-term negative impacts. Efforts such as advertising, signage along new routes, and efforts to provide adequate access between the old and new routes are methods to minimize impacts.

The studies also conclude that by-passes can provide significant new business opportunities. Planning for appropriate land uses and access are necessary to realize these opportunities.

The new route will be a magnet for business and residential development. Policies designed to guide development to the most suitable area and to control access to this new facility are required to gain maximum impact and to protect the highway's capacity.

Wetlands along the US 17 By-pass route may be a significant limiting factor for development. Soils in the northern and southern segments appear to be most suitable for community development.

The 4-laning of US 264 is listed on the Thoroughfare Plan is listed in the TIP but it is in an "out year" with no funds allocated.

The Transportation Map (available from County Planning Department) shows the classes of roads and the improvements described above.

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<sup>10</sup> Summary of Highway By-pass Studies, December 2000.

## 2. Water and Sewer.

**Water.** Table 9 shows the community water supply systems operating in the planning area. All of the systems use groundwater as their source of supply. There are no supply issues noted in the individual water supply plans. However, land use and development policies must take into account protection of wells and groundwater.

The Castle Hayne aquifer, which underlays all of Beaufort County, is a major source of groundwater supply for the planning area. Salt water intrusion and recharge rates are issues for this aquifer. Therefore, a large portion of the aquifer, about 2,500 square miles and including the portion underlying Beaufort County, has been designated a capacity use area by the NC Groundwater Section. This designation reflects state concerns about withdrawals by PCS Phosphate mining operations near Aurora and increasing withdrawals to serve growth and development. A capacity use area is an area where the use of groundwater resources threatens to exceed replenishment ability, making regulation a possibility.

Table 9  
Planning Area Water Supply Profile

System Name	Water Source	Population Served	Ave. MGD	Available Supply MGD	Demand as % Supply
Aurora	Groundwater	675	0.080	0.350	23.0%
Beaufort Co. RWS	Contract City of Washington	15,000	0.914	1.600	59.0%
Beaufort Co. WD VI	Groundwater	2,600	0.164	0.750	22.0%
Beaufort Co. WD VII	Groundwater	3,900	0.235	0.515	53.0%
Belhaven	Groundwater	2,270	0.439	0.750	58.5%
Chocowinity	Groundwater	1,800	0.216	0.648	33.0%

Source: NC Division of Water Resources, Local Water Supply Plans.

The Community Facilities Map (available from County Planning Department) shows the general service area of the water systems in the planning area. This mapping is provided by the NC Division of Coastal Management and there are apparent inaccuracies in the exact location of water pipes in these maps.

**Sewer.** Aurora, Belhaven, and Pantego have wastewater collection and treatment systems. The Pantego system is small and is only permitted for domestic

wastewater. The Aurora (0.12 MGD flow) and Belhaven (1.0 MGD flow) systems are larger and are permitted for municipal wastewater. The Aurora system uses innovative constructed wetlands as part of its treatment process. Chocowinity operates a sewer collection system that discharges wastewater to the City of Washington system. All of these systems are in compliance with their discharge permits.

The Belhaven system has a line that runs along US 264 from Belhaven through Pantego to the Northside High School. Subject to availability of funds, this line has capacity for additional connections. In addition, there are plans to extend sewer along US 264 a short distance east of Belhaven.

Chocowinity's system extends east to serve residential areas along NC 33 and along the Pamlico River.

Water and sewer maps for Aurora, Belhaven-Pantego, Chocowinity, and Washington Park are available from the county planning department. These maps show the general location of service in these areas.

### **3. Stormwater Systems.**

Beaufort County does not operate a stormwater system. The only systems in the unincorporated planning area are private drainage systems, side ditches along the road system, and ditches dug for mosquito control. No mapping of these facilities is available.

**Tar-Pam Program.** The county, as a result of a requirement of the state's Tar-Pamlico nutrient management strategy, is a participant in a stormwater control program. The county's program includes four elements:

1. Review and approval of new development to ensure that it meets the 30% nutrient reduction requirement and to ensure that it does not cause erosion of surface water conveyances.
2. Identify and remove existing illegal discharges to storm sewers and prevent any additional illegal discharges.
3. Identify potential sites for stormwater retrofit.
4. Develop and conduct education programs on the need and techniques for reducing nitrogen pollution from lawns and septic systems.

The program also requires protection of a 50-foot riparian buffer measured landward from the normal water level or landward of the edge of the coastal

wetland. The first 30 feet of the buffer must remain undisturbed and the next 20 feet must be vegetated but may be managed.

These rules have a significant impact on the content of land use and development policies.

The Tar-Pam Buffer Rule is administered by the NC Division of Water Quality.

The municipalities in the planning area are not presently subject to the requirements of the Tar-Pamlico rules.

**Coastal Stormwater Management Rules.** The NC Environmental Management Commission, with the objective of protecting sensitive coastal waters, administers these rules. The rules apply to any development that requires a major CAMA permit or a Sediment/Erosion Control Plan, which is for any development disturbing more than one acre. The rule promotes minimal stormwater runoff by limiting built-upon area to 25% in areas draining to SA waters and 30% for other coastal areas. Any development that exceeds these limits must have an engineered stormwater system that meets state standards. For development adjacent to SA waters, an infiltration system is required.

Recent studies<sup>11</sup> by the NC Division of Water Quality conclude that the state's current coastal stormwater rules are not effective for addressing the impacts of stormwater runoff on water quality. The studies found the following:

- An impervious area of 10% impervious or greater can be linked to local stream degradation. The current threshold is 25% or 30%, depending on location.
- Biological diversity has been shown to drop when area impervious surface increases beyond 10-15%.
- Stream stability affected when impervious surface approaches 10% in an area.
- Estuaries generally degrade after 10% impervious surface area occurs.
- Sensitive fish species loss increases after about 12%.

To address the efficacy issues with the coastal stormwater program, the Division of Water Quality offers the Universal Stormwater Management Program, effective January 2007. This program is a new approach to stormwater management in that it will allow a local government to adopt and implement a single, simplified set of stormwater rules within its jurisdiction. This will eliminate the confusion that can be posed by the overlapping requirements of up to 16 different stormwater pollution prevention programs. The program also in-

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<sup>11</sup> January 2006 presentation to the Coastal Resources Commission by Tom Reeder, NC Division of Water Quality.

corporates the latest research regarding the most effective control and treatment of stormwater pollution. A model ordinance is available for local adoption.

**High Quality Water (HQW) Rules.** The water quality map shows surface waters in eastern Beaufort County that have the HQW supplemental classification. These waters have higher standards for discharges than other areas. The following is a summary of these additional requirements:

- 1) No discharges from new single family residences are allowed. If an existing single family subsurface system fails, the owner must install a septic tank with sand filters, disinfection and step aeration.
- 2) Any new discharges other than single family homes must install significantly higher levels of treatment than in other areas.

**Phase II Stormwater Rules.** None of the local governments in the planning area is subject to the requirements of the EPA Phase II Stormwater Program. However, they may be added in the future.

## **E. Land Suitability Analysis**

Land suitability analysis is a process for identifying land in the county that is most suitable for development. The analysis is not intended to “rule out” any land or site from development. It is intended to provide information to local decision-makers on land that may have fewer environmental and regulatory restrictions, land where services can be provided at lower cost, or land that is most attractive given its proximity to existing development or to the waterfront areas.

The analysis includes three steps:

- |               |   |
|---------------|---|
| <b>Step 1</b> | Identify factors to be considered - natural constraints, such as wetlands, availability of water and sewer, proximity to existing developed areas.                            |
| <b>Step 2</b> | Estimate a rating for the suitability factors - how suitable is site with a particular factor for development. To aid in the analysis, ratings are assigned numerical scores. |
| <b>Step 3</b> | Determine the importance of each factor - 1 for important, 2 for very important, and 3 for essential.   |

Table 10 shows the factors that are included in the analysis, the rating assigned to each, and the relative importance of each factor.

Table 10  
Land Suitability Analysis

Suitability factor	Factor Rating				<i>Weight</i>
	Not inter- ested	Not at- tractive	Somewhat attractive	Very at- tractive	
	0	-2	1	2	
Coastal Wetlands	Inside	Outside			
Exceptional and Substantial Non-coastal Wetlands	Inside	Outside			
Estuarine Waters	Inside	Outside			
Protected Lands	Inside	Outside			
Beneficial Non-coastal Wetlands		Inside		Outside	1
Storm Surge Areas		Inside		Outside	2
Soils with septic limitations		Severe	Moderate	Slight	2
Flood Zones		Inside		Outside	2
HQW/ORW Watersheds		Inside		Outside	1
Significant Natural Heritage Areas		< 500'		> 500'	1
Hazardous Substance Disposal Sites		< 500'		> 500'	1
NPDES Sites		< 500'		> 500'	1
Wastewater Treatment Plants		< 500'		> 500'	1
Municipal Sewer Discharge Points		< 500'		> 500'	1
Land Application Sites		< 500'		> 500'	1
Airports		< 500'		> 500'	1
Developed Land		> 1 mi	.5 - 1 mi	< .5 mi	1
Primary Roads		> 1 mi	.5 - 1 mi	< .5 mi	2
Water Pipes		> .5 mi	.25 - .5 mi	< .25 mi	3
Sewer Pipes		> .5 mi	.25 - .5 mi	< .25 mi	3
Assigned weight: 1 = Important 2 = Very important 3 = Most important for development					

Source: NC Division of Coastal Management

The Land Suitability Map, located on the following page, shows land suitability in the planning area according to these factors. It contains 3 classes of land - least suited, moderate suitability, and most suited. The higher suitability areas

are concentrated in corridors along roads where services are available and where natural system limitations tend to be the lowest.

## F. Planning Area Build-out Analysis

The build-out analysis is a tool used to assess the limitations on growth and development that may be presented by the combination of physical factors, such as soil suitability for septic tanks or the presence of unbuildable wetlands, community services, namely wastewater treatment, and current development trends.

The build-out analysis for the Beaufort County planning area is based on three key limiting factors: (1) an interpretation of what is currently known about the planning area’s soil limitations; (2) an assessment of development trends; and (3) the current availability of public services, particularly sewer. Taking these factors into account, the analysis estimates the population at “full development.”

### a) Soil Suitability Limit

Most of the planning area’s new development is dependent on septic tanks for wastewater treatment and disposal. Soils that are suited for septic tanks are very limited in Beaufort County. Soils mapping provided by the Division of Coastal Management show about 91,000 acres of land with moderate or better septic tank suitability. Of this total, 34,000 acres are located outside of municipal service areas and are vacant. This suggests a population limit of approximately 17,000 additional people, or 640 persons/mi.<sup>2</sup>.

### b) Sewer Service Limit

Aurora, Belhaven, and Chocowinity offer sewer services both inside and outside of the incorporated areas; however, high levels of inflow-infiltration restrict capacity in Aurora system. Belhaven’s plant has a permit capacity of 1.0mgd and a current flow of 0.32mgd. Chocowinity operates a collection system and pumps its wastewater to the City of Washington for treatment and disposal. Chocowinity’s contract is for 0.120 mgd and its current flow is 0.048 mgd. Calculations of available capacity are shown below.

Permitted treatment capacity	Current flow	Net	Less 20% margin	Net capacity for expansion
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	Permitted treatment capacity	Current flow	Net	Less 20% margin	Net capacity for expansion
Belhaven	1.000 mgd	0.320 mgd	0.680 mgd	0.14 mgd	0.540 mgd
Chocowinity	0.120 mgd	0.048 mgd	0.070 mgd	NA	0.070 mgd
Total	1.120mgd	0.368 mgd	0.750 mgd	0.14 mgd	0.610 mgd

The total available capacity<sup>12</sup> of these systems is about 0.61 million gallons per day (mgd), which according to current planning guidelines (120 gpd/person) will support approximately 5,000 additional population.

c) **Estimated Build-out Population and “Worst Case” Population**

Table 11 shows the planning area’s build-out population and Table 11A examines the impact of “worst case” future population, which in discussion with the NC Division of Coastal Management is set at 75,000.

The build-out population estimate in Table 11 takes into account the limitations of soil suitability and available sewer capacity. While the estimate is not time bounded, when added to the 2005 population estimate the build-out population suggests that the planning area can accommodate a population of approximately 58,000. Population increases above this level may require additional wastewater treatment services and more dense development patterns.

Table 11-Build-out Analysis

<b>Soil Suitability Factor</b>	
Land area provisionally suited for septic tanks	
Total acres	91,000
Vacant acres	34,000
Percent available for residential uses	50.0%
Effective available acres	17,000
<b>Population growth</b>	
Assumed gross residential density (housing units/acre)	0.5
Projected additional households	8,500
Estimated additional population (2 persons/household)	17,000
<b>Sewer Service Factor</b>	
Estimated current available sewer capacity (million gallons per day)	0.6016
Percent available to support population growth	100%

<sup>12</sup> Available capacity is the total unused capacity X 80%, which is the maximum utilization permitted by the NC Division of Water Quality. When sewer use approaches the 80% level, a treatment expansion and/or upgrade is required.

Effective sewer capacity (million gallons per day)	0.6016
Estimated sewer flow per person (million gallons per day)	120
<b>Estimated additional population</b>	5013
<b>Projected Additional Population at Build-out</b>	22,013

Source: WBF1

Table 11A focuses on the impact of an unanticipated growth in population on water and sewer services in the planning area. Table 11 provides an estimate of existing available sewer capacity. Sewer capacity is determined by permitted flows adjusted by 80%, which is the point where planning for expansion of treatment capacity is required. Table 9 provides an estimate of available public water supply capacity. This table indicates that total existing public water supply capacity is 4.61 million gallons per day (mgd) and that current average use is 2.05 mgd for a net capacity of 2.56 mgd. Adjusted for expansion requirements, the net capacity is 2.3 mgd.

Table 11A  
Impact "Worst Case" Population  
Public Water and Sewer

Total "worst case" population	75,000
Current population	36,000
<b>Net population change</b>	39,000
Estimated additional population (2 persons/household) accommodated without sewer	17,000
<b>Estimated wastewater treatment need</b>	
Net population requiring sewer	22,000
Estimated additional population to be served by existing sewer (Table 11)	5,000
<b>Population required to be served by added sewer capacity</b>	17,000
<b>Estimated public water supply need</b>	
Estimated current available net public water supply capacity (gallons per day) (Table 9)	2,300,000
Estimated per capita water use (gpd)	100
Estimated additional population served by current water supply capacity	23,000
Estimated additional population requiring service (estimated at 75% of net based on current share of Planning Area population served by water)	29,300

Population required to be served by additional public water supply capacity	6,300
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Source: WBF1

The analysis summarized in Table 11A shows that local wastewater treatment systems and the public water supply systems cannot support the net increase in population. Wastewater treatment capacity will need to be expanded to accommodate approximately 17,000 additional people; likewise, the water supply capacity must be expanded to accommodate 6,300 additional people. The implications of such increases would be significant. For sewer, serving 17,000 people will require capacity of approximately 2.250 million gallons per day. Current estimates put the cost of this level of treatment capacity alone at approximately \$22 million. On the water side, 6,300 people will use approximately 100 gallons of treated water per day, or a total demand of 630,000. This additional capacity plus storage could cost \$10 million or more.

## G. Existing Policies - Implementation

The County's current CAMA Land Use Plan is its major policy document that addresses land use and development management. The plan, which was certified by the CRC in 1998, contains a comprehensive catalogue of policies on protection of coastal resources, economic and community development, hazard mitigation, and citizen participation. Generally, these policies rely on local agencies, such as building inspection and health department, the NC Division of Water Quality, the NC Division of Coastal Management, and the US Army Corps of Engineers to implement these policies through their continuing activities. However, the plan does set out several specific items to be accomplished during the 1998 plan's implementation period. These items, along with their status, are listed below.

1. Review local land use policies to determine if changes are needed to address water quality - Done
2. Prepare stormwater management policy - Done
3. Consider adopting subdivision regulations - Adopted
4. Study possible development of zoning regulations - Study done, not yet adopted
5. Prepare water use plan to address mooring fields and other water use issues - Incomplete
6. Prepare shoreline access plan - Paddle trail map atlas prepared; additional work required

The incomplete items will be considered in the updated policies.

## **H. Participating Towns - Current Situation**

Maps that show natural resources and existing land use in the five municipal areas are located following page II-53.

### **1. Town of Aurora**

#### **a. Population, Housing, and Economy**

Mirroring the trends in the southeastern Beaufort area (Census Tract 9908), Aurora's Census population declined from 654 in 1990 to 583 in 2000. This is a decrease of approximately 10% for the decade. For that same period, the population of Census Tract 9908 declined by about 9%.

Even though the Town's population declined, the 2000 Census showed an increase of total housing units from 310 to 316 housing units for the 1990 decade. However, the number of vacant housing units increased by 6 units during the same period.

According to Census data, persons aged 16 and over in the labor force declined sharply between 1990 and 2000. In 1990, there were an estimated 294 persons in the labor force; in 2000 this estimate was 237. This decline in labor force participation was also accompanied by a decline in unemployment. In 1990, total unemployment was approximately 49; in 2000 it was 7.

Manufacturing employment continues to decline. Residents employed in manufacturing jobs decreased from 77 in 1990 to 43 in 2000.

Aurora families are economically better off than typical Beaufort County families. The median family income in Aurora is \$42,000 - 10% higher than the county.

If Aurora maintains its share of Beaufort County's population, the Town can expect modest growth to approximately 628 persons by 2015.

#### **b. Natural Resources and Land Use**

The Aurora Map illustrates the Aurora Planning Jurisdiction's major AECs and existing land use.

Coastal wetlands, estuarine and public trust waters, and estuarine and public trust shorelines are the planning area’s AECs. According to available mapping, there are approximately 162 acres of coastal wetlands. An additional 950 acres are classified as non-coastal wetlands that are under the jurisdiction of the US Army Corps of Engineers and in some cases the NC Division of Water Quality but are not subject to CAMA permitting.

There are approximately 23 miles of public trust and estuarine shoreline in the area. This entire shoreline is under the jurisdiction of the Division of Water Quality and subject to the Tar-Pam buffer rules’ 50-foot wide riparian buffer, and is subject to the permitting and development controls of the estuarine shoreline AEC permit zone.

Existing land use is summarized in the following table:

Table 12A  
Summary Aurora Existing Land Use

Total acres in planning area	6,200 acres	Industrial uses	13.0%
Residential uses	5.0%	Public and institutional	1.2%
Commercial uses	<1.0%	Recreation uses	<1.0%
Undeveloped land	5,300 acres		

### c. Water and Sewer

The Town of Aurora operates both water and sewer systems. The water system has a design capacity of .288 mgd and uses two wells as a source of supply. The Town currently pumps .063 mgd, which is less than 25% of system capacity. Water supply does not present any growth or development obstacles for the Town.

The design capacity of the wastewater treatment system is .120 mgd. The system currently averages .085 mgd, which is 71% of the design capacity. However due to inflow and infiltration, the system periodically experiences flows that exceed design capacity. Upgrades are required in order for this system to support any significant new growth.

## **2. Town of Belhaven**

### **a. Population, Housing, and Economy**

Belhaven's Census population declined from 2,269 in 1990 to 1,968 in 2000. This is a decrease of approximately 13% for the decade. In comparison, for that same period, the population of Census Tract 9901 declined by about 7%.

Even though the Town's population declined, the 2000 Census showed an increase of total housing units from 980 to 1015 housing units for the 1990 decade. In addition, the number of vacant housing units decreased by 32 units during the same period, from 188 to 140.

According to Census data, persons aged 16 and over in the labor force declined sharply between 1990 and 2000. In 1990, there were an estimated 916 persons in the labor force; in 2000 this estimate was 666. This decline in labor force participation was also accompanied by a decline in unemployment. In 1990, total unemployment was approximately 202; in 2000 it was 67.

Manufacturing employment continues to decline. Residents employed in manufacturing jobs decreased from 188 in 1990 to 74 in 2000.

Belhaven families fare worse economically than typical Beaufort County families. The median family income in Belhaven is \$23,958 - approximately 37% lower than the county.

If Belhaven maintains its share of Beaufort County's population, the Town can expect modest growth to approximately 2,197 persons by 2015.

### **b. Natural Resources and Land Use**

The Belhaven Map illustrates the Belhaven Planning Jurisdiction's major AECs and existing land use.

Coastal wetlands, estuarine and public trust waters, and estuarine and public trust shorelines are the planning area's AECs. According to available mapping, there are approximately 534 acres of coastal wetlands. An additional 660 acres are classified as non-coastal wetlands that are under the jurisdiction of the US

Army Corps of Engineers and in some cases the NC Division of Water Quality but are not subject to CAMA permitting.

There are approximately 16 miles of public trust and estuarine shoreline in the area. This entire shoreline is under the jurisdiction of the Division of Water Quality and subject to the Tar-Pam buffer rules' 50-foot wide riparian buffer, and is subject to the permitting and development controls of the estuarine shoreline AEC permit zone.

Existing land use is summarized in the following table:

Table 12B  
Summary Belhaven Existing Land Use

Total acres in planning area	4,760 acres	Industrial uses	<1.0%
Residential uses	7.0%	Public and institutional	<1.0%
Commercial uses	2.0%	Undeveloped land	4,310 acres

### c. Water and Sewer

The Town of Belhaven operates both water and sewer systems. The water system has a design capacity of 1.5 mgd and uses 3 wells as a source of supply. The Town currently pumps .175 mgd, which is approximately 12% of system capacity. Water supply does not present any growth or development obstacles for the Town.

The design capacity of the wastewater treatment system is 1.0 mgd. The system's average flow is .320 mgd, or 32% of the design capacity. However due to inflow and infiltration, the system periodically experiences flows that exceed design capacity. Improvements to the collection system will address the inflow/infiltration issues. The system has capacity to support additional development. Any extensions of the collection system are the responsibility of the developer/user.

## 3. Town of Chocowinity

### a. Population, Housing, and Economy

Between 1990 and 2000, Chocowinity was the only municipality in the Planning Area to experience a growth in population. The population of the Town (located in Census Tract 9910) increased from 624 in 1990 to 733 in 2000. This

represents a growth of about 17%, which is higher than the overall 13% growth rate for the census tract during this 10-year period. The growth rate for Chocowinity was also significantly higher than the County's overall average growth rate of about 6% during the decade.

The 2000 Census showed an increase from 290 to 330 housing units in Chocowinity for the 1990 decade. This represents a 14% growth rate in housing units. In addition to experiencing an increase in total units, the actual number of vacant housing units decreased by 13 units during the same period.

Despite the increase in population, Census data show that the number of persons aged 16 and over in the labor force remained fairly constant between 1990 and 2000. In 1990, there were an estimated 322 persons in the labor force; in 2000 this estimate was 323. During the decade, total unemployment increased from approximately 12 in 1990 to approximately 20 in 2000.

Manufacturing employment continues to decline. Residents employed in manufacturing jobs decreased from 113 in 1990 to 74 in 2000.

The median family income in Chocowinity is \$31,875 - approximately 16% less than the county median family income of 37,893.

If Chocowinity maintains its share of the county's population, the Town can expect modest growth to approximately 819 persons by 2015.

## **b. Natural Resources and Land Use**

The Chocowinity Map illustrates the Chocowinity Planning Jurisdiction's major AECs and existing land use.

Coastal wetlands, public trust waters, and public trust shorelines are the planning area's AECs. According to available mapping, there are approximately 60 acres of coastal wetlands. An additional 1,272 acres are classified as non-coastal wetlands that are under the jurisdiction of the US Army Corps of Engineers and in some cases the NC Division of Water Quality but are not subject to CAMA permitting.

There are approximately 23 miles of public trust shoreline in the area. This entire shoreline is under the jurisdiction of the Division of Water Quality and subject to the Tar-Pam buffer rules' 50-foot wide riparian buffer, and is subject to the permitting and development controls of the public trust shoreline AEC permit zone.

Existing land use is summarized in the following table:

Table 12C  
Summary Chocowinity Existing Land Use

Total acres in planning area	8,500 acres	Industrial uses	<1.0%
Residential uses	7.0%	Public and institutional	4.0%
Commercial uses	1.0%	Undeveloped land	7,400 acres

### c. Water and Sewer

The Town of Chocowinity operates both water and sewer systems. The water system has a design capacity of .365 MGD. The Town’s current average annual daily use is .189 MGD, which is approximately 52% of system capacity. Water supply does not present any current growth or development obstacles for the Town.

The Town’s operates a wastewater collection system that is linked to the City of Washington’s system. Washington treats Chocowinity’s wastewater under an inter-local agreement. The Town’s maximum wastewater flow according to the agreement is .120 MGD. The current flow is .048 MGD, or 40% of the maximum. The Town has capacity to support additional development. Any extensions of the collection system are the responsibility of the developer/user.

## 4. Town of Pantego

### a. Population, Housing, and Economy

Pantego’s Census population remained fairly constant, with approximately 171 in 1990 and 170 in 2000. For this same period, the population of Census Tract 9901 declined by about 7%.

The 2000 Census showed an increase of total housing units from 78 to 82 for the 1990 decade. The number of vacant housing units decreased by 2 units during the same period, from 15 to 13.

According to Census data, persons aged 16 and over in the labor force declined between 1990 and 2000. In 1990, there were an estimated 80 persons in the labor force; in 2000 this estimate was 68. In 1990, total unemployment was ap-

proximately 3; in 2000 it was 6. The majority of job losses were in non-manufacturing categories, which decreased from 68 to 58 during the decade.

Pantego families are economically better off than typical Beaufort County families. The median family income in Pantego is \$41,750 - approximately 10% higher than the county.

If Pantego maintains its share of the county’s population, the Town can expect modest growth to approximately 188 persons by 2015.

**b. Natural Resources and Land Use**

The Pantego Map illustrates the Pantego Planning Jurisdiction’s major AECs and existing land use.

Coastal wetlands, public trust waters, and the are the planning areas major AECs. According to available mapping, there are approximately 9 acres of coastal wetlands. An additional 166 acres are classified as non-coastal wetlands that are under the jurisdiction of the US Army Corps of Engineers and in some cases the NC Division of Water Quality but are not subject to CAMA permitting.

There are approximately 6 miles of public trust shoreline in the area. This entire shoreline is under the jurisdiction of the Division of Water Quality and subject to the Tar-Pam buffer rules’ 50-foot wide riparian buffer, and is subject to the permitting and development controls of the estuarine shoreline AEC permit zone.

Existing land use is summarized in the following table:

Table 12D  
Summary Pantego Existing Land Use

Total acres in planning area	2,400 acres	Industrial uses	<1.0%
Residential uses	10.0%	Public and institutional	1.0%
Commercial uses	<1.0%	Undeveloped/farm land	2,112 acres

**c. Water and Sewer**

The Town of Pantego does not operate water and sewer systems. The Beaufort County water system has some customers in the planning area. The Town of Belhaven has a sewer line that runs through Pantego along US 264 to the North-

side HS. Some residents with septic tank problems have elected to connect to this system. Beaufort County is in the process of extending sewer collection system to several properties in the planning area that experience chronic septic tank problems. The Belhaven system will treat the wastewater.

## **5. Town of Washington Park**

### **a. Population, Housing, and Economy**

Washington Park's Census population declined from 486 in 1990 to 440 in 2000. This is a decrease of approximately 10% for the decade. For that same period, the population of Census Tract 9905 increased by about 9%.

Even though the Town's population declined, the 2000 Census showed an increase from 199 to 218 housing units for the 1990 decade. (Possibly, the 2000 Census overstated the number of housing units. Town officials are unable to account for the additional housing units counted by the 2000 Census.) The number of vacant housing units decreased by 4 units (from 19 to 15) during the same period. Washington Park is presently 95% built-out. Only 12 potential building lots remain vacant in the Town.

According to Census data, persons aged 16 and over in the labor force showed a moderate increase between 1990 and 2000. In 1990, there were an estimated 211 persons in the labor force; in 2000 this estimate was 230. Unemployment remained low. In 1990, total unemployment was approximately 3; in 2000 it was 7.

Non-manufacturing employment showed an increase during the decade. Residents employed in non-manufacturing jobs increased from 174 in 1990 to 187 in 2000.

Washington Park families are economically much better off than typical Beaufort County families. The median family income in Washington Park is \$68,750 - approximately 80% higher than the county.

If Washington Park maintains its share of Beaufort County's population, the Town can expect modest growth to approximately 488 persons by 2015.

## b. Natural Resources and Land Use

The Washington Park Map illustrates the Washington Park area's major AECs and existing land use.

The public trust waters, and the estuarine and public trust shoreline are the town's major AECs. According to available mapping, there are no coastal wetlands located within the town. There are 20 acres classified as non-coastal wetlands that are under the jurisdiction of the US Army Corps of Engineers and in some cases the NC Division of Water Quality but are not subject to CAMA permitting.

There are approximately 6 miles of public trust and estuarine shoreline in the area. This entire shoreline is under the jurisdiction of the Division of Water Quality and subject to the Tar-Pam buffer rules' 50-foot wide riparian buffer, and is subject to the permitting and development controls of the estuarine shoreline AEC permit zone.

Existing land use is summarized in the following table:

Table 12E  
Summary Washington Park Existing Land Use

Total acres in planning area	206 acres	Industrial uses	0
Residential uses	57.0%	Public and institutional (recreation)	2.0%
Commercial uses	<1.0%	Undeveloped land	73 acres

## c. Water and Sewer

The Town does not operate water and sewer systems. Residents receive water service from Beaufort County. Some residents experience septic tank problems.

# Part III. The Future Land Use Plan— Goals, Growth and Development Policies and Future Land Use Map

## A. Land Use and Development Goals

This section details the planning area’s future land use goals. These goals describe the *desired ends* toward which the land use plan and its policies are directed. They also describe the values and general principles that guide land use, development, and redevelopment.

The following goals are the outcome of several stages of the planning process: (1) key issues and concerns identified by the Steering Committee; (2) input that the Committee received at the community workshops and the open houses; (3) the planning vision; and (4) technical analysis of existing and emerging trends. They provide a template for developing and evaluating the future land use map, policies and programs. However, *the goals are not part of the county’s land use and development policies.*

- Development and other resource uses that are consistent with the capability and hazards presented by the county’s natural systems.
- Preserved natural areas, such as the county’s wetlands and pocosins, with high biologic, economic, and scenic values.
- Satisfactory access for residents and visitors to the planning area’s public trust waters.
- Only development that minimizes risk to life or property or the quiet enjoyment of property in established communities; that does not negatively impact existing resource-based economic activities, such as farming; or that does not threaten important natural areas or wildlife resources.
- Land use and development patterns that mitigate risks to people and property from storms and flooding.
- High quality water in the Pamlico River and in Beaufort County’s creeks that meet water quality standards and where shellfishing waters are open.

Cooperative relationship between local governments, the State, and other local agencies to protect and restore water quality in the Pamlico River.

Mitigation of the causes of excessive turbidity, high fecal coliform levels, excessive nutrients, and the presence of other pollutants in coastal and inland streams.

- Community wastewater treatment systems and a road network with the capacity required to support the planning area's future land uses and development patterns.

Extensions and upgrades of the road system and community wastewater systems mitigate negative impacts on the planning area's AECs and other fragile areas.

Priority extensions of community wastewater systems to developed areas at risk of health and water quality problems. Other extensions guided by opportunities for job creation and to support the planning area's development goals.

Use infrastructure investments as a major growth management tool.

- Land use and development patterns consistent with the planning area's rural character and with the need to accommodate population growth.

More urban-type uses mainly in the planning area's municipalities and surrounding areas where services are available or can be reasonably provided.

Lower intensity development, communities for second homes and retirement complexes, and supporting businesses located mainly in the rural areas and along the waterways.

Low intensity development and supporting rural businesses located in the rural areas and cross-road communities and rural clusters.

- Land use and development patterns that support efforts by local governments in the planning area to create jobs.

- Expansion of eco-tourism is a viable alternative that can create jobs and protect valued natural resources.

## **B. Future Growth and Development Policies**

The future growth and development policies are a consistent set of principles and decision guidelines, or courses of action that the county and municipalities in the planning area will use to attain their land use and development goals. While the policies are not regulatory, except for requirements and standards for development and land use in Areas of Environmental Concern (AEC), the county and municipalities in the planning will follow a deliberate process to ensure that its development management ordinances and decisions that impact future land use and development will be consistent with the policies.

CAMA planning guidelines specify that local policies must address six *management topics*. These management topics include:

- 1.0 public access
- 2.0 development and use of natural resources
- 3.0 infrastructure carrying capacity
- 4.0 natural and manmade hazard areas
- 5.0 water quality, and
- 6.0 local concerns, which in this plan are addressed in municipal policies.

The planning area policies detailed in sections 1.0 through 5.0 are applicable to all participating municipalities unless otherwise noted within the individual community policy sections. Policies listed for individual municipalities in Section 6.0 supercede any planning area policy found to be otherwise inconsistent.

The City of Washington and the Town of Bath may annex properties outside of their current planning jurisdictions on a case-by-case basis. These annexations may involve the provision of community services. Within these areas, the policies of the city or town will apply.

The policies that address each of these management topics are described below. The following definitions are intended to assist with application of the policies.

## Definitions

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- 1) *AEC*: Area of Environmental Concern; an area of natural importance, designated by the Coastal Resources Commission; may easily be destroyed by erosion or flooding, or it may have environmental, social, economic or aesthetic values that make it important to the state; permit from the Division of Coastal Management required for development in AECs.
- 2) *Conservation-Limited Development Project (C-LDP)*: a land development project that combines conservation values with the financial objectives of the property owner or developer. The C-LDP involves a site development plan that provides clear-cut protection for the conservation values on the site, manages conflicts between development and conservation values, and groups houses on the portion of the site with the least conservation values. C-LDPs should address the following guidelines:
  - Avoid negative edge effect - site plan must ensure that on-site development does not diminish conservation values either during construction or operation.
  - Provide connectivity to offsite conservation areas or open space systems.
  - Minimize impervious surfaces.
  - Protect, enhance, or create stream buffers.
- 3) *Continue*: follow past and present procedures and processes to maintain a particular policy.
- 4) *Cluster development*: grouping of a particular development's residential structures on a portion of the available land, reserving a portion of the site as open space. Appropriate for classifications **Towns and Community Centers** and **Transition**. Density depends on sector location, proximity to transportation, availability of water and sewer services, and soil limitations.
- 5) *Community centers*: area on land use map that illustrates higher concentrations of built up areas on small lots and parcels; typically served by public water and sewer.
- 6) *Create*: involve the county or town staff, Planning Board, Board of Commissioners, Town Council and other public and private organizations to further the intent of the policy.
- 7) *Encourage*: further the policy by ensuring that decisions, such as subdivision approvals, highway improvements, and public utility extensions, are consistent with the intent.
- 8) *Estuarine Shoreline AEC*: area extending landward 75 feet from high or normal high water.
- 9) *Floodway*: an area designated as "Floodway" by the Federal Emergency Management Agency and shown on a Map approved by that agency.
- 10) *Floor area ratio (FAR)*: the gross floor area permitted on a site divided by the net area of the site, expressed in decimals of one or two places.
- 11) *Green infrastructure*: an interconnected system of natural areas and other open spaces that are protected and managed for the ecological benefits they provide to people and the environment. It is the idea that

- trees and natural areas provide ecosystem function and value to sustain clean air and water, reduce soil erosion, provide wildlife habitat, and various other benefits to people.
- 12) *Gross density or gross acre*: the number of dwelling units per acre *inclusive* of rights-of-way, easements, open space, and other non-buildable areas associated with residential development.
  - 13) *Hamlet*: a rural community that consists of a clustering of buildings around a rural crossroad or along a rural road.
  - 14) *High Quality Waters (HQW)*: Waters designated by the NC Environmental Management Commission as possessing special qualities including excellent water quality, Critical Habitat areas, or WS-I and WS-II water supplies. Development activities that require a Sedimentation and Erosion Control Plan or approved local erosion and sedimentation control program, and that drain to and are within one mile of HQWs, must control runoff using either a low density or high density option. In addition, the Division of Land Resources requires more stringent sedimentation controls for land-disturbing projects within one mile of, and draining to, HQWs.
  - 15) *Low density development*: development pattern generally characterized by single-family, detached homes located on large lots of 1 acre or more; single-story, single use commercial developments, such as convenience-type stores; and free-standing employment uses. Low density development typically intersperses agricultural, forestry, and similar uses.
  - 16) *Low impact development (LID)*: an approach to land development that uses various land planning and design practices and technologies to simultaneously conserve and protect natural resource systems and reduce infrastructure costs. LID still allows land to be developed, but in a cost-effective manner that helps mitigate potential environmental impacts. Additional information can be obtained from the Low Impact Development Center, Inc at [www.lowimpactdevelopment.org](http://www.lowimpactdevelopment.org).
  - 17) *Mixed-use development*: the practice of allowing more than one type of use in a building or set of buildings. This can mean some combination of residential, commercial, industrial, office, institutional, or other land uses. Generally only appropriate in the Towns and Community Centers classification
  - 18) *Net density (net acre)*: the number of units per acre of “usable land” applicable to the development type. As an example, *usable land* may include project land area that is not classified as Conservation I and not included as public streets, water or sewer easements, designated open space, or drainage ways.
  - 19) *Open Space*: an area permanently restricted and preserved by covenant, easement, recorded map or other means, for agricultural, forestry, passive or active recreation uses, natural areas and does not contain impervious surfaces except for those buildings serving a recreation activity on the site.

- 20) *Overlay classification*: identifies areas that, due to hazards or sensitive natural systems, require special attention; provides additional policies that supplement the policies of the underlying land classifications.
- 21) *Preserve*: the county and municipalities in the planning area will employ all tools at their disposal to conserve resources to ensure that they continue to perform natural, aesthetic, and quality of life functions.
- 22) *Private wastewater treatment system*: any wastewater treatment system, other than a septic tank, that requires a permit from the NC Division of Water Quality or the Division of Environmental Health and is not owned by a governmental entity.
- 23) *Protect*: the county and the municipalities in the planning area will deploy tools at their disposal to ensure that development and land uses in designated areas and in adjacent areas do not have a significant and ongoing impact on natural and manmade systems.
- 24) *Rural housing, rural development*: houses, farmsteads, and related buildings that may be dispersed or located in small informal clusters that may be called hamlets; may or may not be associated with agriculture, forestry, and other natural resource activities; located outside of the planning area's urban clusters; workers generally commute to nearby communities or counties for work. Except in unusual circumstances, rely on septic tanks for wastewater treatment.
- 25) *Rural cluster*: see *hamlet*.
- 26) *Support*: Employ county and town staff and solicit assistance from related state and local agencies to further the policy; take affirmative action, such as submitting grant applications or writing letters of support for grants or facilities, on projects that further the policy.
- 27) *Seek or work*: Use county or town resources, cooperate and act in a manner, and take actions that further the intent of the policy.

As required by the land use planning guidelines [15A NCAC 7B.0702 (d)(2)(c)], the county and the participating municipalities accept state and federal law regarding land uses and development in AECs.

## 1.0 Policies for Public Access

### Introduction

The purpose of this management topic is to maximize public access to the public trust waters of the planning area. To achieve this purpose, planning guidelines require the plan to contain comprehensive policies that provide...public trust water access for the shorelines in the planning area.” The policies in-

cluded in this section address this requirement consistent with the goals and objectives of the planning area communities.<sup>13</sup>

## Discussion

Residents and property owners in the planning area have traditionally enjoyed excellent access to the public trust waters of the Pamlico River and its tributaries. A relatively small number of these access locations are public. Many are informal access locations. The Mid-East RDC and the Tar-Pamlico Foundation have developed an atlas that locates many existing and potential access sites.

As the planning area continues to develop with communities for working age families, retirees, and second homeowners, the pressure on existing access sites will increase and local governments will be challenged to maintain and further develop existing sites and to locate and develop additional sites. The availability of excellent public trust water access sites is a major factor in the community's quality of life.

The **public access** policies encourage local governments (1) to focus on existing *traditional* access site for the development of new formal site; (2) to take advantage state and federal programs to secure and develop access sites; (3) to take advantage of flood buyout properties for developing access; and (4) to develop a comprehensive access plan.

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## Policies

1.1 Local governments in the planning area recognize that public access opportunities are a major component of the area's economy and contribute to the enjoyment of its natural beauty and quality of life. The Plan supports continued operation of existing public and private access sites and encourages development of additional opportunities to ensure that all segments of the community are adequately served.

1.1.1 The Plan encourages the County to work with municipalities and state and federal agencies to locate, develop, and maintain appropriate and conveniently located access to serve all areas of the County. Areas that have traditionally been used by the public will be given special attention for development of new public access sites. The NCDOT is encouraged to maintain public fishing access when bridges are replaced.

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<sup>13</sup> 15A NCAC 07B.0702(c)(3)(A)

- 1.1.2 Local governments will maintain and, where possible, enhance existing public access sites.
- 1.1.3 The Plan encourages the local governments to take advantage of publicly owned property and areas owned by non-profit organizations for locating additional access. Potential locations of new access include the Washington Park Bridge replacement and flood buyout (FEMA) properties now owned by the County and the Town of Belhaven.
- 1.1.4 The local governments will review existing and proposed access sites for accessibility by persons with disabilities and will develop and pursue strategies to eliminate barriers.
- 1.2 The County will develop an access plan for its planning jurisdiction. The County will invite the towns to participate in development of the plan. The Access Plan will be used as a guide for the location, development, and maintenance of public water access throughout the planning area. The Access Plan will address the following objectives/components:
  - 1.2.1 Inventory and evaluation of existing access sites (both public and private) to determine if these are adequate to serve the pedestrian, boating, and fishing access needs in all areas of the planning area.
  - 1.2.2 Identification and evaluation of potential access sites in underserved segments of the planning area to determine suitability for public access.
  - 1.2.3 Development of local priorities for establishing additional public access.
  - 1.2.4 Identification of financial resources, in addition to grant funding provided by the NC Division of Coastal Management, for establishment and maintenance of public access.
  - 1.2.5 Development of a canoe/kayak paddling and/or sailboat access system to include sites for put-in/take-out facilities. Maps produced by the Mid-East RDC and the Tar-Pamlico Foundation should be considered as a resource for developing the system.
  - 1.2.6 Provision of adequate parking will be considered in the development of the new access sites.
  - 1.2.7 Encourage donations by property owners of sites that are suitable for public access. Address the tax advantages and procedures through which property owners may donate property or easements to provide public access.
  - 1.2.8 The County and towns will participate in the Public Beach and Coastal Waterfront Access Program administered by the NC Division of Coastal Management. The program provides matching

funds for acquisition and improvements of public water access facilities to serve residents and visitors to the area.

- 1.3 Local governments in the planning area will pursue establishment and linkage of bikeways, greenways, and trails to complement the public water access system. Planning for these active recreational facilities will take into consideration the locations of existing and planned access sites.
- 1.4 The Plan encourages consideration of the development of a row/paddle/sail small boat rental site, associated with a full-launch facility and parkland, as part of the access system.
- 1.5 Eco-tourism initiatives that capitalize on the County's natural beauty, natural resources, and rural character will be encouraged to include water access components, such as paddle trail and sailing facilities, and to coordinate with the public access system.
- 1.6 Local governments in the planning area consider boating access to be an important component of the economy and water access system. However, they recognize the need for land use and development guidelines to prevent negative impacts on the area's natural resources and land areas. Marinas and other docking facilities are allowed, provided guidelines contained in 2.0 Policies on Development and Use of Natural Resources are met.
- 1.7 The Plan supports consideration of amendments to the subdivision regulations by Beaufort County and the participating municipalities that require new waterfront residential developments to provide neighborhood access for non-waterfront lots.

## **2.0 Policies for Land Use Compatibility**

### **Introduction**

The purpose of this management topic is to ensure that the development and use of the planning area's natural and manmade resources meet the following goals:

To minimize direct and secondary impacts of use and development;

To avoid risks to public health, safety, and welfare;  
and

To ensure consistency with the capability of the land based on considerations of the interactions of natural and manmade features.

To achieve these goals, the planning guidelines require the plan to contain policies that provide *clear guidance for local decisions that balance protection of natural resources and fragile areas with economic development*.

The planning guidelines establish two standards that the planning policies must meet: (1) establish building intensity and density criteria for each future land use category; and (2) establish mitigation criteria and concepts.<sup>14</sup>

## Discussion

Local governments in the Beaufort County planning area are in agreement with the management goals established by the CRC. They place high value on protection and conservation of natural resource systems. Residents who participated in the planning process expressed concern about the planning area's wetlands, its shorelines, and its estuarine and public trust waters. They prize these resources for their role in the lifestyle and quality of life that the planning area offers.

To address this management topic's goals and requirements, the plan uses four basic future land classifications. These classifications are Conservation, Community, Transition, and Agriculture-Forestry-Rural Housing. The land classifications are an organizational tool and they provide a spatial application of the Land Use Compatibility policies. Each of the classifications is described briefly below.

## Conservation

The Conservation classification has two purposes. First, this classification provides for the protection and long-term management of Beaufort County's significant and irreplaceable natural systems. These areas have high environmental, scenic, recreational, economic, and life-style values. Second, the classification helps the county to mitigate the risks to life and property associated with wind, water and other hazards that would result from development in these areas. The Conservation Areas are generally consistent with the areas evaluated as having the least suitability for development in the Land Suitability Analysis.

The conservation classification is divided into the sub-classes Conservation I and Conservation II to more closely reflect the land use and development capabilities and limitations of the county's natural systems. Each of these sub-classes has specific land use and development policies and guidelines.

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<sup>14</sup> 15A NCAC 7B .0702(d)(3)(B).

## **Towns and Community Centers**

This classification provides areas for the most intensive community development, redevelopment, and infill development in the planning area. These areas are located in and around the planning area's five towns where the highest level of community services is available and where access to the planning area's transportation system is excellent. Development will include mixed uses, residential uses, commercial and office uses, employment uses, such as manufacturing and distribution, and a range of civic uses.

## **Transition**

This land classification includes areas that are expected to undergo more urban-type development during the planning period and beyond. The general character of development in this classification includes lawns and landscaped yards surrounding detached single-family houses; cluster development with predominantly residential buildings; small-scale retail buildings; and some farms and timberlands.

This development may be associated with job growth in neighboring counties or it may be associated with the economic development policy to encourage water-oriented development for second home and retirement communities. These areas have reasonable access to the highway system; however, septic tanks will be the dominant means of wastewater treatment. The only near-term provision of sewer service would be to serve a specific employment generating activity.

Water-oriented Development. Within the transition classification, there are areas along the Pamlico River where the plan encourages development of retirement and second-home communities. Flexible site planning, conservation design, and other low-impact development techniques are encouraged in these areas so that natural systems, water quality, and scenic views are protected and efficient use of the shoreline is accomplished.

US 17-264 Sector Development. In this sector of the transition classification, the plan encourages continuation of the more suburban-type development. The area is suited for residential and small-scale commercial uses that do not rely on community wastewater treatment. Employment-related uses, such as industrial or distribution, are suited for this sector.

## **Agriculture-Forestry-Rural Housing (AFRH)**

The purpose of this classification is to conserve the planning area's farming and timber operations, which continue as major components of

the local economy. The county will discourage uses in these areas that are not compatible with agriculture and forestry. The classification also accommodates the extensive extractive uses located near Aurora.

In addition to farm and timber operations, the AFRH provides for very low-density residential uses, home-based businesses, other businesses traditionally associated with rural farm areas and extraction activities.

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## Policies - Intensity/Density Criteria - Mitigation Concepts

### 2.1 Conservation I.

2.1.1 The purpose of the Conservation I classification is to delineate land and water features where there are serious hazards to personal safety or property, where new development would cause serious damage to the values of natural systems, or where new development is not permitted by local, state, or federal policy.

2.1.2 The following natural resource systems and areas are included in the Conservation I classification:

- (a) Public trust and estuarine waters (15A NCAC 07H.0206 and 15A NCAC 07H.0207)
- (b) Coastal wetlands (15A NCAC 07H.0205)
- (c) Non-coastal wetlands classified as *exceptional* (NC CREWS mapping)
- (d) Stream margins protected by the Tar-Pamlico Buffer Rule, which is administered by the NC Division of Water Quality (15A NCAC 02B.0259)
- (e) Floodways<sup>15</sup>, where mapped (Beaufort County FIRMs)
- (f) Managed open space and natural areas<sup>16</sup> (NC DCM mapping)

2.1.3 Only development and land/water use activities that are consistent with the use standards for coastal wetlands, estuarine waters, and public trust areas (15A NCAC 07H .0208) are allowed in this classification. Permitted *extractive* uses in the Aurora area will continue.

2.1.4 Development in non-coastal wetlands classified as *exceptional* is discouraged. The plan supports applicable state and federal permitting requirements and development limitations in these areas.

2.1.5 Unless in the *exempted* or *allowed*, land development and land use activities must comply with the requirements of the Tar-Pamlico Buffer Rule (15A NCAC 02B .0259).

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<sup>15</sup> The floodway is the area of the flood plain where the water is likely to be deepest and where flow is of extremely high velocity. It is the area of the floodplain that should be reserved and kept free of obstructions to allow floodwaters to move downstream. Placing fill or buildings in a floodway may block the flow of water and increase flood heights.

<sup>16</sup> Lands owned by public agencies or non-profit organizations that are maintained for resource management or permanent open space.

2.1.6 Floodways are the most hazardous part of the flood hazard area, and where they are mapped in the planning area, development is not allowed.

2.1.7 Local governments in the planning area will not knowingly permit any development or land use in managed open space or a natural area that is not consistent with the management objectives of the area.

2.1.8 Marinas and related operations should be compatible with surrounding land uses; developers/operators are encouraged to install pump-out facilities and restrooms; and developers are encouraged to provide adequate parking. Local governments in the planning area support the DCM “Clean Marina” program, including grant applications to fund pump-out facilities.

## 2.2 Conservation II.

2.2.1 The Conservation II classification is established as an overlay (please see definitions) that delineates areas containing hazards and significant development limitations that may be addressed by building and site development standards, density guidelines, impervious surface limits, and other methods to mitigate hazards or to minimize the impact of development.

2.2.2 The Conservation II classification includes the following natural resource systems and areas:

- (a) Coastal shoreline AECs (15A NCAC 07H.0209)
- (b) 100-year flood plain (Beaufort County FIRM, Flood Damage Prevention Ordinances)
- (c) Storm inundation areas (Beaufort County Storm Surge Maps)
- (d) Substantial non-coastal wetlands (NC CREWS mapping)

2.2.2 Only development that is consistent with the use standards for the estuarine shoreline AEC and the public trust shoreline AEC (15A NCAC 07H .0209(d)) is allowed.

2.2.3 Development in any flood hazard zone delineated on a Beaufort County FIRM or in an area that is subject to storm inundation as illustrated on Beaufort County storm surge maps must meet the location and construction requirements of the Beaufort County Flood Damage Prevention Ordinance.

2.2.4 Development in non-coastal wetlands classified as *substantial* by on NC CREWS is discouraged. The plan supports applicable state and federal permitting requirements and development limitations in these areas.

2.2.5 Any land use or activity or construction of a building or buildings that involves a significant concentration of people in the hazard areas covered by the Conservation II land classification must be reviewed carefully to ensure that people or property are not exposed to unreasonable risks.

2.2.6 Many of the land covered by the Conservation II land classification contain soils that have *severe* limitations for septic tanks. Land uses and development in these areas must be consistent with the policies of the underlying land classification with regard to septic tanks and connection to public water and sewer. Determination of soil conditions requires on site investigation.

2.2.7 The following mitigation concepts are encouraged for development in areas covered by the Conservation II land classification:

- Low impact site and building development techniques to reduce non-point source runoff and to protect water quality
- Enhancement and expansion of stream buffers
- Preservation of maximum feasible forest cover in site planning and development
- Conservation - Limited Development projects or site clustering to preserve site areas with highest conservation values and groups development on site areas with lower conservation values

2.2.8 Conservation II is an overlay land classification and will involve site-specific building *intensity* and *density* standards. These standards will take into account site hazards, characteristics of natural systems present, septic tank limitations, the policies of the underlying land classification, and other significant factors related to the site. Generally, development and land uses in areas covered by Conservation II will be on significantly larger lots or building sites and will involve less concentrated land uses.

### 2.3 Towns and Community Centers.

2.3.1 The purpose of this classification is to delineate areas for the continued intensive development, redevelopment, and in-fill development in the municipalities and the nearby-unincorporated areas. These areas have the highest levels of community services in planning area and essential services, such as public water supply, wastewater treatment, transportation, and fire and rescue services, are readily available or close-at-hand.

2.3.2 This classification includes all of the land within the current municipal limits plus an area of approximately 1.5 miles on the peripheries of towns where urban-type services are more likely to be available.

2.3.3 By way of illustration, the following are the types of uses that are consistent with the purpose of this classification:

- Mix of houses, townhouses and small apartment buildings
- Retail operations to serve the immediate community and surrounding area
- Offices
- Employment activities, such as industrial and distribution in either free-standing or cluster settings; priority locations have access to a major or minor arterial highway, public water and sewer, and basic community services like fire protection
- Mixed use development
- Civic uses, such as schools, hospitals, and parks

2.3.4 The following building *intensity* and *density* guidelines are established for this classification

Single-family houses:	up to 6 houses / acre (net)
Multi-family buildings:	7 to 12 units / acre (net)
Non-residential buildings FAR:	0.2 freestanding buildings 0.4 clustered buildings

Typical building height:	1 to 2 stories, with 3+ stories possible, if fire protection and other services are adequate
Typical building site:	½ acre or smaller, depending on services

2.3.5 The following factors will be considered in decision-making on appropriate *intensity* and *density* levels in this classification.

- Availability and capacity of water and sewer services
- Type of street/road system serving the development
- Capability of community services, such as fire protection
- Character of uses in surrounding area(s)
- Community need

2.3.6 The following mitigation concepts are encouraged for development in the towns and community centers classification:

- Low impact site and building development techniques to reduce non-point source runoff and to protect water quality
- Enhancement and expansion of stream buffers
- Preservation of maximum feasible forest cover in site planning and development
- Cluster development to preserve conservation values and reduce runoff
- Onsite buffering to reduce impact on adjacent and surrounding land uses
- Identification, preservation, and adaptive reuse of historic properties

2.3.7 The plan recognizes municipal sewer systems as the primary means of wastewater treatment for areas in this classification. Where a municipal system is not available or it is not financially feasible to connect to a municipal system, connection to a private treatment system, or the use of septic tanks is consistent with the plan. Where soils in this classification have *severe* limitations for septic tanks, development must be consistent with current state regulations for on-site wastewater treatment and the use of traditional septic tanks is not allowed. Determination of soil conditions requires on site investigation. Use of innovative waste treatment systems or “package” treatment systems is encouraged subject to applicable state permits.

## 2.4 Transition.

2.4.1 The purpose of this classification is to plan for areas and locations that are located nearby land in the Towns and Community Centers, that have reasonable access to the arterial highway system, and that have experienced higher growth rates since the last census. Land in the transition classification has minimal community services. Septic tanks remain the dominant wastewater treatment system. Typical development in this classification includes suburban-type housing in free-standing residential subdivisions, manufactured home parks, clusters of houses on large lots, and supporting convenience-type commercial.

2.4.2 This classification includes land in the following general areas (please refer to the growth area map on page II-34):

- Growth areas on the north and south side of the Pamlico River;
- Developing area in the US 17-264 sector north and west of the Washington ETJ.

2.4.3 By way of illustration, the following are the types of uses that are consistent with the purpose of the transition classification:

- Single-family houses, either free-standing or in traditional subdivisions
- Residential cluster development
- Small-scale retail offering primarily convenience services
- Employment centers, either free-standing or in campus settings; priority locations have access to a major or minor arterial highway and the ability to provide onsite wastewater treatment; public sewer may be available on a case-by-case basis
- Farms and forestry
- Civic uses such as parks, greenways, schools, and institutions

2.4.4 The following building *intensity* and *density* guidelines are established for this land classification:

Single-family houses:	2 units / gross acre
Non-residential FAR:	0.2
Typical building site:	½ acre or larger, depending on community services available; minimum is area required for on-site wastewater treatment if community sewer not available
Typical building height:	1- to 2-story

2.4.5 The following mitigation concepts are encouraged for development in the transition classification:

- Low impact site and building development techniques to reduce non-point source runoff and to protect water quality
- Enhancement and expansion of stream buffers
- Preservation of maximum feasible forest cover in site planning and development
- Cluster development to preserve conservation values and reduce runoff
- Onsite buffering, particularly for commercial and employment center uses, to reduce impact on adjacent and surrounding land uses
- Identification, preservation, and adaptive reuse of historic properties

2.4.6 Where soils in the transition classification have *severe* limitations for septic tanks and a public or private treatment system is not available, development must be consistent with current state regulations for on-site wastewater treatment and the use of traditional septic tanks is not permitted allowed. Determination of soil conditions requires on site investigation. Use of innovative waste treatment systems is allowed subject applicable state permits.

## 2.5 Agriculture-Forestry-Rural Housing.

2.5.1 The purpose of this land classification is to delineate areas for the preservation of the planning area's farming and forestry and its rural housing and hamlets, and to provide a reserve area for more intensive uses in the future. The classification also anticipates continuation of extractive activities in the planning area.

2.5.2 This classification encompasses land areas in the planning area that are not included in the Conservation I, Community, or Transition Classifications.

2.5.3 By way of illustration, the following types of uses are consistent with the purpose of this classification:

- Farming, forestry, fishing, and extractive activities, such as the extractive operations near Aurora
- Scattered houses and buildings
- Cross-roads communities or hamlets
- Rural/conservation residential cluster development
- Farming/forestry related commercial activities
- Employment center activities, generally auto-oriented and freestanding; priority locations have access to major or minor arterials and the ability to provide onsite wastewater treatment
- Civic uses such as parks, conservation areas, and greenways

2.5.4 The following building *intensity* and *density* guidelines are established for this land classification:

Single-family houses:	1 unit / 10 acre gross
Non-residential FAR:	0.1
Typical building site:	generally 1-acre or larger; minimum is area required for on-site wastewater treatment
Typical building height:	1- to 2- story

2.5.5 The following mitigation concepts are encouraged for development in the agriculture-forestry-rural housing classification:

- Low impact site and building development techniques to reduce non-point source runoff and to protect water quality
- Enhancement and expansion of stream buffers
- Preservation of maximum feasible forest cover in site planning and development
- Rural/conservation cluster development to reduce impact on agricultural and forestry lands
- Onsite buffering, particularly for commercial and employment center uses, to reduce impact on adjacent and surrounding land uses
- Continued education and promotion of the county's voluntary agricultural district option to reduce impact of development on farming operations

2.5.6 Public sewer service will not be provided to this area during the planning period unless it addresses a serious public health problem or it supports a job-creating opportunity. If services are extended to or through an area in this classification, the county will cooperate with the entity making the extension to ensure that agricultural and forestry operations are protected from the unwanted impacts of more intensive development. The voluntary agriculture district will be an important tool for implementing this policy.

2.5.7 Where soils in this classification have *severe* limitations for septic tanks, development must be consistent with current state regulations for on-site wastewater treatment and the use of traditional septic tanks is not permitted allowed. Determination of soil conditions requires on site investigation. Use of innovative waste treatment systems is allowed subject applicable state permits.

### **3.0 Policies for Infrastructure Carrying Capacity**

The purpose of this management topic is to “ensure that public infrastructure systems are properly sized, located, and managed so that the quality and productivity of AECs and other fragile areas are protected or restored. To achieve this purpose, planning guidelines require the plan to “establish policies to ensure that the location and capacity of public infrastructure is consistent with the planning area’s growth and development goals.”

The planning guidelines contain two standards that the planning policies must meet: (1) identify service areas for existing and future infrastructure; and (2) correlate future land use map categories with existing and planned wastewater, water, and stormwater management alternatives.<sup>17</sup>

The policies in this section address highways, water and sewer, and stormwater.

#### **Discussion**

The planning area’s key infrastructure systems include the NC state primary road system, the local street systems located within the incorporated areas, the Beaufort County water system, and the water and sewer systems operated by Aurora, Belhaven, and Chocowinity.

The key elements of the primary highway system are US 17 that provides north-south access; US 264 that provides east-west access; and NC 33 that serves the southern corridor from Chocowinity to Aurora. According to traffic volume and capacity projections in the thoroughfare plan, segments of the system will experience severe to very severe traffic congestion conditions. These areas in-

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<sup>17</sup> 15A NCAC 07B.0702(c)(3)(C)

clude US 17 south of Chocowinity and north of Washington; US 264 from NC 32 to Yeatesville and between Pantego and Belhaven; and NC 33 from NC 306 to Aurora. The transportation policies encourage upgrade of US 17 and US 264. In addition, they focus on preserving system capacity.

The county and all municipal water systems in the planning area rely primarily on groundwater as a source of supply. The local water supply plans indicate no problems with either water quality or supply. However, a capacity use area has been designated for the Castle Hayne aquifer, which is the major groundwater resource in the planning area. This means that replenishment may be a problem and regulation of withdrawals may be necessary. Demand versus supply for all systems is less than 60% and for most is less than 30%.

Aurora, Belhaven, and Chocowinity operate wastewater systems. The Aurora and Belhaven systems have problems with inflow and infiltration and as a result, they have periodic flows that exceed the design capacity of the treatment plants. Chocowinity operates a collection system that carries wastewater to the City of Washington system for treatment and disposal.

The planning area is subject to three sets of state rules related to stormwater runoff. First, the unincorporated planning area is subject to stormwater rules of the Tar-Pamlico nutrient management strategy. Under these rules, the county has a 4-element stormwater control program: (1) requires 30% nutrient reduction; (2) identifies and eliminates illegal stormwater discharges and prevents any new ones; (3) identifies site for potential stormwater discharge retrofits; and (4) operates education programs on the need to reduce nitrogen pollution from lawns and septic systems. Second, all estuarine and public trust shorelines in the planning area are subject to the Tar-Pamlico buffer rule, which requires protection of a 50-foot vegetated buffer landward from normal high water or the edge of coastal wetlands. (The stormwater program and the Tar-Pam Buffer Rules are administered by the NC Division of Water Quality.) And third, the area is subject to the coastal stormwater rules, which are intended to minimize stormwater runoff by limiting built-upon area to 25% in areas draining to SA waters and 30% for other coastal areas.

The plan contains policies that ensure that future growth and development is consistent with infrastructure capacity or encourages the development of infrastructure to address current and future needs.

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## Policies

### Transportation

- 3.1 The plan strongly supports completion of the upgrade to US 17, including phase 3 of the Washington By-pass. The county and participating municipalities will continue to advocate making necessary funds available for this project in the Transportation Improvement Program (TIP).
- 3.2 The County planned will create economic development opportunities for the planning area. The County will take advantage of the economic development opportunities created by the US 17 - Washington By-pass. It will encourage a mixture of land uses in the portion of this corridor located in the planning area (generally from southern Beaufort County to Chocowinity) with an emphasis on employment-generating activities and the uses that support these activities and that serve broad markets. Offices, services, and residential uses are part of the mix of uses that is appropriate.
  - 3.2.1 Availability of community infrastructure - water and sewer - in this corridor is the key to achieving the economic development goal. The County will cooperate with the towns to extend services to sites with the highest potential. Site planning will take into account protection of sensitive natural areas, compatibility with surrounding land uses, and protection of the capacity of the roadways.
  - 3.2.2 The County will consider opportunities to protect the traffic-carrying capacity of the By-pass when it reviews site development proposals. Some of these opportunities are: (1) the number and design of driveways and access points with emphasis on encouraging creative development plans that use common access points and well-designed internal traffic flows; and (2) clustering or concentration of commercial development at major intersections to reduce traffic congestion and safety considerations related to “strip commercial development.”
- 3.3 The plan supports policies and rules policies, guidelines, and requirements that protect the traffic-carrying capacity of the By-pass.
- 3.4 The plan supports upgrade and 4-laning of US 264 from the east Washington area to the Hyde County line. The county and participating municipalities encourage the NCDOT to include this project in the TIP.
- 3.5 The plan recognizes the safety and economic advantages of a new Pamlico River Bridge in the eastern area of Beaufort County. The county and participating municipalities encourage the NCDOT to recognize the costs

- and benefits of such a facility and to initiate the long-term studies required for scheduling it in the TIP.
- 3.6 In the absence of an eastern bridge, the Aurora-Bayview Ferry provides residents with an essential transportation link for jobs and other community services. The county and participating municipalities encourage the NCDOT Ferry Division to allocate sufficient funds to this ferry to ensure safe, frequent, and dependable service.
  - 3.7 The plan supports bicycling as a transportation alternative and as a recreational activity. To make bicycling as safe as possible and to encourage more bicycle users, the plan encourages the NCDOT to install safety enhancements on all of the county's bicycle routes. These enhancements may include signage, bike lanes, bike paths, and multi-use paths. The county and participating municipalities will identify public right-of-way and public property locations for installation of bike parking facilities.
  - 3.8 The county and participating municipalities support the North Carolina Rail-Trails (NCRT) program and supports coordination between local, state, and federal agencies to meet the objectives of program. NCRT monitors the state's rail system and actively pursues the preservation of rail corridors and conversion to public trails.
  - 3.9 The county and participating municipalities will participate with the Mid-east RPO in development of a Comprehensive Transportation Plan that recognizes the following concerns:
    - County economic development goals;
    - Existing and future development trends;
    - Impact on natural systems;
    - Impacts on agricultural, forestry, and mining operations;
    - Plans for construction of local infrastructure;
    - Existing traffic safety concerns;
    - Emergency evacuation needs; and
    - Improved north-south access.
  - 3.10 The County and participating municipalities encourage the NC Department of Transportation (DOT) to provide limited access for fishing, kayaking and other water activities at new or rebuilt bridges. DOT should replace any existing access facilities that are removed or destroyed with new access facilities.

## **Wastewater Treatment and Water Supply**

- 3.11 In the Towns and Community Centers land classification, the plan recognizes community (municipal) systems as the primary means of

wastewater treatment and disposal.

- 3.12 (A) In the Transition and Agriculture-Forestry-Rural Housing land classifications, the plan recognizes septic tanks as the primary means of wastewater treatment where soil limitations are not a factor. Where soils will not permit septic tanks, the plan supports the use of “state-of-the-art on-site wastewater treatment systems” that have demonstrated effectiveness and that have been permitted by the Department of Health.
- (B) The county recognizes the importance of central wastewater collection and treatment in achieving its land use and development objectives, particularly for water-oriented second home and retirement communities. Therefore in cooperation with the municipalities, the county will seek financial assistance to develop a plan for community sewer in the absence of private wastewater collection and treatment systems.
- 3.13 To minimize septic tank problems, the county and towns will consider an education program that provides regular information to property owners on proper maintenance of septic tanks.
- 3.14 To address community health and quality of life concerns, the plan supports extension of community wastewater systems to “critical areas”<sup>18</sup> on a priority basis, even though these areas may be outside the Towns and Community Centers land classification. Extensions may also be made beyond the Towns and Community Centers classification to serve employment activities that support the area’s economic development objectives.
- 3.15 The plan recognizes that the City of Washington has sewer lines located beyond its extra territorial jurisdiction (ETJ) and that additional extensions beyond the ETJ may occur in the future. Where these lines are available, the county will encourage connection according to the policies of the City. For areas that do not fall within the City’s jurisdiction, the development policies of this plan shall apply. In addition, the requirement of the county subdivision regulations for connection to public water or sewer systems shall apply if consistent with the City of Washington connection policy.
- 3.16 The plan continues to support expansion of the county water system to serve any existing unserved areas, where population density is sufficient. The cost of water extension to new development will be borne by the subdivider. The public water providers will continue to monitor

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<sup>18</sup> Developed areas that have chronic septic tank malfunctions or that lack functional indoor facilities.

- groundwater withdrawals as required by the capacity use area rules and will plan accordingly.
- 3.17 Water and sewer extension policies will ensure that unwanted primary and secondary impacts on wetlands and other important coastal resources are minimized.
  - 3.18 Beaufort County and the participating municipalities will support well-head protection plans in review of land development projects.

### Stormwater

- 3.18 The local governments will cooperate with appropriate state and federal agencies to manage stormwater runoff and non-point source pollution discharges to estuarine and public trust waters.
  - 3.18.1 Educational materials will be provided to owners and developers that plan development or construction to inform them of effective methods to protect water quality during construction and on-going operations.
  - 3.18.2 An approved stormwater management application and an approved soil erosion and sedimentation control plan are required prior to issuance of building permits for developments, either on a single parcel or a subdivision, that involve land disturbing activities of 1-acre or greater.
  - 3.18.3 The county and municipalities will work with the local Soil and Water Conservation District, in partnership with the Natural Resources Conservation Service-USDA staff, and local property owners to identify effective solutions that address existing drainage problems while protecting water quality.
  - 3.18.4 The county and municipalities will actively encourage low impact site design and development (LID) to manage stormwater runoff. This policy will be implemented through the provision of design materials and information, cooperating with state and local agencies in public information campaigns. Local governments will consider amendments to subdivision regulations and other development management codes to ensure that LID is a permitted option.
  - 3.18.5 The county and municipalities, through their design review processes, will encourage the use of *green infrastructure* that use or duplicate natural processes to infiltrate, evapotranspire, or reuse stormwater on the site where it is generated.
- 3.19 The local governments are concerned about the effectiveness of the current coastal stormwater program in terms of managing the impact of stormwater runoff on water quality. To address this concern, the

county encourages the state to implement more effective, state-administered stormwater management rules.

## 4.0 Policies for Natural Hazard Areas

### Introduction

The purpose of this management topic is to “conserve and maintain... flood plains and other coastal features for their natural resources and for their contribution to public safety.” To achieve this purpose, planning guidelines require the plan to provide policies that minimize threats to life, property, and natural resources resulting from development located in or adjacent to hazard areas. Examples of hazard areas are erosion areas, areas subject to storm inundation, and areas subject to flooding.

The planning guidelines establish standards that the planning policies must meet: (1) develop location, density, and intensity criteria for new development and redevelopment so that it can better avoid or withstand hazards; and (2) correlate existing and planned development with existing and planned evacuation infrastructure.<sup>19</sup>

### Discussion

According to the Hazard Mitigation Plan, flood events, either the result of localized storms or associated with hurricanes and n’oresters, *highly likely*. The impacts of flooding may include loss or life, extensive property damage, and disruption of essential services. About 117,000 acres of land in the planning area are included within special flood hazard areas. These are areas where inundation by a 100-year flood is expected. In addition, extensive areas are vulnerable to storm surge associated with hurricane level storms. The extent of the impact is shown in the following chart.

Storm Category	Approximate Cumulative Acres Impacted
1 to 2	110,350 acres
3	167,220 acres

The policies are designed to ensure that people and property in the planning area are not subjected to unnecessary risk.

All jurisdictions within the planning area were required to develop a Hazard Mitigation Plan to comply with the requirements of the Disaster Mitigation Act of 2000, which is commonly referred to as DMA2000. The planning area policies are incorporated into this section as a point of reference and to demonstrate that there are no conflicts between the growth and development policies and the hazard mitigation policies. For more detailed information please refer to the actual hazard mitigation plans that are available from the locality or the NC Division of Emergency Management (DEM).

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## Policies

- 4.1 Local governments in the planning area are aware of threats to life, health, public safety, and property associated with development located in or adjacent to natural hazard areas, including the estuarine system AECs, special flood hazard areas, and areas subject to storm surge associated with hurricanes. The local governments strongly support State policies that regulate location and intensity of development in these areas and will continue implementing local measures to mitigate risks.
- 4.2 In order to minimize risks associated with flooding and other natural hazards, the local governments will continue to enforce Floodplain Regulations and will adopt and periodically update a hazard mitigation plan that addresses a broad range of natural disasters, per the Disaster Mitigation Act of 2000 (DMA2K). These policies are incorporated below for consistency.
  - 4.2.1 Update the CAMA Land Use Plan.
  - 4.2.2 Review “firewise” zoning and subdivision standards and report on their appropriateness for incorporation into existing zoning and subdivision ordinances.
  - 4.2.3 Implement public education efforts designed to help inform the public of their exposure to natural hazards and to inform them of actions they can take to mitigate damages to their health and property from natural hazards, including but not limited to the following:
    - a) Ensure local libraries maintain documents about flood insurance, flood protection, floodplain management, and natural and beneficial functions of floodplains.

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<sup>19</sup> 15A NCAC 07B.0702(c)(3)(D)

- b) Encourage builders, developers, and architects to become familiar with the NFIP land use and building standards by attending annual workshops presented by the DEM.
  - c) Develop a page within the county's website that is devoted to hurricane preparedness.
  - d) Provide local real estate agents with handouts that will advise potential buyers to investigate the flood hazard for the property they are considering purchasing.
  - e) Advertise the availability of flood insurance on an annual basis.
  - f) Send a flood protection flyer to all properties that contains information on flood safety, flood insurance, property protection, floodplain development requirements, and drainage system maintenance.
  - g) Post the hazard mitigation plan on the county's website.
  - h) Post evacuation routes on the website.
- 4.2.4 Apply for funding from the hazard Mitigation Grant Program for one of the top priority goals identified in the plan.
- 4.2.5 Convene a working group with electric service providers within the county and produce a report, with specific recommendations and detailed implementation timelines, that addresses the issues of 1) disaster preparedness and 2) communication with officials during and immediately after a hazard event that results in loss of electrical power.
- 4.2.6 Work with the NC Office of Dam Safety (ODS) to:
- a) Ensure dams inspected on a regular basis.
  - b) Make sure that ODS notifies the county of any dams classified as "high hazard" or "distressed."
  - c) Attempt to make sure that all "high hazard" or "distressed" dams have implemented operation and maintenance plans and that they have emergency action plans.
  - d) Provide the county EM office with an inventory of all ODS jurisdictional dams in the county.
- 4.3 Local governments in the planning area are participants in the National Flood Insurance Program (NFIP), a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed NFIP standards. The local governments will continue participation in this program and will work to improve the Community Rating System (CRS) score, thus providing discounted flood insurance rates for residents that reflect reduced flood risk.
- 4.4 The local governments allow development within special flood hazard areas and redevelopment following a disaster that is consistent with requirements of the National Flood Insurance Program, CAMA minimum use

- standards, the North Carolina Building Code, and local Floodplain Regulations. Special flood hazard areas are those areas shown on the Flood Insurance Rate Maps (FIRM) as having a one- percent chance of flooding in any year.
- 4.5 Due to the significant number of mobile homes in the planning area, and other housing constructed prior to the implementation of Floodplain Regulations, the local governments will continue to work to obtain funding to assist in elevating existing homes in flood-prone areas. Funds from the Hazard Mitigation Grant, when available, will be utilized for elevation projects. Local governments will also seek Community Development Block Grant funding to repair and elevate homes in flood hazard areas.
  - 4.6 The local governments will not allow construction of public facilities (utilities) in hazard areas unless no other option is available. When hazard areas are unavoidable, construction of utilities will be allowed in accordance with requirements of the National Flood Insurance Program and the local governments' Floodplain Regulations.
  - 4.7 Beaufort County and the municipalities in the planning area will consider emergency evacuation procedures in the Comprehensive Transportation Planning process and will request that needed improvements to accommodate evacuations are included in the NC DOT Transportation Improvement Program.
  - 4.8 Local governments in the planning area consider the proposed Outlying Field (OLF) or Military Operation Area (MOA) over Beaufort County for performance of military training activities, or any similar land use, as incompatible and potentially hazardous. The proposed activities could have a negative impact on local farming activities, tourism, and wildlife, as well as present a hazard to the County and its residents. As such, the local governments continue to oppose designation of the County for this use. The county and planning area municipalities recognize that this is a local policy and that it may not be considered for federal and state consistency purposes.
  - 4.9 Should the County or participating municipalities become aware of any abandoned or out-of-use underground storage tank (UST), efforts will be made to identify the owner and provide notification of the need to remove the UST. The owner will be directed to contact the Underground Storage Tank Section of the NC Division of Waste Management for guidance as to appropriate procedures.
  - 4.10 There are three known hazardous waste sites in Beaufort County: the Singer Furniture Division Site, the Beaufort County Landfill Site, and the Texas Gulf Inc. Site. The location of these sites should be considered in future development plans.

## 5.0 Policies for Water Quality

### Introduction

The purpose of this management topic is to ensure that development and land uses are planned to “maintain, protect, and where possible enhance water quality in the planning area’s coastal wetlands, rivers, streams, and estuaries.” To achieve this purpose, the plan’s policies must be designed to *maintain water quality if not impaired or improve water quality if impaired*.

The planning guidelines establish two standards that the planning policies must meet: (1) design policies, such as vegetated buffers and wetland protection, that help prevent or control non-point source discharges; and (2) provide policies that help protect shellfishing waters.<sup>20</sup>

### Discussion

Water quality is seen as a significant quality of life factor in the planning area and an important component of the area’s economic development assets. The water quality assessments contained in the basinwide plan and the shellfish Sanitary Surveys indicate that there have been no material changes of water quality since the late 1990s, as measured by the parameters of the NC Division of Water Quality and the Shellfish Sanitation Section. However, there remain large stream segments that are *impaired* and that are *closed* to shellfish harvesting. The impairments and closures appear to be linked to the following factors

1. Clusters of wastewater discharge sites (National Pollution Discharge Elimination System (NPDES) sites;
2. Non-point source pollution from run-off related to land development activities;
3. Run-off from agricultural and forestry activities.

As noted previously, recent studies by the NC Division of Water Quality conclude that the coastal stormwater rules, which are one of the major tools to address non-point source pollution, may not adequately address the water quality impacts of stormwater runoff on public trust waters.

The plan includes an array of policies that address water quality. New initiatives are a program that uses grants and other resources from the federal and state governments address non-point source pollution and an assessment of the new universal stormwater program for possible implementation.

## Policies

- 5.1 The plan recognizes the importance of water quality in preserving the life-style and economic well being of the residents and property owners of Beaufort County. The local governments in the planning area will focus on policies that address non-point source discharges in order to protect and restore water quality. It is in this area that the local governments can be most effective.
  - 5.1.1 The plan encourages an “overall” low-density development and associated reduction in impervious surfaces that is consistent with maintaining and enhancing water quality. Priority is placed on achieving low density development through cluster development and other land planning techniques (such as Low Impact Development) that reduce the impervious surfaces and increase open spaces associated with new development or significant redevelopment.
  - 5.1.2 Coastal and *exceptional* non-coastal wetlands are included in the Conservation I land classification to address their roles in protecting water quality. *Significant* and *beneficial* wetlands are included in the Conservation II overlay classification. Intensity and density guidelines and mitigation concepts for the Conservation I and II land classifications are detailed in policies 2.1 and 2.2.
  - 5.1.3 The plan encourages site planning that maintains site hydrology to the maximum extent possible; that minimizes impervious surfaces; and that treats and manages stormwater on site to the maximum extent when required.
  - 5.1.4 The plan strongly supports location, design, and operation requirements for open water and upland marinas that minimize negative impacts of these operations on water quality.
  - 5.1.5 The plan encourages marinas to establish pump-out stations and to participate in the “Clean Marina” program. This is a voluntary program administered by the NC Division of Coastal Management and the NC Marine Trades Association to recognize marina opera-

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<sup>20</sup> 15A NCAC 07B.0702(c)(3)(E)

tors who use management and operations techniques that exceed regulatory requirements.

- 5.2 Local governments in the planning area will continue to reinforce the state's soil erosion and sedimentation control program and its stormwater management program by requiring proper permits prior to issuance of building permits or approval of preliminary plats for subdivisions.
- 5.3 The county will study the new universal stormwater program to determine whether it fits the local administrative structure and whether it is more effective than existing stormwater management programs.
- 5.4 The county, with the cooperation of the municipalities in the planning area, will seek funding from the EPA Section 319 program through the NC Division of Water Quality to implement a non-point source strategy.
  - 5.4.1 Seek assistance from the NCDWQ in identification of priority streams that are impaired or that may become impaired.
  - 5.4.2 Prepare and submit applications for Section 319 grants to identify and implement retrofit projects to restore stream so that they meet their intended use.
  - 5.4.3 Prepare and submit applications for Section 319 grants for public education programs regarding non-point source pollution and water quality. These programs will be operated in cooperation with public and non-profit organizations.
- 5.5 The county will cooperate with the NC Environmental Enhancement Program in conjunction with the US 17 By-pass project to identify opportunities to mitigate the wetland and water quality impacts of the project.
- 5.6 Local governments in the planning area strongly encourage farmers and timber operators to employ accepted "best management practices" to minimize the impact of these operations on water quality. The plan supports the Tar-Pamlico buffer rules that require agricultural operations to develop nutrient management programs and in some cases to respect the stream buffer.

## 6.0 Policies for Local Concerns (Towns)

### Introduction

The purpose of this management topic is to integrate the special concerns of the municipalities participating in the joint plan into the overall policies and land use plan. The policies in this section are specific to the towns and are developed in the context of their development environment and planning goals.<sup>21</sup>

### Discussion

The Beaufort County land use plan update is a partnership between the County and the Towns of Aurora, Belhaven, Chocowinity, Pantego, and Washington Park. Through the Land Use Plan Steering Committee, each of the towns was involved in the development of land use policies for the entire planning area. This section of the plan provides details on the goals of each town and on any specific land use policies that are identified to achieve the goals. These goals and policies are intended to complement the overall goals and policies of the planning area.

County policies detailed in subsections 1.0 through 5.0 are applicable to all participating municipalities unless the individual municipality has selected a policy that expands upon or exceeds County policy or is only applicable to the individual town.

Policies listed for individual municipalities supercede County policy only within the designated municipality.

The participating municipalities agree with the land use designations shown on the Future Land Use Map (FLUM), including the density of development and appropriate uses as described in Section C. below.

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### 6.1 Aurora

#### Overall Growth and Development Objectives

The Town's overall goal is *to reverse the gradual population decline and to realize moderate growth in population, employment, and tax base.*

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<sup>21</sup> 15A NCAC 07B.0702(c)(3)(F)

- Preserve the planning area’s natural systems so that they remain *quality of life* assets that will enable the Town to attract more residents and employers.
- Encourage economic development that provides jobs for residents but that does not compromise environmental quality.
- Work to enhance and expand resource-based tourism as a significant part of overall community development.
- Protect and preserve the Town’s historic resources.
- Develop strategies for upgrading the Town’s wastewater treatment system and expanding to properties in the planning area that are experiencing septic tank malfunctions.

### Special Aurora Policies

- 6.1.1. The Town recognizes the importance of shoreline protection to protect water quality. Therefore, the plan recognizes and supports the *estuarine shoreline* and the CRC standards for development in these areas. The town will utilize local ordinances and administrative procedures to implement this policy.
- 6.1.2. Aurora’s natural and historic heritage is an important resource that enhances the quality of life of residents and supports economic development objectives. The Town will continue to support programs that preserve and restore this important resource.
- 6.1.3. The Town recognizes the importance of wastewater treatment and the challenges that it entails. One of the Town’s priorities in the planning area is connection to the community sewer system if possible. Extensions of the system will be accomplished through grants or by private financing.
- 6.1.4. When central service is not available, the Town supports on-site treatment using the most environmentally appropriate technology.

The Town discourages the use of “package” treatment facilities but will accept them when other options are not feasible.

- 6.1.5. The Town supports marina development to expand access to public trust waters and encourages designs that protect water quality. Marinas and drystack facilities may be located only in accordance with the policies in the Land Use Compatibility Section, 2.1.8.
- 6.1.6. The Town will ensure that any open pit mining in its planning area meets local, state, and federal requirements by reviewing any proposals on a case-by-case basis through a special use permit process.

- 6.1.7. The Town favors a compact development pattern within its planning area where it can be economically supported by existing community services.

## 6.2 Belhaven

### Overall Growth and Development Objectives

The Town's overall goal is to reverse the gradual population decline and to achieve moderate growth in population, employment, and tax base.

- Encourage economic growth that provides jobs for residents but does not create negative environmental impacts.
- Encourage residential growth in areas served by central water and sewer.
- Develop strategies to maintain and encourage resource-based industries, such as commercial and recreational fishing.
- Promote eco-tourism as a significant component of overall community development.
- Promote responsible growth, with special emphasis on development and redevelopment of the Town's waterfront areas.
- Maintain and continue improvements to Town's infrastructure to accommodate growth and economic development.

### Special Belhaven Policies

- 6.2.1. Redevelopment of developed areas, including erosion threatened - Belhaven will allow redevelopment in accordance with local zoning requirements. The Town will promote redevelopment of waterfront areas. As part of its ongoing waterfront development process, the Town will support development of additional access locations and facilities, such as dockage and restrooms, to serve transient boaters.
- 6.2.2. Storm hazard mitigation - The Town will continue to implement elevation requirements for new and, as appropriate, existing structures in flood-prone areas.
- 6.2.3. Types/locations of desired industries - Belhaven will encourage a variety of industrial development activities and will support efforts of the chamber of commerce to attract new jobs. The Town will rely upon local zoning to determine appropriate locations.
- 6.2.4. Water/sewer service - Belhaven will seek grant funding for improvements to systems, especially improvements to reduce inflow and in-

filtration problems associated with the aging sewer system infrastructure. The Town will give priority to providing service to developed areas and will review extension requests to outlying areas on case-by-case basis.

- 6.2.5. Urban growth patterns - The Town will rely on local zoning for guiding development into appropriate areas. In addition, the Town will use its subdivision regulations and flood damage prevention ordinance to ensure that site design and development address stormwater management, protection from flooding, and protection of wetlands. Belhaven will work to promote development and redevelopment of the Town's valuable waterfront areas.

## 6.3 Chocowinity

### Overall Growth and Development Objectives

The Town's overall goal is *to encourage continued population growth, enhanced employment opportunities, and an increase in the tax base, while ensuring that the quality of the environment and life in the Town is not compromised.*

- Expand and diversify all economic sectors, including agricultural, industrial, and commercial.
- Preserve the planning area's natural systems so as to protect the *quality of life* that encourage new residents and employers to locate within the Town.
- Maintain quality of water and wastewater systems to provide for public health and a strong incentive for continued growth and development.

### Special Chocowinity Policies

- 6.3.1. Water supply -The Town will not support development and activities locally and in other areas that may cause shortfalls in groundwater supply or pose severe risks to the quality of underground waters.
- 6.3.2. Sewer - The Town shall consider service extensions on a case-by-case basis. The Town discourages any proposals for package treatment plants in favor of extension of existing sewer lines when feasible.
- 6.3.3. Urban growth patterns - The Town encourages new development requiring urban services to locate within the city limits and will attempt to reserve outlying areas for agricultural and low density resi-

dential uses. The Town shall rely on local zoning for guiding urban growth into appropriate areas.

- 6.3.4. Conversion of agricultural land - The Town shall allow conversion of agricultural lands to urban uses throughout the jurisdiction in accordance with the zoning ordinance.
- 6.3.5. Industrial impacts on fragile areas - The Town shall rely on local zoning and appropriate state and federal regulations for appropriate placement of industrial sites for the least possible impact on fragile areas.
- 6.3.6. Industrial development - The Town will encourage and support a wide variety of industrial development to enhance the economic base of the area. The Town supports expansion of existing industries and welcomes new commercial and industrial activities to the Chocowinity area. The Town will carefully evaluate the impact of large-scale development on groundwater resources to ensure that it entails no shortfalls in groundwater supply or poses no severe risks to the quality of underground waters.

## **6.4 Pantego**

### **Overall Growth and Development Objectives**

The Town's overall goal is maintain and enhance its quality of life by encouraging new development, welcoming new industrial and commercial concerns, and protecting historic and agricultural resources.

- Preserve the planning area's natural systems to maintain the quality of life that attracts residents and employers.
- Encourage economic development that provides jobs for residents but does not compromise environmental quality.
- Encourage preservation of historic structures in the planning area.
- Support efforts to ensure the viability of the County's agricultural resources.

### **Special Pantego Policies**

- 6.4.1 Economic development - The Town will provide assistance to industry whenever possible, while recognizing the importance of protecting the natural resources of the area and health of its citizens

- 6.4.2 Conversion of agricultural land - The Town will discourage conversion of prime farmland to other uses to the extent reasonable for property owners.
- 6.4.3 Historic preservation - Pantego encourages adaptive reuse of significant historic structures in the planning area, including locating new or expanding businesses in existing structures where feasible.
- 6.4.4 Drainage - The Town will work to develop strategies to deal with stormwater runoff and other drainage issues.
- 6.4.5 Types of industries desired - Pantego will develop strategies for development and expansion of resource-based tourism. The Town encourages location of “clean” non-polluting industries and those that provide both technical and professional positions.
- 6.4.6 Urban growth patterns - Encourage new development to locate within the city limits, while directing agricultural and low density residential uses to outlying areas.
- 6.4.7 Public access - The Town supports efforts to increase recreational access to public trust waters.

## **6.5 Washington Park**

### **Overall Growth and Development Objectives**

The Town’s overall goal is to maintain its present well-established character - a low-density detached single-family residential community. An important short/mid-range objective is to make central sewer service available in the community. The Town wishes to maintain its population and tax base.

### **Special Washington Park Policies**

- 6.5.1 Washington Park will work to develop strategies for providing central sewer service for the Town and its residents.
- 6.5.2 The Town will preserve its natural systems so that the assets that attracted residents to the area are maintained.
- 6.5.3 Washington Park encourages any development that is consistent with its overall growth and development objectives.

## C. Future Land Use Map

The future land use map (FLUM) is a central feature of the Beaufort County Joint CAMA Land Use Plan. The CAMA Land Use Planning Guidelines state that the future land use map “ depicts application of the policies for growth and development and the desired future patterns of land use and land development with consideration given to natural system constraints and (local) infrastructure policies.”<sup>22</sup> The FLUM is intended as a land use and development guide; it is not intended to be a zoning code or ordinance.

CAMA land use planning guidelines specify basic concepts that must be shown on the FLUM. They are:

- Areas and locations planned for conservation or open space and a description of compatible uses and activities;

- Areas and locations planned for future growth and development with descriptions of the following characteristics:

  - Predominant and supporting land uses that are encouraged in each area.

  - Overall density and development intensity planned for each area;
  - Infrastructure required to support planned development in each area.

- Areas in existing developed areas for infill, preservation, and redevelopment; and

- Existing and planned infrastructure - major roads, water, and sewer.

The Beaufort County FLUM is an outgrowth of the planning area’s growth and development goals and the policies detailed in Part III, Section B. The policies contained in the *Land Use Compatibility* management topic (Part III, Section B., 2.0) are the basis for the content and design of the FLUM.

The land classifications and the FLUM are not intended to be a development ordinance that prescribes location, type, density, and intensity of development. Rather, they are intended to be planning guidelines that may provide direction for local public and private decisions and for possible future adoption of a comprehensive development management program.

Each of the land classifications contains descriptions of the types of land uses that are compatible and incompatible with the intent of the classification. In addition, the following decision guide is provided to assist local decision-

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<sup>22</sup> 15A NCAC 7B.0702(d)(4)

makers in determining whether uses are compatible or incompatible in the classification.

#### Things to Consider to Identify Inappropriate Land Uses

Will the land use materially reduce any environmental or community values associated with natural systems?

Will the use location or design produce unnecessary risks to life or property?

Will the use impact a civic use, such as a school, park, or religious building?

Does the use meet an essential community need?

Will the use result in the loss of or damage to a historic property or site?

Does the use have undesirable characteristics that cannot be buffered from existing or planned land uses? Noise, vibration, light, building characteristics, hours of operation?

Will the use generate traffic impacts that cannot be accommodated by the existing or planned transportation system, or will the use and its location significantly reduce the capacity of the existing highway network? Can traffic impacts be mitigated?

Will the use require a higher level of community services than currently available or planned for the near term?

The planning area FLUM and more detailed maps that illustrate plans for areas in the vicinity of participating towns are located following page III-42.

#### *FLUM* Future Use Land Classifications

##### (a) Areas Planned for Conservation

##### Conservation I



The Conservation I classification delineates land and water features where there are serious hazards to personal safety or to property, where new development would cause serious damage to the values of natural systems, or where new development is not permitted by local, state, or federal policy. The classification is designed to provide for the protection and long-term management of the planning area's most important natu-

ral systems. The areas included in this classification are described in Part III, Section B., 2.0.

The following are examples of compatible land uses and activities in the Conservation I Classification:

Public access facilities  
Fishing piers and docks  
Farming and forestry that meet “buffering” guidelines  
Public uses, such as parks, greenways, nature preserves, and natural areas

**Conservation I**

General character of planned development and land uses:  
Natural landscape and waterscape with civic uses, such as parks and public access, farms, forestry, and fishing.

The Conservation I Classification includes approximately 73,000 acres, exclusive of water features, on the FLUM.

**Conservation II Overlay Classification**

The Conservation II classification is as an overlay that applies policies to guide development in all of the non-conservation land classes. The classification helps local governments in the planning area to mitigate risks to life and property associated with storm and flood hazards. The overlay includes the coastal shoreline AECs with rules that protect stream margins and water quality. And, the classification offers a higher level of protection for functional but less-essential non-coastal wetlands.

The Conservation II Classification is an overlay that places additional limitations on the compatible uses and activities of the underlying land classifications.

The Conservation II Classification overlays approximately 175,000 acres in the Agriculture-Forestry-Rural Housing, Transition, and Towns and Community Centers classifications.

- (b) Areas Planned for New Growth and Development, Infill and Redevelopment

**Towns and Community Centers**



The Towns and Community Centers Classification is designed to delineate areas for the continued intensive development, redevelopment, and infill development in the municipalities and the nearby-unincorporated areas. These areas have the highest levels of community services in planning area and essential services, such as public

water supply, wastewater treatment, transportation, and fire and rescue services, are readily available or close-at-hand. This classification includes all of the land within the current municipal limits plus an area of approximately 1.5 miles on the peripheries of towns where urban-type services are more likely to be available.

The following are examples of compatible land uses and activities in the Towns and Community Centers Classification:

- Single-family houses
- Townhouses
- Small apartment buildings
- Convenience, specialty, community-oriented, and regional-serving commercial activities (may be freestanding or developed in clusters)
- Offices for a range of services
- Industrial type buildings, either freestanding or in campus settings
- Civic uses such as parks, greenways, schools, hospitals, governmental offices, and other civic and religious structures

**Towns and Community Centers**  
 General character of planned development and land uses:  
 A wide range of building types with a mix of houses, townhouses and small apartment buildings, with supporting retail, office, industrial-type buildings, and civic buildings like government offices, schools, hospitals, and churches.

The following are examples of land uses and activities that may be incompatible with this classification: dense residential developments that exceed the capacity of community services; commercial uses that create unacceptable impacts on the highway system or surrounding land uses; industrial uses that cannot be buffered from surrounding uses; and uses that result in the loss or damage to a historic property or site.

Approximately 28,000 acres are allocated to this land classification on the FLUM.

**Plan guidelines for developed areas**

Residential density:	2 units / gross acre
Target non-residential FAR:	0.20 for freestanding buildings 0.40 for cluster or unit development
Typical building site:	0.5-acre or smaller, depending on community services available
Typical building height:	1- to 2-story, with 3+ stories depending on services
Land for streets, easements, etc:	+25% building site
Maximum impervious surface:	Subject to Coastal Stormwater Rule Standards

## Transition Classification

This land classification includes areas that are expected to undergo more urban-type development during the planning period and beyond. The general character of development in this classification includes lawns and landscaped yards surrounding detached single-family houses; cluster development with predominantly residential buildings; small-scale retail buildings; and some farms and timberlands.

This development may be associated with job growth in neighboring counties or it may be associated with the economic development policy to encourage water-oriented development for second home and retirement communities. These areas have reasonable access to the highway system; however, septic tanks will be the dominant means of wastewater treatment. The only near-term provision of sewer service would be to serve a specific employment generating activity. The classification is subdivided into Water-Oriented Development, located on the north and south of the Pamlico River, and the US 17/264 Sector, located northwest of the City of Washington. Both are described below.

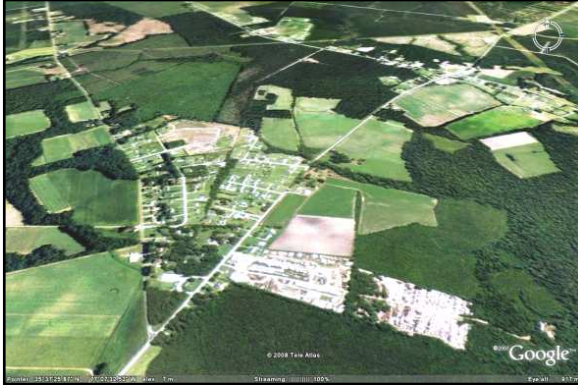
Approximately 33,000 acres are allocated to this classification on the FLUM.

### Transition—Water-Oriented Development



Within the transition classification, there are areas along the Pamlico River and its tributaries where the plan encourages development of retirement and second-home communities. Flexible site planning, conservation design, and other low-impact development techniques are encouraged in these areas so that natural systems, water quality, and scenic views are protected and efficient use of the shoreline is accomplished.

## Transition—US 17/264 Sector Development



In this sector of the transition classification, the plan encourages continuation of the more suburban-type development. The area is suited for residential and small-scale commercial uses that do not rely on community wastewater treatment. Employment-related uses, such as industrial or distribution, are suited for this sector.

The following are examples of compatible land uses and activities in the Transition Classification:

- Single-family houses
- Cluster development with predominantly residential buildings
- Small-scale retail and office buildings
- Farm, forestry, fishing or related establishments
- Employment uses, such as industrial or distribution establishments, in the US 17/264 Sector
- Civic uses, such as parks and greenways, schools, governmental offices

### Transition Classification

General character of planned development and land uses:  
Lawns and landscaped yards surrounding detached single-family houses; cluster development with predominantly residential buildings; small-scale retail and office buildings; some farm, forestry, fishing or related establishments.

The following are examples of land uses and activities that may be incompatible with this classification: higher density, apartment and town-house developments that create unacceptable traffic impacts or require a higher level of community services planned; community-serving retail and commercial uses; “strip” commercial development; and industrial uses that create unacceptable impacts on existing and planned development.

### Plan guidelines for developed areas

Target residential density:	1.33 units / gross acre
Non-residential FAR:	0.2
Typical building site:	0.5-acre or larger, depending on community services available
Typical building height:	1- to 2-story
Land for streets, easements, etc:	+25% building site

**Maximum impervious surface:**

Subject to Coastal Stormwater Rule Standards

### **Agriculture-Forestry-Rural Housing**



The Agriculture-Forestry-Rural Housing classification provides for the preservation of the planning area's farming and forestry and its rural housing and hamlets, and it provides a reserve area for more intensive uses in the future. These areas are key to preserving the planning area's farming and forestry that remain a major part of Beaufort County's economic base and to preservation of its rural landscape that is essential to the lifestyle of the planning area.

The classification also anticipates continuation of extractive activities centered in the Aurora area.

Public sewer service will not be provided in this land classification during the planning period unless it addresses a public health problem or it supports a job-creating opportunity.

The following are examples of compatible land uses and activities in the Agriculture-Forestry-Rural Housing Classification:

- Farming, forestry, fishing and related activities
- Extractive uses, such as existing operations near Aurora
- Rural, either freestanding or in rural clusters
- Retail and wholesale nursery operations
- Manufacturing of food and related agricultural products
- Wineries
- Convenience stores and agricultural supply operations
- Home-based occupations
- Farm worker housing that meets NC Department of Labor standards
- Job-creating activities, such as industrial or distribution uses, that are determined to be compatible with farm and timber operations

#### **Agriculture-Forestry-Rural Housing**

General character of planned development and land uses:

Primarily farm, forestry, fishing, and extractive establishments and open land with scattered houses and buildings and small crossroad communities or hamlets; rural/conservation residential cluster development.

Civic uses such as parks, greenways, nature preserves, and religious structures

The following are examples of land uses and activities that may be incompatible with this classification: apartment developments and townhouses, commercial uses that generate high traffic volumes and require high service levels, and certain industrial uses that require access to transportation and other community services.

**Plan guidelines for developed areas**

Target residential density:	1 unit / 10 acre gross
Non-residential FAR:	0.1
Typical building site:	1.0-acre or larger
Typical building height:	1- to 2-story
Land for streets, easements, etc:	+25% building site
Maximum impervious surface:	Subject to Coastal Stormwater Rule Standards

## D. Future Land Needs - Allocation to Land Classifications

Table 13 shows the relationship between the land area allocated in each of the land classifications and a forecast of the amount of land that will be absorbed, or needed, in each classification during the 20-year planning horizon. The forecast of land needed is based on three factors: (1) historical growth trends - incorporated area population versus unincorporated area population; (2) the 20-year population growth forecast; (3) assumption that future household size is approximately 1.9 persons and the resulting household growth over the 20-year period. The table includes estimates of the total land area included in each classification and the vacant area provisionally suited for septic tanks. In addition to the population and housing forecast, the land need forecast is based on the assumed typical building site size in each classification and an adjustment for land allocated to street r-o-w, easements, and similar uses. In addition, the estimates assume that non-residential use for commercial, office, employment, and so on will be approximately 20% of the residential estimate. These estimates are based on the best information and estimating techniques available to the planning team. There may be errors.

Table 13  
Comparison Future Land Needs to Future Land Classifications

2005 - 2025 Population Increase	21,300				
2005 - 2025 Household Increase (1.9 persons/household)	11,210				
Planned development allocation	Conservation I	Conservation II Overlay	Agriculture-Forestry-Rural Housing <sup>(d)</sup>	Transition <sup>(d)</sup>	Towns and Community Centers <sup>(d)</sup>
Population	na	na	3,200	13,840	4,260
Households	na	na	1,680	7,200	2,240
Projection adjustment households (1.5)	na	na	2,520	10,800	6,390
Typical lot size (acres) <sup>(c)</sup>	na	na	1.0	0.75	0.6
Residential acres needed	na	na	2,520	8,100	3,830
Associated land for streets, easements, etc 0.25 multiplier (acres)	na	na	630	2,025	950
Non-residential	na	na	500	1,620	770

0.2 multiplier (acres)					
Total acres needed	na	na	3,650	11,745	5,550
<b>Total acres allocated on FLUM</b>	73,000	175,000	385,000	33,000	28,000
Net acres, vacant and suited for septic tanks <sup>(a)</sup>	0.00	na	99,000	13,050	8,600 <sup>(b)</sup>

<sup>(a)</sup> For Agriculture-Forestry-Rural Housing and Transition classifications, allocation includes only vacant area suited for septic tanks; allocation for the Towns and Community Centers classification includes all vacant land because sewer may be available.

<sup>(b)</sup> Approximately 1,500 acres vacant area suited for septic tanks in Towns and Community Centers Classification.

<sup>(c)</sup> To improve the accuracy of the analysis, typical lot sizes identified in the existing land use analysis are used to estimate acres needed.

<sup>(d)</sup> The Conservation II Overlay may affect the development capability of the underlying classes.

The land allocated to the classifications planned for the most intense development is generally consistent with estimated needs. The Towns and Community Centers classification on the FLUM covers approximately 28,000 acres of which an estimated 8,600 acres are vacant. At the planned development density, 5,000 to 6,000 acres are needed in this classification over the 20-year forecast period.

The Transition Classification covers approximately 33,000 acres with an estimated 13,050 acres are vacant and suited for septic tanks. According to projections, 11,000 to 12,000 acres are needed in this classification. Soil suitability is important in this classification because septic tanks will be the primary means of wastewater treatment during the planning period (please see policy 2.4.6, Land Use Compatibility).

The Agriculture-Forestry-Rural Housing Classification has the largest area on the FLUM at approximately 385,000 acres. Approximately 99,000 acres in this classification are vacant and suited for septic tanks. Like the transition classification, soil suitability is important in this classification because septic tanks are the method of wastewater treatment. According to the planning projections, only 3,650 acres are needed in this classification for non-farm/forestry uses. However, the major planned land uses in this classification are agriculture, forestry, and extractive uses, the existing extractive operations near Aurora for example, all of which require extensive land areas (existing land use estimates show more than 400,000 acres in agriculture, timberlands, and extractive uses).

The Conservation I Classification covers 73,000 acres on the FLUM. No residential or associated uses are planned for this classification (please see policy 2.1, Land Use Compatibility).

The Conservation II Classification is an overlay classification that will have development and construction constraints for the Towns and Community Centers, Transition, and Agriculture-Forestry-Rural Housing classifications (please see policy 2.2, Land Use Compatibility). Conservation II overlays approximately 175,000 acres.

## Part IV. Tools for Managing Development

This section of the land use plan provides a strategy and action plan for implementing the Future Land Use Plan Map and the Growth and Development Policies contained in Parts 3 and 4. The following components are included:

1. A description of the role of the plan and the status of policies in the land use and development decisions of the planning area governments.
2. A description of the current development management program, including policies, ordinances, codes, and regulations and how it will be employed to implement the land use and development policies.
3. Additional tools that will be used to implement the land use plan.
4. An action plan and schedule for implementing the plan.

### A. Role and Status of Plan (or How to Use the Plan)

The Beaufort Joint Land Use Plan provides a framework to guide local government officials and citizens as they make day-to-day and long-term decisions affecting development. The land use plan serves as an overall “blueprint” for development of planning area that when implemented, should result in the most suitable and appropriate use of the land and protection of the area’s natural systems. In addition to serving as a guide to the overall development of the planning area, the land use plan will be used by local, state, and federal officials in CAMA permitting decisions, project funding, and project consistency determinations.

#### 1. State-CRC Use of the Plan

The State relies on CAMA, the Governor’s executive order number 15, 15A NCAC Chapter 7 Coastal Rules - previously accepted by the federal Office of Coastal Resource Management, and local government zoning enabling legislation to support its role in implementation of the policies contained in the plan. The following provides an overview of the measures used by the State:

From the CAMA: No development permit may be issued which is inconsistent with the local LUP (NCGS 113A-111 Effect of land use plan)

(1) DCM will not issue permits for development in the Beaufort County planning areas that is inconsistent with the approved CAMA land-use plan.

(2) Local ordinances or other local regulation that apply to areas within an AEC that are inconsistent with the land-use plan are not allowed. Any existing local ordinances and regulations within areas of environmental must be reviewed in light of the land use plan policies and modified as may be necessary to make them consistent with the plan.

(3) The Coastal Resources Commission reviews all local ordinances and other local regulations affecting planning area, but not affecting an AEC, for consistency with the land use plan policies. If the Commission review finds inconsistencies, recommendations for modification are transmitted to the county and the participating towns.

(4) State agencies undertaking projects and activities in AECs must obtain applicable CAMA permits before proceeding. Permit applications that do not meet development standards will be denied, and the project or activity will not be allowed to proceed. The CRC development standards and the local land use plan policies are applied to state projects throughout the planning area.

(5) State land policies governing the “acquisition, use, and disposition of land” by state agencies must be consistent with the CRC’s rules throughout the planning area, which by reference includes the approved CAMA land use plan.

From zoning ordinance enabling legislation: Required statement of consistency (NCGS 160A-383/153A-341)

NCGS 160A-383 and 153A-341 require local governments to develop zoning regulations in accordance with a comprehensive plan. It also requires statements of consistency when adopting or rejecting zoning amendments that describe how the amendment is consistent or inconsistent with the comprehensive plan or other applicable plans. The planning board is also required to advise the governing body on whether the proposed amendment is consistent with any adopted comprehensive plan or other applicable plan.

Should the county decide to adopt a zoning ordinance to implement the CAMA LUP in unincorporated areas, then the consistency requirements apply. Likewise, municipalities must follow the consistency requirements when amending their zoning ordinances.

## **2. Local Use of the Land Use Plan**

In addition to its well-known use in CAMA permitting, an equally important use of the Beaufort Joint Land Use Plan is the establishment of policy for both short-term and long-range planning. The plan will be used by the administrative staffs and elected and appointed boards of the county and municipalities, as well as property owners and citizens. These uses are described below.

*Short-term or day-to-day functions* relate primarily to use of the plan by local government staff, planning boards, and elected boards in the administration of land use and development policies, such as zoning and subdivision regulation, and the public's understanding and use of these policies in development decisions affecting their own property.

Property owners and developers will use the policies contained in the land use plan to determine the types of land uses and development that is desired by the community. They will use this information to design or formulate development proposals (such as rezoning requests, special use permits, and subdivision approvals) that are consistent with the land use plan, thus increasing chances for approval. The land use plan will also provide information to property owners to help them understand the capabilities and limitations of their property.

Planning and development staff will review development proposals in light of policies contained in the land use plan. Staff will identify policies that support proposals or that are in conflict, and will point out those policies that carry the most weight. This information will be used by staff to formulate an overall response or recommendation to their respective planning boards and elected officials.

The general public will use the plan to obtain information that will help them better understand development proposals in developing a position in favor or opposition to proposed development.

Planning boards will make individual determinations of the consistency of development proposals with the land use plan policies. Planning board members will consider staff recommendations, but may choose to give different weights to the land use plan policies. Planning boards will then make recommendations to the Board of Commissioners for final approval of development requests. The plan may be the basis for recommendations to approve, modify, or deny development proposals.

The elected boards will consider the policy interpretations of the petitioner, planning staff, planning board, and public comments by citizens in making its own policy interpretations and final decisions regarding proposals. Like the planning board, elected boards may use the plan as a basis for approving, modifying, and denying development proposals.

*Long range functions* of the land use plan include providing a policy and decision guide to the planning boards and elected boards in developing new ordi-

nances (tools) and amendments to existing ordinances to implement the land use and development policies. The land use plan itself is not a local ordinance or code.

Other long-range functions include guidance in planning public expenditures for developing new capital improvement projects, such as new roads, water system extensions, or sewer systems. Additionally, the land use plan will be used to guide development of plans for projects that support implementation of the plan. The elected boards in the planning area will periodically review the implementation plan and make necessary adjustments based on changing community needs, budget considerations, and coordination with other projects.

## **B. Existing Development Program**

Table 14A Existing Management Development Program summarizes the various development management elements in place in the county and each of the towns. The plans, ordinances, regulations, and policies in place within the planning area are typical of those found in coastal communities.

The Beaufort County Planning and Inspections Development and the County Health Department have a major responsibility for coordinating the administration of the development management program and the implementation of the land use plan in the planning area. However, the town's directly administer some of the ordinances and policies that will be used to implement the plan. This decentralized responsibility for implementation will require close coordination for optimum effectiveness.

Table 14B provides a summary of the role that each of the ordinances and regulations plays in implementation of the land use plan.

Table 14A  
 Beaufort County CAMA Land Use Plan  
 Description of Existing Development Management Program

		Planning Jurisdiction					
		Beaufort County	Aurora	Belhaven	Chocowinity	Pantego	Washington Park
Existing plans and policies							
CAMA LUP	Certified 1998. Covers unincorporated area outside municipal ETJ. Applies to Washington Park.	Certified 1998. Covers Town plus ETJ.	Certified 1998. Covers Town plus ETJ.	Certified 1998. Covers Town plus ETJ.	Certified 1998. Covers Town plus ETJ.	Certified 1994. Covers Town corporate limits.	Included in County Plan.
Thoroughfare Plan	Approved 2000. Covers areas outside of the Washington Urban Planning Boundary.						
Hazard Mitigation Plan	Multi-jurisdictional plan adopted in 2004.	Included		Included		Separate plan	Separate plan.
Existing regulations, ordinances, and policies							
Subdivision regulations	yes	Yes. Mid-East Commission administrators.	Yes. Administered Town staff.	Yes. Administered Town Inspector.	Yes. Administered by Town staff.		
Zoning ordinance	No county zoning.	Yes. Mid-East Commission administrators.	Yes. Administered by Town Inspector.	Yes. Administered by Town staff.	Yes. Administered by Town staff.	Yes. Administered by Town staff.	Yes. Administered by City of Washington.
Mobile home park ordinance	County wide (within county planning jurisdiction)	Yes. Mid-East Commission administrators.	Not a separate code. Included in zoning ordinance.		Yes.	Yes.	Yes.

	diction).		Yes. Adminis-tered by Town staff.	Yes	Yes	Yes
Flood damage preven-tion ordinance	Yes	Yes. Mid-East Commission ad-ministers	Yes. Adminis-tered by Town staff.	Yes	Yes	Yes
Stormwater manage-ment	County enforces stormwater management rules as required by the Tar-Pamlico rules.					
Septic tank regulations	State regulations administered by County Environ-mental Health countywide.	NA. Town has central sewer.	NA. Town has central sewer.	NA. Town has central sewer.		
CAMA minor permits	Minor permits written by the DCM Washington Field Office for entire planning area.					
State building code	Administered by County Planning and Inspections Department.	Administered by county.	Administered by town inspector.	Administered by county.	Administered by City of Washing-ton.	
"404" wetlands regula-tions	Beaufort County and Towns do not have regulatory authority for enforcement of the "404" wetlands program au-thorized by the Clean Water Act. Regulation is provided by the Regulatory Branch of the U.S. Army Corps of Engi-neers through the Wilmington, North Carolina district office. Anyone who undertakes work in a wetland area is required to obtain a permit. The County coordinates its local planning, and in particular its subdivision review and approval process, with the "404" program.					

Table 14B  
 Beaufort County CAMA Land Use Plan  
 Development Management Program - Implementation Role

Ordinances And Policies	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural and Manmade Hazard Areas	Water Quality	Economic Development
Subdivision Regulations	Encourages water access for waterfront SD;	“unsuitable for septic” lots are identified on final plats; AECs identified	lot-by-lot septic evaluations; requires connection to public water supply where available; road construction standards; certain projects require NCDOT driveway permits		Sedimentation & Erosion Control approval and Stormwater permit required for projects disturbing >1 acre; must comply with CAMA regulations/ amount of impervious surface; may require 404 wetland delineation on final plat	
Flood Damage Prevention Ordinance (FDPO)		no solid/ hazardous waste/chemical storage facilities, or salvage yards allowed in Special Flood Hazard Areas	all new/ replacement water supply and sanitary sewage systems designed to minimize/ eliminate infiltration of flood waters	all new and substantially improved structures must meet flood ordinance standards; must comply with CAMA regulations	septic systems located and constructed to avoid impairment/ contamination from flooding	allows participation in FEMA’s Community Rating System
Manufactured Home, Manufactured Home Park and Recreational Vehicle Park Or-		vegetative buffer encouraged to screen uses within the MH/RV park from abutting	Option for RVP to provide central structure/toilet facilities; requires underground utili-	must comply with FDPO, CAMA regulations	proper grading and drainage required; Sedimentation & Erosion Control approval and	

<p><b>dinance</b></p>		<p>properties</p>	<p>ties for RVP; requires each MH/RV space to have water, sewer/ septic, electric connection; road construction standards</p>		<p>Stormwater permit required for projects disturbing &gt;1 acre; must comply with CAMA regulations</p>	
<p><b>North Carolina State Building Code</b></p>	<p>addresses specifications for public park buildings/ amenities, walkways, decks, docks</p>	<p>no septic/ sewage required for certain uses (mini-warehouse, boat storage); fire walls between mixed uses; distance requirements between buildings</p>	<p>specifications for connection to public water supply</p>	<p>Requires residential and commercial structures to meet applicable wind load standards - 120 mph, eastern areas; 110 - mph central areas; and 100 - western areas</p>		

## C. New Tools and Implementation Action Plan

Implementation of the land use and development policies contained in the land use plan will involve review and possible amendments to existing ordinances. These reviews and amendments/ordinances are listed below.

### 1. New Ordinances and Amendments

- (1) Review ordinances for consistency with Land Use Plan.
- (2) Develop specific land use guidelines for areas adjacent the proposed US 17 By-pass.
- (3) Consider amendments to Subdivision Regulations and/or enforcement of the Stormwater Management Program to:
  - reduce impervious surface limits
  - manage post-construction runoff for new projects.
- (4) Consider amendments to Subdivision Ordinance to encourage Low Impact Development practices or “conservation subdivisions” as allowed uses. These practices include the following:
  - Use of bio-retention areas, rain gardens, and other innovative practices to manage and treat stormwater on site.
  - Innovative construction of roadways.
  - Actions to prevent erosion in construction areas.
  - Use of alternative paving materials to reduce impervious surfaces.
  - Smaller lot sizes to retain/protect open spaces and valuable natural features within individual developments.

### 2. Potential Projects and Plans

- (1) As a first priority project and in lieu of a zoning ordinance for the unincorporated portion of the planning area, begin preparation of a *development manual* that provides clear and simple step-by-step guidance for developers and property owners on compliance with the plan and its policies. The manual will address the following:
  - a) Growth projections for the planning area and the county’s economic development strategies.
  - b) Utility and transportation development policies.
  - c) Land Use Plan management topic policies and how they may be applied to specific development programs and site preparation.
  - d) Techniques to reduce the impact of development on natural systems and water quality.
  - e) Hazard mitigation planning at the site and structure level.

- f) Methods for participating in local public access plans.
- g) Vegetation preservation techniques.
- (2) Develop a long-range countywide Waterfront Access Plan.
- (3) Develop a Mobile Home Improvement Program to eliminate dilapidated and vacant homes.
- (4) Initiate a long-range plan that addresses cost-effective strategies for providing wastewater treatment; strategies will be consistent with land use plan policies and the future land use map.
- (5) Continue participation in the Hazard Mitigation Grant Program and Community Development Block Grant Program to improve the Community Rating Score (CRS) and fund elevation projects in flood prone areas. Adopt and periodically update a hazard mitigation plan.
- (6) Develop a Comprehensive Transportation Plan in conjunction with the Mid-East RPO. The plan will include development of bike lanes and paths and the identification of public right-of-way and public property locations for installation of bike parking facilities.
- (7) Implement a comprehensive program to protect and improve water quality:
  - a) Provide information to owners and developers of small sites to encourage state-of-the-art practices to manage stormwater runoff during and after construction.
  - b) Develop an inter-local water quality outreach/educational program geared towards elected and appointed officials, property owners, and citizens. The program will aim to provide information to protect or improve water quality. The following components will be included:
    - Specific “everyday” household actions that impact water quality
    - Proper maintenance of septic tanks
    - Alternative septic systems for soils that have severe limitations for conventional on-site systems
    - Construction techniques to prevent erosion
    - Construction techniques to reduce the volume and rate of stormwater runoff, including small scale stormwater controls
    - Prevention of water pollution from pet waste
  - c) Work with staff of the Soil and Water Conservation District to identify strategies to lessen drainage problems.

### 3. Action Plan and Schedule

Figure 1, Action Plan and Schedule, shows the implementation action plan for the Beaufort County Land Use Plan. The action plan includes the priority actions that Beaufort County will undertake to implement the land use plan. The accompanying schedule specifies the fiscal year in which the actions are to be

initiated and the year they will be completed. The schedule covers a 6-year period.

The proposed action plan and schedule is an ambitious work plan for the County and other organizations. Due to the multiple actions, it will be necessary to annually evaluate the work plan in terms of funding availability and changing priorities. It may be necessary to adjust the schedule to add or delete projects and to change completion dates.

Citizens will be involved in the implementation of the plan in much the same manner as with the development of the land use plan. All local government meetings involving land use plan implementation will be open to the public and public comment will be solicited. Updates to the County's web site and local news releases will be used to keep the public informed as to implementation progress.

## Beaufort County Joint CAMA LUP Implementation Action Plan

Task	2007	2008	2009	2010	2011	2012	2013
Review ordinances and regulations for consistency	*						
Develop specific land use and access guidelines for Enterprise Corridors	*						
Development policies to eliminate vacant, dilapidated mobile homes	*	*					
Consider low impact development techniques for subdivisions		*		*			
Develop waterfront access plan				*	*		
Develop comprehensive transportation plan in conjunction with RPO					*	*	*
Develop comprehensive program to protect water quality, includes evaluation of universal stormwater program	*						*

## Part V. Required Policy Analysis

The Land Use Plan Guidelines require local governments to “demonstrate how the land use and development goals, policies, and future land use map ... will guide development in a manner that is consistent with the specific management goal(s), planning objective(s), and land use plan requirements of each Management Topic. In addition, the county must “describe the type and extent of analysis completed to determine the impact of CAMA Land Use Plan policies on the management topics...” If any negative impacts are identified, the plan must describe approaches that will be used to mitigate the negative impacts.

This part provides details on each of the required evaluations. Section A. describes the consistency of the policies and the future land use map with the management topics, and Section B. reviews the analysis that was completed to determine impacts of the specific policies on the management topics.

### A. Overall Consistency with Management Topics

This section demonstrates that the policies in the plan will provide overall guidance for land use and development that is consistent with the goals, objectives, and requirements of the management topics. It includes a summary of the general thrust of the policies developed for each management topic.

#### 1. Public access

The plan’s access policies are intended to provide “satisfactory access for residents and visitors to the county’s public trust waters for a range of activities.” The policies are designed to increase public access by capitalizing on property owned by public and non-profit organizations; by seeking cooperative arrangements with other local, state and federal agencies; and encouraging private landowners and developers to dedicate public access sites. The policies emphasize *universal accessibility* to eliminate access barriers for persons with disabilities. The plan supports a detailed access plan. It will address ecotourism and it will build on the paddling access and paddling trails identified by the Mid-East RDC.

## **2. Land use compatibility**

The goal is to continue “land uses and land use patterns that are consistent with the capabilities and limitations of the county’s natural systems.” The plan protects the county’s estuarine waters, wetlands and estuarine shoreline to ensure that their role in water quality is maintained. The plan incorporates CAMA development standards to address development of AECs and to ensure that land uses and facilities are designed in a manner that protects their biological, economic, and community values.

The planning area’s unique natural areas that are owned by public and non-profit organizations are important natural resources and they are protected by policies and the conservation land use classification to ensure only appropriate uses.

The plan recognizes the role of non-coastal wetlands and classifies them as conservation to encourage compatible development.

## **3. Infrastructure carrying capacity**

The plan’s infrastructure goals focus on transportation and a short-term and long range strategy to address wastewater treatment needs. In addition, the policies incorporate the county’s stormwater management program and other state policies to address stormwater management.

The county will continue to pursue funding for sewer development in targeted areas consistent with the sewer policies.

## **4. Natural and man-made hazards**

The plan’s goal is to “mitigate risks from storms and flooding.” The plan includes three key policies to address this goal. The plan is designed to mitigate risks to life and property in special flood hazard areas through continued enforcement of the provisions of the flood damage prevention ordinance. And the plan does not allow new development in designated floodways.

The plan incorporates the major action policies of the Hazard Mitigation Plan and commits to periodic updates of the plan.

## 5. Water quality

The plan's water quality goal is "high quality water in the county's sounds, rivers, and creeks." The plan employs several methods to address this goal:

- guides the location, design and operation of marinas to minimize water quality impacts, with "dry-stacks" encouraged as an alternative;
- encourages joint development of docks and piers to reduce water quality impacts;
- encourages flexible site design and incentives to reduce impervious surfaces;
- supports soil erosion and sedimentation control to protect water quality; and
- coastal and important non-coastal wetlands are included in the Resource Management Area land classification to address their role in protecting water quality.

## B. Consistency between Future Land Use Map and Land Use Plan Requirements

### 1. Residential density.

The residential density levels depicted on the countywide Future Land Use Map are consistent with the capabilities of the planning area's natural systems. The following are the overall development densities targets for each land use classification:

Conservation I:	Only water-dependent uses that cannot be located in other areas
Conservation II:	Overlay classification with projected residential density of 1 dwelling / 10 acres (gross); building sites are 1.0 acre and larger and building areas will be designed to address Conservation II constraints
Towns and Community Centers:	Planned for most intensive development with community services provided (outside of Conservation II overlay areas); typical building site 0.6 acre; single-family houses - up to 6 per acre; multi-family 7 to 12 units
Transition:	2 units / acre (gross)

Agriculture-Forestry-Rural Housing: 1 unit / 10 acres (gross)

## **2. Comparison of environmental composite map, land suitability map, and future land use map.**

There are no material differences between these maps. The lower capability areas depicted on the Composite Map (follows page 20 ) *and the lower suitability areas on the Land Suitability Map (follows page 25)* show very similar spatial patterns. These areas are classified as Conservation I and Conservation II on the Future Land Use Map.

## **3. Natural hazards.**

- (1) The planning area will continue to enforce FEMA standards in special flood hazard areas through implementation of its flood damage prevention ordinance.
- (2) The plan commits planning area local governments to periodic updates of their Hazard Mitigation Plans.
- (3) Local governments will continue to seek grant funding to elevate existing structures in flood prone areas.
- (4) Construction of public utilities in hazard areas is discouraged. Where unavoidable, such construction will be in accordance with FEMA requirements.
- (5) The plan provides linkages between thoroughfare planning and maintaining the capacity of evacuation routes to ensure that residents are able to evacuate in emergencies.

## **4. Protection of shellfishing waters.**

- (1) With the exception of the enterprise corridors, the land use patterns depicted on the future land use map are low density and support the planning area's aims to control non-point source pollution, one of the main culprits in the closure of shellfish harvesting areas. In the enterprise corridors, planned gross densities are higher and the county's site development policies ensure that all feasible measures will be taken to manage non-point source pollution.
- (2) The policies adopt the CAMA standards for coastal wetlands and for the estuarine shoreline. These restrictions will help protect shellfishing waters.
- (3) Local policies encourage flexible site planning to permit reduction of impervious surfaces.

- (4) The policies support the current state soil erosion and sedimentation control requirements.

## C. Analysis of the Impact of Policies on Management Topics

The planning guidelines require the plan to include the following impact analysis: (1) “a description of the type and extent of the analysis completed to determine the impact of the ... policies on the management topics; (2) “ a description of both positive and negative impacts...” and (3) a description of the provisions to mitigate negative impacts.

- 1. Approach
  - a. Review of Management Topic Goals

Each of the Land Use Plan Management Topics has a well-stated goal. These goals, which are detailed below, are used as the basis for the impact analysis.

Public access —	Maximize access to ... public trust waters of the coastal region.
Land use compatibility —	Ensure that development and use of resources or preservation of land minimizes direct and secondary environmental impacts, avoids risks to public health, safety and welfare and is consistent with the capability of the land based on interactions of natural and manmade features.
Infrastructure carrying Capacity —	Ensure that public infrastructure systems are appropriately sized, located, and managed so the quality and productivity of AECs and other fragile areas are protected or restored.
Natural hazard areas —	Conserve and maintain...flood plains and other coastal features for their natural storm protection functions and their natural resources giving recognition to public health, safety, and welfare issues.
Water quality —	Maintain, protect and, where possible, enhance water quality in all coastal wetlands, streams, and estuaries.

Local concerns — Integrate local concerns with the overall goals of CAMA in the context of land use planning.

b. Summary of potential impacts associated with policies and the FLUM

At the present time, land use and development patterns in the planning area are generally low intensity. The predominant land uses include farming and timbering in the rural areas and generally lower intensity urban types uses within the towns and their peripheries.

The long-range population growth forecast for the planning area is a permanent population of approximately 54,000 and a seasonal population of nearly 6,500 persons. This level of growth will produce significant changes as the planning area moves from predominantly low intensity land uses to more intensive land uses over the next 20 years. In the absence of the policies and the future land use plan map contained in the land use plan, the impact of these changes on the goals of the management topics would be striking.

Summarized below are some of the impacts that have been identified.

- 1) **Loss of “informal” access opportunities and increase in demand for access to serve population growth.** Population growth, and its associated land uses and development, will result in a reduction in opportunities for “informal” access to public trust waters, and it will increase significantly the number of public access locations needed to serve the future population.
- 2) **Loss of forest cover and wetlands; potential loss of historic resources.** More intensive land uses most likely will result in a reduction the amount of forest cover and may result in a loss of *significant* and *beneficial* non-coastal wetlands, particularly on smaller tracts; development may encroach on stream margins; and development may increase pressure on historic resources that are not adequately identified and protected.
- 3) **Strain on public infrastructure due to increased demand and need to serve new areas.** Population growth and development will generate additional traffic, demand for public water supply and treatment of wastewater, and additional demands on the stormwater management systems.
- 4) **Increased presence of people and buildings in flood and storm hazard areas.** Water is a strong draw for new communities and new neighborhoods. In the future the planning area will have

more people and more buildings located in areas subject to impacts from flooding and storms.

- 5) **Higher level of impervious surface, more runoff, and declines in water quality.** Impervious surface is a major impact of development - roads, rooftops, driveways, sidewalks, parking lots, and so on. Impervious surfaces generate stormwater runoff that negatively impacts water quality. Studies show the seemingly intractable relationship between land development, impervious surface, and decline in water quality. Studies by the NC Division of Water Quality show that current coastal stormwater rules are not effective in protecting water quality. Recent studies on the Lockwood Folly River watershed on the southeastern coast show that, even with the state's new stormwater rules for Phase II counties, widespread low impact development, and targeted preservation of vacant land, water quality continues to decline as the watershed builds out.

The matrix below shows how the policies and the Future Land Use Plan Map address these impacts.

**Table 15**  
**Analysis of Management Topic Impacts**

Management topic	Public access	Land use compatibility	Infrastructure carrying capacity	Natural hazards	Water quality	Local concerns
Goals	<p>More planned access locations</p> <p>Upgrades to existing access locations</p>	<p>Policies allow economic development</p> <p>Policies protect natural systems</p>	<p>Water &amp; other key facilities &amp; services available in required locations at adequate capacities to support planned growth &amp; development patterns</p>	<p>Policies have location, density, &amp; intensity criteria to help new development &amp; redevelopment avoid or withstand hazards</p>	<p>Neutral Land use &amp; development criteria &amp; measures that abate impacts that degrade water quality</p>	<p>Policies support Beaufort County economic development goals</p>
Public access	<p>Potential benefits</p> <ol style="list-style-type: none"> <li>Addresses need for more access locations by taking advantage of flood buyout property owned by county and Belhaven.</li> <li>Takes advantage of opportunities to create access in conjunction with other infrastructure projects, notably bridge construction and replacement.</li> <li>Identify strategies for universal access.</li> </ol> <p>Supports Shoreline Access Plan: evaluate existing sites &amp; potential new sites, identify funding options, set priorities, and explore property donations.</p>	<p>Neutral</p>	<p>Potential benefits</p> <p>Provides for link between bike/pedestrian pathways and public access.</p> <p>Provide possible long-term reduction in traffic demand.</p>	<p>Potential benefits</p> <p>Encourage use of flood buyout (FEMA) properties for public access keeping them in more or less natural state.</p>	<p>Potential benefits</p> <p>Policies link from public access to eco-tourism initiatives, encourage joint efforts between County, municipalities, state and federal agencies.</p>	<p>Potential benefits</p> <p>Policies link from public access to eco-tourism initiatives, encourage joint efforts between County, municipalities, state and federal agencies.</p>
Land use compatibility	<p>Potential benefit</p> <p>Policies establish Conservation I and Conservation II (overlay) as land classifications that encourage public access-type uses.</p>	<p>Significant benefit</p> <ol style="list-style-type: none"> <li>Conservation land classifications and policies establish land use and development guidelines to protect natural systems.</li> <li>Ag-For-Rural Housing class provides areas for continuation resource based industries; provides for compatible</li> </ol>	<p>Potential benefit</p> <ol style="list-style-type: none"> <li>Policies and land classifications establish link between location of services and land use intensity/density</li> <li>Land use - service extension established. Possible negative impact</li> </ol> <p>Agriculture-Forestry-</p>	<p>Potential benefit</p> <p>Provides for not development in floodway where it is mapped.</p> <p>Provides restraints, through flood plain ordinance, for development in 100-year flood plain and storm surge areas.</p>	<p>Potential benefits</p> <ol style="list-style-type: none"> <li>Policies provide guidance to maintain stream buffers where recognized in state/federal regs.</li> <li>Establishes mitigation concepts for all land classifications that if implemented will protect water quality.</li> </ol>	<p>Potential benefits</p> <ol style="list-style-type: none"> <li>Provide areas for appropriate economic development.</li> <li>Accommodates retirement/second home development in water oriented areas</li> <li>Provides for families that com-</li> </ol>

**Table 15**  
**Analysis of Management Topic Impacts**

Management topic	Public access	Land use compatibility	Infrastructure carrying capacity	Natural hazards	Water quality	Local concerns
		<p>industrial uses.</p> <p>3. Towns and Community Center and Transition classes provide concentrated areas for employment generating uses and encourage retirement/second home economic development.</p>	<p>Rural Housing and Transition Classifications rely primarily on septic tanks for wastewater treatment. Objectives of the Transition classification may not be met with septic tanks only.</p>		<p>Possible negative impact.</p> <p>North and south river transition areas plan for development in close proximity to surface waters. Without careful development planning, construction period and post-construction runoff could impact water quality.</p>	<p>mute to Pitt County for employment.</p> <p>4. Accommodates employment-generating land uses in all classifications except Conservation I.</p>
Infrastructure carrying capacity		<p>Potential negative impacts</p> <p>Upgrade of major highways may cause loss of trees and wetlands. These losses are addressed by policies to preserve and protect wetlands and to encourage tree preservation.</p> <p>In addition, the NCDOT cooperates with the NCDENR to mitigate for wetland losses due to highway construction. This program is supported by the plan.</p> <p>Plan requires extension infrastructure policies to address primary and secondary impacts of extensions on wetlands and other coastal natural systems.</p>	<p>Potential benefits</p> <p>1. Supports TIP projects designed to improve highway segments classified as <i>very severe</i> congestion: Washington By-pass 4-lane US 264 Segments of NC 33 near Aurora classed as <i>very severe</i> not part of TIP. 2. Supports municipal sewer as primary service in the area classified as Towns and Community Centers on the FLUM. These are the areas planned for most intense development. 3. Supports development of sewer systems to provide sewer service, public or private. 4. Transition and Ag-Forestry-Rural Housing areas planned for less intense development will rely on septic tanks where soils are suitable. Supports "state of the</p>	<p>Potential benefits</p> <p>Support transportation improvements to facilitate emergency evacuation.</p>	<p>Potential benefits</p> <p>1. Supports education to property owners for septic system maintenance. 2. Provides information on methods to protect water quality during construction and ongoing operations. 3. Requires approved stormwater and erosion control permits prior to development or land disturbances of greater than one acre. 4. Works to identify solutions to existing drainage problems while protecting water quality. 5. Discourages development of conventional septic tanks where soils are unsuitable.</p> <p>Potential negative impacts</p> <p>1. Extension of water and sewer beyond exist-</p>	<p>Potential benefits</p> <p>1. Supports provision of central sewer to attract new or expanded industry &amp; jobs. 2. Supports transportation improvements that improve safety, accessibility to Beaufort County, and encourage economic development. 3. Requests NCDOT to provide safety enhancements to encourage bicycling as a transportation alternative and recreational activity.</p>

**Table 15**  
**Analysis of Management Topic Impacts**

Management topic	Public access	Land use compatibility	Infrastructure carrying capacity	Natural hazards	Water quality	Local concerns
Natural hazards	<p><b>Potential benefits</b></p> <p>The natural hazard policies contain a number of measures that regulate the type and intensity of development allowed in flood hazard areas. In addition, the FLUM Conservation I land classification includes floodways where mapped. These measures will ensure lower intensity development within the flood making access facilities a more attractive use.</p>	<p><b>Potential benefits</b></p> <p>Supports regulation of location &amp; intensity of development in flood hazard, storm surge, and estuarine areas.</p>	<p><b>Potential benefits</b></p> <p>1. Avoids location of future public facilities in hazard areas, if no other option must be located &amp; designed in compliance with CAMA standards, Flood Damage Prevention Ordinance, &amp; National Flood Insurance Program standards</p> <p>2. In conjunction with the Comprehensive Transportation Planning process, works to improve traffic handling capabilities of road systems in emergencies &amp; evacuations.</p>	<p><b>Possible negative impact</b></p> <p>The plan allows development in flood hazard areas so that over time more people and buildings will be located in these higher risk areas.</p> <p>Several policies are in place to mitigate this risk:</p> <ol style="list-style-type: none"> <li>1. Continue participation in National Flood Insurance Program</li> <li>2. Require compliance with Floodplain regulations, zoning, building code &amp; other local regulations in 100-year floodplain.</li> <li>3. Adopt Hazard Mitigation Plan</li> <li>4. Maintain or im-</li> </ol>	<p>ing service areas may allow higher development density and higher level of impervious surface and non-point source pollution.</p> <p>2. Possibility that septic tanks may allow lateral movement of wastewater to streams.</p>	<p><b>Potential benefits</b></p> <p>Support local farming activities and tourism through opposition to OLF.</p>

**Table 15**  
**Analysis of Management Topic Impacts**

Management topic	Public access	Land use compatibility	Infrastructure carrying capacity	Natural hazards	Water quality	Local concerns
Water quality	<p>Potential benefits</p> <p>Plan encourages “cluster” development practices that have the potential of creating open spaces that may also serve as access locations.</p>	<p>Potential benefits</p> <ol style="list-style-type: none"> <li>1. Encourage an “overall” low-density development &amp; reduce associated impervious surfaces.</li> <li>2. Includes wetlands in the Conservation I and II land classifications. These areas are slated for preservation and protection.</li> <li>3. Limits uses in coastal wetlands to CAMA specific use standards. Maintains very low residential densities in non-coastal wetlands.</li> </ol>	Neutral	<p>Potential benefits</p> <p>Buffer requirements supported by the plan may produce a slight reduction of development intensity at the stream margin.</p>	<p>Potential benefits</p> <ol style="list-style-type: none"> <li>1. Focuses on control of non-point source discharges to protect water quality.</li> <li>2. Encourages use of Low Impact Development to control stormwater discharge.</li> <li>3. Requires submission of state-required stormwater &amp; erosion &amp; sedimentation control plans prior to subdivision approval or issuance of building permits.</li> <li>4. Encourages site planning to maintain site hydrology, minimize impervious surfaces, and control stormwater run-off.</li> </ol>	<p>Potential benefits</p> <p>Recognizes importance of water quality to preserve life-style and promote development goals</p>

**Table 15**  
**Analysis of Management Topic Impacts**

Management topic	Public access	Land use compatibility	Infrastructure carrying capacity	Natural hazards	Water quality	Local concerns
<b>Aurora Local Policies</b>	Potential benefits Support marina development to expand public water access.	Potential benefits Require special use permit for any open pit mining.	Potential benefits 1. Favor compact development pattern that can be supported by existing services. 2. Promote connection to community sewer system if possible. 3. In absence of central sewer, support environmentally appropriate on-site treatment.	Neutral	Potential benefits 1. Continue requirement for 75-foot conservation zone adjacent public trust waters where coastal wetlands are not present. 2. Support marina design to protect water quality.	Potential benefits 1. Promote preservation of Town's historic heritage. 2. Encourage employment opportunities that do not compromise environmental quality of area. 3. Encourage resource-based tourism.
<b>Belhaven Local Policies</b>	Potential benefits Promote public access through development and redevelopment of waterfront areas.	Potential benefits Promote reasonable growth, consistent with local zoning.	Potential benefits 1. Encourage residential growth in areas served by central water and sewer. 2. Seek funding for improvements to water and sewer systems. 3. Provide priority service to developed areas.	Potential benefits 1. Promote redevelopment of erosion-threatened areas consistent with local zoning and other regulations. 2. Continue to implement elevation requirements for new and existing (where	Neutral	Potential benefits 1. Promote ecotourism that encourages commercial and recreational fishing and other resource-based industries. 2. Encourage job recruitment efforts in locations consist-

**Table 15**  
**Analysis of Management Topic Impacts**

Management topic	Public access	Land use compatibility	Infrastructure carrying capacity	Natural hazards	Water quality	Local concerns
<b>Chocowinity Local Policies</b>	Neutral	<p>Potential benefits</p> <ol style="list-style-type: none"> <li>1. Preserve natural systems.</li> <li>2. Encourage new development consistent with zoning.</li> <li>3. Development requiring services are encouraged to locate within city limits. Agricultural and low-density residential will be directed to outlying areas.</li> <li>4. Conversion of agricultural land allowed consistent with zoning.</li> <li>5. Location of industrial development must be consistent with applicable regulations &amp; zoning.</li> </ol>	<p>Potential benefits</p> <ol style="list-style-type: none"> <li>1. Maintain quality of water &amp; wastewater systems.</li> <li>2. Will not support development that will create shortfalls in groundwater supply.</li> <li>3. Favors extension of sewer lines instead of package treatment plants.</li> </ol>	<p>appropriate) structures in flood-prone areas.</p> <p>Neutral</p>	Neutral	<p>Potential benefits</p> <p>Encourage and support economic diversity, including agricultural, commercial, and industrial development.</p>
<b>Pantego Local Policies</b>	<p>Potential benefits</p> <p>Support increased access to public trust waters.</p>	<p>Potential benefits</p> <ol style="list-style-type: none"> <li>1. Supports preservation of natural systems.</li> <li>2. Encourages location of more intense development within city limits, with agricultural and low density residential in outlying areas.</li> <li>3. Discourage conversion of prime farmland to other uses.</li> </ol>	Neutral	Neutral	<p>Potential benefits</p> <p>Encourage development of strategies to deal with drainage and stormwater runoff issues.</p>	<p>Potential benefits</p> <ol style="list-style-type: none"> <li>1. Support preservation of historic structures and location of new or expanding business in existing buildings.</li> <li>2. Encourage resource-based tourism, "clean" non-polluting industries, &amp; those that provide both technical &amp; professional jobs.</li> </ol>

**Table 15**  
**Analysis of Management Topic Impacts**

Management topic	Public access	Land use compatibility	Infrastructure carrying capacity	Natural hazards	Water quality	Local concerns
Washington Park Local Policies	Neutral	Potential benefits Encourage preservation of natural systems & development consistent with existing character and patterns.	Potential benefits Support provision of central sewer service to the Town.	Neutral	Neutral	Neutral

## Part VI. Amending the Certified Land Use Plan

The steps required to amend an adopted and certified CAMA Land Use Plan are contained in the CAMA land use planning guidelines at 15A NCAC 07B.0901. The following is a summary of the steps that must be followed to amend the Beaufort County Joint CAMA Land Use Plan.

1. Major amendments that amend less than ½ of the policies in the certified plan.
  - 1.1. For amendments outside of the planning jurisdiction of Aurora, Belhaven, Chowinity, Pantego, and Washington Park, the Board of Commissioners, the Beaufort County Board of Commissioners has authority propose plan amendments to the Coastal Resources Commission. For amendments inside the planning jurisdictions described above, the municipal elected board has authority to propose plan amendments. Even though this is a joint plan, approval of county amendments by participating municipalities is not required and approval of municipal amendments by the county or other municipalities is not required. However, all parties to the Beaufort County Joint Land Use Plan agree to inform other parties of any proposed amendment and to seek comments or approval from the other parties. Information on amendments will be provided to other participants at the same time and in the same manner that the Executive Secretary of the CRC is informed.
  - 1.2. A public hearing must be held by the appropriate elected board before approving a plan amendment. The public hearing must be advertised in the same manner as for initial plan adoption.
  - 1.3. At least 30 days before the public hearing on the amendment, the local government proposing the amendment must notify the Executive Secretary of the CRC of the proposed amendment by providing a copy of the public hearing notice, a copy of the proposed amendment, and the reasons for the amendment.
  - 1.4. The resolution adopting the amendment must specify that the amendment has been evaluated for consistency with other policies or the FLUM.
  - 1.5. The amendment must be submitted to the CRC for certification. The general schedule for submission is provided at 15A NCAC 07B.0901(a)(2). Specific guidance on submission is available from the Division of Coastal Management District Planner.
  - 1.6. Private individuals and organizations that either own property within the planning area or have a material interest in the plan may petition for amendments. Private petitions for amendment may be approved or denied by the appropriate elected body identified in 1.1. Before approving or denying a private amendment petition, the elected body will give notice as required herein. The elected body may charge a fee to review and process amendment petitions.
2. Major amendments that involve changes to more than ½ of the land use plan. A new locally adopted CAMA land use plan must be submitted to the CRC. The new plan must be approved by all Beaufort County plan participants to which the changes apply.
3. Minor changes that (1) provide clarification, (2) make statistical adjustments, or (3) provide more detailed mapping, but that do not affect plan policies may be submitted to the Executive Secretary of the CRC for ap-

proval. In this case, the local government submitting the change will inform the other participating parties.