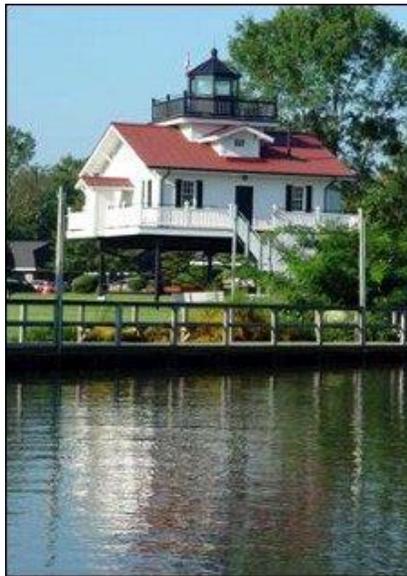


WASHINGTON COUNTY, NORTH CAROLINA

COASTAL AREA MANAGEMENT ACT (CAMA) 2009 LAND USE PLAN



**Benchmark CMR, Inc.
Washington County
Town of Plymouth**

January 2009

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WASHINGTON COUNTY CAMA LAND USE PLAN 2009

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TABLE OF CONTENTS

I.	INTRODUCTION.....	8
	BACKGROUND	9
	TYPE OF PLAN	11
	PURPOSE OF THE PLAN	11
	PLAN ORGANIZATION	12
II.	HOW TO USE THE PLAN	13
III.	COMMUNITY CONCERNS AND ASPIRATIONS.....	16
	SIGNIFICANT EXISTING AND EMERGING CONDITIONS	17
	KEY ISSUES.....	17
	VISION STATEMENT	20
IV.	ANALYSIS OF EXISTING AND EMERGING CONDITIONS.....	21
	POPULATION.....	22
	HOUSING.....	27
	LOCAL ECONOMY	29
	DESCRIPTION OF ECONOMIC ACTIVITY IN THE COMMUNITY	31
	PROJECTIONS	31
V.	NATURAL SYSTEMS ANALYSIS.....	33
	MAPPING AND ANALYSIS OF EXISTING FEATURES	34
	Areas of Environmental Concern.....	34
	Soil Characteristics.....	38
	Water Quality Classifications.....	41
	Description of River Basins.....	44
	Shellfish Harvesting.....	47
	Natural Hazard Areas.....	49
	Storm Surge Areas.....	51
	Non-Coastal Wetlands.....	53
	Water Supply Watersheds.....	55
	Groundwater Resources.....	55
	Primary Fish Nursery Areas.....	57
	Environmental Fragile Areas.....	57
	COMPOSITE MAP.....	60
VI.	ANALYSIS OF LAND USE AND DEVELOPMENT.....	63
	RESIDENTIAL.....	64
	COMMERCIAL.....	65
	INDUSTRIAL	65
	INSTITUTIONAL	65
	AGRICULTURE.....	66
	FORESTRY	66
	CONCENTRATED ANIMAL FEEDING OPERATIONS.....	67
	UNDEVELOPED.....	67
	LAND USE CONFLICTS OCCURRING IN THE COUNTY.....	72
	LAND USE/WATER QUALITY CONFLICTS OCCURRING IN THE COUNTY	77
	DESCRIPTION OF DEVELOPMENT TRENDS	78
	AREAS EXPECTED TO EXPERIENCE DEVELOPMENT DURING THE NEXT FIVE YEARS	78
	POTENTIAL CONFLICTS WITH CLASS II OR CLASS III LAND	78
	HISTORIC AND CULTURAL RESOURCES IN THE COUNTY	78
	RESIDENTIAL LAND AREA NEEDED TO ACCOMMODATE THE PLANNING JURISDICTIONS PROJECTED	
	FUTURE PERMANENT AND SEASONAL POPULATION	83

VII.	ANALYSIS OF COMMUNITY FACILITIES.....	84
	WATER SUPPLY AND WASTEWATER TREATMENT FACILITIES.....	85
	County Water Service.....	85
	Plymouth Water Service.....	86
	Roper Water Service.....	86
	Creswell Water Service.....	86
	Source Water Assessment Report Results.....	87
	County Sewer Service.....	89
	Plymouth Sewer Service.....	89
	Roper Sewer Service.....	89
	Creswell Sewer Service.....	89
	TRANSPORTATION.....	89
	STORMWATER MANAGEMENT.....	95
VIII.	LAND SUITABILITY ANALYSIS.....	96
IX.	REVIEW OF CURRENT CAMA LAND USE PLAN.....	100
X.	PLAN FOR THE FUTURE.....	107
	PUBLIC ACCESS.....	108
	LAND USE COMPATIBILITY.....	110
	INFRASTRUCTURE CARRYING CAPACITY.....	111
	NATURAL HAZARD AREAS.....	112
	WATER QUALITY.....	113
	LOCAL AREAS OF CONCERN.....	116
	HOUSING.....	119
	RECREATION.....	120
	ADVANCED CORE AREAS.....	122
	ECONOMIC DEVELOPMENT.....	122
	HAZARD MITIGATION.....	126
XI.	FUTURE LAND USE.....	130
XII.	TOOLS FOR MANAGING DEVELOPMENT.....	143
	GUIDE FOR LAND USE DECISION-MAKING.....	144
	EXISTING DEVELOPMENT PROGRAM.....	144
	TOOLS.....	147
	ACTION PLAN/SCHEDULE.....	148

LIST OF TABLES

TABLE 4.1: TOTAL POPULATION	22
TABLE 4.2: COUNTY POPULATION CHANGE.....	23
TABLE 4.3: MUNICIPALITY POPULATION CHANGE.....	24
TABLE 4.4: COUNTY GROWTH PROJECTIONS	24
TABLE 4.5: COUNTY POPULATION GROWTH COMPARISON	24
TABLE 4.6: POPULATION BREAKDOWN BY SEX AND AGE.....	25
TABLE 4.7: RACIAL COMPOSITION IN WASHINGTON COUNTY	26
TABLE 4.8: EXISTING HOUSING IN WASHINGTON COUNTY	27
TABLE 4.9: HOUSING COMPOSITION	27
TABLE 4.10: WASHINGTON COUNTY HOUSING TENURE, 1990-2000.....	27
TABLE 4.11: HOUSING STATISTICS IN WASHINGTON COUNTY.....	28
TABLE 4.12: COUNTY BUILDING PERMIT DATA.....	28
TABLE 4.13: WASHINGTON COUNTY EMPLOYMENT BY MAJOR INDUSTRY	29
TABLE 4.14: COMPARISON OF STATE AND COUNTY UNEMPLOYMENT	30
TABLE 4.15: COUNTY INCOME INFORMATION	30
TABLE 4.16: COMPARISON OF PER CAPITA INCOME.....	30
TABLE 4.17: PERSONS IN POVERTY	30
TABLE 4.18: COMPARISON OF PERCENT OF PERSONS BELOW POVERTY	31
TABLE 4.19: POPULATION PROJECTIONS FOR WASHINGTON COUNTY	32
TABLE 5.1: WATER QUALITY CLASSIFICATIONS.....	42
TABLE 5.2: N.C. FRESHWATER PRIMARY CLASSIFICATIONS.....	43
TABLE 5.3: N.C. SALTWATER PRIMARY CLASSIFICATION.....	43
TABLE 5.4: N.C. SUPPLEMENTAL CLASSIFICATIONS	43
TABLE 6.1: LAND USE IN WASHINGTON COUNTY	64
TABLE 6.2: 1994 EXISTING LAND USE	64
TABLE 6.3: WASHINGTON COUNTY SCHOOLS	66
TABLE 6.4: PLYMOUTH EXISTING LAND USE	71
TABLE 6.5: ROPER EXISTING LAND USE	73
TABLE 6.6: CRESWELL EXISTING LAND USE	75
TABLE 7.1: 2002 AVG DAILY AND MAX DAY WATER USE BY MONTH IN MGD.....	85
TABLE 8.1: LAND SUITABILITY ANALYSIS.....	97
TABLE 10.1: MITIGATION ACTION PLANS FOR WASHINGTON COUNTY.....	128
TABLE 10.2: MITIGATION ACTION PLANS FOR CRESWELL.....	129
TABLE 10.3: MITIGATION ACTION PLANS FOR ROPER.....	129
TABLE 11.1: FUTURE LAND USE IN WASHINGTON COUNTY.....	136

TABLE 11.2: FUTURE LAND USE IN MUNICIPALITIES.....	136
TABLE 11.3: DEVELOPMENT GUIDELINES.....	142
TABLE 12.1: ACTION PLAN.....	150

LIST OF FIGURES

FIGURE 4.1: TOTAL POPULATION ILLUSTRATED.....	23
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LIST OF MAPS

MAP 1: WASHINGTON COUNTY PLANNING AREA.....	10
MAP 2: AREAS OF ENVIRONMENTAL CONCERN.....	37
MAP 3: SOIL TYPES IN WASHINGTON COUNTY.....	39
MAP 4: SUITABLE SOILS IN WASHINGTON COUNTY.....	40
MAP 5: WATER QUALITY CLASSIFICATIONS.....	48
MAP 6: NATURAL HAZARD AREAS.....	50
MAP 7: STORM SURGE AREAS.....	52
MAP 8: NON-COASTAL WETLANDS.....	54
MAP 9: RIVER BASINS AND WELLHEAD PROTECTION AREAS.....	56
MAP 10: ENVIRONMENTAL FRAGILE AREAS.....	59
MAP 11: COMPOSITE MAP.....	61
MAP 12: EXISTING LAND USE.....	68
MAP 13: PLYMOUTH EXISTING LAND USE.....	70
MAP 14: ROPER EXISTING LAND USE.....	72
MAP 15: CRESWELL EXISTING LAND USE.....	74
MAP 16: HISTORIC RESOURCES ON THE NATIONAL REGISTER IN WASHINGTON COUNTY.....	82
MAP 17: COUNTY WATER LINES.....	88
MAP 18: ROADWAY SYSTEM.....	91
MAP 19: BASE YEAR AND ROADWAY CAPACITY-1999.....	93
MAP 20: BASE YEAR AND ROADWAY CAPACITY-2025.....	94
MAP 21: LAND SUITABILITY ANALYSIS.....	98
MAP 22: FUTURE LAND USE.....	135
MAP 23: PLYMOUTH FUTURE LAND USE.....	137
MAP 24: ROPER FUTURE LAND USE.....	139
MAP 25: CRESWELL FUTURE LAND USE.....	141

TABLE OF ACRONYMS USED IN THE PLAN

AEC	Areas of Environmental Concern
AMS	Ambient Monitoring Systems
ATV	All Terrain Vehicle
BMP	Best Management Practices
CAFO	Concentrated Animal Feeding Operation
CAMA	Coastal Area Management Act
CCPCUA	Central Coastal Plain Capacity Use Area
CRC	Coastal Resources Commission
CRS	Community Rating System
CUA	Capacity Use Area
CWSRF	Clean Water State Revolving Funds
DENR	Department of Environment and Natural Resources
DEH	Division of Environmental Health
DHHS	Department of Health and Human Services
DCM	Division of Coastal Management
DMF	Division of Marine Fisheries
DOT	Department of Transportation
DWQ	Division of Water Quality
DWR	Department of Water Resources
EMC	Environmental Management Commission
ETJ	Extraterritorial Jurisdiction
FAR	Floor Area Ratio
FIRM	Flood Insurance Rate Map
FLUM	Future Land Use Map
FWS	Fish and Wildlife Service
GPM	Gallons Per Minute
LSA	Land Suitability Analysis
MGD	Million Gallons Per Day
NFIP	National Flood Insurance Program
NPDES	National Pollutant Discharge Elimination System
OLF	Outlying Landing Field
PCS	Potential contamination sources
PNA	Primary Nursery Area
PWS	Public Water Supply
SELC	Southern Environmental Law Center
SHPO	State Historic Preservation Office
TIP	Transportation Improvement Project
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

I. INTRODUCTION

BACKGROUND

The North Carolina Coastal Area Management Act (CAMA), established in 1974, is the foundation for North Carolina's Coastal Management Program. The Act requires local governments and the State of North Carolina to work together to prepare and adopt local land use plans. Under CAMA, local governments within the 20 coastal counties are required to prepare land use plans which guide growth and development in the coastal area of North Carolina.

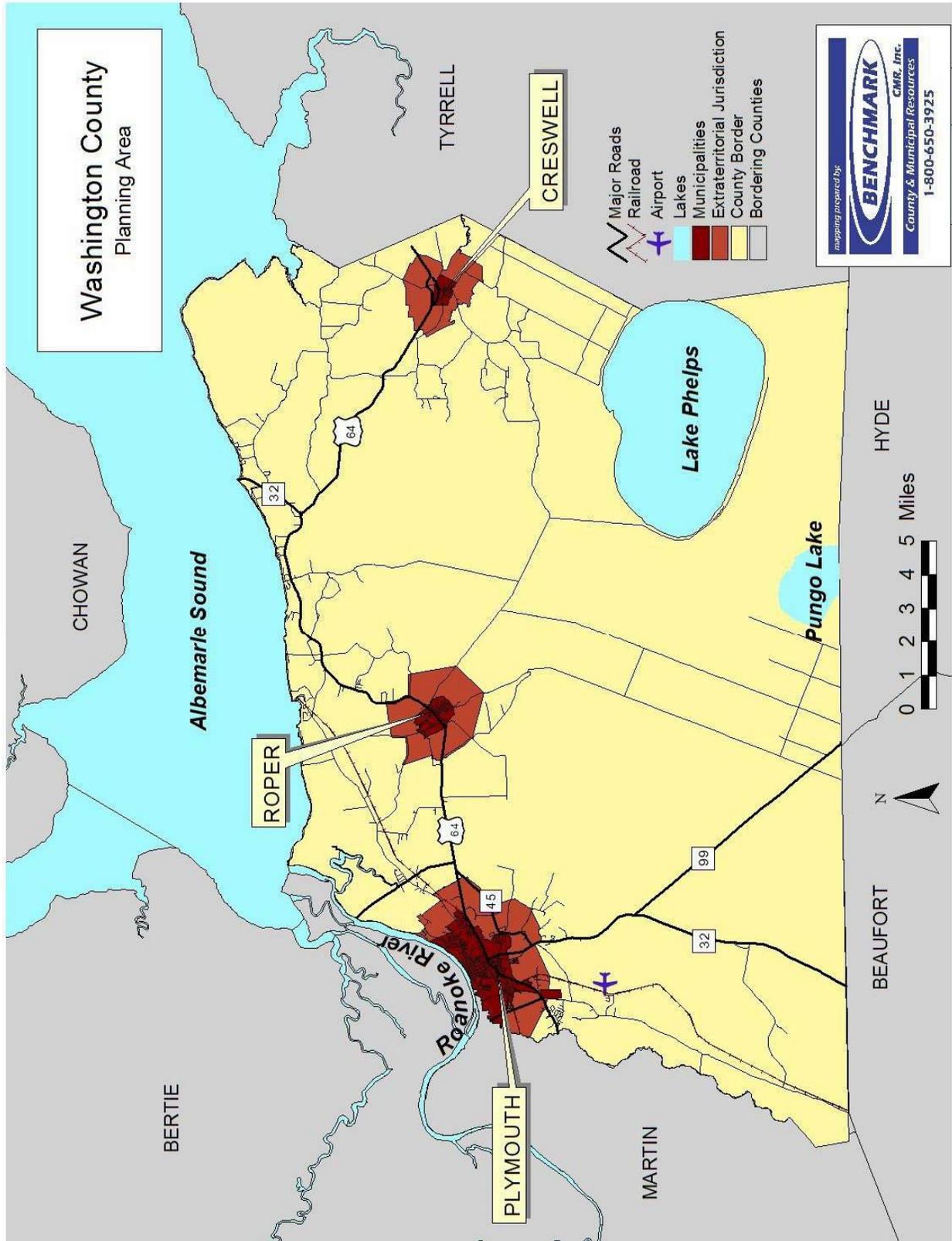
Washington County is one of the 20 coastal counties required to prepare a land use plan. The County's first CAMA Land Use Plan was prepared in 1976, shortly after the adoption of CAMA. Since adoption, the Plan has been updated according to State rules and planning guidelines three times. These updates occurred in 1980, 1985, and 1994. In 2001 the N.C Coastal Resources Commission (CRC) adopted revisions to the land use planning guidelines.

This 2009 CAMA Plan Update affords the County the opportunity to review and revise policies and issues described in the 1994 CAMA Land Use Plan while addressing new issues that have arisen and meeting the new CAMA requirements. With assistance from planning consultants Benchmark/CMR, the Planning Board and county staff, this plan will provide a tool that can be used to provide a consistent land use planning program.

Within Washington County there are three municipalities: Plymouth, Roper, and Creswell. Municipalities are not required to prepare land use plans; however, with the consent of the CRC they may prepare their own plan or prepare a joint plan with other municipalities and/or with the county. The municipalities elected not to prepare their own plans, so this 2009 Plan Update will include an analysis of both the County and the municipalities.

Map 1 on the following page shows the extent of the planning area that will be addressed in this plan.

Map 1: Washington County Planning Area



This Plan will serve as a set of long range general guidelines for local decision making over the next twenty years. It will ultimately provide the County with the necessary ‘roadmap’ to control and channel growth so that resources are used wisely and that future growth is harmonious with the desires and needs of local residents. The Plan will also be used by regional, State, and Federal agencies in making project consistency determinations and funding and permit decisions.

TYPE OF PLAN

The type of plan required under CAMA guidelines is determined by a variety of factors including population, growth rate, presence of Areas of Environmental Concern (AEC), and other community characteristics such as the extent of growth and resource protection issues. There are three types of Plans: the Workbook Plan, the Core Plan, and the Advanced Core Plan.

The Workbook Plan is a simplified CAMA Land Use Plan that contains the following elements: statement of community concerns, aspirations, and vision, existing land use map, land suitability analysis, local growth and development policies, and a future land use map.

The Core Plan addresses all the plan elements listed above in a complete and thorough manner. All 20 coastal counties are required to prepare a Core Plan at the minimum.

The Advanced Core Plan meets all Core Plan requirements, but exceeds core plan requirements in two or more areas. Washington County has elected to prepare an Advanced Core Plan and has chosen to exceed requirements in the areas of Economic Development and Hazard Mitigation. These topics will receive extra consideration at the end of the Policy Section (Section X).

PURPOSE OF THE PLAN

An up-to-date Land Use Plan is important because although Washington County is continuing to lose population, the number of residential units in the County continues to grow. Because the County faces many environmental considerations that impact growth and development, wise development of the land is imperative to future success. Additionally, developing a Land Use Plan ensures development occurs in a manner that is consistent with the preservation of the County’s resources and protection of the natural landscape. Also, in preparing a Land Use Plan, the County considers increased resource and infrastructure demands that could result from an influx of visitors, residents, and businesses entering the County as a result of newly completed transportation projects like the Highway 64 corridor or from the waterfront/waterside development rapidly occurring along the shores of the Albemarle Sound and its tributaries.

The overall purpose of the Land Use Plan is to encourage the development of a safe, healthy, and economically sound living environment for the citizens of the County.

PLAN ORGANIZATION

The plan includes the following 12 parts:

- I. **Introduction**-This section describes the details of the planning process and the public participation process.
- II. **How to Use the Plan**-This section describes how the plan should be used by different members of the community.
- III. **Community Concerns and Aspirations**-This section portrays existing and emerging conditions, the key issues, and the planning vision that grows out of these issues.
- IV. **Analysis of Existing and Emerging Conditions**-This section provides a sound factual and analytical base necessary to support the land use and development policies included in the plan.
- V. **Natural Systems Analysis**-This section describes and analyzes the natural features and environmental conditions of the planning jurisdiction, and assesses their capabilities and limitations for development.
- VI. **Analysis of Land Use and Development**-This section describes and quantifies existing patterns of land uses, identifies potential land use and land use/water conflicts, determines future development trends, and projects future land needs.
- VII. **Analysis of Community Facilities**-This section evaluates existing and planned capacity, location, and adequacy of key community facilities that serve the community's existing and planned population and economic base; that protect important environmental factors such as water quality; and that guide land development in the coastal area.
- VIII. **Land Suitability Analysis**-This section determines the planning area's supply of land suited for development.
- IX. **Review of Current CAMA Land Use Plan**-This section includes a review of the local government's success in implementing the policies and programs adopted in the plan and the effectiveness of those policies in achieving the goals of the plan.
- X. **Plan for the Future**-This section is intended to guide the development and use of land in the planning jurisdiction in a manner that achieves its goals for the community and CAMA.
- XI. **Future Land Use**-This section examines the physical, social, economic, and environmental realities of the County and outlines and assigns land use categories to individual geographical areas within the region.
- XII. **Tools for Managing Development**-This section provides a description of the management tools that the local government selects and the actions to be taken to implement the CAMA Land Use Plan.

II. HOW TO USE THE PLAN

The Washington County CAMA Land Use Plan provides a framework to guide local government officials and citizens as they make both day-to-day and long-term decisions affecting development. The land use plan serves as the overall “blueprint” for development of the 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.

The CAMA legislation provides that no permit for development in Areas of Environmental Concern (AECs are described in more detail in the Natural Systems Analysis section, Section V of this report) may be issued unless the proposed development is consistent with the local land use plan. State and local permit officers who implement the CAMA permitting program will evaluate consistency of proposed development with the local government policies contained in the plan and will use this information in permit determinations. Policies in the plan may also affect other state and federal consistency and funding decisions.

An equally important use of the CAMA 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. How the affected constituencies will and should use this Plan is described below.

Short-term or day-to-day functions relate primarily to the 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 decisions regarding development requests. Decisions can be appealed to the Board of Commissioners and approved by elected governing boards of the county and municipalities.

If a planning board decision is appealed, **the Board of Commissioners** will consider the policy interpretations of the petitioner, planning staff, planning board, and public comments by citizens in determining whether to uphold or overturn the decision made by the planning board. Ultimately the Board of Commissioners makes the final decisions regarding 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 ordinances 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 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.¹

¹ Taken from the Beaufort County CAMA Land Use Plan

III. COMMUNITY CONCERNS AND ASPIRATIONS

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. In order to identify the major planning themes, the County identified the driving forces that will influence land use and development in the County over the next twenty years. Residents helped identify issues and concerns in the following management topics:

1. Public Access
2. Land Use Compatibility
3. Infrastructure Carrying Capacity
4. Natural Hazard Areas
5. Water Quality
6. Local Areas of Concern
7. Economic Development

The planning themes and community concerns are described in the following section:

SIGNIFICANT EXISTING AND EMERGING CONDITIONS

The following are the dominant growth-related conditions that influence land use, development, water quality, and other environmental concerns in Washington County:

1. declining population
2. aging population
3. needed infrastructure and service improvements
4. development constraints
5. lack of job and educational opportunities
6. water quality
7. the proposed Outlying Landing Field (OLF)
8. incompatible land uses
9. protection of environmental and natural resources
10. need for a skilled labor force

KEY ISSUES

Public access

Because Washington County is not adjacent to the ocean, it does not have the public beach access issues facing other coastal counties. However, Washington County does have approximately 50 miles of shoreline along waterways including Lake Phelps, Pungo Lake, Roanoke River, and the Albemarle Sound. Development pressures for waterfront homes and second and vacation homes continue to increase resulting in privatization of the shoreline. As development continues, public boat and water access points need to be added to ensure public access to public trust waters.

Land use compatibility

The lack of a comprehensive Zoning Ordinance in the County until 2003 resulted in a mixture of undesirable uses in the County. Although a Zoning Ordinance was adopted in 2003, residents are concerned about the location of pre-existing residential, commercial, and industrial developments within the County.

most of the northern portion of the County is located in identified flood zones and there are numerous identified wetland areas throughout the County. Unfortunately there are several large residential and commercial developments located within identified flood zones that have experienced problems with flooding.

Infrastructure carrying capacity

Although all three municipalities have sewer systems, Washington County lacks a central sewer system. The municipalities lack the necessary capacity for expansion to create a regional wastewater treatment system and initial studies by the County have found the construction of a countywide wastewater treatment system to be financially unfeasible.

Many County residents are still dependent on small, private wells to provide drinking water.

There are many small, private roads throughout the County that are not developed to uniform NC Department of Transportation (DOT) road guidelines. As a result, they are not easily accessible to emergency vehicles (i.e. fire trucks, ambulances, etc.).

Natural hazard areas

As mentioned above, development in flood zones and wetland areas has resulted in flooding problems.

The Town of Roper specifically is located entirely on low-lying lands which creates drainage problems for the Town.

Water quality

Unchecked stormwater runoff is damaging local waterways, restricting allowable uses, and increasing the number of water bodies in noncompliance. The section on Water Quality Classifications and River Basin reports describes this problem in more detail.

The majority of Washington County depends on individual septic systems to treat their wastewater. Unfortunately the soils in the County are considered very poor with respect to supporting septic tanks and the County Health Department receives reports of failing septic tanks on an almost daily basis.

Annual wastewater treatment reports completed by the Division of Water Quality reveal numerous Municipal Wastewater Treatment Plant (WWTP) violations, particularly in the Towns of Roper and Creswell, all of which impact the water quality in the towns and surrounding areas.

Local areas of concern

Several areas identified as significant natural heritage areas in the County are afforded no federal, state, or local protection. As a result, significant portions are being cleared for logging and other activities, threatening the survival of a variety of plant and animal species and unique ecosystems as a whole.

Economic development

The County is continuing to lose population, which creates uncertainty about an available future workforce.

There is a lack of diversity with respects to local industry within the County, creating a scarcity of available jobs in the region.

The lack of regional sewer system has hindered the ability of the County to attract new commercial and industrial developments to the area.

The population of Washington County is getting older without an influx of young individuals to replenish the local work force. As the population is getting older there will be more demand for services to the elderly without an equal increase in those entering the workforce to offset the costs for these increases in services.

There is a need for adult educational programs to allow local residents to seek advanced job training skills. Currently, Washington County does not have its own community college system to provide educational opportunities to local residents. This has been identified as a major stumbling block to marketing the area as a potential location for major industrial development.

VISION STATEMENT: DESCRIBING THE FUTURE

The Planning Vision for Washington County is based on the values and concerns expressed by the commissioners, planning board, and residents who participated in the development of this Land Use Plan. 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 necessary 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.

“Washington County is a place that effectively balances development and protection of the environment. The development in the County is compatible with surrounding land uses and sensitive to environmental constraints. Development opportunities are plentiful because of the well-planned and adequate community infrastructure in place. Commercial development is concentrated along the recently expanded Highway 64 corridor, which supports a variety of fine dining establishments, shopping, and locally owned businesses as well as nationally recognized franchises. A variety of industries operate in an industrial park in the County. These business and industries are conveniently located to the county’s residential communities but do not conflict with the residential environment. Although commercial and industrial uses are increasing in the County, the County maintains its rural landscape.

Preserving natural resources and protecting water quality is a top priority in the County. The County cooperates with state and federal agencies and has the necessary regulations in place to protect environmentally sensitive areas. Residents and businesses alike are attracted to the area and begin to visit and relocate to the area. Tourism, specifically eco-tourism, is a major economic activity in the community.

The County is meeting the needs of all segments of the population by offering a variety of housing and transportation options. Schools are renovated and competitive and students, both young and old, are skilled and well-trained to enter the workforce.

The County and municipalities have strong partnerships and foster an environment of support and cooperation. Leaders have a strong vision for the future and have active support from all segments of the community.”

IV. ANALYSIS OF EXISTING AND EMERGING CONDITIONS

Population and employment data are a major foundation of the CAMA land use plan. The County'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.

POPULATION

In order to shape future growth and development, the County must examine past growth trends and project plausible future growth based on growth rates and patterns over time. This assessment examines historic and projected population as well as residential (permanent and seasonal) and nonresidential development trends in order to establish reasonable growth parameters against which future community growth preferences may be assessed. The information presented in this assessment helps determine the County's future land use composition, its desired urban form, its infrastructure and service demands, and its fiscal stability.

It should be noted that there are some minor differences between state and national data sources. Where available and appropriate, state data was used; otherwise information came from the U.S. Census Bureau. The source of the data is indicated below each table.

Table 4.1 shows the total population in Washington County and the included municipalities. The County and municipalities show similar trends. From 1970 to 1980 all four areas increased in population. By 1990 all areas except the City of Roper had declining populations and by 2000 all four areas were losing population. The 2005 estimates show a continuation in the decline of population within the County. No projections were available on the municipal level; therefore the 2005 estimates are a best guess based on county trends and available information. Declining population trends could slow or reverse if the expanded U.S. 64 corridor attracts new industry and businesses to the area. However, a decision to locate the proposed OLF in Washington will permanently displace an estimated 74 families which could further exacerbate population loss in the County.

Table 4.1: Total Population

Year	Washington County	Plymouth	Roper	Creswell
1970	14,038	4,774	649	633
1980	14,801	4,571	795	426
1990	13,997	4,328	669	361
2000	13,723	4,107	613	278
2005*	13,428	4,006	606	249

*denotes population estimate

Source: Log Into North Carolina (LINC)

Figure 4.1: Total Population Illustrated

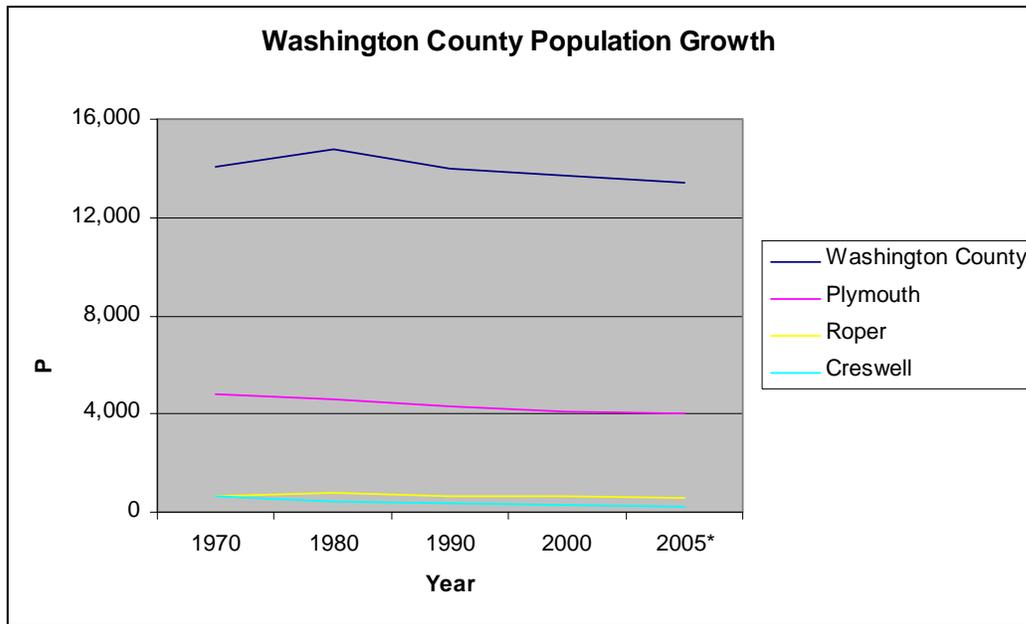


Figure 4.1 provides an illustration of the population trends indicated above. As discussed, population has been declining in the County and all three municipalities since 1980.

Table 4.2: County Population Change

Washington County		Change	
Year	Population	Total Change	% Change
1970	14,038		
1980	14,801	763	5.44%
1990	13,997	-804	-5.43%
2000	13,723	-274	-1.96%
2005*	13,428	-295	-2.15%

*denotes population estimate

Source: LINC

As shown in Table 4.2, the County began losing population in 1980 and the population has continued to decline since. The decline can be attributed to many factors including industry layoffs and closings in and around the county, migration of younger populations out of the County due to lack of options and opportunity, and a growing elderly population.

Table 4.3: Municipality Population Change

Town of Creswell		Change		Town of Plymouth		Change		Town of Roper		Change	
Year	Pop	Total Change	% Change	Year	Pop	Total Change	% Change	Year	Pop	Total Change	% Change
1970	633			1970	4,774			1970	649		
1980	426	-207	-33%	1980	4,571	-203	-4%	1980	795	146	22%
1990	361	-65	-15%	1990	4,328	-243	-5%	1990	669	-126	-16%
2000	278	-83	-23%	2000	4,107	-221	-5%	2000	613	-56	-8%
2005	249	-29	-10%	2005	4,006	-101	-2%	2005	606	-7	-13%

Source: LINC

As indicated in Table 4.3, all three municipalities in the County are experiencing population loss. Both Creswell and Roper have had fluctuating losses, with the largest decline in population in 1980, at 33 percent and 22 percent respectively. The Town of Plymouth has experienced a more stable decline in population, around five percent a decade. The 2005 population estimates are not available at the municipal level; therefore these numbers were derived based upon past trends and available information.

Table 4.4: County Growth Projections

	1980 POP	1990 POP	2000 POP	2005 POP	2015 POP	2025 POP
Washington	14,801	13,997	13,723	13,428	12,835	12,140

Source: LINC

As shown in Table 4.4, the growth trends experienced over the last few decades in Washington County is expected to continue over the next 20 years. Population is anticipated to decline from 13,723 in 2000 to 12,140 in 2020, a loss of 11.54 percent over 25 years.

Table: County Population Growth Comparison

County	1980 POP	1990 POP	2000 POP	2005 POP	2015 POP	2025 POP
Washington	14,801	13,997	13,723	13,428	12,835	12,140
Tyrell	3,975	3,856	4,149	4,180	4,364	4,505
Bertie	21,024	20,388	19,757	19,700	19,134	18,351

Source: LINC

Washington County has faced a declining population since 1980 and the population is expected to continue declining through 2025. Bertie County is showing similar population characteristics, although at a slower rate. The population in Bertie County has also declined every decade since 1980 and is expected to continue declining through 2025. Between 2000 and 2025 the population is expected to decrease from 19,575 persons to 18,351 persons, a loss of 1,224 people in 25 years. This population loss equates to a 6.25 percent loss over 25 years as compared with an 11.54 percent loss in Washington County. Tyrrell County's population is expected to increase around nine percent between 2000 and 2025, with an estimated growth of 356 persons.

No information is available from state or federal sources on the seasonal population of Washington County, although County residents believe seasonal numbers to be minimal. Information on permanent, seasonal, and vacant housing is available for the County, and can be found in the housing section discussed later in this chapter.

Washington County supports a migrant population during the growing season that has a direct impact on all human services within the county. Although the County does not have information on exact numbers, the Washington County Health Department is currently addressing the issue through their migrant services.

Table 4.6: Population Breakdown by Sex and Age

	1990 POP	% of POP	2000 POP	% of POP
Washington County	14012	100.0%	13723	100.0%
Male	6664	47.5%	6489	47.3%
Female	7354	52.5%	7234	52.7%
Under 5 years	965	6.89%	903	6.60%
5 to 9 years	1203	8.59%	984	7.20%
10 to 14 years	1075	7.67%	1026	7.50%
15 to 19 years	950	6.78%	977	7.10%
20 to 24 years	1670	11.92%	735	5.40%
25 to 34 years	1645	11.74%	1510	11.00%
35 to 44 years	2215	15.81%	1925	14.00%
45 to 54 years	850	6.07%	2032	14.80%
55 to 59 years	745	5.32%	837	6.10%
60 to 64 years	1212	8.65%	669	4.90%
65 to 74 years	832	5.94%	1134	8.30%
75 to 84 years	315	2.25%	718	5.20%
85 years and over	335	2.39%	273	2.00%

Source: U.S. Census Bureau

As shown in Table 4.6, the largest population cohort in 1990 was the 35 to 44 year old cohort, making up almost 16 percent of the population. This cohort is aging, and over time the largest cohort continues to grow older. By 2000, the 45 to 54 year old cohort is the largest group. The population in the youngest three cohorts decreased between 1990 and 2000.

The population of Washington County is getting older, which has several implications for land use and development. First, the availability of a young workforce is steadily declining. The 20 to 44 year old age cohort declined by over half, from almost 12 percent in 1990 to 5.40 percent in 2000. If the population continues to age without an influx or replenishment of the workforce, the economic condition of Washington County will continue to decline.

An aging and older population also has impacts in terms of needed services. The County has several facilities including the Cypress Manor Assisted Living Center in Roper, the, the Plumblee Nursing Center in Plymouth, a senior center, and the Washington County Hospital. However, demand for services relating to care for the elderly is likely to

increase. These services include but are not limited to medical care and facilities, affordable housing for the elderly, and recreational amenities targeted to an older population. Additionally, the types of educational facilities needed are likely to change. The County will need to give more attention to providing additional educational opportunities to adults including job training programs and advanced continuing educational programs.

Table 4.7: Racial Composition in Washington County

Race	1990 pop	% of pop	2000 pop	% of pop
White	7556	53.93%	6626	48.3%
Black	6366	45.43%	6716	48.9%
American Indian	13		7	0.9%
Asian	35	0.25%	44	0.3%
Native Hawaiian or Pacific Islander	0	0%	6	0.0%
Hispanic	28	0.20%	311	2.3%
Some other race	No data		228	1.7%
Two (2) or more races	27	0.19%	96	0.7%

Source: U.S. Census Bureau

Table 4.7 shows a breakdown of population by race in Washington County. The racial composition of Washington County has shifted gradually over the last few decades, with an increasingly greater percentage of minorities living in the County. In 1990, the white racial category was the majority, comprising almost 54 percent of the population. The black population was the second largest category making up 45.43 percent of the 1990 population. Few other races were found in the County in 1990. By 2000, the black population became the slight majority at 50.49 percent and an increasing number of minorities lived in the County. Specifically, from 1990 to 2000 the Hispanic population increased 2.3 percent from 28 persons to 312 persons.

In interviews conducted by the North Carolina Department of Commerce Division of Community Assistance in their 2005 Report “Situational Analysis Report for Washington County,” residents indicated some growing racial tensions in the County. As the population continues to diversify the County will need to implement education and awareness programs as well as conduct community activities designed to foster race relations in the County.

HOUSING

Table 4.8: Existing Housing Units in Washington County

Year	# of units	% change
1970	4243	
1980	5432	28.02%
1990	5644	3.90%
2000	6174	9.39%

Source: LINC

Despite a declining population, the number of housing units in Washington County has increased every decade since 1970. The largest increase occurred from 1970 to 1980 when housing units increased by close to 30 percent. Although increases have not been as substantial since, the number of housing units increased almost four percent from 1980 to 1990 and roughly 10 percent from 1990 to 2000. These numbers indicate that land is being developed at higher rates than is demanded by the population (see Table 4.8).

Table 4.9: Housing Composition

Washington County	2005
Permanent	6107
Seasonal	208
Total	6174

Source: U.S. Census Bureau

The 2000 Census Housing Figures indicate that there are approximately two hundred and eight (208) seasonal residences in the County (see Table 4.9). The County believes that the majority of these properties are manufactured homes and small single-family residences. Some of these residences are located in the southwest portion of the County so that property owners can take advantage of hunting activities prevalent in that area. Additionally, there is a growing number of seasonal or vacation homes being constructed on the south shore of the Albemarle Sound.

Table 4.10: Washington County Housing Tenure, 1990-2000

Year	Owned	% of Units	Rented	% of Units	Total
1990	3,719	65.89%	1,333	23.62%	5,644
2000	3,950	63.98%	1,417	22.95%	6,174

Source: LINC

As indicated in Table 4.10, the majority of residents (over 60 percent) in Washington County own their home. From 1990 to 2000, the number of both owned and rented units in the County decreased, indicating an increase in the number of vacant housing units in the County. Vacant housing units are not always maintained and could result in an increase in dilapidated and substandard housing in the County.

Table 4.11: Housing Statistics in Washington County

Year	Housing Units	Vacant Housing Units	Mobile Homes/Trailers
1980	5,432	539	735
1990	5,644	592	1,240
2000	6,174	807	1,522

Source: LINC

As indicated in Table 4.11, the number of housing units in the County has risen steadily since 1980. With the total number of units rising, so has the number of vacant homes and mobile homes/trailers in the County. Between 1990 and 2000, vacant housing units increased 36 percent and the number of mobile homes/trailers increased 23 percent. As described above, vacant housing units can lead to an increase in dilapidated housing. However, the large increase in vacant homes also provides an opportunity for infill redevelopment and revitalization of existing residential areas in the County which would reduce the amount of development occurring in greenfield or undeveloped portions of the County. Revitalizing existing residential areas and limiting development in other areas preserves valuable natural areas and makes it easier to provide services such as water and sewer.

Table 4.12: County Building Permit Data

Year	Residential Construction	Mobile Homes
1994	99	121
1995	94	131
1996	139	131
1997	205	156
1998	69	96
1999	267	100
2000	266	72
2001	223	86
2002	175	64
2003	160	34
2004	146	60
2005	81	56

Source: Washington County Planning & Safety

County building permit data shown in Table 4.12 supports the trends indicated by the State housing statistics above. Although residential construction has fluctuated throughout the last decade, new houses are continuing to be built in the County. Although the number of mobile homes in the County is increasing, they are increasing at lower rates. This could be attributed to more stringent regulations put into place with the adoption of the Mobile Home and Trailer Ordinance.

LOCAL ECONOMY

Table 4.13: Washington County Employment by Major Industry

Major Industry	1990	%	2000	%
Agriculture, forestry, fishing and hunting, and mining	526	9.8	284	5.2
Construction	303	5.6	396	7.3
Manufacturing	1,980	36.9	1,422	26.3
Wholesale Trade	151	2.8	124	2.3
Retail Trade	913	17	545	10.1
Transportation and warehousing, and utilities	155	2.9	213	3.9
Information	n/a		31	0.6
Finance, insurance, real estate, and rental and leasing	175	3.3	217	4
Professional, scientific, management, administrative, and waste management services	n/a		241	4.4
Educational, health and social services	765	14.3	992	18.3
Arts, entertainment, recreation, accommodation and food services	44	0.8	381	7
Other services (except public administration)	181	3.4	269	5
Public administration	174	3.2	302	5.6

Source: U.S. Census Bureau

The manufacturing industry is the major source of local employment in Washington County. Although manufacturing employment decreased by about 10 percent from 1990 to 2000, it was still the largest industry at 26.3 percent (see Table 4.13). Agriculture, forestry, fishing and hunting, and mining declined by almost half, from 9.8 percent in 1990 to 5.2 percent in 2000. The County saw increases in the educational, health and social services industry and the arts, entertainment, recreation, accommodation and food services industry, increasing from 14.3 percent to 18.3 percent and 0.8 percent to 7.0 percent respectively.

According to the N.C. Chamber of Commerce, the top manufacturing employers in Washington County in 2005 are as follows:

1. Mackeys Ferry Sawmill Inc.
2. Diversified Wood Products Inc.
3. Carolina Mat Inc.
4. Gingerbread Bakery Inc.

The top non-manufacturing employers in Washington County in 2005 include:

1. Washington County Schools (Education and Health Services)
2. Washington County Hospital Inc. (Education and Health Services)
3. County of Washington (Public Administration)
4. District Health Dept. Martin (Public Administration)
5. Home Life Care Inc. (Education and Health Services)
6. Britthaven Inc. (Education and Health Services)
7. State of North Carolina (Public Administration)

- 9. C/O BMI Group LLC (Natural Resources and Mining)
- 10. Interim Health Care Morris Group (Professional and Business Services)

Table 4.14: Comparison of State and County Unemployment

Unemployment Rate	2001
North Carolina	5.5%
Washington County	7.1%

Source: FedStats

Unemployment data indicates that Washington County has a higher unemployment rate than the state as a whole. In 2001 Washington County’s unemployment rate was slightly over seven percent; whereas state unemployment in 2001 was 5.5 percent (see Table 4.14).

Table 4.15: County Income Information

Year	Median Family Income	Median Household Income	Per Capita Income
1970	\$7,177	no data	\$2,112
1980	\$15,908	\$13,322	\$5,119
1990	\$25,863	\$21,840	\$9,827
2000	\$34,888	\$28,865	\$14,994

Source: LINC

Table 4.16: Comparison of Per Capita Income

Per Capita Income	2000
North Carolina	\$26,882
Washington County	\$14,994

Source: U.S. Department of Commerce

As shown in Table 4.15, median family income, median household income, and per capita income have steadily risen in the County over the past four decades. Between 1990 and 2000, the County experienced increases of 35 percent, 32 percent, and 53 percent respectively. Despite these increases, per capita income remains well below that of the state. In 2000, Washington County’s per capita income was \$14,994, over \$10,000 below the state average of \$26,882 (See Table 4.16).

Table 4.17: Persons in Poverty

Year	Persons In Poverty
1970	4055
1980	3167
1990	2804
2000	2955

Source: LINC

The number of persons in poverty in the County steadily declined from 1970 to 1990, from over 4000 people to around 2800 people. From 1990 to 2000, however, the number of persons in poverty increased to 2955 persons (See Table 4.18).

Table 4.18: Comparison of Percent of Persons Below Poverty

% of Persons Below Poverty	2000
North Carolina	13.4%
Washington County	19.7%

Source: U.S. Census Bureau

Washington County has a significantly higher percentage of the population below poverty than that of the state as a whole (see Table 4.18). In 2000, the percent of persons below poverty in Washington County was almost 20 percent, roughly seven percent higher than state percentages.

DESCRIPTION OF ECONOMIC ACTIVITY IN THE COMMUNITY

Currently Washington County is economically depressed, lacking in industry diversity and employment opportunities. Unemployment and poverty rates are high and per capita income is low. The local economy is heavily dependent on existing manufacturing industries, which employ about 26 percent of the population. The county has been losing many traditional manufacturing jobs as industries have been laying off employees and closing operations, which have only further exacerbated conditions in the County. Jobs were lost from Plymouth Garment Company, Weyerhaeuser Plywood, and Weyerhaeuser Container Board. Roughly 300 people have been laid off from Weyerhaeuser Company. Although located in Martin County, a large number of Washington County residents work at Weyerhaeuser/Domtar Company. Additionally, on July 31, 2006, Royster Clark closed it's operations in the County.

Although the manufacturing/industrial development industry will continue to be the predominant industry in the County into the foreseeable future, there is a national trend emerging in the service sector of the economy, including the tourist trade. Opportunities exist to increase retail trade and tourism in the County and this trend should be encouraged in the County as a means of diversifying the local economy and providing additional amenities to local residents.

Additionally, in October 2006 the County secured a three year deal (\$10,000/year) with East Carolina University who will provide on-site, online and distance-learning opportunities for County residents as well as study social and economic problems in the County in an effort to eliminate rural poverty. The deal includes money, scientists, educators, and social workers all aimed at improving Washington County. This partnership will take place at the Windows on the World Technology Center in Roper and will provide opportunities for higher education to all ages. Researchers will also conduct a study to identify causes of economic and social stagnation in rural areas using Washington County as a model. This partnership will help combat the difficulties of not having a permanent community college or university presence in the county.

PROJECTIONS

Table 4.19: Population Projections for Washington County

Washington County		Change	
Year	Population	Total Change	% Change
2005	13,428		
2015	12,835	-593	-4.42%
2025	12,140	-695	-5.41%

Source: LINC

Over the next ten and twenty years population is projected to continue to decline. The estimated population in 2005 is 13,428. This number is expected to drop by 593 people, or 4.42 percent, by 2015, and continue to decline 5.41 percent to 12,140 persons by 2025. Although a declining population has some positive implications such as less land used for development, adequate water and sewer service, and protection of natural resources, a declining population also has serious negative impacts on economic development. The County needs to work to attract new development and diversify its economic base to make the County a competitive and desirable place to live.

V. NATURAL SYSTEMS ANALYSIS

MAPPING AND ANALYSIS OF EXISTING FEATURES

The purpose of providing an analysis of the existing natural systems within the Land Use Plan is to understand the unique geographic and physical characteristics of various land areas within the County and to establish recommendations and standards for their best and most compatible use.

The following section analyzes the general suitability of land within Washington County, breaking the information down into the following categories as required by CAMA:

1. Areas of Environmental Concern (AECs)
2. Soil Characteristics
3. Water Quality Classifications
4. Natural Hazard Areas
5. Storm Surge Areas
6. Non-coastal Wetlands
7. Water Supply Watersheds
8. Ground Water Resources
9. Primary Fish Nursery Areas
10. Fragile Environmental Areas

No additional features were identified by the local government to be included in this analysis.

Areas of Environmental Concern (AEC)

Areas of Environmental Concern (AEC's) are areas of natural importance that could be significantly affected by erosion or flooding or have environmental, social, economic or aesthetic values that make them valuable to the state.

AEC's are divided into four categories:

1. The Estuarine and Ocean System
2. The Ocean Hazard System
3. Public Water Supplies
4. Natural and Cultural Resource Areas

The Estuarine and Ocean System

The Estuarine and Ocean System is the coast's broad network of brackish sounds, marshes, and surrounding shores. This category includes Public Trust Areas, Estuarine Waters, and Coastal Shorelines.

Public Trust Areas

The Division of Coastal Management (DCM) defines Public Trust Areas as the coastal waters and submerged lands that every North Carolinian has the right to use for activities such as boating, swimming, or fishing. The following lands and waters are considered public trust areas:

all waters of the Atlantic Ocean and the lands underneath, from the normal high water mark on shore to the state's official boundary three miles offshore;
all navigable natural water bodies and the lands underneath, to the normal high watermark on shore (a body of water is considered navigable if you can float a canoe in it). This does not include privately owned lakes where the public does not have access rights;
all water in artificially created water bodies that have significant public fishing resources and are accessible to the public from other waters; and
all waters in artificially created water bodies where the public has acquired rights by prescription, custom, usage, dedication or any other means.

The public trust waters in Washington County are all the navigable waterways in the County; these can include estuarine waters and inland waters.

Estuarine Waters

Estuarine waters are the state's oceans, sounds, tidal rivers and their tributaries, which stretch across coastal North Carolina and link to other parts of the estuarine system: public trust areas, coastal wetlands, and coastal shorelines. Estuarine waters are determined by an on-site analysis by field staff from the Division of Water Quality (DWQ) and can include public trust waters.

In Washington County, estuarine waters include the Albemarle Sound, Roanoke River, and all man-made tributaries that feed into those water bodies.

Coastal Shorelines

Coastal Shorelines include all lands within 75 feet of the normal high water level of estuarine waters. This definition also includes lands within 30 feet of the normal high water level of public trust waters located inland of the dividing line between coastal fishing waters and inland fishing waters. Along Outstanding Resource Waters (ORW), this definition includes lands within 575 feet of the normal high water level.

Washington County does not have any coastal shorelines.

Coastal Wetlands

Coastal Wetlands are any marsh in the 20 coastal counties that regularly or occasionally floods by lunar or wind tides, and that includes one or more of 10 plant species.

Coastal wetlands can be found along the shoreline of Lake Phelps.

The Ocean Hazard System

The Ocean Hazard System is made up of oceanfront lands and the inlets that connect the ocean to the sounds.

Washington County does not have any AECs under this category.

Public Water Supply AECs

Public Water Supply AECs protect coastal drainage basins that contain a public supply classified as A-II by the NC Environmental Management Commission (which means that the best use of the water is for public drinking water) or areas of rapidly draining sands extending from the earth's surface to a shallow groundwater table that supplies public drinking water.

Washington County does not have any AECs under this category.

Natural and Cultural Resource AECs

Natural and cultural resource AECs are specific sites designated to receive protection because they contain environmental or cultural resources that are important to the entire state. They may be important because of their role in maintaining the coastal ecosystem, resources for scientific research and education, historical significance, or aesthetic value. Any person can nominate an area as a natural or cultural resource AEC; the CRC makes the final decision on designation.

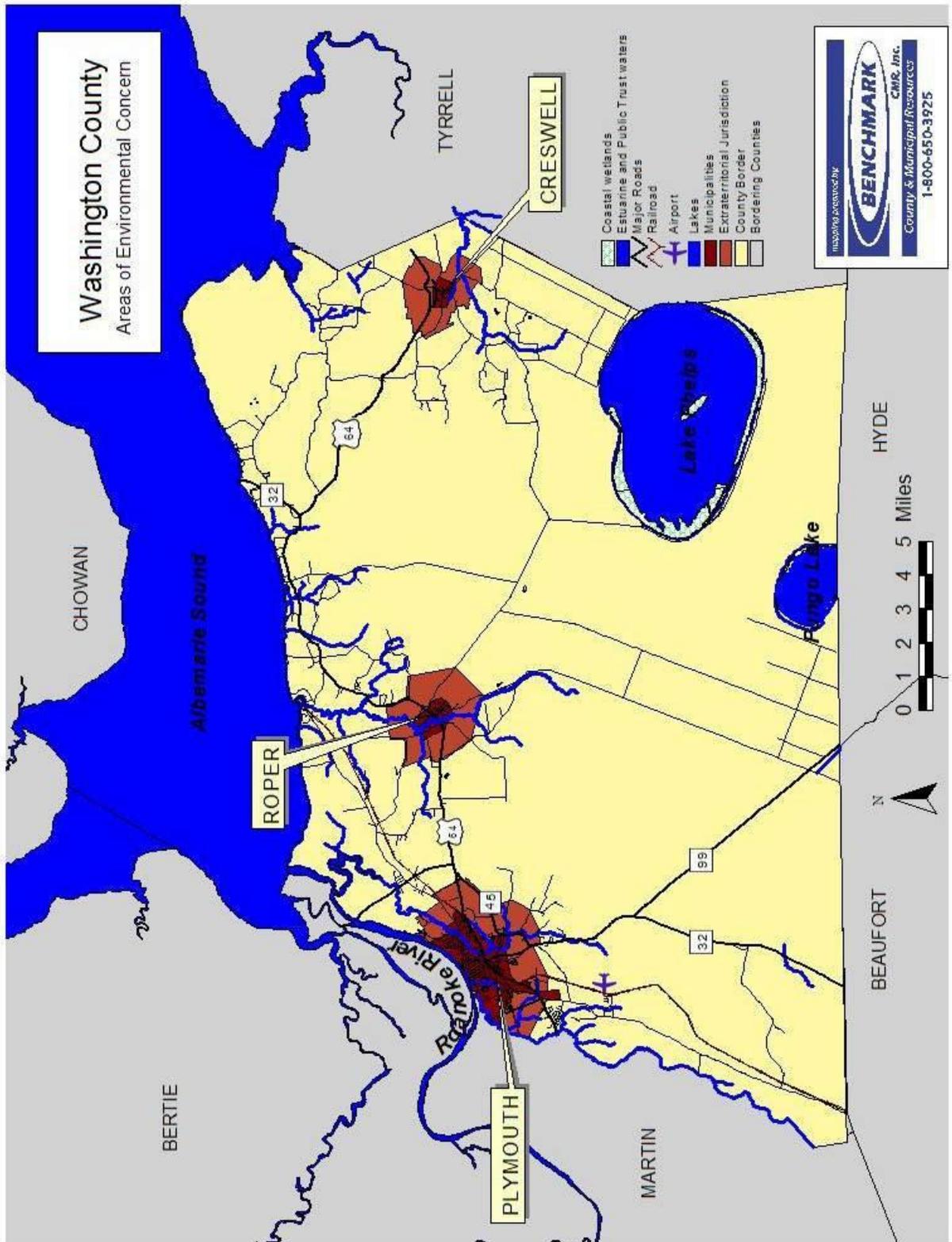
There are four types:

1. Coastal complex natural areas
2. Coastal areas that sustain remnant species
3. Unique coastal geologic formations
4. Significant coastal archeological resources and significant coastal historical archeological resources

Washington County does not have any AECs under this category.

In summary, Washington County has three types of AECs: estuarine waters, public trust areas, and coastal wetlands. Map 2 on the following page reveals the location of these AECs in the County.

Map 2: Areas of Environmental Concern (AECs)



Soil Characteristics

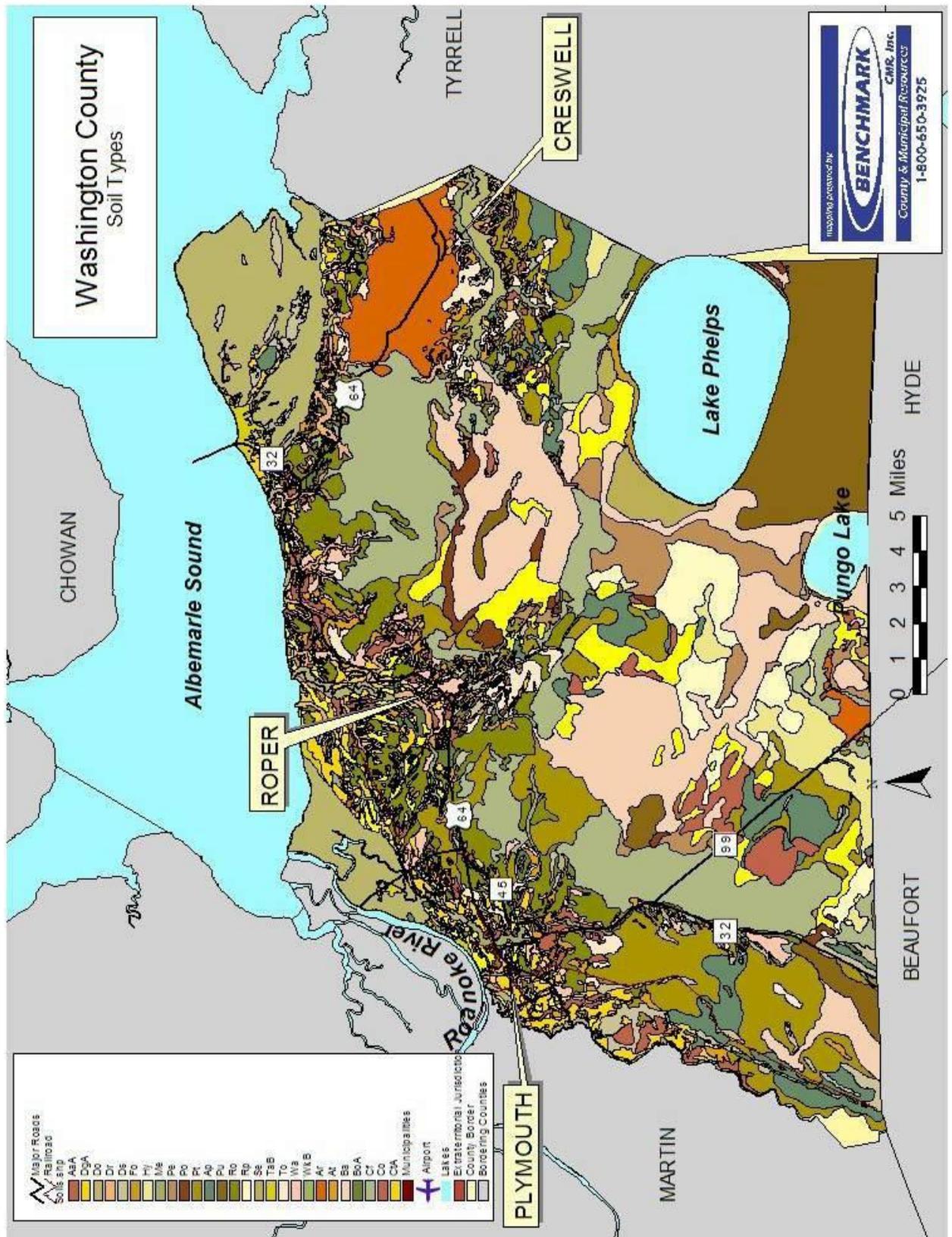
According to State data, the following soil types are found in Washington County:

- Altavista (AaA)-fine sandy loam 0-2 percent slopes
- Arapahoe (Ap)-fine sandy loam
- Argent (Ar) –silt loam
- Augusta (At)-a fine sandy loam
- Belhaven muck (Ba)
- Bojac (BoA)- loamy fine sand 0-3 percent slopes
- Cape Fear loam (Cf)
- Conaby (Co)
- Conetoe (CtA)-loamy fine sand 0-3 percent slopes
- Dogue (DgA) fine sandy loam 0-3 percent slopes
- Dorovan muck (Do)
- Dorovan mucky (Dr)-silt loam overwash
- Dragston (Ds)-loamy fine sand
- Fortescue (Fo)- mucky loam
- Hyde (Hy)- silt loam
- Muckalee loam (Me)
- Pettigrew muck (Pe)
- Ponzer muck (Po)
- PoPortsmouth (Pt)-fine sandy loam
- Pungo muck (Pu)
- Roanoke loam (Ro)
- Roper muck (Rp)
- Scuppernong muck (Se)
- Tarboro sand (TaB) – 0-3 percent slopes
- Tomotley fine sandy loam (To)
- Wahee fine sandy loam (Wa)
- Wasda muck (Wd)
- Wickham (WkB)- loamy sand 0-4 percent slopes

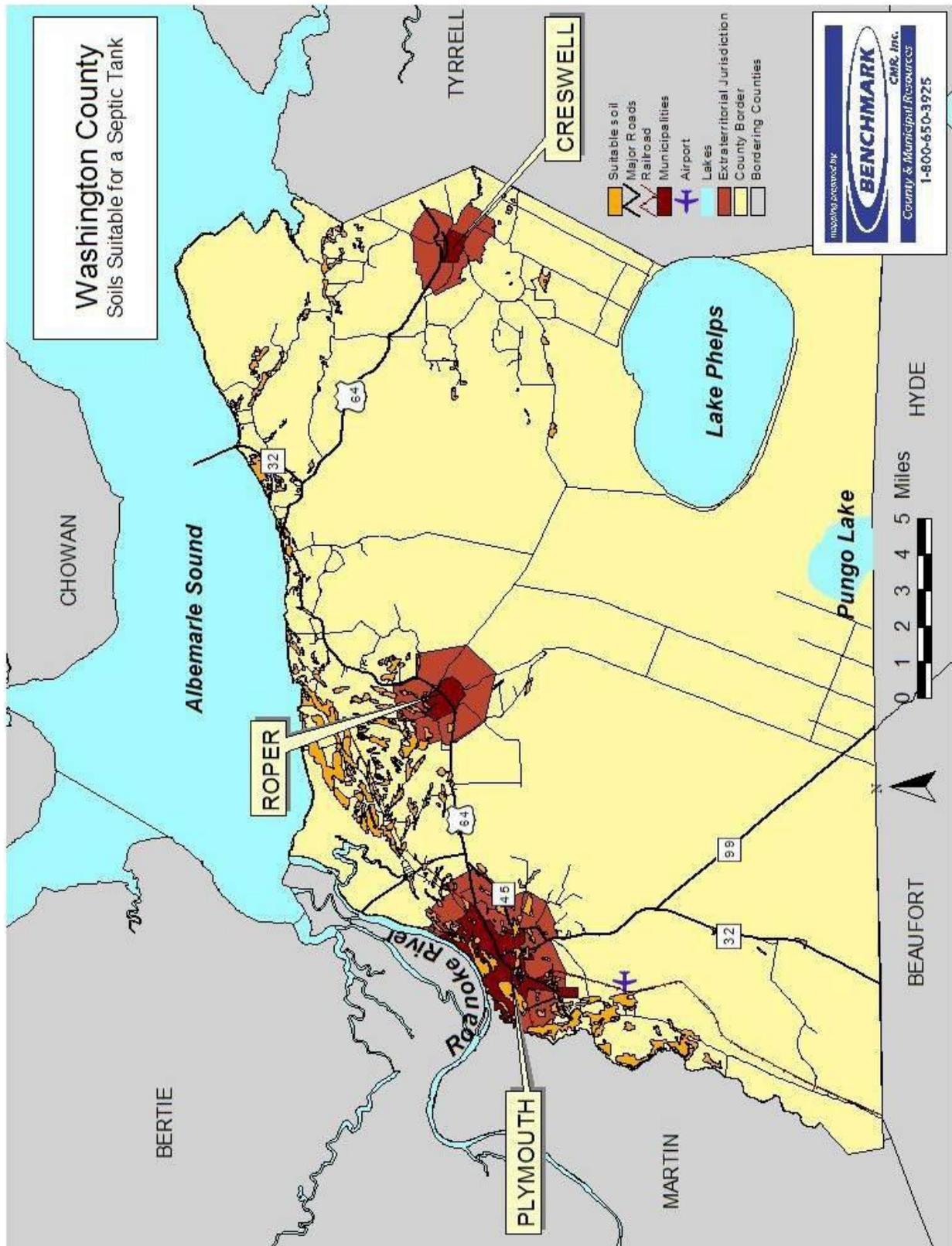
Only two of the 28 soil types found in Washington County, Conetoe (CtA) and Wickham (WkB), support a septic tank with only slight difficulties. These soils comprise only about three percent of the County and have a loamy fine sand composition. All other soil types are classified as having moderate to severe problems supporting conventional septic tanks. These soils are extremely wet, perk slowly, and are prone to flooding. Almost all of the soil types within the County are conducive to supporting agriculture uses with the exception of Donovan and Pungo soil types.

Map 3 on page 39 shows the soil characteristics in Washington County. Map 4 on page 40 reveals the areas of Washington County with soils suitable for conventional septic tanks.

Map 3: Soil Types in Washington County



Map 4: Suitable soils in Washington County



Water Quality Classifications

Surface Water Classifications are designations applied to surface water bodies, such as streams, rivers and lakes, which define the best uses to be protected within these waters and carry with them an associated set of water quality standards to protect those uses. Surface water classifications are a tool used by state and federal agencies to manage and protect all streams, rivers, lakes, and other surface waters in North Carolina. Classifications and their associated protection rules may be designed to protect water quality, fish and wildlife, the free flowing nature of a stream or river, or other special characteristics.

Surface water classifications are designated by measuring the amount of pollutants in the water and determining the sources for those pollutants. Water pollution is caused by a number of substances including sediment, nutrients, bacteria, oxygen-demanding wastes, and toxic substances such as heavy metals, chlorine, and pesticides. These pollutants are divided into two categories, point source and non-point source, both of which affect water quality in Washington County.

Point source pollutants are discharges that enter surface waters through a pipe, ditch, or other well-defined point of discharge and often include discharges from wastewater treatment plants or large urban and industrial stormwater systems. Point source polluters in Washington County include the wastewater treatment plants (WWTPs) in the three municipalities.

Non-point source pollution, unlike point source pollution, comes from many diffuse sources in nature and occurs at random intervals depending on rainfall frequency and intensity. Fecal coliform bacteria and nutrients are major pollutants associated with non-point source pollution. The land use activities in Washington County that contribute to non-point source pollution include crop production, animal feeding lots, failing septic systems, forestry, and runoff from roads, parking lots, and other urban areas.

Table 5.1 shown on page 42 summarizes current water quality conditions in the planning area according to information provided by the North Carolina Division of Water Quality (NC DWQ) and includes information on the sources of pollution in Washington County. As shown, portions of Kendrick Creek, Main Canal, Roanoke River, Welch Creek, and the Albemarle Sound have all received impaired use support ratings. However, Domtar/Weyerhaeuser located in Martin County on the Washington/Martin County Line is a contaminant source.

Table 5.1: Water Quality Classifications

Stream	Description	Classification	Basin	Use Support Rating	Sources
Kendrick Creek (Mackey's Creek)	From source to U.S. Hwy 64 at Roper	C; Sw	Pasquotank	AL Low Dissolved Oxygen; pH	municipal point sources; nonirrigated crop production; off-farm animal holding/manage
Kendrick Creek (Mackey's Creek)	From U.S. Hwy 64 at Roper to Albemarle Sound	SC	Pasquotank		
Beaver Dam Branch	From source to Kendrick Creek	C; Sw	Pasquotank		
Skidders Canal	From source to Beaver Dam Branch	C; Sw	Pasquotank		
Main Canal	From source to Kendrick Creek	C; Sw	Pasquotank	O Cause Unknown	nonirrigated crop production; intensive animal feeding operations; off-farm animal holding/manage
Canal B	From source to Main Canal	C; Sw	Pasquotank		
Canal A	From source to Main Canal	C; Sw	Pasquotank		
Lewis Canal	From source to Main Canal	C; Sw	Pasquotank		
Bakers Swamp	From source to Kendrick Creek	C; Sw	Pasquotank		
Pleasant Grove Creek	From source to Albemarle Sound	C; Sw	Pasquotank		
Chapel Swamp	From source to Albemarle Sound	C; Sw	Pasquotank		
Newberry Ditch	From source to Albemarle Sound	C; Sw	Pasquotank		
Sleights Creek	From source to Albemarle Sound	C; Sw	Pasquotank		
Bull Bay	Entire Bay	SB	Pasquotank		
Bull Creek	From source to Bull Bay	C; Sw	Pasquotank		
Deep Creek	From source to Bull Bay	C; Sw	Pasquotank		
Bunton Creek	From source to Bull Bay	C; Sw	Pasquotank		
Scuppernong River	From source to mouth of Riders Creek (First Creek)	C; Sw	Pasquotank	impaired AL source: low dissolved oxygen	
Moccasin Canal and connecting canals	From sources to Scuppernong River	C; Sw	Pasquotank		
Western Canal and connecting canals	From sources to Scuppernong River	C; Sw	Pasquotank		
Ten Foot Canal	From source to Western Canal	C; Sw	Pasquotank		
Nine Foot Canal	From source to Ten Foot Canal	C; Sw	Pasquotank		
Mountain Canal and connecting canals	From sources to Scuppernong River	C; Sw	Pasquotank		
Thirty Foot Canal	From source to Scuppernong River	C; Sw	Pasquotank		
Old Canal	From source to Scuppernong River	C; Sw	Pasquotank		
Phelps Lake	Entire Lake	B; Sw; ORW	Pasquotank	FC Fish advisory-mercury	
Roanoke River	From 18 mile marker at Jamesville to Albemarle Sound (Batchelor Bay)	C; Sw	Roanoke	FC Fish advisory-dioxins; mercury	atmospheric deposition
Welch Creek	From source to Roanoke River	C; Sw	Roanoke	FC Fish advisory-dioxins; mercury	atmospheric deposition
Conaby Creek	From source to Roanoke River	C; Sw	Roanoke		
Albemarle Sound	point of land 0.3 miles north of the mouth of Morgan Swamp in a southerly direction to a point of land on the eastside of the mouth of Roanoke River	B, Sw	Roanoke	FC Fish advisory-dioxin; mercury	atmospheric deposition
Pungo River Canal	From source to Pungo River	C; Sw; NSW	Tar-Pamlico		
Canal A	From source to Pungo River Canal	C;Sw; NSW	Tar-Pamlico		
Canal B	From source to Pungo River Canal	C; Sw; NSW	Tar-Pamlico		
Canal C	From source to Pungo River Canal	C; Sw; NSW	Tar-Pamlico		
Canal D	From source to Pungo River Canal	C; Sw; NSW	Tar-Pamlico		
Pungo Lake	Entire Lake	C; Sw; NSW	Tar-Pamlico		
White Cypress Tributary	From source to Pungo Lake	C; Sw; NSW	Tar-Pamlico		
Third Tributary	From source to Pungo Lake	C; Sw; NSW	Tar-Pamlico		

The following charts describe the classifications used above:

Table 5.2: North Carolina Freshwater Primary Classifications

Classification	Best Usage of Waters
C	Aquatic life propagation and maintenance of biological integrity (including fishing, and fish) wildlife, secondary recreation, agriculture and any other usage except for primary recreation or as a source of water supply for drinking, culinary, or food processing purposes. All freshwaters shall be classified to protect these uses at a minimum.
B	Primary recreation (which includes swimming on a frequent or organized basis) and any other best usage specified for Class C waters.
WS I-WS V	Source of water supply for drinking, culinary, or food-processing purposes for those users desiring maximum protection of their water supplies and any best usage specified for Class C waters.

Table 5.3: North Carolina Saltwater Primary Classifications

Classification	Best Usage of Waters
SC	Aquatic life propagation and maintenance of biological integrity (including fishing, fish and functioning primary nursery areas (PNAs)), wildlife, secondary recreation, and any other usage except primary recreation or shellfishing for market purposes.
SB	Primary recreation (which includes swimming on a frequent or organized basis) and any other best usage specified for Class SC waters.
SA	Shellfishing for market purposes and any other usage specified for Class SB or SC waters.

Table 5.4: North Carolina Supplemental Classifications

Classification	Best Usage of Waters
HQW	High Quality Waters. Waters which are rated as excellent based on biological and physical/chemical characteristics through Division monitoring or special studies, native and special native trout waters (and their tributaries) designated by the Wildlife Resources Commission determines impair the use of the water for its best usage as determined by the classification applied to such waters.
NSW	Nutrient Sensitive Waters. Waters that experience or are subject to excessive growths of microscopic or macroscopic vegetation. Excessive growths are growths which the Commission determines impair the use of the water for its best usage as determined by the classification applied to such waters.
ORW	Outstanding Resource Waters. Unique and special surface waters of the state that are of exceptional state or national recreational or ecological significance that require special protection to maintain existing uses.
Sw	Swamp Waters. Waters which are topographically located so as to generally have very low velocities and other characteristics which are different from adjacent streams draining steeper topography.
Tr	Trout Waters. Waters which have conditions that shall sustain and allow for trout propagation and survival of stocked trout on a year-round basis.

The DWQ has recently changed the categories used to classify use support ratings for water bodies. Instead of one overall use support rating of fully supporting (FS), partially supporting (PS), and not supporting (NS), streams and lakes are now rated individually based on each category of use support that applies to the particular creek. The new use support ratings are as follows:

AL	Aquatic Life and Secondary Recreation
FC	Fish Consumption
SH	Shellfish Harvesting
PR	Private Recreation
WS	Water Supply
O	Overall Use Support

In order to make these designations the NC DWQ studies the river basins in the state and prepares basinwide water quality plans for each basin (these plans are available at <http://h2o.enr.state.nc.us/basinwide/>). Washington County is in three different river basins: the Pasquotank, the Tar-Pamlico, and the Roanoke. According to the NC DWQ, both the Pasquotank and Roanoke basins are currently being reassessed. The new use support ratings will be out for public review in the next few months.

Plans are updated at five-year intervals. Below is a list of the most recent plans for each of the basins in Washington County.

- Pasquotank July 2002, Draft Plan under development
- Roanoke July 2001, Draft Plan May 2006
- Tar-Pamlico March 2004

Description of River Basins

Pasquotank

The Pasquotank River basin encompasses 3,635 square miles of low-lying lands and vast open waters in the state's northeast outer coastal plain. This basin includes 68 percent of Washington County including the municipalities of Roper and Creswell as well as portions or all of three main water bodies in the County: the Albemarle Sound, the Scuppernong River, and Lake Phelps. The basin is 41 percent water and 38 percent forest/wetland. Only about one percent of the basin is considered urban.

According to the 2002 Pasquotank River Basinwide Water Quality Plan, water quality is generally good in the Pasquotank River basin. The basin contains a mixture of each type of primary classification possible in North Carolina ranging from Class B, C, SB, SC, to SA (See Tables 5.2, 5.3, 5.4). In addition to the diversity of primary water classifications, many waters are designated as Outstanding Resource Waters (ORW) such as Lake Phelps reclassified as an ORW in August 2000. The main issues facing the basin are habitat degradation, including loss of riparian vegetation and channelization and erosion.

Although Washington County is losing population (the 2002 Pasquotank River Basinwide Water Quality Plan estimates a loss of 900 people between 2000 and 2020), the population in the basin as a whole is increasing rapidly, exceeding statewide rates.

The Water Quality Plan indicates the majority of the basin is expected to continue to grow at significant rates.

There are 34 facilities in the Pasquotank River Basin that have a permit to discharge into the river basin.

The subbasin of the Pasquotank River Basin pertaining to Washington County is subbasin 03-01-53, Scuppernon River and Phelps Lake. There are seven facilities in this subbasin that discharge into the basin, all of which are minor NPDES permits. Columbia, Roper and Creswell hold wastewater treatment plant permits in the basin. Eight general stormwater permits are also held in the basin.

Lake Phelps, with an ORW designation, is subject to more stringent regulation. State stormwater management rules regulate development activities on land that drains to an ORW. Low density developments have impervious surface limits and high density developments require best management practices.

As of March 16, 2001, there were eight swine facilities in the subbasin and one cattle facility. From 1994 to 1998 there was a 76 percent increase in the swine population and a 15 percent increase in the poultry population. The report estimates over 15,000 animals combined among all facilities in this subbasin.²

In 1976 the state designated the area from Beaufort County north to the Albemarle Sound as a Capacity Use Area (CUA)-CUA #1. A CUA is an area where the long-term sustainability of groundwater resources is threatened or an area that requires coordination to protect the public interest. This designation specifically affects parts of Washington County. Since 1976, DWR has continually monitored water withdrawals within CUA #1 and data in several aquifers has shown that demand has exceeded the safe yield of these aquifers. If these trends continued, the Department of Water Resources (DWR) believed the result would be serious impairment to the aquifer and ultimately to groundwater quality. As a result, the DWR developed a three-part program which involved establishing a Central Coastal Plain Capacity Use Area (CCPCUA) to coordinate the usage of water in the most critical areas. The CCPCUA involves 15 counties, including Washington County.

One of 12 Ambient Monitoring Systems (AMS) is located in Washington County. It is located at Kendrick Creek at SR1300 at Mackeys. Dissolved oxygen has been identified as a problem parameter in this area. Additionally, due to higher than normal levels of mercury in Phelps Lake, the North Carolina Department of Health and Human Services (NCDHHS) posted a limited consumption advisory in June 1996. Finally, dioxin has prompted an advisory since March 2001 in the Albemarle Sound from Bull Bay to Harvey Point, west to the mouth of the Roanoke River and north to the mouth of the Chowan River at the US Highway 17 Bridge. The pollution is largely a result of the Weyerhaeuser Company discharging directly into the river. Weyerhaeuser is now working with the DWQ and dioxin levels have lowered in the area.

² These numbers reflect only operations required by law to be registered, and therefore do not represent the total number of animals in each subbasin. Additionally many facilities have become inactive since 1997 so these numbers may overestimate the number of registered animals operations that still actively raise livestock in the basin.

According to the DWQ, the Pasquotank Water Quality Plan under reassessment will likely differ substantially from the 2002 Plan. Many waters, including Kendrick Creek will likely be reclassified. Because the majority of Washington County is in this river basin, the County is strongly encouraged to review the Basinwide Water Quality Plan once it is completed and make necessary revisions to the CAMA Land Use Plan.

Tar-Pamlico

The Tar-Pamlico Basin encompasses about 5,571 square miles of the coastal plain. Nineteen percent of Washington County is in this basin, all unincorporated portions of the County. It is 55 percent forest or wetland and about 25 percent cultivated cropland and pasture managed herbaceous land cover. Only one percent falls into the urban/built-up category.

The Tar-Pamlico basin is growing at a slower rate than some other river basins, but is still experiencing growth that will increase drinking water demands and wastewater discharges. As of March 2004 there were 60 registered water withdrawals in the basin, 39 were agriculture and 21 were nonagricultural. Fifty one of these were surface water withdrawals. Additionally, there were 68 permitted wastewater discharges in the basin, 164 general stormwater permits, and 11 individual stormwater permits.

Between 1994 and 1998 the basin has seen substantial increases in swine and poultry numbers. In several areas animal density is much greater than human populations.

Subbasin 03-03-07 is the portion of the basin that includes Washington County. There are 20 total facilities permitted to discharge into the basin. The subbasin has 11 general NPDES wastewater permits, 1 individual NPDES stormwater permit, and 20 general NPDES stormwater permits.

Although the basin as a whole has experienced substantial increases in animal populations, subbasin 03-03-07 experienced a decline in swine, dairy, and poultry populations. Even so, as of March 14, 2003, there were 18 swine facilities in subbasin 03-03-07 with roughly 80,000 animals in total.

Roanoke

The Roanoke River begins in the Blue Ridge Mountains of northwestern Virginia and flows in a generally southeastern direction for 400 miles before emptying into the Albemarle Sound. There are 15 counties and 42 municipalities in this basin, including Plymouth in Washington County. Thirteen percent of the County is located in this basin.

Sixty percent of the land in the basin is forested and about 22 percent is in cultivated cropland. Only six percent of the land falls into the urban/built-up category. Despite the large amount of cultivated cropland and the relatively small amount of urban area, the basin has seen a significant decrease (-105,300 acres) in cultivated cropland and an increase (+77,700 acres) in built-up areas over the past 15 years.

The portion of the basin located in Washington County is subbasin 03-02-09, which is one of the most populous subbasins in the basin. However, like in the other subbasins, the Washington County portion is projected to lose population. There are nine NPDES

permitted discharges in the subbasin, the largest discharge is 82.5 million gallons per day (MGD) from Weyerhaeuser Company.

Swine and poultry production in the basin increased over the past five years by 48 and 9 percent respectively. Subbasin 03-02-09 has six swine facilities with over 16,000 animals. There was a 22 percent increase in swine and a 28 percent increase in poultry from 1994 to 1998 in this subbasin.

In 1997, 43 public water systems used water from the basin providing 30.7 million gallons of water per day to 114,000 people in the basin. Water demand from these public systems is projected to increase 55 percent by 2020. Seven systems report that available supply was not adequate to meet estimated demand through 2020, and 17 other systems report that by 2020 demand levels will exceed 80 percent of available supply. There is also concern that water withdrawals, along with interbasin transfers, could affect the salinity of the lower Roanoke River.

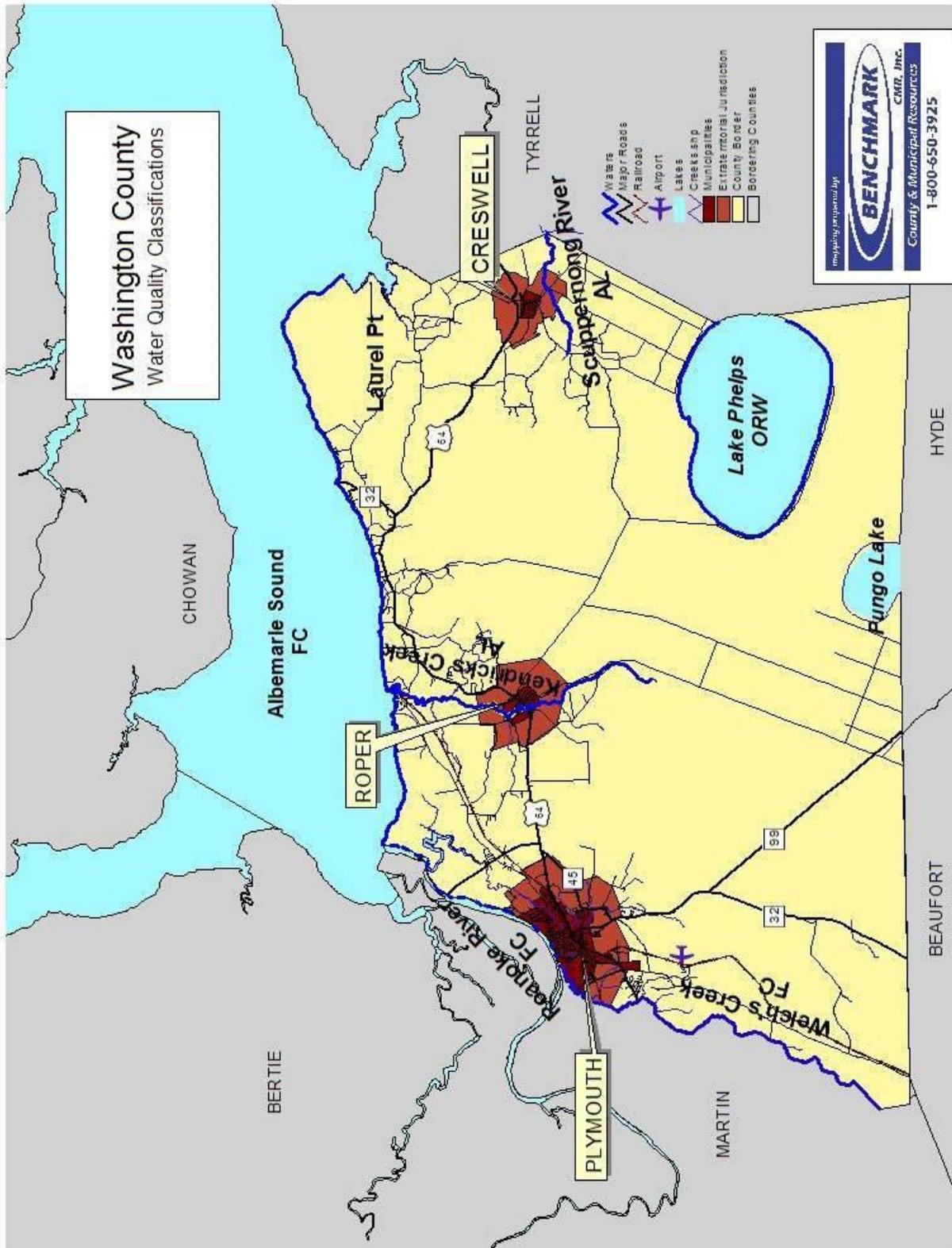
Three water bodies in subbasin 03-02-09 were listed as impaired based on fish consumption advisories: the Roanoke River, the Albemarle Sound, and Welch Creek. The Roanoke River and Albemarle Sound received a Partially Supporting (PS) Use Support Rating for Fish Consumption and Welch Creek received a Not Supporting (NS) designation. Both point and non-point sources are listed as potential sources of this pollution. The most prevalent water quality problems are habitat degradation, including sedimentation, fish tissue contamination, population growth and urbanization.

Shellfish Harvesting

The estuarine and tributary waters of Washington County have been closed to shell fishing activities for decades. Available information from the Shellfish Sanitation and Recreation Water Quality Section of the Division of Environmental Health indicates that the majority of waters have been closed since at least 1976, with the exception of one area approximately three miles long around Laurel Point. However, this area is not used for commercial harvesting. According to the Shellfish Sanitation and Recreation Water Quality Section of the Division of Environmental Health, the areas in Washington County are not being considered for reopening. The combination of a lack of resources, the percentage of freshwater, and information obtained during historic sampling have shown these areas to be unsuitable for commercial and recreational shellfish harvesting.

Map 5 shows the water bodies that have received impaired use water quality classifications and their corresponding use support designations as well as the shellfish growing areas in the County.

Map 5: Water Quality Classifications, Use Support Designations and Shellfish Growing Areas in Washington County



Natural Hazard Areas

The current Flood Insurance Rate Map (FIRM) indicates that flooding classification zones present in Washington County are limited to 'A', 'X', and 'X-500' flood zones.

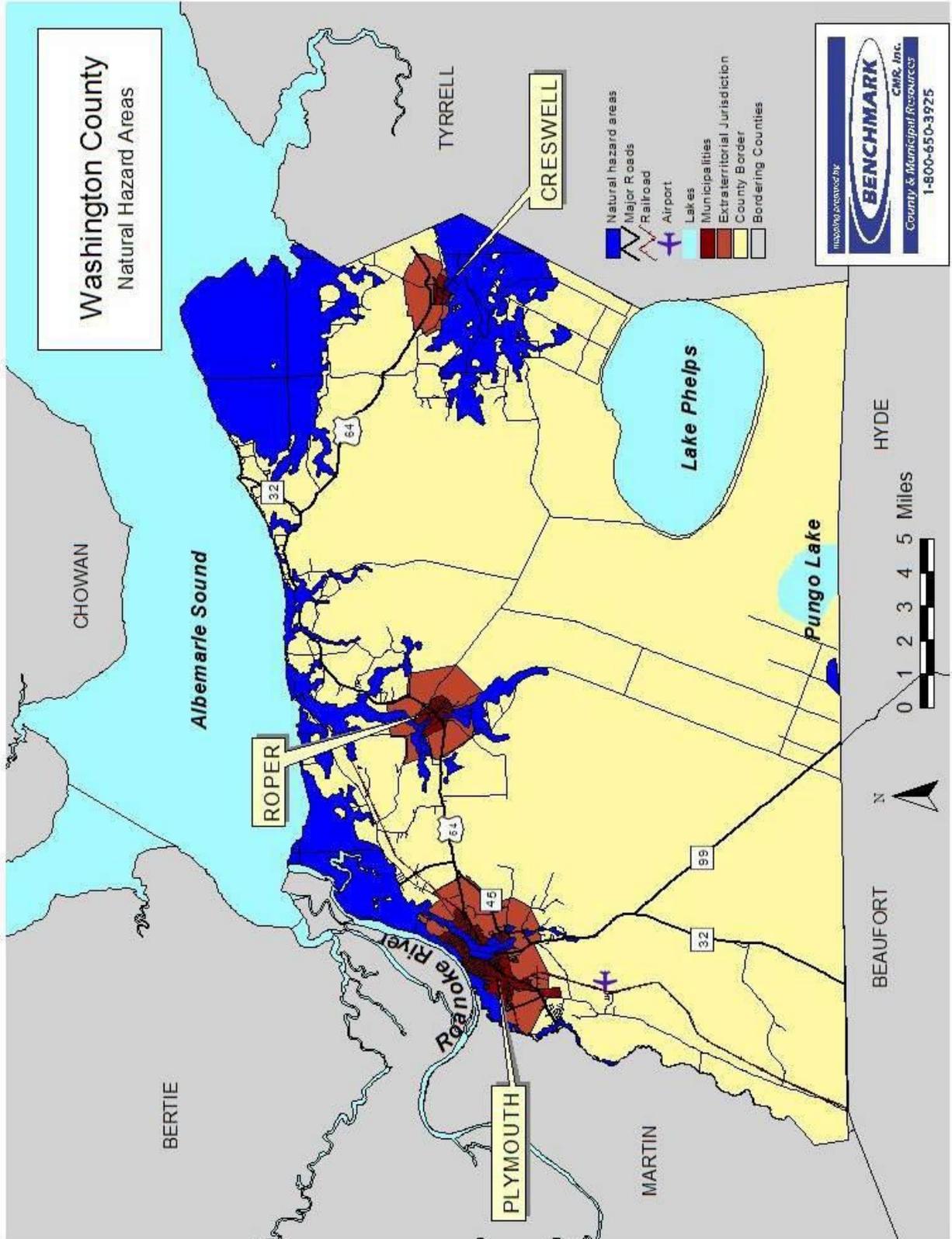
The zones under the 'A' classification are designated as areas that are subject to varying degrees of inundation by floodwaters with a frequency of a hundred (100) years. Washington County also contains 'X' flood zones that are areas that do not experience flooding, and 'X-500' flood zones that are areas that will experience inundation by flood waters during the five hundred (500) year storm event. These areas are deemed to contain minimal danger from flooding.

The County has four (4) geographic areas/regions that are subject to hazardous flooding. These areas are as follows: (1) The Albemarle Sound Shoreline and adjoining wetlands, (2) Conaby Creek and adjoining wetlands, (3) Welch Creek and adjoining wetlands and (4) the Scuppernong River and adjoining wetlands.

All development on land in identified flood hazard areas, including areas susceptible to sea level rise, is regulated by the County's and Towns' Flood Damage Prevention Ordinance which requires all new construction, and any structure substantially improved greater than (fifty (50) percent of its market value, to be elevated above the established base flood elevation.

Map 6 on the following page shows the natural hazard areas in the County.

Map 6: Natural Hazard Areas

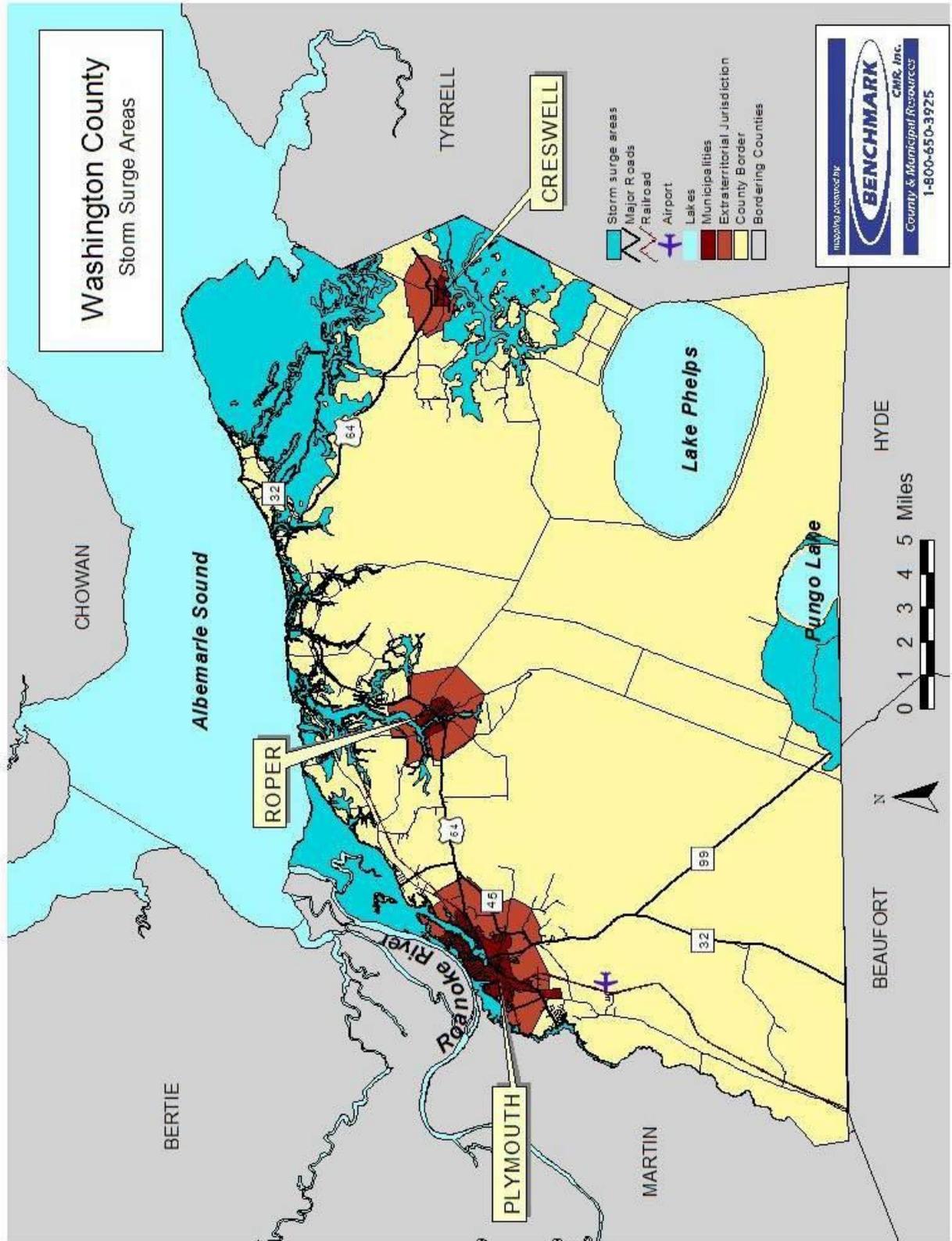


Storm Surge Areas

Storm surge occurs during coastal storm events where local water body's crest and floodwaters inundate surrounding property. Washington County has a significant storm surge problem along the banks of the Albemarle Sound shoreline. During storm events the main surge will occur at the base of existing rivers and streams and inundate surrounding property. Poor water absorption capabilities of the soil in the area exacerbate the problems, causing the flooding created by a storm surge to inundate larger portions of the County. Problems with flooding, storm surges, and poor soil percolation must be taken into consideration when determining areas for future development within the County to avoid unnecessary damage to property.

Map 7 on the following page depicts the storm surge areas in the County.

Map 7: Storm Surge Areas



Non-coastal Wetlands

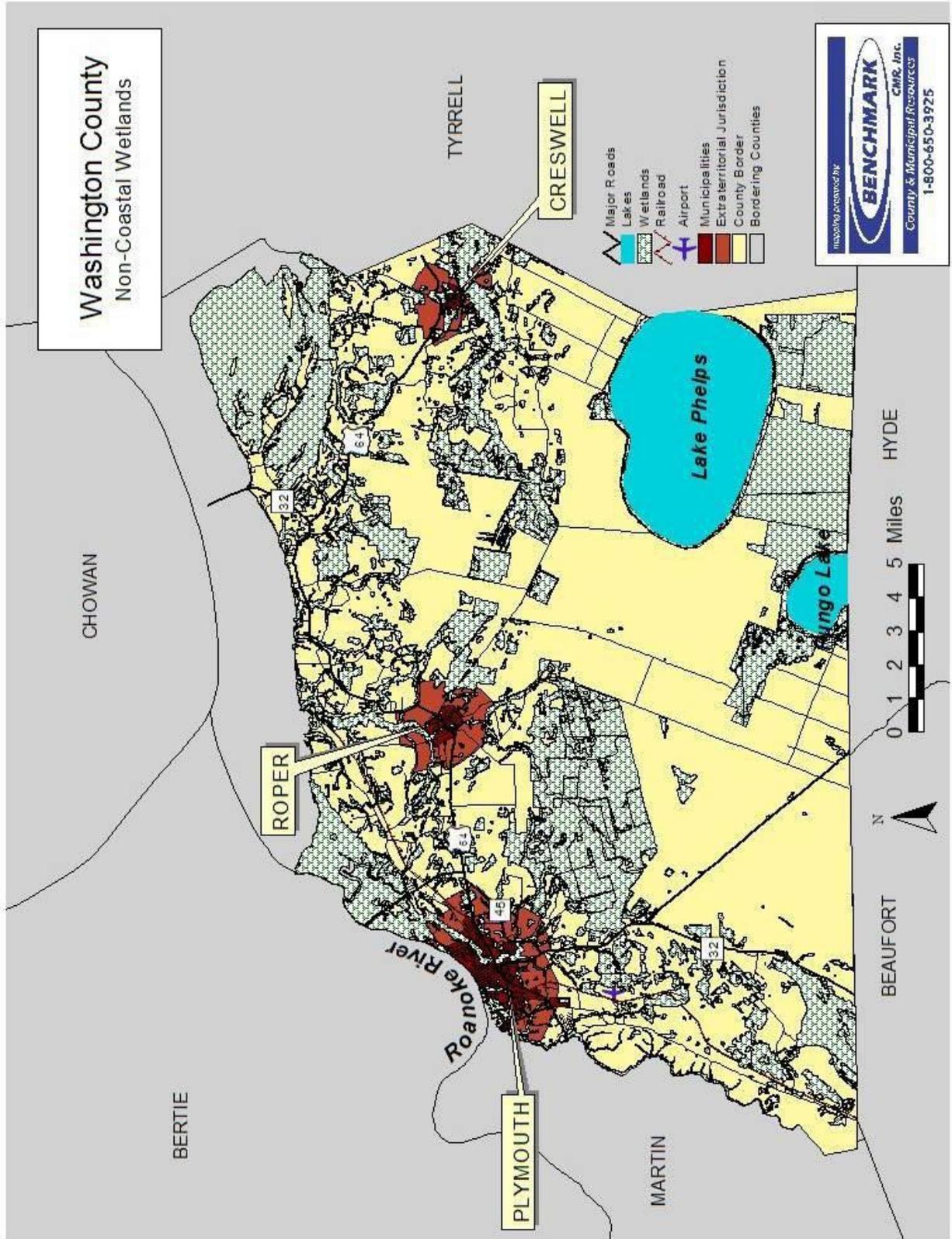
Non-coastal wetlands refer to wetlands covered under Section 404 of the Clean Water Act (CWA). These include areas covered by freshwater or those that contain waterlogged soils for the majority of the growing season as well as those areas containing plants capable of surviving under limited oxygen conditions.

Washington County is home to a variety of wetland communities. These include the following: bottomland hardwood, cleared bottomland hardwood, cleared depressional swamp forest, cleared hardwood flat, cleared headwater swamp, cleared pine flat, cleared pocosin, cleared riverine swamp forest, cutover bottomland hardwood, cutover depressional swamp forest, cutover hardwood flat, cutover headwater swamp, cutover pine flat, cutover pocosin, cutover riverine swamp forest, depressional swamp forest, drained bottomland hardwood, drained depressional swamp forest, drained hardwood flat, drained pine flat, drained pocosin, freshwater marsh, hardwood flat, headwater swamp, human impacted, managed pineland, pine flat, pocosin, and riverine swamp forest.

According to state data, there are roughly 79,777 acres of wetlands in Washington County. About 145 acres have been classified as impacted by humans. About 20 percent, or 16,200 acres, are classified as managed pineland which confirms the large forestry industry presence in the County.

Map 8 on the following page reveals the non-coastal wetlands in the County.

Map 8: Non-coastal wetlands



Water supply Watersheds

No water supply watersheds exist within Washington County.

Ground Water Resources

As discussed in the Water Quality Classification section above, Washington County has three (3) river basin systems running through the region, specifically the Pasquotank, Roanoke, and Tar-Pamlico basins.

There are four (4) basic ground water resources in Washington County: the Quaternary deposits, the Yorktown formation, the Pungo River formation, and the Castle Hayne limestone. Composed of sand-silt, clay, and shells the Quaternary deposits includes surface soils and the underlying sediments to depths ranging from approximately forty (40) feet in western Washington County to approximately two hundred (200) feet in the eastern part of the County. Many shallow wells in the County go no deeper than the quaternary sediment that is approximately forty (40) feet thick.

The Yorktown formation is about one hundred fifty (150) feet thick in western Washington County and has various yields dependant on the size of the wells. The sand and limestone portion of the Yorktown is the principal source of water for the County.

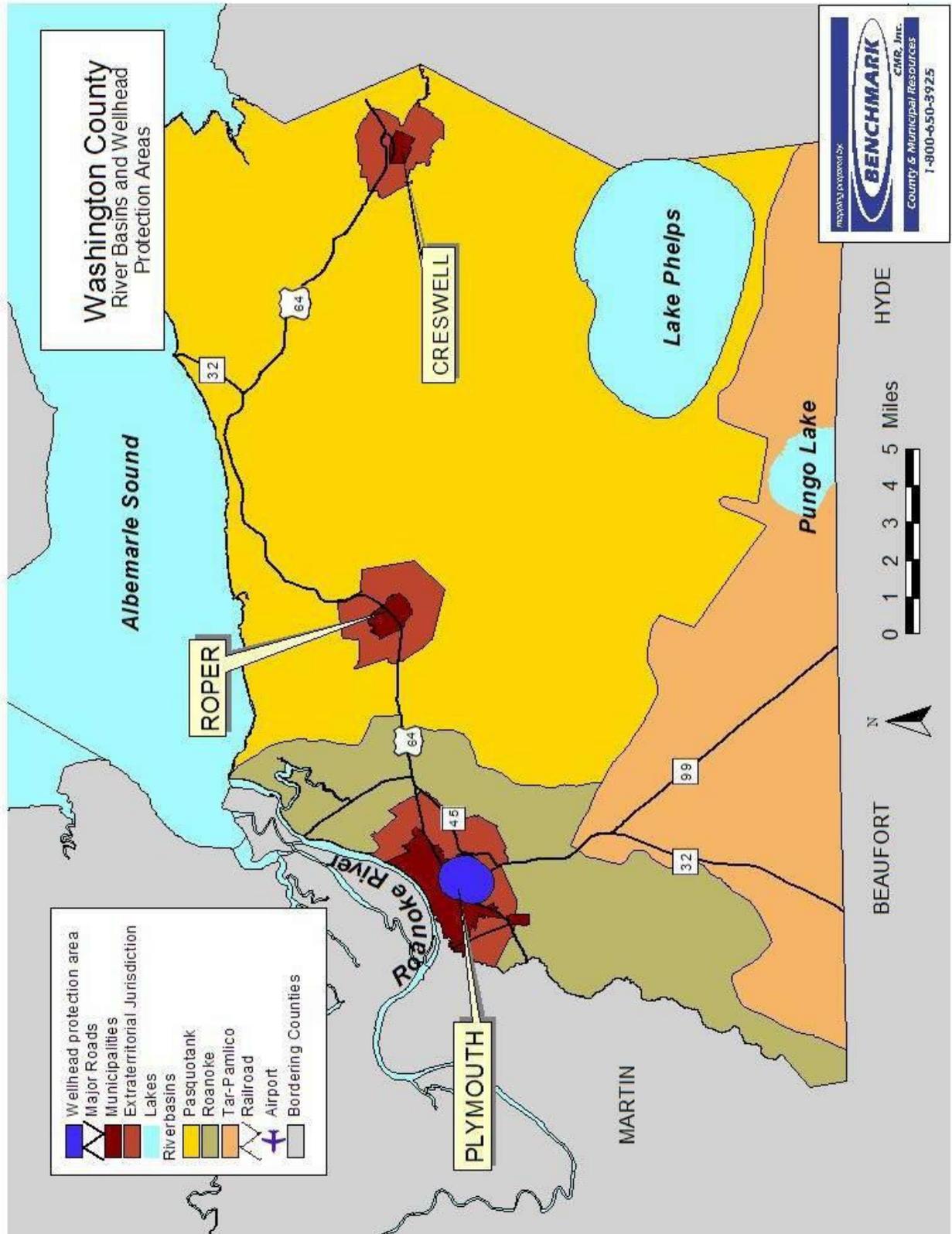
The Pungo formation is a marginal water supply, occurring at less than eighty (80) feet in the western part of the County.

The Castle Hayne limestone aquifer is the most important water source in North Carolina. It is approximately one hundred (100) feet thick and curves at approximately one hundred fifty (150) feet below sea level in the County. At the boundary of Tyrell County, the depth of the top of the aquifer is approximately four hundred (400) feet. Yields of several hundred gallons per minute are readily obtainable from this water source and is used by many localities in the area.

Plymouth has a Wellhead Protection Program (WHPP) that has been developed and approved for this public water system, enabling the public water system owners to broaden the protection of their public water supply wells.

Map 9 on the following page reveals the river basins and wellhead protection areas in Washington County.

Map 9: River basins and wellhead protection areas



Primary Fish Nursery Areas

The Division of Marine Fisheries (DMF) does not have any designated primary nursery areas in Washington County as currently addressed in their regulations.

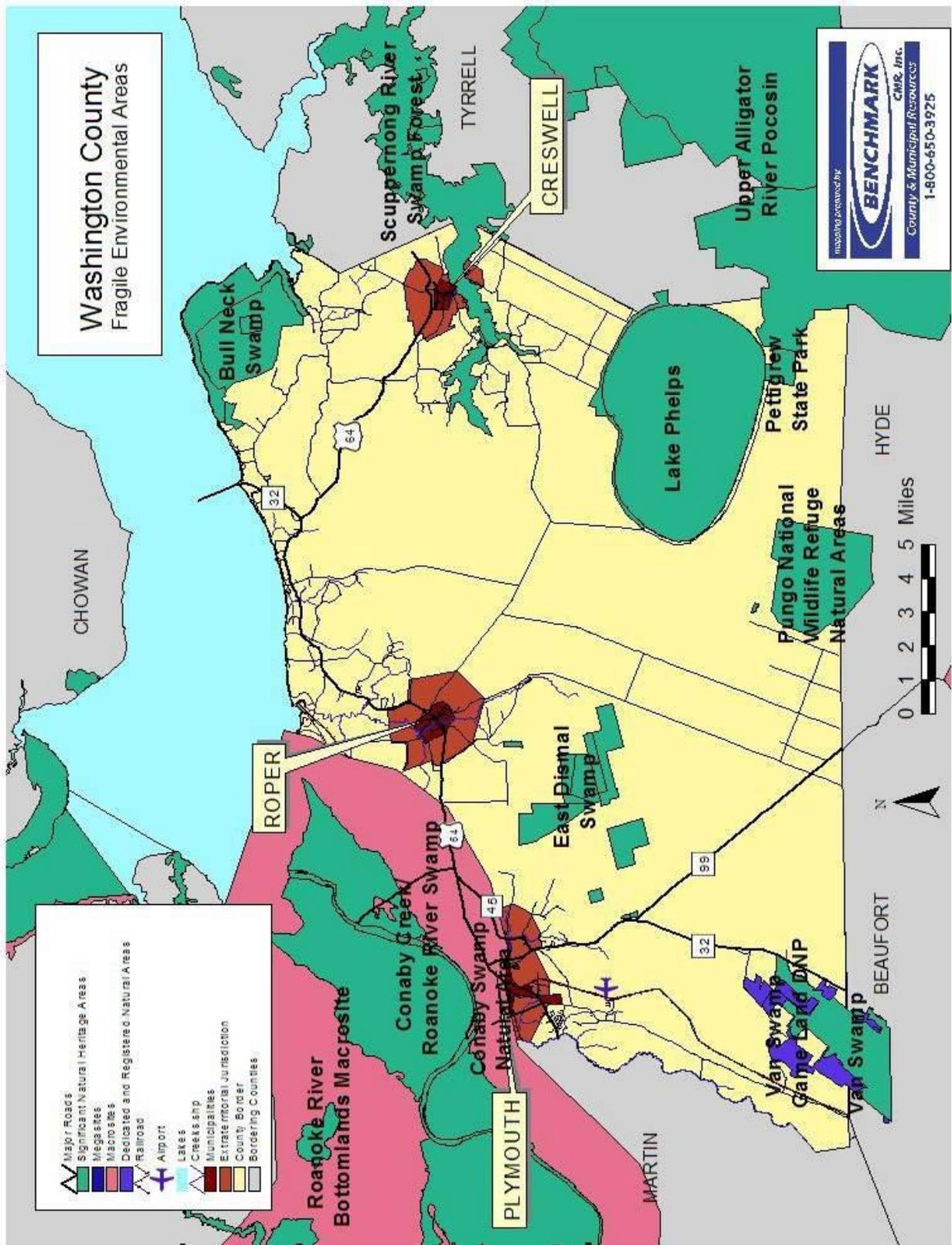
Fragile Environmental Areas

According to the N.C. Natural Heritage Program there are nine fragile environmental areas in Washington County. Map 10 on page 59 reveals the location of these areas in the County. A summary description of these areas supplied by the N.C. Natural Heritage Program is provided below.

1. Bull Neck Swamp-this area is about 6,450 acres and has regional significance. It contains some of the largest extent of swamp forest in the study area. It contains large amounts of Atlantic white cedar, bald cypress, and a state threatened plant called the Carolina lilaopsis, although increased and intensive logging of white cedar has caused some concern. This area is home to black bears, which are uncommon in the Coastal Plain and considered a Special Concern in the state. At least 10 species of warblers are known to breed in the swamp, including the uncommon Swainson's warbler. This area is privately owned and has no protection status.
2. Conaby Creek/Roanoke River Swamp-this area is about 2,000 acres and has state significance. It is an assemblage of swamp forest and pocosin/bay vegetation, unusual for the Roanoke River floodplain. It is also home to a pair of Federally Endangered bald eagles who have nested in the swamp since the mid-1980's (one of only two active nests found in the state since the early 1970's). This area is privately owned and has no protection status.
3. Conaby Swamp Natural Area-this area is 82 acres and of regional significance. It is located essentially within the city limits of Plymouth and is an example of a Coastal Plain Small Stream Swamp natural community. This area is a Registered Natural Heritage Area and was owned and managed by the Martin Community College Foundation and is now owned and managed by the Town of Plymouth.
4. Van Swamp-this area is about 1,200 acres and of regional significance. It contains one of the finest old-growth stands of swamp tupelo known in North Carolina. It contains very large individual trees of several bay forest species and functions as a habitat for larger species of mammals and birds including white-tailed deer, black bear, bobcats, the black-throated green warbler, red-shouldered hawk, and the pileated woodpecker. The swamp did contain a representative example of pond pine pocosin, but lost most if not all of it to logging. This area is privately owned and has no protection status.

5. East Dismal Swamp-this site is about 1,000 acres and has state significance. It contains the last remnants of the once-extensive swamp forests of the East Dismal Swamp. The natural area is rich in breeding bird species, including at least 13 species of warblers, some of which are uncommon in the Coastal Plain of the state. This area is privately owned by the Weyerhaeuser Corporation and has no protection status. It is considered one of the most critically endangered natural areas in the Albemarle Sound region and continues to be managed for timber production. The owner has been approached about protecting the remaining areas, but the corporation wishes to retain the site for future timber production.
6. Pettigrew State Park-this site is about 180 acres and has state significance. It contains the oldest bald cypress lakeshore stand known in North Carolina and contains many trees of near record size in the state. It is rich in wildlife; at least 39 species of breeding birds have been reported. This area is primarily owned by the N.C. Division of Parks and Recreation, with portions of the western area under private ownership.
7. Lake Phelps-this area is about 16,600 acres and has state significance. Lake Phelps is the second largest natural lake in North Carolina. The shoreline contains natural marshes with several rare plants and is one of just two known sites for the Wacamaw killifish, a Federal candidate species. The lake is owned by the NC Division of Parks and Recreation and is protected according to State Park regulations. Additionally, the lake is a Registered Natural Heritage Area.
8. Pettigrew State Park-this site is about 500 acres and of regional significance. It contains remnants of the pocosin type once extensive in the Albemarle-Pamlico peninsula. It is owned by the NC Division of Parks and Recreation and is currently protected by State Parks regulations.
9. Pungo National Wildlife Refuge Natural Areas-this area is about 4,800 acres and of regional significance. Pungo Lake is one of the larger natural lakes in North Carolina. It provides resting habitat for thousands of wintering swans, geese, and ducks and contains remnant pocosin vegetation and swamp forest near the shore of the lake. It is owned by the U.S. Fish and Wildlife Service and is protected according to Fish and Wildlife Service regulations.

Map 10: Fragile Environmental Areas



Data courtesy of the North Carolina Natural Heritage Program

COMPOSITE MAP

The Composite Environmental Map, Map 11, shows the extent and overlap of the County's major natural systems and features. The composite map provides a visual guide for locating suitable areas for development as well as areas that should be protected from development.

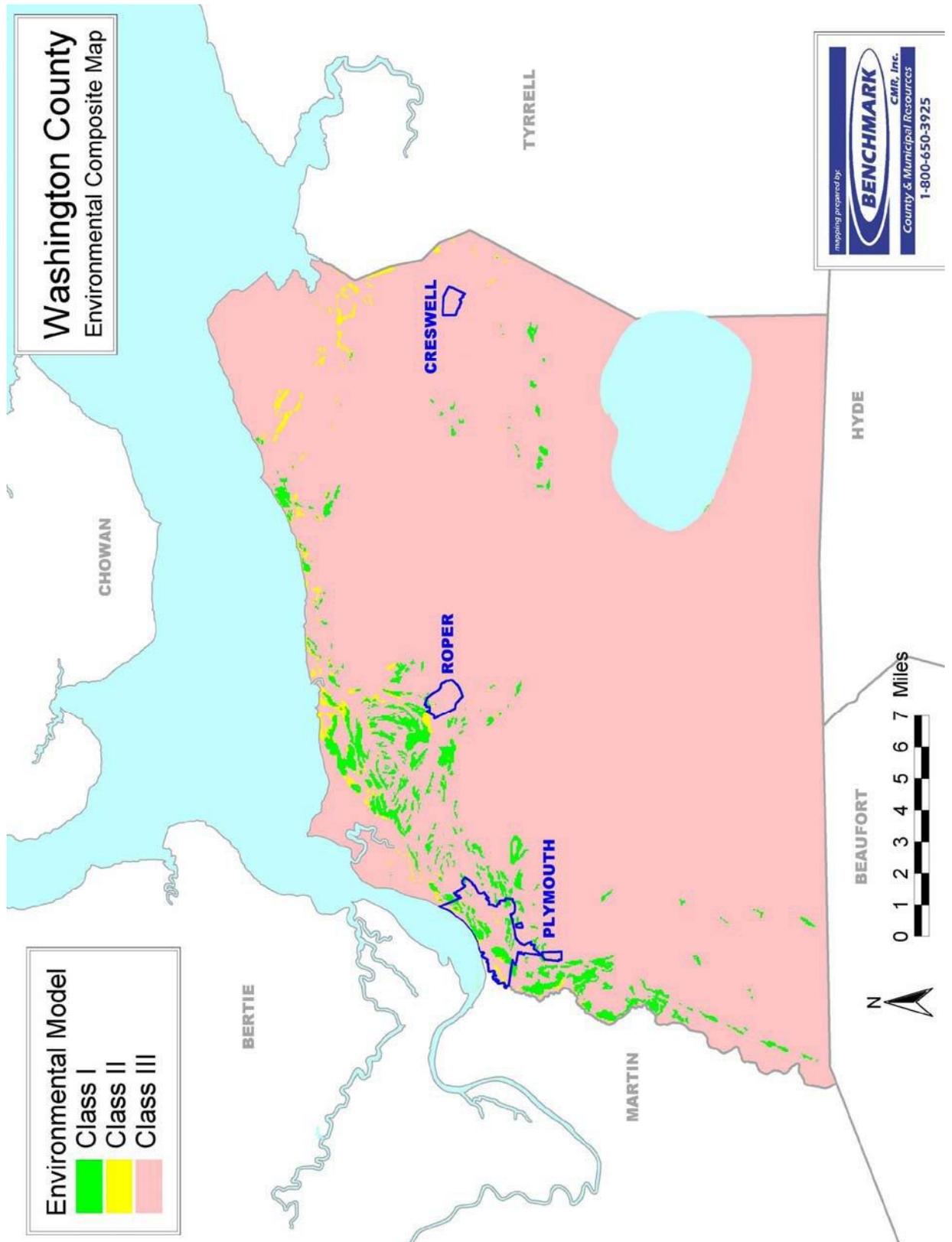
In creating this map, the County was divided into three Classes:

- 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 following are the features or conditions selected by Washington County for inclusion in each of the land classes:

- Class I soils with slight or moderate septic limitations
- Class II beneficial non-coastal wetlands, flood zones, storm surge areas, HQW/ORW watersheds, significant natural hazard areas
- Class III soils with severe septic limitations, exceptional or substantial non-coastal wetlands, coastal wetlands, estuarine waters, and/or protected lands

Map 11: Composite Map



Because 79 percent of the soils in Washington County have severe septic limitations that pose serious hazards for development, the majority of Washington County received a Class III designation. Lands designated as Class I and Class II, with fewer hazards and limitations for development, are found mostly in the northwestern portion of the County, outside of the towns of Plymouth and Roper. Other areas of Class I and Class II lands are along the counties' western and northern borders as well as a small linear area south of Creswell. It is important to note that the creation of a countywide sewer system or the expansion of existing municipal sewer systems would drastically alter the class designations and outcome of the composite map. Without septic constraints, the County would shift from predominantly Class III lands to predominantly Class I and II lands, creating significantly fewer hazards and limitations for development.

VI. ANALYSIS OF LAND USE AND DEVELOPMENT

This section of the report describes and discusses the current inventory of land use within Washington County and compares data to historical land use data. Data comparison is used to identify land use trends, shortcomings of service provision, and other land use characteristics that will be instrumental in shaping the direction, type, and rate of growth in the County.

Table 6.2: Existing Land Use in Washington County

Land Use Category	Acres	% of Total
Residential	9,333	3.93%
Commercial	1,808	0.05%
Industrial	1,987	0.84%
Institutional	14,726	6.20%
Agriculture	107,519	45.27%
Forestry	55,758	23.48%
Concentrated Animal Feeding Operation	NA	-----
Undeveloped	28,626	12.05%
Water	17,761	7.48%
TOTAL	237,518	~100.00%*

*slight differences due to rounding error

Table 6.1: 1994 Existing Land use

Land Use Category	Acres	% of Total
Cropland & Pasture	108,306	49.42%
Woodland	101,858	46.48%
Residential	6,500	2.97%
Industrial	2,500	1.14%
Total	219,164	100.00%

Source: 1994 CAMA Land Use Plan

Under the 1994 CAMA Plan rules, the following land use categories were included in the 1994 CAMA Land Use Plan for Washington County: Cropland and Pasture, Woodland, Residential, and Industrial. As shown in Table 6.2, the majority of the County was Cropland & Pasture and Woodland. Less than five percent of the county was developed. Because the required land use categories have changed for this plan update, comparisons of changes in land uses cannot be made.

Residential

Residential land use in the County is primarily located in the three municipalities. Residential land uses outside of towns are clustered in crossroads development and in linear form along primary and secondary transportation routes. Some very low density residential development can be found in the form of farms dispersed throughout the agricultural areas of the County. Since the last plan update residential development has occurred largely around the U.S. 64 transportation route as it passes through the three towns of Plymouth, Roper, and Creswell. Additionally, the construction of vacation homes has occurred along the Albemarle Sound. According to the Planning & Safety Department, new subdivisions have been slated for development in the County.

As shown in Table 6.1, the County contains approximately 9,333 acres of residential use. This accounts for roughly four percent of the land area in Washington County. These residences are primarily single family dwellings. Additionally, building permit data indicates that the number of mobile homes in the County continues to grow. The County contains several compact residential developments, which are dispersed around the county, occupied by both single family and duplex dwelling. Historically, residential development in the County has been focused in and around the three municipalities.

Commercial

Washington County has 1,808 acres of industrial uses, slightly less than eight percent of its land area.

The majority of Washington County's commercial uses, both inside and outside the towns, are located along major roads largely in the form of small strip developments. The largest segments of commercial development can be found along the Highway 64 corridor. These include a broad array of gas stations, motels, small retail and dining franchises, car dealerships and several maintenance shops most of all located along major highways in the county including Hwy. 32 and 64.

The waterfront at Plymouth provides a refreshing example of commercial development in a central downtown location. The downtown includes a mix of restaurants, businesses, shops, and historic attractions. Evidence of downtown redevelopment can be seen through recent exterior building façade improvements and the addition of a new public access boardwalk on the riverfront.

Industrial

Industrial uses in Washington County are primarily located in the town of Plymouth. These include a large area on the town's western border adjacent to Martin County which is Occupied by the Domtar/Weyerhaeuser Company, a major employer for the county. Domtar is located directly adjacent to the Roanoke River and clearly visible from the central business district of the Town of Plymouth, as is another large industrial site, formerly occupied by Georgia Pacific, which is located on the east end of the central business district. Another concentration of industrial uses can be found in the industrial park located in the Plymouth Extraterritorial Jurisdiction (ETJ). As with commercial uses, the majority of industrial uses outside of the towns are concentrated along the Highway 64 corridor. Several grain operations are dispersed within the agricultural areas of the County."

The County contains approximately 1,987 acres of industrial use, a little less than nine percent of the total land area.

Institutional

Downtown Plymouth is the home of the Washington County government office buildings, the Washington County Courthouse, and other administrative buildings and support services such as Plymouth Municipal Building, police and fire and rescue. The Washington County Library, located at 201 East Third Street, hosts year round programs for children and adults.

There are five schools in the County. These include Pines Elementary School, Creswell Elementary School, Washington County Union School, Plymouth High School, and Creswell High School. Table 6.3 provides information on the location, grade levels, and number of students enrolled in each of the schools.

Table 6.3: Washington County schools

School	Location	Grade Levels	# of students enrolled
Creswell Elementary	Creswell	Pre k - 6	200
Creswell High	Creswell	7 - 12	155
Pines Elementary	Plymouth	Pre k - 4	770
Plymouth High School	Plymouth	9 - 12	530
Washington County Union Middle	Roper	5 – 8	550

Source: school secretaries as phoned in October 2006

Additionally, the County has educational support operations like the Windows on the World Technology Center in Roper. This technology center is centrally located within the County and is a major resource for computer literacy, public Internet access, and technology training for labor workforce readiness.

Churches are located throughout Washington County, several in each town. They are interspersed within residential communities and along major roads. According to the U.S. Geological Survey, over 75 churches are located in Washington County.

Institutional uses are a little high, at 6.20 percent of the total land use in the County, largely because the Pocosin National Wildlife Refuge was included as an institutional use. The institutional land use category was the most appropriate of the land use categories for the refuge because it is a protected area that promotes conservation as well

On the Future Land Use Map, a new land use designation will be created to better classify the National Wildlife Refuge as public land.

Agriculture

Agricultural uses comprise the majority of land use in Washington County. Farm use and other related agricultural uses make up nearly 107,499 acres, or 45.46 percent, of the County.

Forestry

The County contains significant holdings of timber tract land. Weyerhaeuser almost exclusively owns a large timber tract between Highway 99 and the Town of Roper. Although the County contains large tracts of forest, several tracts have been converted to other uses in recent years. Slightly less than a quarter of the county, 55,758 acres, is included in this land use category.

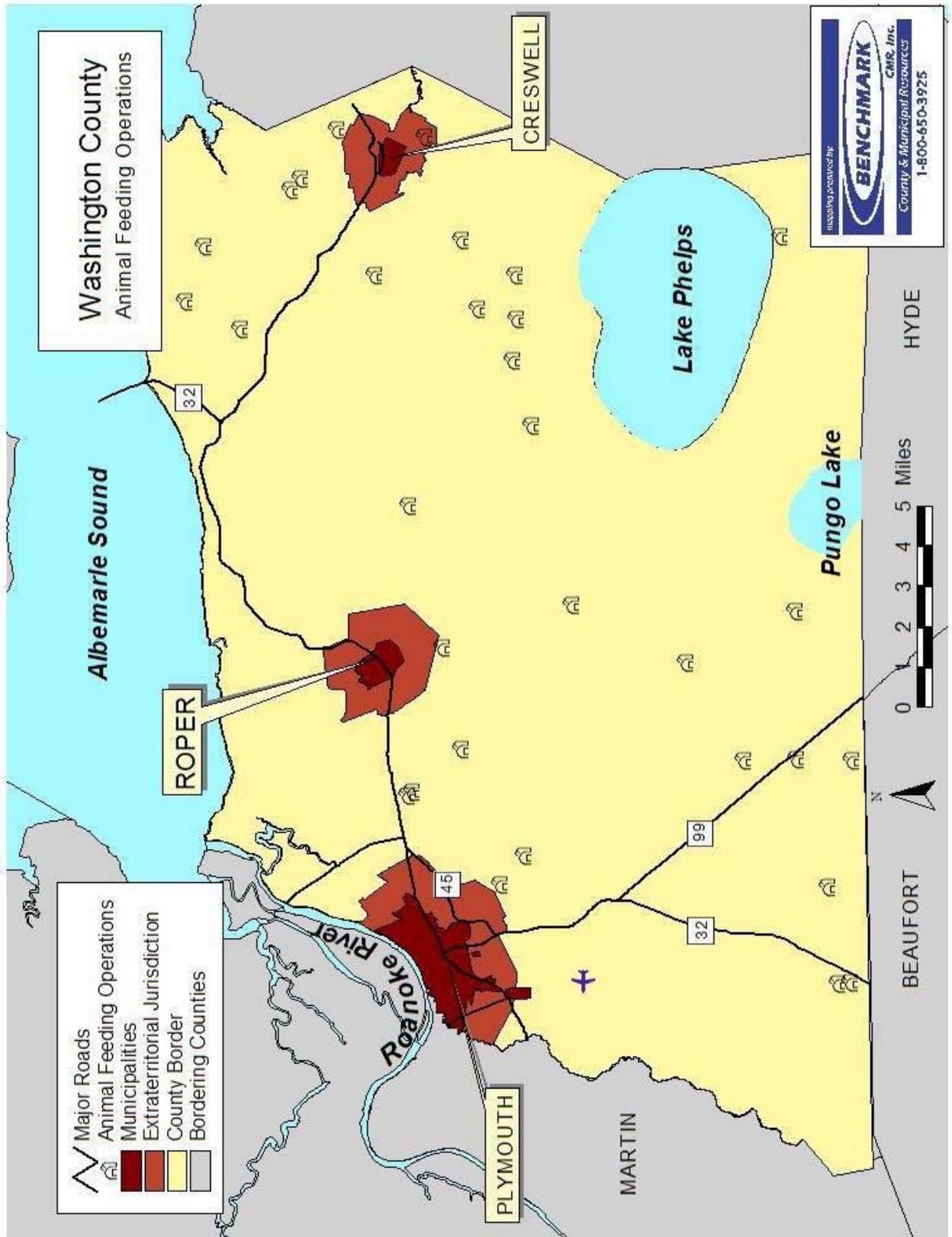
Concentrated Animal Feeding Operations

As discussed earlier in Section V, Natural Systems Analysis, several animal facilities were identified in the 2001 and 2002 basinwide water quality plans for the three river basins in Washington County. Those numbers were determined in 2001 and 2002, however, the number of facilities and animals is believed to have changed rather significantly. According to the North Carolina Department of Environment and Natural Resources (DENR), there are currently 31 facilities in operation in Washington County. Map 12 shows the location of these facilities in the County (NOTE: This map only shows those facilities whose coordinates were identified by DENR. For six of the 31 facilities coordinates were not provided and some of the facility locations overlapped).

Only facilities of a certain size, however, are classified as Concentrated Animal Feeding Operations (CAFOs). According to the Livestock Agent with the Agriculture Extension Service in Washington County, the County has one large CAFO, a hog farm between Roper and Creswell. The County also has four medium hog farms, two in Creswell, one in the community of Wenona, and the Tidewater Research Station between Plymouth and Roper. Additionally, there is one medium size poultry farm just outside the Town of Plymouth.

The County had 52 poultry houses, but most of them were closed down when Perdue changed its delivery locations. The County has two other hog farms in operation that are scheduled to be closed down by the end of the year. The majority of the hog farms in the County have been purchased by the Conservation Trust Fund in an effort to remove these operations from the floodplain.

Map 12: Animal Feeding Operations



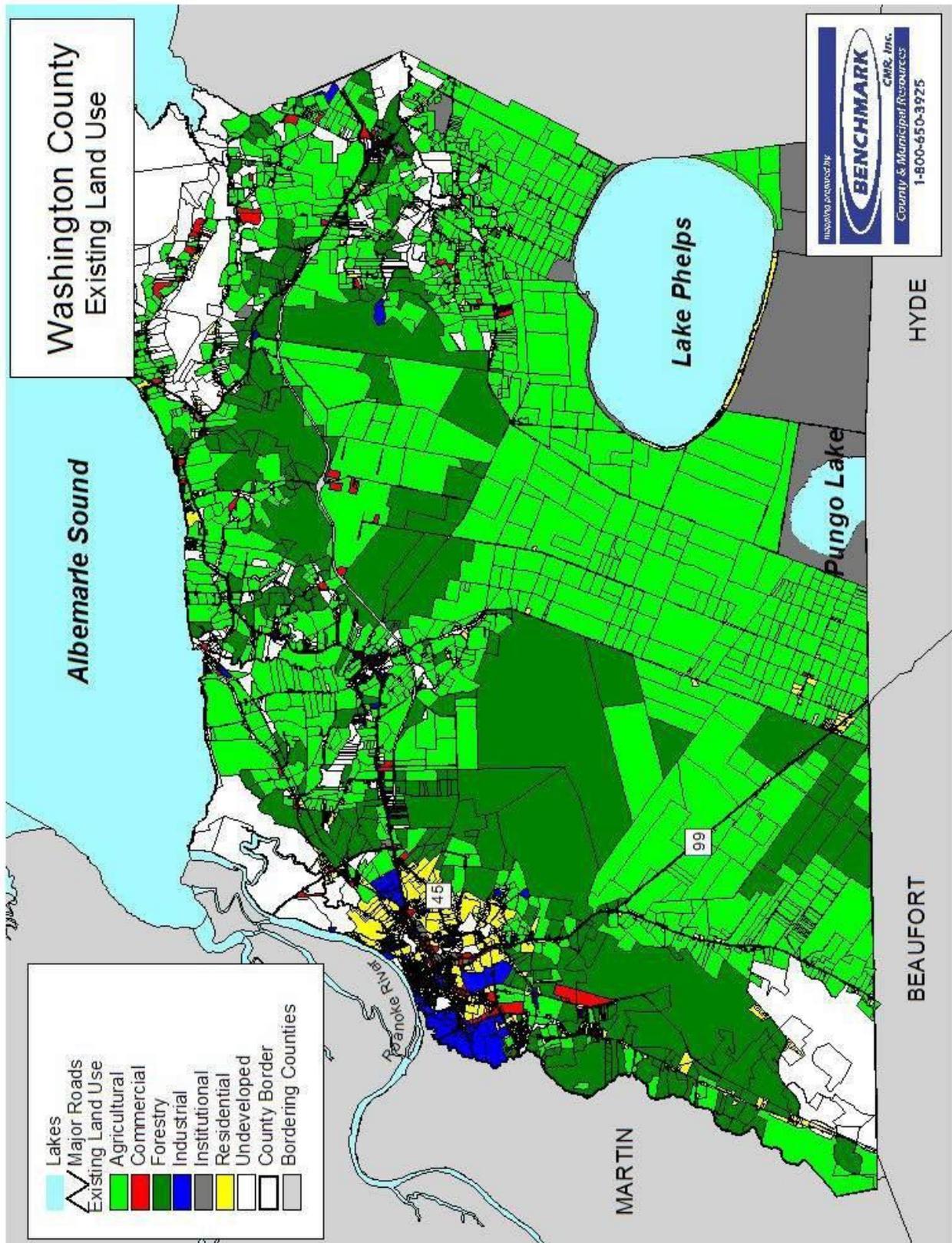
Because only latitude and longitude was available for these facilities, the acreage or area encompassed by these facilities could not be calculated. Although these facilities can be shown as points on the map, it was impossible to calculate their area or include them as their own category on the existing land use map.

Undeveloped

Undeveloped areas of the County include the fragile environmental areas identified on Map 10 as well as smaller forested tracts that are not owned by timber companies within town limits. This land use category accounts for roughly 12 percent of the land area.

Map 13 on the following page shows the location of each of these land use categories in Washington County.

Map 13: Existing Land Use



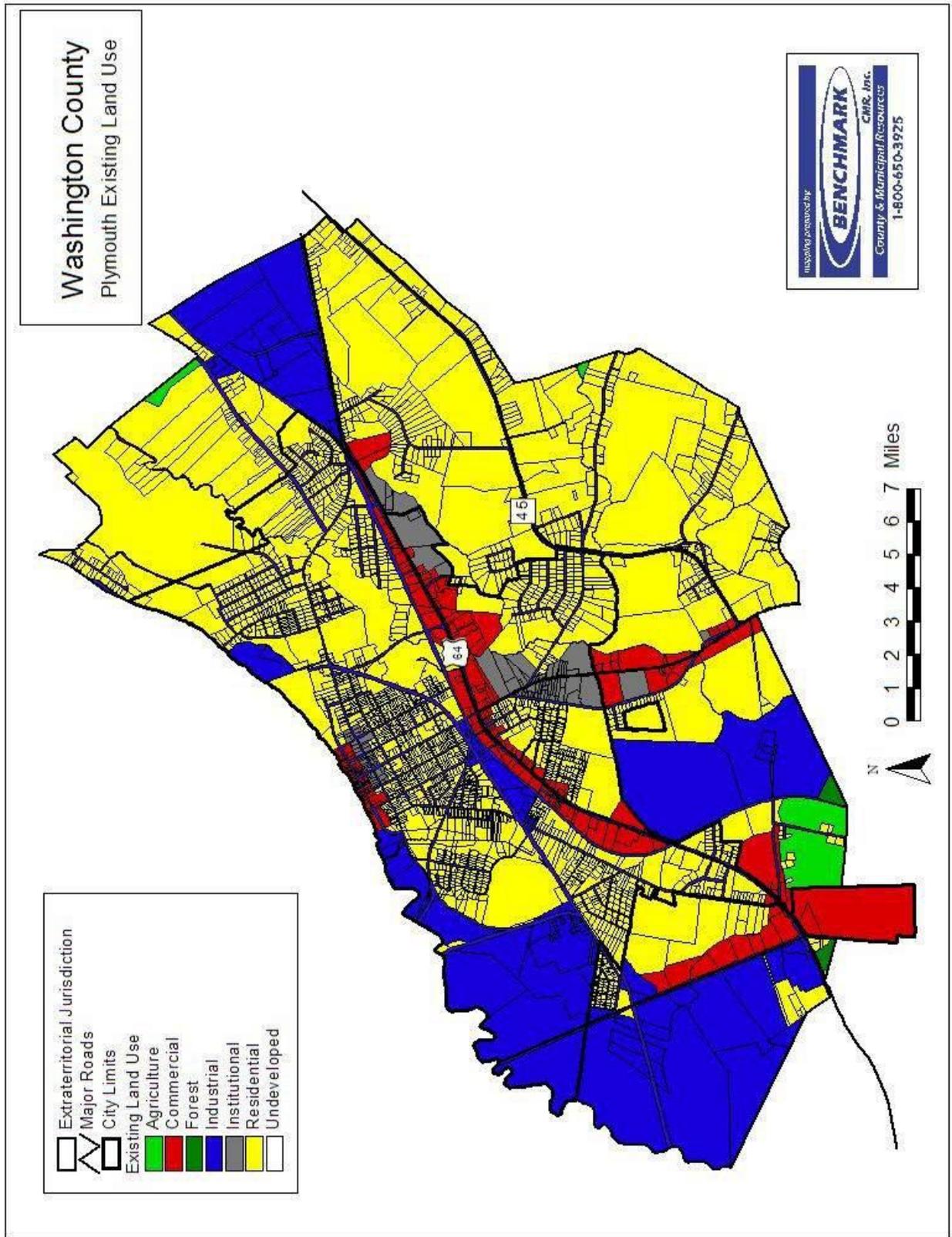
Within Plymouth city limits and ETJ, the land uses change significantly from the County as a whole. The predominantly agriculture and forestry uses found in the County are replaced with a majority of residential uses, comprising over half of the land use in the town (see Table 6.4). Commercial uses are clustered along the waterfront and Highway 64 and industrial uses are focused along the western border with Martin County and include 40 acres of vacant industrial land available for future use in the industrial park along Highway 64 in the ETJ.

Map 14 on page 72 reveals the existing land use in the Town of Plymouth.

Table 6.4: Plymouth Existing Land Use

Land Use Category	Acres	% of Total
Residential	3,398	57.60%
Commercial	464	7.87%
Industrial	1,419	24.05%
Institutional	154	2.61%
Agriculture	0	0.00%
Forestry	0	0.00%
Concentrated Animal Feeding Operation	NA	-----
Undeveloped	464	7.87%
TOTAL	5899	100.00%

Map 14: Plymouth Existing Land Use



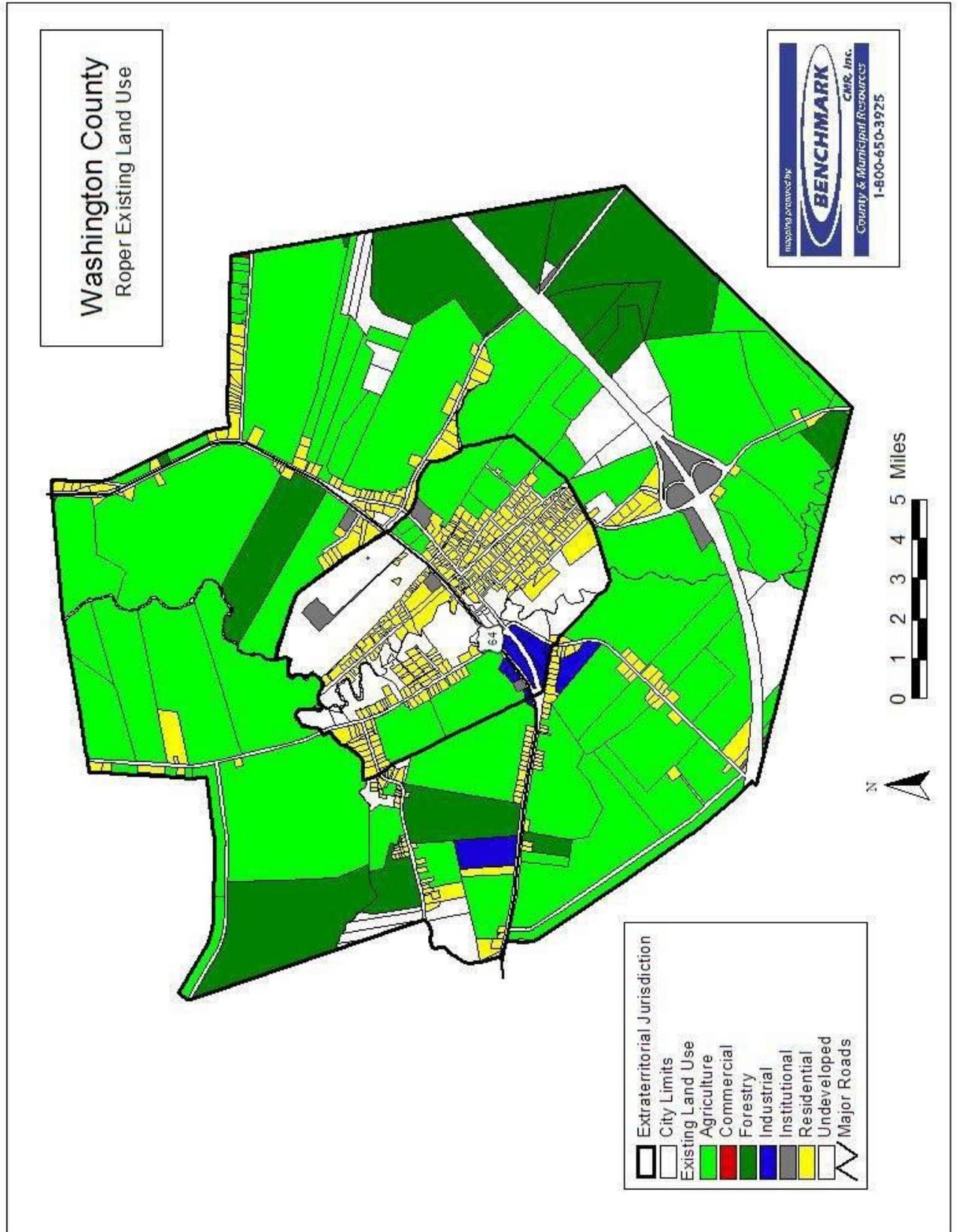
The town of Roper’s land use patterns more closely mimic County land uses. As shown in Table 6.5, over ninety percent of the town is comprised of agriculture and forestry uses. Residential land uses are mostly within town limits and along major roadways. Very little commercial or industrial development is located within town limits or within the ETJ.

Map 15 on the following page displays the existing land use in the town of Roper.

Table 6.5: Roper Existing Land Use

Land Use Category	Acres	% of Total
Residential	307	10.07%
Commercial	0	0.00%
Industrial	41	1.34%
Institutional	29	0.95%
Agriculture	2,032	66.64%
Forestry	321	10.53%
Concentrated Animal Feeding Operation	NA	-----
Undeveloped	319	10.46%
TOTAL	3,049	100.00%

Map 15: Roper Existing Land Use



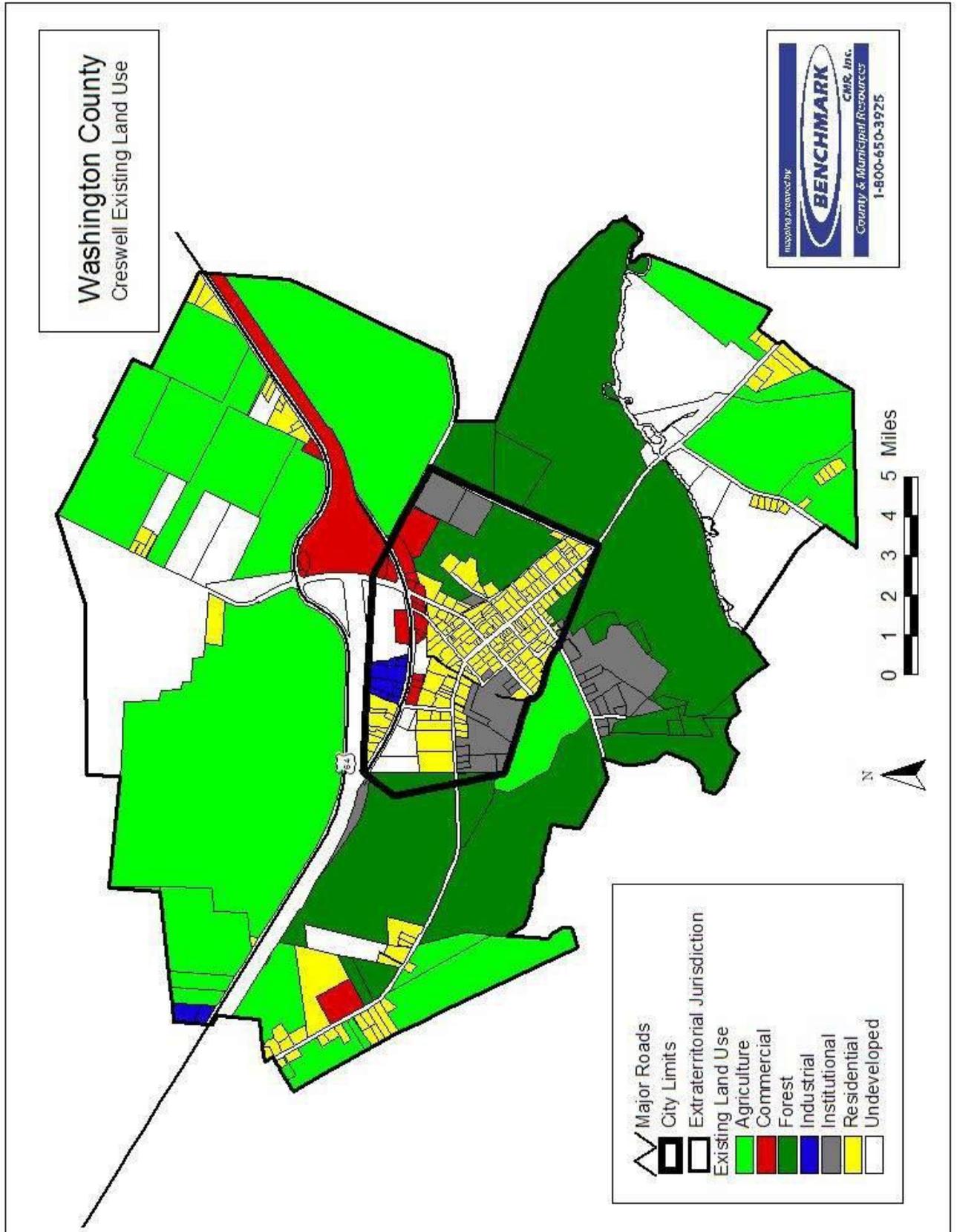
The town of Creswell is also largely made up of agricultural and forestry uses, with slightly less than 67 percent of land uses following in these two categories (see Table 6.6). Residential uses make up about 4.5 percent of the land uses and are predominantly located within town limits. Commercial uses are largely found along Highway 64 and several industrial uses are located just inside or outside of the town limits.

Map 16 on page 76 reveals the existing land use in the town of Creswell.

Table 6.6: Creswell Existing Land Use

Land Use Category	Acres	% of Total
Residential	172	7.48%
Commercial	80	3.48%
Industrial	12	0.52%
Institutional	86	3.74%
Agriculture	1097	47.67%
Forestry	622	27.03%
Concentrated Animal Feeding Operation	NA	-----
Undeveloped	232	10.08%
TOTAL	2301	100.00%

Map 16: Creswell Existing Land Use



Land Use Conflicts Occurring in the County

- Timber production in areas designated as environmental fragile areas by the N.C. Heritage Program has caused loss of certain species and habitats.
- Development in low-lying areas like the Towns of Roper and Creswell has created stagnant water and flooding problems.
- The lack of countywide zoning ordinance until recently has resulted in adjacent incompatible land uses throughout the County

Land Use/Water Quality Conflicts Occurring in the County

- According to the Division of Water Quality, the municipal WWTPs have been assessed numerous violations since 2000. Specifically, the town of Creswell had 98 violations between 2000 and 2005.
- Roughly 97 percent of the soils in Washington County are not suitable for conventional septic tanks. The Washington County Health Department receives reports on failing tanks in the County almost daily.

Description of Development Trends

Despite decreasing population numbers, Washington County has seen an increase in housing units over the past few decades. Residential development is likely to continue over the next 25 years, possibly at higher rates. The expansion of the U.S. 64 corridor increases the potential for commercial development in the corridor. However, the lack of sewer facilities in the County makes large scale commercial and industrial development as well as major increases in residential development more difficult. Although the County is conducting its second sewer feasibility study, no improvements, extensions, or additions of service or facilities is underway and no major commercial or industrial developments are in the works. Finally, the towns have no plans for annexation.

Areas expected to experience development during the next five years

The expansion of Highway 64 increases the potential for expansion of commercial development at interchanges in this corridor. Planning board members specifically believe the north-central part of the County located along Highway 32 N (known as Pea Ridge) will experience increased development over the next five years. At least five new subdivisions are slated for development in this area.

Potential conflicts with Class II or Class III land identified in the natural systems analysis

With so much of the County's land identified as Class III on the Environmental Composite Map, potential conflicts are likely to arise. Poor soils are by far the biggest cause of development conflicts in the County. As stated earlier in the soils section, only about three percent of soils in the County are suitable for septic tanks. Because soils with severe septic limitations are listed as Class III, or as areas containing serious hazards for development, most of the County was given a Class III designation. The composite map would change drastically if municipal sewer systems were extended or if a countywide system was installed.

Currently the potential for development conflicts appear greatest along shorelines. Land along the Albemarle Sound is interspersed with all three class types and although some of this land is suitable for development, other portions are in storm surge and flood areas creating development difficulties. With development pressures greatly increasing in this area the potential for conflict is on the rise.

Historic and Cultural Resources in the County

Many significant historic and cultural resources exist within Washington County. Resources listed below were identified by the Washington County Chamber of Commerce as historically significant. Those resources indicated with a “+” are state historic sites and those indicated with a “*” are listed on the National Register. There are a total of nine resources in the County listed on the National Register.

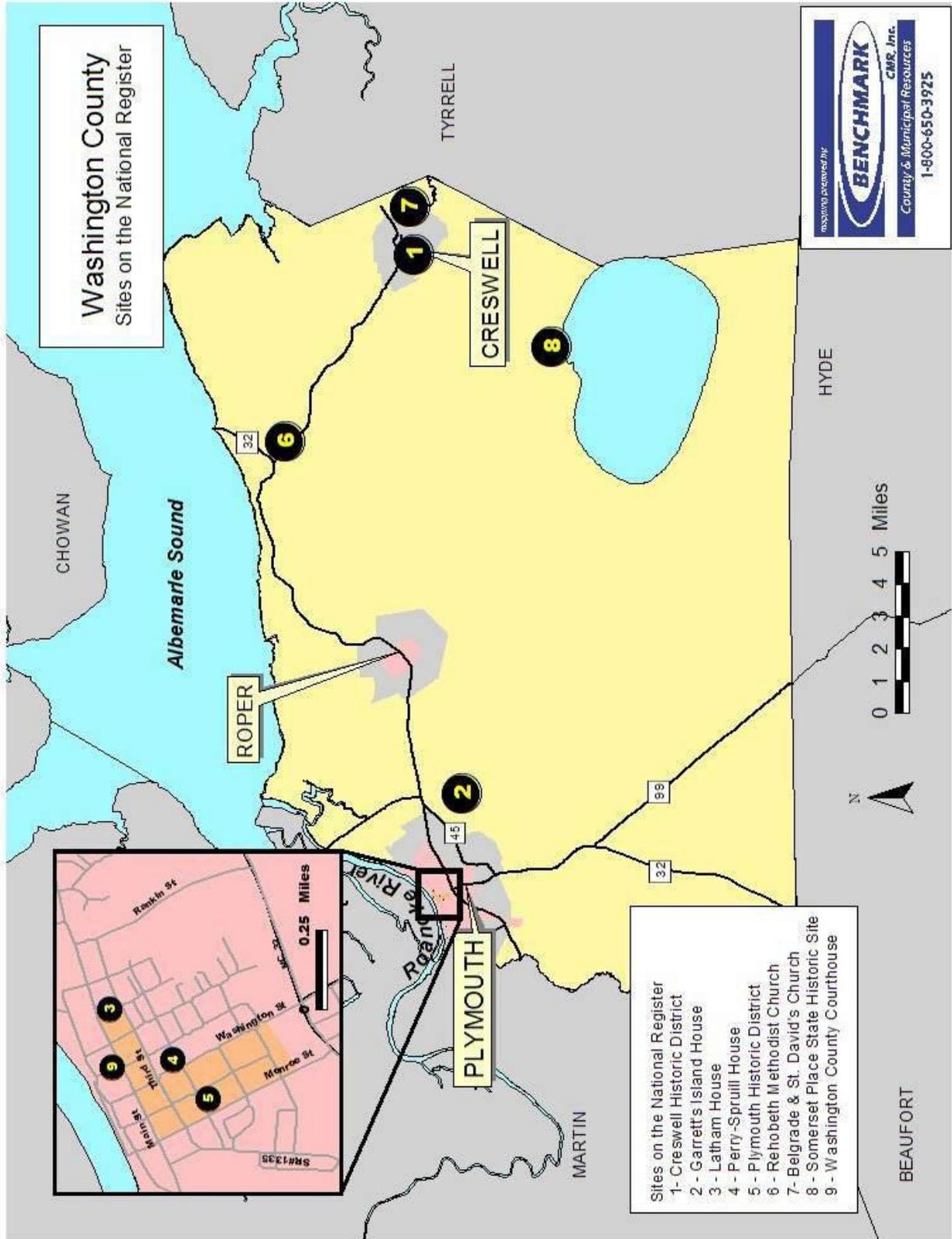
- Ambrose Lindsey Owens House No. 1-320 Washington Street, c. 1904. Queen Anne style – Plymouth, NC
- Ambrose Lindsey Owens House No. 2-203 East Main Street, c. 1918; On site of old Gaylord family house, late Colonial Revival.- Plymouth, NC
- Ausbon House 1830 used as a Sniper’s nest during a Confederate attempt to take the town in December 1862 – Plymouth, NC
- Bateman Schoolhouse- N.C. Hwy 32 South, Plymouth; Privately owned, addition to private residence.
- *Belgrade and St David’s Church, E of Creswell Street, Creswell vicinity
- Blount-Hampton-Bailey House-301 East Main Street, c. 1895 – Plymouth, NC
- Brick House Landing (only marker remains); c. 1711; owned by Arthur Rhodes. From this plantation he sectioned off one hundred acres into what is now the town of Plymouth circa 1790.
- Clark-Chesson House-219 Jefferson Street, c. 1810; Plymouth’s oldest surviving house, built by David Clark. Later owned by Elijah Cornell, who operated Cornell Ship Yard with his two brothers. His cousin Ezra, founded Cornell University.
- Cicero Julius Norman House-213 Washington Street, c. 1927. Brick bungalow with ceramic tile roof. Built by Robert L. Tetterton.- Plymouth, NC
- *Creswell Historic District, roughly bounded by 208 E. Main Street and 310 W. Main Street, Creswell
- Davenport Homestead-home of Daniel Davenport, Washington County’s first senator. Located on Mt. Tabor Road, 3.5 miles from U.S. 64, in Creswell.
- David O. Brinkley House- 114 West Main Street, c. 1914 Queen Anne style, built of cement block.- Plymouth, NC
- First Baptist Church-309 Washington Street, c. 1916; Classic Revival on site of former Latham House Hotel. Congregation organized in 1866. Old Baptist burial grounds are located two blocks to the west – Plymouth, NC

- *Garrett's Island House- (Privately owned) Built about 1750 on Garrett's Island Road; oldest house in Washington County, Plymouth vicinity. First called Oval Island, then Bailies Island, and finally by its present day name when Garrett family acquired the land.
- Grace Episcopal Church-107 Madison Street, c. 1861. Church was heavily damaged during Battle of Plymouth. Rebuilt in 1893 – Plymouth, NC
- Hampton Academy-110 West Main Street, c. 1902. Plymouth's first brick school house, used until 1950. The Academy is now used as a Beauty Salon and Day Spa.
- Hornthal Family House-109 West Main Street, Four Gables Bed and Breakfast, c. 1870. Built by Louis Henry Hornthal – Plymouth, NC
- Jackson House-102 East Main Street, c. 1900. Victorian House reportedly built by Wm. Jos. Jackson.
- Johnston-Williford House-114 East Main Street, c. 1890. Owned by Frank Rhodes Johnson and family until 1990s.
- Latham-Brinkley House-201 East Main Street, c. 1883; Italianate villa built by Jos. A. Latham for Charles Latham and wife, Emily Polk.
- *Latham House-311 East Main Street, c. 1850, Plymouth; Greek Revival-style, built by Charles Latham. Remodeled in Italianate mode by his descendants in 1970.
- Latham-Ward-Hampton House-302 East Main Street, c. 1870. One of the first dwellings built after the Civil War.
- Loane-Owens House-303 East Main Street, c. 1985.
- Long Ridge Post Office-Long Ridge Road, Plymouth. Privately owned.
- Mackeys Ferry (only marker remains)-Established by permission of King George II. Operated for 203 years making 8 mile trips from Mackeys to Edenton.
- Maritime Museum-on Water Street across the street from the Roanoke River Lighthouse
- Methodist Church-109 Third Street, c. 1832, 1860, 1931; Organized in 1827. Used and heavily damaged during Civil War.
- Morattuck Church-Morattuck Road, Plymouth. Established in 1785, it was the second oldest church in county. No longer in existence. Stone plaque honoring ministers can be seen at Port O' Plymouth Roanoke River Museum.

- New Chapel Baptist Church-301 Madison Street, c. 1924. Gothic Revival with twin towers.
- Newberry-Alder House-110 Third Street, c. 1912.
- Norman Family Home-111 E. Main Street, c. 1898. Home of Cicero J. Norman and family.
- *Perry-Spruill House-326 Washington Street, c. 1883, Plymouth; Greek Revival cottage with beautiful gardens.
- Picot-Armistead-Pettiford House-302 West Main Street, c. 1815, 1850. Privately owned; built by Dr. Julian Picot, home to series of distinguished owners. Robert Armistead purchased it in 1844; purchased by Reuben Pettiford in 1914, who was a brick mason.
- *Plymouth Historic District, listed in January 1991, Plymouth
- Port O' Plymouth Museum-located at the east end of Water Street, is one of the top ten Civil War sites in the two Carolinas.
- *Rehoboth Methodist Church, East of Skiddersville (Pea Ridge area) on U.S. 64; Colonial Anglican congregation known as Skidders Chapel.
- Roanoke River Lighthouse
- *Somerset Place Plantation- State Historic Site, 2572 Lake Shore Drive, Creswell vicinity. Built around 1830, Somerset was the home of the Josiah Collins family. Somerset is a representative plantation which offers insight into lifestyles of the period prior to the Civil War. It covered about 100,000 acres and was one of the state's most prosperous producers of rice, corn, and wheat.
- *Washington County Courthouse-120 Adams Street, c. 1919, Plymouth. Classic Revival building, fourth courthouse to be built at this location.
- Windley-Ausbon House-302 Washington Street, One of the only four surviving houses built prior to 1861; known for its Civil War bullet holes. Ausbon family has occupied since 1885.
- Zeb Vance Norman House-106 Third Street, c. 1890. Used as a school until 1902. Occupied by one of Plymouth's prominent lawyers until his death in 1968

Map 16 on the following page shows the location of the historic resources listed on the National Register.

Map 16: Historic Sites in Washington County on the National Register



Residential land area needed to accommodate the planning jurisdiction's projected future permanent and seasonal population

Because existing and projected population numbers indicate a decline in population over the next 25 years, no new residential land will be needed to accommodate projected population numbers through 2025.

The County has ample land to accommodate the increase in building permits and dwelling units expected in the County despite declining population figures. The County needs to make sure the land allocated for this development is the most suitable land in the County for development (i.e. considers infrastructure, soil type, proximity to existing development). Generally, land meeting these requirements is located in or adjacent to the three existing municipalities.

VII. ANALYSIS OF COMMUNITY FACILITIES

The following section provides an evaluation of the ability of Washington County to provide the basic community services necessary to meet the current and anticipated demand for services as well as a detailed discussion on existing land uses within Washington County.

This section will provide a detailed description of the following community facilities: water service, sewage disposal, transportation, and stormwater management. The existing community services are reviewed as well as the demand for services based upon population and land use projections.

WATER SUPPLY AND WASTEWATER TREATMENT FACILITIES

County Water Service

Washington County has recently constructed a regional system built to serve the unincorporated areas of the County with major funding for construction of the system coming from revenue bonds. The system is owned and operated by Washington County. The system distribution was done in three phases. The first phase was completed in 1986/1987, the second phase was completed in 1995, and the third and final phase was completed in 2000, with service beginning around April 2001. The system includes about 135 miles of pipeline and is in very good condition.

The total capacity for the plant is 1 million gallons per day (mgd) and the system's finished water storage capacity is 1.2 million gallons. According to the 2002 Local Water Supply Plan for Washington County, there were 2,434 residential customers, seven commercial customers, and two institutional customers. The average annual daily water use by the County was .415 million gallons, well below plant capacity.

Table 7.1 shows the Average Daily and Maximum Daily Water use by month in the County in 2002.

Table 7.1: 2002 Average Daily and Maximum Day Water Use by Month in MGD

Month	Avg. Daily Use	Max Day Use
January	0.398	0.501
February	0.387	0.459
March	0.384	0.456
April	0.386	0.454
May	0.425	0.563
June	0.489	0.629
July	0.486	0.729
August	0.443	0.586
September	0.408	0.493
October	0.393	0.455
November	0.390	0.443
December	0.398	0.480

Source: 2002 Local Water Supply Plan

The plant is supplied by three deep wells of 280 feet each. The raw source for these wells is the Castle Hayne Aquifer. After treatment, the water is stored in a five hundred thousand (500,000) gallon ground storage tank at the plant. From there, the water is

pumped to three (3) one hundred thousand (100,000) gallon elevated storage tanks and two (2) two hundred thousand (200,000) tanks located throughout the County.

Water service is also provided through private wells to properties where water lines have not been extended or to properties whose owners could not afford the mandatory hook up charges.

According to the local systems operator, the County had about 2,532 water customers as of July 2006. During the peak summer season the County uses about .430 mgd, but in the non-peak season water usage drops to about .375 mgd.

No data exists on violations of the water plant operation.

At no time did the County exceed approved WTP capacity and there are no plans to expand the system. There is ample water within the existing system to support all existing development with additional water available to support future growth and development.

Plymouth Water Service

The total WTP capacity for the Plymouth Water System is 1.2 mgd and the average annual daily water use by this system is 400,000 gallons. The system is supplied by five wells with a new well coming online Spring 2008.

The Town of Plymouth Water Treatment Plant had one monitoring report violation between 2000 and the present.

Roper Water Service

The Roper Water Treatment Plant has a capacity of 100,000 gallons. The average annual daily water use is about 76,000 gallons. The system is supplied by two wells.

The Town of Roper Water Treatment Plant did not have any violations between 2000 and the present.

Creswell Water Service

The total capacity for the Town of Creswell water treatment plant is 100,000 gallons a day. The average annual daily water use is about 45,000 gallons. The system has a 1,000,000 gallon elevated water tank and two wells that pump 200 gallons per minute each.

The Town of Creswell had one monitoring report violation between 2000 and the present.

Source Water Assessment Report Results

The North Carolina Division of Environmental Health (DEH) Public Water Supply (PWS) section completes assessments for all public drinking water supplies in the state. The wells are given three ratings: an inherent vulnerability rating, a contaminant rating, and a susceptibility rating. These ratings are described below:

1. The inherent vulnerability rating refers to the geologic characteristics or existing conditions of the well and its delineated assessment area.
2. The contaminant rating is determined based on the number and location of potential contamination sources (PSC) within the delineated area.
3. The susceptibility rating is determined by combining the contaminant rating and inherent vulnerability rating.

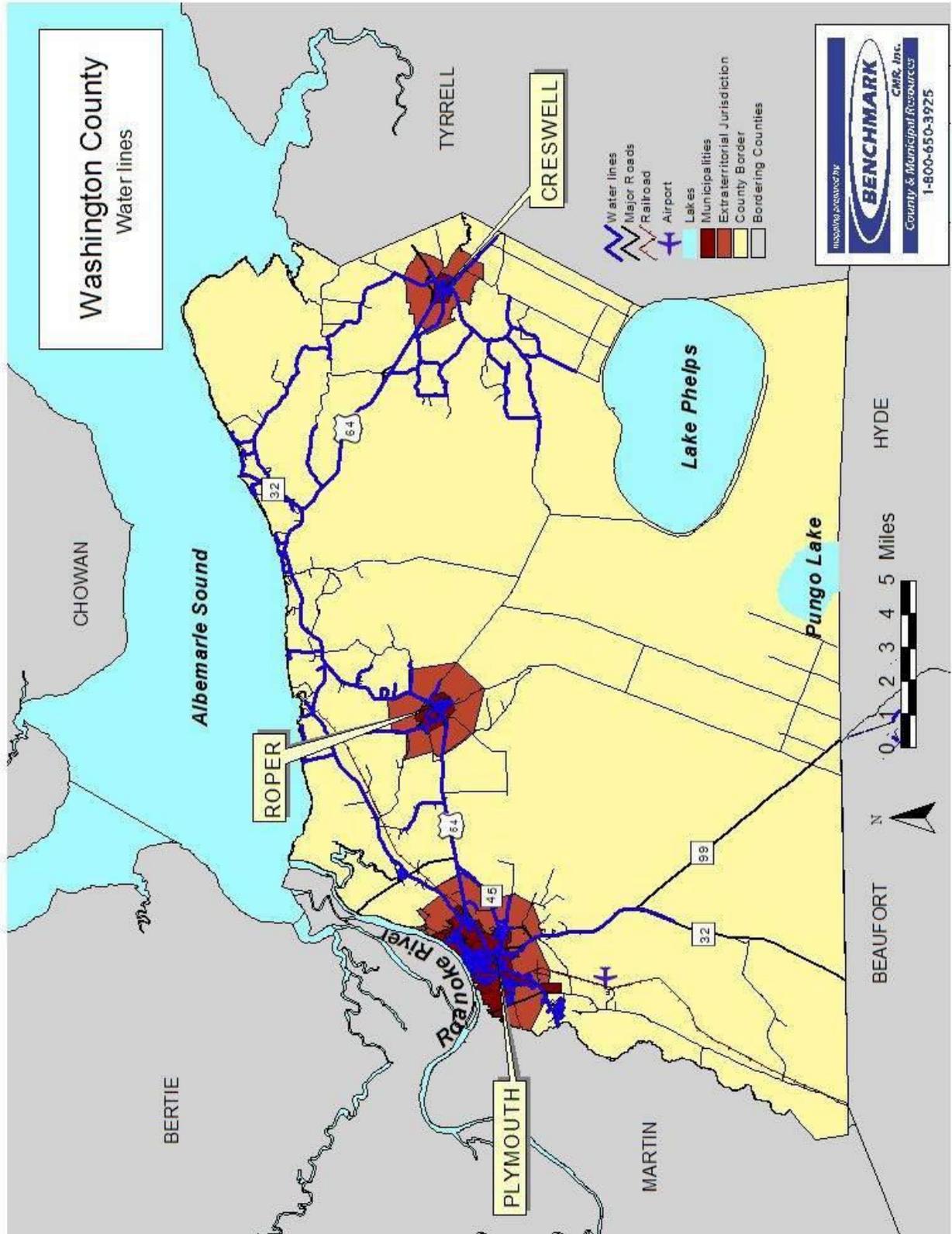
A susceptibility rating of “higher” does not imply poor water quality. Susceptibility is an indication of a water supply’s potential to become contaminated by the identified PCSs within the assessment area. The susceptibility rating for the county and municipalities is provided below.

- Washington County-All three wells received a susceptibility rating of “lower.”
- Plymouth-Well 1 and Well 3 received a susceptibility rating of “moderate” and Well 2 and Well 4 received a susceptibility rating of “higher.”
- Roper-Both wells received a susceptibility rating of “moderate.”
- Creswell-Both wells received a susceptibility rating of “higher.”

It is important to note, however, that while Washington County and its municipalities have an ample supply of water for current and future needs, the Pasquotank basin as a whole expects to see a 59 percent increase in water demand over the 1997 levels. Half, or 10 out of 20 systems submitting Local Water Supply Plans in this basin, indicated that their peak demands would exceed capacity by 2010. In the next 25 years these neighboring counties and municipalities will be pursuing additional water supplies which will affect Washington County. The County could contract with neighboring areas for a set period of time to increase revenue. However, the County needs to stay abreast of the issue to ensure it has enough water to allow for needed growth.

Map 17 on the following page shows the extent of the County served by water.

Map 17: County Water Lines



County Sewer Service

Washington County does not have a sewer system. County residents rely solely on individual subsurface disposal systems that are installed in accordance with Washington County Health Department regulations to treat their sewage. According to the Washington County Health Department, failing septic tanks are reported almost daily.

The County completed a sewer feasibility study in 2003 to determine the feasibility of constructing a countywide system. The study found the construction of the system to be too costly. The studies also indicated that due to the poor quality of existing soils within the County, there was insufficient land available to adequately support a countywide sewer system. Washington County is currently looking into conducting another sewer feasibility study, but does not have plans in the works for the construction of a sewer system.

Plymouth Sewer Service

Plymouth's Wastewater Treatment system has enough capacity to process 0.8 million gallons of wastewater a day. The average annual daily use by this system was 0.7 million gallons a day. According to the NC DWQ the Plymouth WWTP has received nine monitoring report violations between 2000 and the present. The Town has not been assessed any penalties for violations in the past five years.

Roper Sewer Service

The Roper Wastewater Treatment system is designed to handle eighty-five thousand (85,000) gallons a day and the average annual daily use by this system is between 56,000 and 65,000 gallons a day. The Town of Roper received 51 monitoring report violations between 2000 and the present. The town's WWTP has been assessed eight penalties during this time frame for a total of \$4,640.30.

Creswell Sewer Service

The Creswell Wastewater Treatment system is designed to handle approximately 64,000 gallons a day. The average annual daily use is about 35,000 gallons a day. According to the 2005 Annual Report for the Town of Creswell WWTP, each house has a septic tank and pump. They have a low pressure system which pumps to a three cell lagoon system.

The Town of Creswell received 98 monitoring report violations between 2000 and the present. The town's WWTP has been assessed 16 penalties during this time frame for a total of \$14,350.00.

TRANSPORTATION

The Washington County 2000 Thoroughfare Plan outlines the County's policy with roadway improvements and development of new roadway systems within the County. Four functional classifications stratify the roadways in the County:

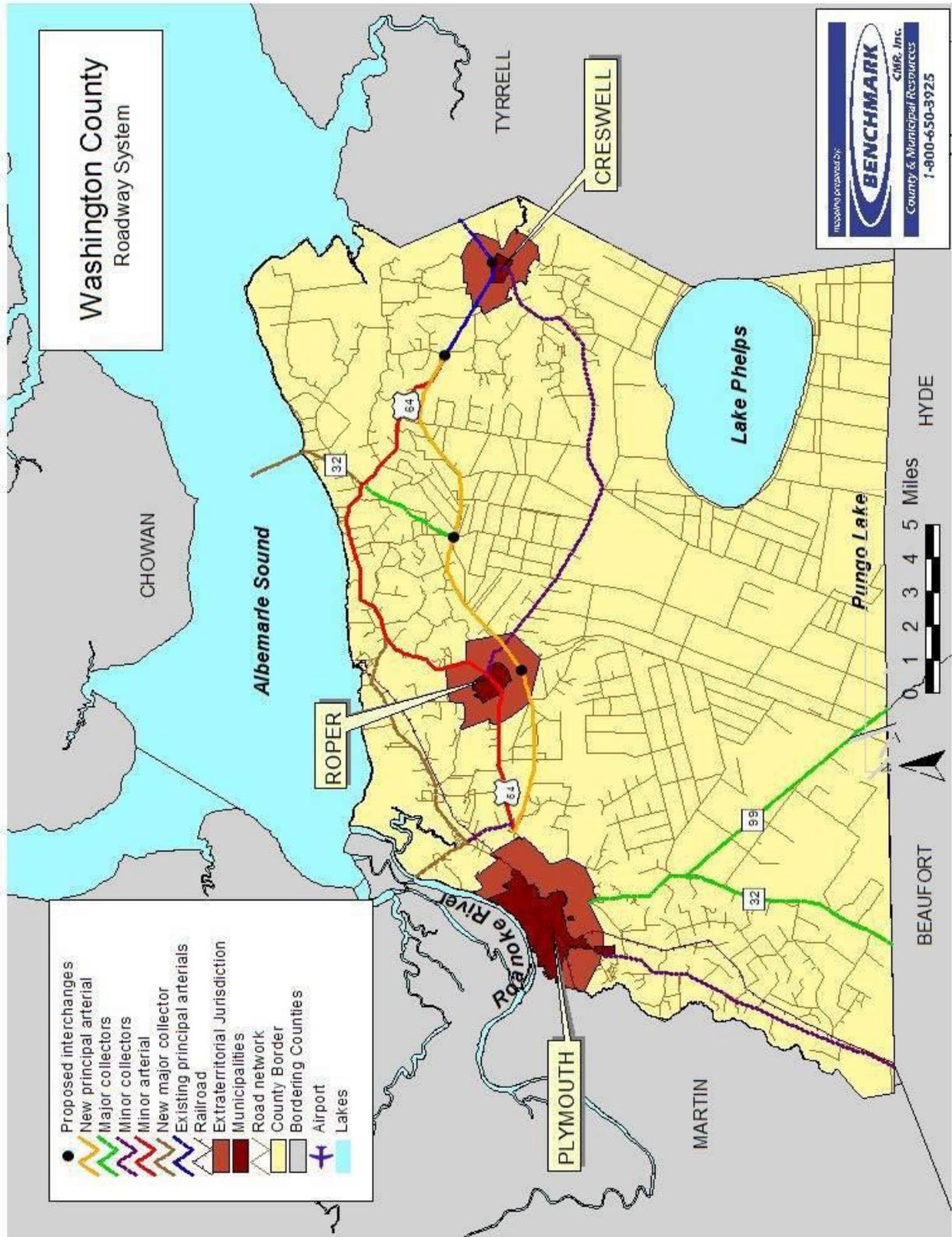
1. **Principal arterials** are rural links in the highway system. These facilities typically serve statewide or interstate travel. The principal arterial system serves all urban travel areas having populations greater than 50,000 and most areas having populations greater than 5,000. The U.S. 64 Bypass (TIP Project R-2542) is an example of a principal arterial traversing Washington County.

2. **Minor arterials** are rural roadways that join cities, larger towns, and other major traffic generators. This system provides intra-state and inter-county travel at relatively high travel speeds within minimum interference to through traffic. U.S. 64 is an example of a minor arterial for Washington County.
3. **Collector roads** generally serve intra-county travel. This classification is further divided into **major** and **minor collectors**.
 - **Major collectors** are rural routes that serve travel within a county, particularly for those larger towns that are not served by principal or minor arterials. Major collectors provide access to other traffic generators such as consolidated schools, shipping points, county parks, etc. This system also provides these types of places access to routes of higher classification and serves more important intra-county travel corridors. NC 32-45, running from the Plymouth planning area to Beaufort County line, is an example of a major collector designated on the Washington County thoroughfare plan.
 - **Minor collectors** are roads that collect traffic from local roads and bring all developed areas within a reasonable distance of a major roadway facility. These roadways provide service to the remaining smaller communities and link local traffic generators with major collectors. Front Street (SR 1301), from NC 308 to US 64, is an example of a minor collector in Washington County.
4. **Local roads** are roadways that are not classified on one of the previous higher systems. These roads consist of residential subdivision streets and residential collector streets. Local residential streets do not connect to thoroughfare or serve major traffic generators and typically do not collect traffic from more than 100 dwelling units. Residential collectors connect local residential streets with the thoroughfare system.

The major corridor into Washington County is US 64, a primary north-east/north-west highway that extends from the Outer Banks to Western North Carolina. North Carolina Routes 32 and 45 are the local north-south routes that connect Washington County with other counties and cities within the eastern portion of the State.

There is currently no major west/east road system allowing access from the Plymouth area to the Lake Phelps area of the County. This has restricted the use of existing recreational amenities within the eastern portion of the County and has acted as an impediment to additional development. Map 18 shows the existing road system in Washington County.

Map 18: Roadway System



Three transportation improvement projects (TIPs) have been completed since the last plan update. They include two rural projects, R-2548 and R-3620 as well as one bridge replacement project B-4314.

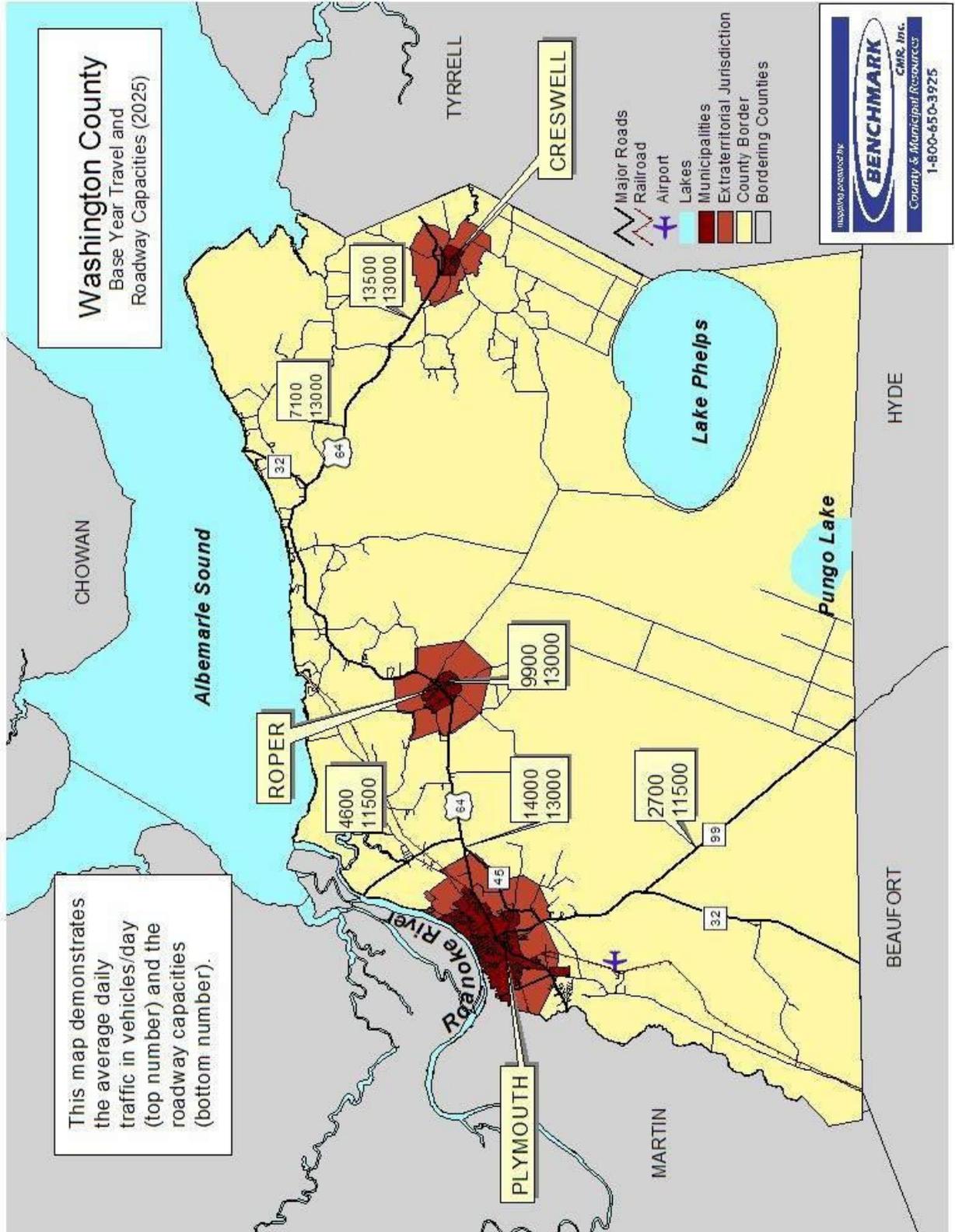
The first project, the US 64 Bypass (TIP Project R-2542), transverses Washington County east-west. This project included the construction of a multi-lane, fully access-controlled roadway tying into existing US 64 at NC 45 east of the Town of Plymouth. Traffic volumes are projected to range from 11,600 to 15,300 vehicles per day by the year 2025.

Second, the Proposed NC 32 Connector (TIP Project R-3620) is in response to TIP Project R-2542, described above. TIP Project R-2542 will shift US 64 south of its existing alignment, thereby limiting movement within Washington County and other portions of northeastern North Carolina. A new facility is needed to reestablish a direct link from the new US 64 roadway to NC 32 and other roads within the transportation system.

The third project, B-4314, is a bridge project to replace bridge #29 in Washington County over a canal. The project cost \$735,000 and was completed in 2006.

At the time this report was prepared; no information was located which identified any part of the thoroughfare system in Washington County as having unacceptable service levels. In fact, according to the Washington County 2000 Thoroughfare Plan, none of the roadways in the system are close to approaching their roadway capacities. Map 19 shows the 1999 travel numbers and roadway capacities.

Map 20: Base Year Travel and Roadway Capacity-2025



As shown on Map 20, however, traffic volumes increase on all roads in the County by 2025. Using projection data from the US Census, the Thoroughfare Plan identifies some areas of U.S. 64 within the County that may reach capacity near the year 2025-outside of Plymouth and Creswell. While the County has experienced negative growth over the past two decades, County officials expect to see slight growth over the next ten years due to recent and planned developmental trends. The N.C. DOT believes the 64 bypass will help to alleviate the capacity issues expected on U.S. 64 in the future.

According to the 2007-2013 State Transportation Improvement Program (TIP), several projects are scheduled to occur in Washington County over the next few years. These include two rural projects, two federal bridge projects, one mitigation project, two enhancement projects, and three public transportation projects. These projects range from constructing new routes, the Hwy 32 Connector to providing operating assistance for additional transportation services to the elderly and disabled.

STORMWATER MANAGEMENT

For the most part there are no major stormwater systems within the County, with the exception of the Town of Plymouth, who possesses a stormwater system along Highway 64. Stormwater runoff is mostly handled through local infiltration without major staging areas or ponds. Many major commercial developments along Highway 64 through Plymouth currently dump the majority of their stormwater runoff into the highway right-of-way.

The N.C. DENR provides information on potential contaminant sources in the County. According to their website, the potential contaminant sources in the County contributing to water quality problems include non discharge permits from the Town of Plymouth, NPDES permits including New Colony Farms LLC and Ready Mixed Concrete in Plymouth, Roper Refuse Disposal, Creswell Refuse Disposal, several pollution incidents including but not limited to Fayer Discount, Barnes Store/Eastern Fuels, the former Somerset Grocery, Phelps Amoco, Station Break, Woody's Texaco, six animal operations, and solid waste facilities including ME Edwards & Son Inc and Perdue Farms Grain Storage.

Although point sources do contribute to water quality problems in the County, the health department believes septic tank failures to be the leading cause of water quality problems.

Washington County and its municipalities are not subject to automatic designation and are not regulated under the NPDES Phase II Stormwater Program.

VIII. LAND SUITABILITY ANALYSIS

Land Suitability Analysis is a process used to identify the most suitable land for development in the County. The resulting Land Suitability Map reveals to local decision makers land that may have fewer environmental and regulatory restrictions, land where services can be provided at lower cost, and/or land that is most attractive given its proximity to existing development.

The analysis includes three steps:

1. Identify the factors that will be considered in the analysis.
2. Estimate a rating for the suitability factors-determine how suitable the site is with a particular factor for development.
3. Determine the importance of each factor.

The ratings given to each suitability factor ranged from -2 to 2. A rating of “-2” means the factor is not suitable development and a rating of “2” means the factor is the most suitable for development.

Each factor was then assigned a weight ranging from 1 to 3. A score of “1” means the factor is important for development, a “2” is very important for development, and a “3” is the most important for development.

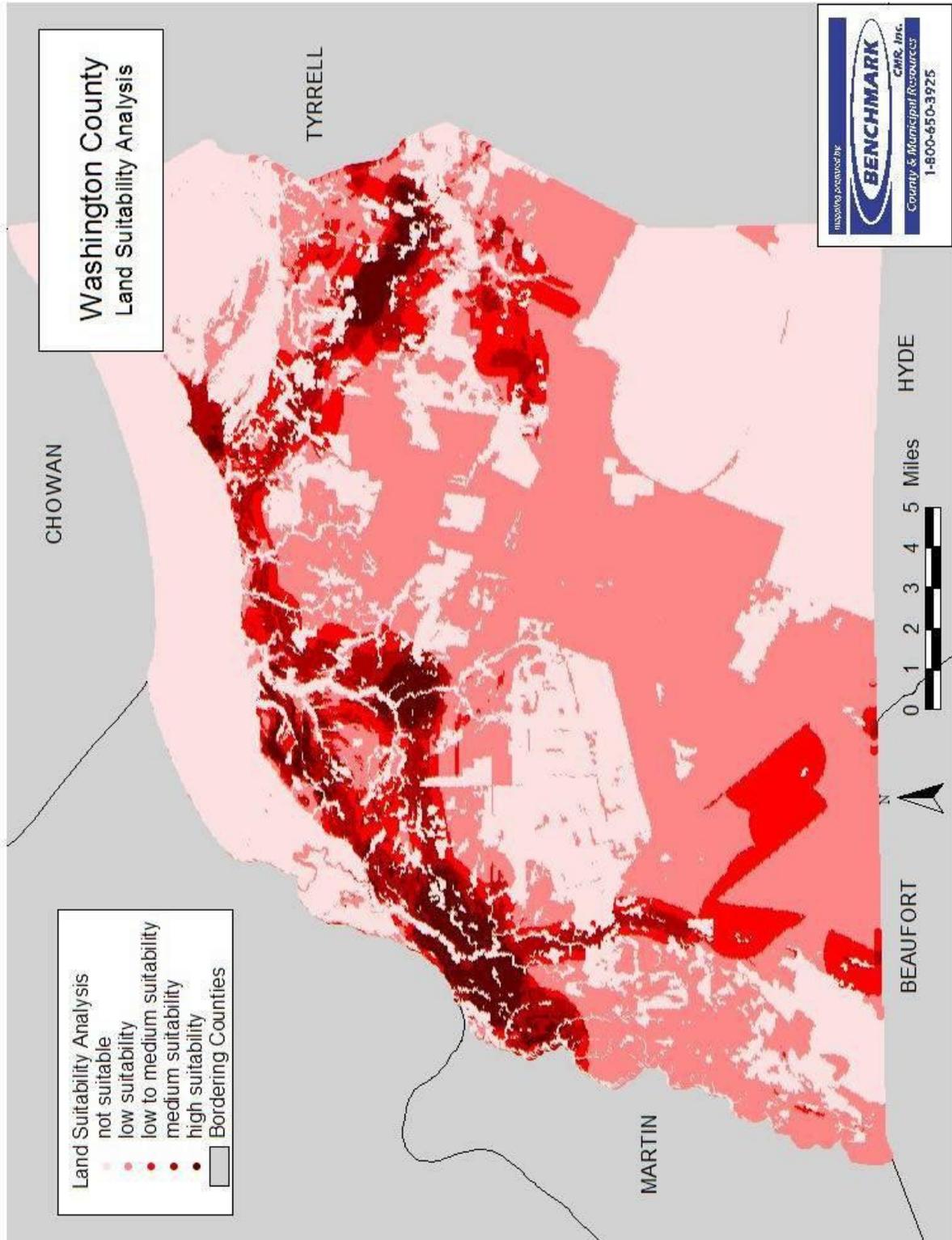
Table 8.1 shows the factors that are included in the analysis, the rating assigned to each, and the relative importance of each factor.

Table 8.1: Land Suitability Analysis

Suitability factor	Factor Rating				Weight
	Not interested	Not attractive	Somewhat attractive	Very attractive	
	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	2
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					

Map 21, The Land Suitability Map, shows land suitability in the planning area according to these factors. It contains five classes of land – not suitable, low suitability, low to medium suitability, medium suitability, and high suitability.

Map 21: Land Suitability Analysis



The areas with the highest suitability for development in the County are within municipalities and municipality ETJs. Additionally, areas along major roads are suitable for development. These areas are served by water and sewer and are the most developed areas in the County. Areas within floodplains and storm surge areas are less suitable, and natural heritage areas are not suitable for development. These areas are located in all four corners of the County (with the largest portion located in the southeast corner of the County) and also the East Dismal Swamp area south of both Plymouth and Roper. Large areas with low to medium or medium suitability are in close proximity to roads or areas that may not have suitable soils but where natural system limitations tend to be the lowest.

IX. REVIEW OF 1994 CAMA LAND USE PLAN

This Section provides a summary evaluation of the major policies and recommendations delineated within the 1994 CAMA Land Use Plan.

Within the 1994 Plan the County organized policies into five (5) categories consistent with CAMA statutes. Those categories were as follows:

1. Resource Protection
2. Resource Production Management
3. Economic And Community Development
4. Public Participation
5. Storm Hazard Mitigation and Recovery

The policy statements for each identified category are summarized as follows:

Resource Protection: Resource protection policies in the 1994 Plan addressed coastal wetlands, estuarine waters and estuarine shoreline, flood hazard areas, estuarine erosion areas, areas with soil limitations, marina development, the development of private sewer treatment package plants within the County, the continued need to preserve existing cultural and historic resources, expansion of existing protected areas and addition of new protected wildlife into the region, stormwater runoff issues, and the protection of the County's potable water resources.

The previously developed resource protection policies were consistent with CAMA policies and use standards.

The County took a restrictive policy concerning the continued expansion of protected lands, most notably property under management by the U.S Fish and Wildlife Service (FWS) and the introduction of new protected species such as the Red Wolf into the region. The County did not encourage the introduction of any new protected species into the region, nor did it support the expansion of existing protected lands because the County believed these actions would have negative impacts on the local economy and tax base.

The County did encourage conservation of wetlands, estuarine waters, and public trust areas. Only development that proved to have no significant adverse impacts on estuarine resources and was consistent with CAMA and County regulations was allowed along the estuarine shoreline. Specifically, it was the County's policy to allow residential, commercial, and industrial development in such areas as long as:

- Natural barriers to erosion were not weakened or eliminated;
- Development did not interfere with existing public access or impede potential new public access sites;
- Natural drainage was not overly altered to a point where it created a nuisance for adjoining property owners;
- No pollution was generated; and
- The development conformed to existing State erosion and sedimentation control regulations.

The County determined in the 1994 Plan that package sewage treatment plants were an acceptable means of handling sewage treatment for new developments and deemed them to be appropriate so long as the plants adhered to all applicable State and local requirements.

Policies allowed bulkhead installation provided CAMA use standards were met and there was no irreversible damage to existing sensitive marshes.

The County is actively enforcing its Flood Damage Prevention Ordinance, Subdivision regulations, Mobile Home Park regulations, and the resource protection policies contained within the 1994 Land Use Plan.

The County investigated the need to develop a comprehensive Zoning Ordinance to regulate the overall development and use of property within the County. The County adopted this Zoning Ordinance which established (2) zoning districts intended to allow for the proper grouping of residential, commercial, and industrial uses. The majority of property within the County is zoned residential, with commercial and industrial development being confined chiefly to the U.S. 64 corridor.

In general, areas within the Washington County Planning Jurisdiction with significant physical limitations have not been developed. Developments within AEC have been compatible with CAMA regulations and the County's land use controls.

IMPLEMENTATION OF POLICIES:

With respect to implementing these policy initiatives, the County has paid particular attention to addressing development within environmentally sensitive areas. The County has been proactive in dealing with development in flood prone areas and adopted policies within the Subdivision Ordinance that limit development in environmentally sensitive areas whenever possible.

The County also recently adopted a Zoning Ordinance, a major component of the 1994 Land Use Plan, and has attempted to limit the ability of high-density commercial and industrial land uses from locating in areas known to be susceptible to natural hazards. The Zoning Ordinance was developed utilizing a majority of the 1994 Land Use Plan policy initiatives in mind in attempting to keep high intensity land uses out of environmentally sensitive area.

The County needs to renew its efforts to address policy initiatives identified in the 1994 Plan, specifically focusing on:

- The development of a stormwater management ordinance,
- The development of a soil erosion and sedimentation control ordinance
- Inventories of environmentally sensitive areas as well as studies to identify historic and cultural resources in the County
- The development of a recreation plan
- Development of a county water and sewer plan
- Alternative waste-water and septic disposal methods
- County-wide waste water system

Resource Production and Management Policies: The policies in the 1994 Plan recognized the value of commercial and recreational fisheries to the area as well as renewed interest in allowing for more public access to estuarine waters. The County also adopted policies and implementation techniques for protection of agricultural lands within the region, including the support of State and Federal agricultural programs to provide assistance to farmers and protect identified prime agricultural lands, as well as policies that encouraged the continued support of existing local forestry programs and industries.

Policies encouraged the reduction of stormwater run-off into pristine and productive waters, promoted the responsible development of peat reserves throughout the County, and supported the development of commercial and recreational fishing opportunities as well as other water-based resource and production activities.

The County has strived to work with local developers and landowners to encourage and approve land development projects that were consistent with these policies.

IMPLEMENTATION OF POLICIES:

To implement these policy initiatives, the County has paid particular attention to addressing development within ESAs by adopting a comprehensive Zoning Ordinance. The County now intends to focus on development of comprehensive stormwater and soil erosion and sedimentation control regulations to address resource protection.

The County did work with the DCM to build a new public access site along the waterfront in Plymouth.

The County needs to renew its efforts to address policy initiatives identified in the 1994 Plan, specifically focusing on:

- The development of a stormwater management ordinance
- The development of a soil erosion and sedimentation control ordinance
- Promotion of water-based resource and production activities

Economic and Community Development Goals, Objectives, and Policies: Previous policies addressed the County's commitment to manage and direct growth. Policies were developed only after careful consideration of the following: the availability of County services, soil suitability, and ESAs. Specific policy statements ranged from general to specific including desired types of residential, commercial, and industrial growth patterns, local commitment to providing services to support development when economically feasible, encouraging the redevelopment of previously developed areas, continued commitment to State and Federal programs designed to support and spur economic development and rehabilitation of existing structures, encouraging local tourism initiatives, and continued cooperation between County and local municipal economic development committees.

The County's general land development policies stated that growth should be managed and guided by the suitability of the land to accommodate the use, the capacity of the

environment, compatibility with the goals and objectives of the County, and the availability of support facilities and services.

Policies encouraged commercial development to cluster along the US 64 corridor and other major roadways within the County. The County also adopted policies designed to encourage new industrial development to locate within the region in existing industrial parks or vacant industrial facilities.

Policies encouraged the development of public estuarine access opportunities and the development of a comprehensive study outlining the most appropriate sites for additional public access along the Albemarle Sound.

The County also adopted policies designed to improve resident quality of life. These policies included increasing the number, and availability, of adult education programs and courses designed to support continuing education activities for existing local professionals. The County also adopted policies intended to encourage the modernization of the existing school system, specifically focusing on the elimination of existing mobile trailers units and replacing them with permanent structures where appropriate.

The County has worked hard to adhere to these standards and to cooperate whenever possible with the existing incorporated municipalities to coordinate economic development activities. To achieve these goals it was necessary for the County to adopt new economic development policies and procedures and take a more active role in the Washington County Economic Development Council.

IMPLEMENTATION OF POLICIES:

To strengthen economic development efforts, the County has formed partnerships with local municipalities to address economic development on a regional scale. With the approval of the County Zoning Ordinance and the new Zoning Map, the County mapped areas where commercial and industrial growth is desirable. These efforts are only a start, however, and the County plans to develop more economic development policies and strengthen existing policies under this Advanced Core Land Use Plan.

The County needs to renew its efforts to address policy initiatives identified in the 1994 Plan, specifically focusing on:

- Redevelopment and revitalization of existing developed areas
- Enhancing tourism opportunities in the County
- Educational improvements to school facilities and programs
- Spurring economic development

Public Participation: The Board of Commissioners recognizes the importance of providing citizens with opportunities to participate in the community's planning process. Citizen participation and education on the Planning process is vital to the successful implementation of this document.

The 1994 Public Participation Plan provided for:

- Designation by the County Board of Commissioners of the Planning Board as the steering committee responsible for drafting the Update;
- Establishment of numerous public meeting dates, in addition to the regular Planning Board meeting schedule, to discuss the overall scope, importance, and need for the Land Use Plan, with local residents and allow them the opportunity to become active participants in the planning process;
- Newspaper releases concerning the land use planning process, including the major elements of the draft Land Use Plan;
- Public Hearings held by the County Board of Commissioners to review and receive additional comment from the public concerning the Land Use Plan; and
- Coordination with existing local municipalities on the policies adopted within the Land Use Plan and coordination of efforts to enforce and implement these policies.

The County Board of Commissioners shall ensure a continuous planning process by conducting periodic reviews of the Land Use Plan's policies and recommendations in a public setting and format. This review shall be the responsibility of the County Planning Board and Board of Commissioners.

The County needs to renew its efforts to address policy initiatives identified in the 1994 Plan, specifically focusing on:

- Conducting periodic reviews in a public setting and format
- Increasing public awareness and involvement in the Land Use Planning process

Storm Hazard Mitigation, Post-disaster Recovery, and Evacuation Plans: The storm hazard mitigation policies adopted within the 1994 Land Use Plan were consistent with CAMA requirements. The County has worked diligently to incorporate these policies into workable formats to address developmental issues and improve public safety.

Policies adopted within the 1994 Plan include addressing issues relating to coastal storm events, including citizen evacuation, conformance to building code construction standards for wind-resistant factors, continued enforcement of the existing Washington County Flood Damage Prevention Ordinance and applicable CAMA regulations.

The 1994 Land Use Plan also focused on the expansion of the existing Emergency Management Coordinator's position to include duties such as adopting comprehensive policy guidelines directed at establishing priorities for the permitting or reconstruction activities after a storm event.

The County has strived to implement these policies and continues to work to educate local residents on the dangers posed by coastal storm events. The County formed and utilized a Damage Assessment Team responsible for assessing property damage from storm events and assisting local residents in obtaining permits for post-disaster recovery projects. The County also completed a Hazard Mitigation Plan which analyzed County

hazards, assessed vulnerability and capability, and provided strategies and action plans for mitigation.

Summary: Since the adoption of the 1994 CAMA Land Use Plan the County has made several advancements. They adopted a zoning ordinance, that although needs refinement, provides a means of reducing land use incompatibility and controlling growth in the County. Additionally they have completed several plans including a hazard mitigation plan, a thoroughfare plan, and a growth opportunities plan. They have also conducted a second sewer feasibility study after the expansion of the U.S. 64 corridor. Finally, another public access site was added on the Plymouth waterfront.

However, a lot of the policies listed in the 1994 CAMA Land Use Plan were considered to be “ongoing and continued actions” and had no specific time frame for execution or responsible parties. Most of the policies began with verbs like “continue,” “support,” and “encourage,” and as a result, they have not been enforced or implemented.

Although a recommended schedule for implementation was mentioned at the beginning of the policy section, no schedule was provided. Therefore, there is no way to evaluate how successful the County has been at meeting its goals.

No amendments or adjustments were made to the 1994 Plan, but needed amendments and adjustments have been identified in the policy section of this land use plan update and have been given associated time frames for completion, ensuring the changes will be made.

Because the County has seen little growth or development since the writing of the 1994 CAMA Land Use Plan, it is difficult to determine the efficacy of policies created to protect natural systems and water quality. As economic conditions in the County continue to decline, it is obvious that the economic development policies have either not been implemented or have not been effective at spurring economic development in the County. As a result, the County has chosen Economic Development as one of its Advanced Core Plan requirements and will give it special attention in the policy section of this Land Use Plan Update.

X. PLAN FOR THE FUTURE

The primary purpose of the Land Use Plan Update is to develop policy statements which address the land use issues affecting Washington County and the issues anticipated to affect the County over the next 20 years. The analysis of existing and emerging conditions, community concerns, land use trends, and environmental conditions done in the prior sections of this update provides the County with the information necessary to develop informed policy statements. Citizen input through the public meetings and the Planning Board, which serves as the Land Use Plan Advisory Committee, was also instrumental in formulating the policy statements.

The section is organized by management topics. These management topics include the six management topics required under CAMA rules (listed as 1-6), as well as additional topics considered important by the County. A comprehensive list of topics discussed in this section is as follows:

1. public access
2. land use compatibility
3. infrastructure carrying capacity
4. natural hazard areas
5. water quality
6. local areas of concern
7. housing
8. recreation
9. economic development*
10. hazard mitigation*

* The topics of economic development and hazard mitigation are included at the end of this section, in more detail, to meet Advanced Core Plan requirements.

For each topic, the overall management goals are listed, followed by objectives and policies needed to achieve these goals, and implementation strategies the County will use to ensure these policies are followed through to implementation. Table 12.1 in Section XII provides a more detailed account of these policies, including priority, resources, and responsible parties.

PUBLIC ACCESS

GOAL: Maximize public access to boat and water sites in the County.

GOAL: Provide satisfactory access for residents and visitors to the planning areas' public trust waters.

GOAL: Ensure that all segments of the community are adequately served by public access.

POLICIES:

1. Build two new public access sites by 2015, specifically targeting under-served areas of the County.
2. Require developers to create public access sites in new developments along streams, lakes, rivers.
3. Restore one public access site that was lost or is in need of repair by 2010.
4. Identify, record, and map existing public access sites by 2010 and determine if these sites are adequate to serve the needs of the County.
5. Review existing and proposed access sites for accessibility by persons with disabilities and develop and pursue strategies to eliminate barriers by 2012.
6. Purchase at least one property along the estuarine shoreline for the development of a public access site by 2015.

IMPLEMENTATION STRATEGIES:

1. Continue to work with the Division of Coastal Management (DCM) to apply for and obtain Public Access Grants to construct new access sites in the County.
2. Identify local community groups that could help with long term maintenance of new and existing public access sites and get them to commit support.
3. Work with large land owners, such as Weyerhaeuser Corporation, to allow access or donate a portion of their land for the construction of a public access site. Some companies, like Weyerhaeuser, have a history of community involvement and contribute monetarily to other things like education and fire protection and are a viable source of support for public access as well.
4. Identify publicly owned properties and areas owned by nonprofit organizations and approach about siting additional access sites.
5. Identify and apply for State funding (such as the North Carolina Parks and Recreational Trust Fund (PARTF)) to support development of additional access sites along the shoreline.
6. Identify additional methods of obtaining public access sites, such as donations by property owners. Address the tax advantages and procedures through which property owners may donate property or easements to provide public access.

LAND USE COMPATIBILITY

GOAL: Develop in a manner consistent with the planning area's rural character.

GOAL: Concentrate development in the most suitable areas in the County.

POLICIES:

1. Direct residential development to be located near major arterial roadways to guarantee adequate access to the proposed development by emergency vehicles.
2. Direct commercial development to locate along existing major arterial roads within the County.
3. Only approve new residential development that fronts along roadways that have been constructed to NC DOT standards.
4. Do not allow for the development of commercial operations where necessary infrastructure is not in place, unless a contingency plan is approved by the County.
5. Promote the clustered expansion of commercial and industrial uses in the County in areas conveniently located to the county's residential communities but that do not conflict with the residential environment.
6. Amend the zoning ordinance to create separate commercial and industrial districts within the County by 2010. Specifically, create an industrial park in the County.
7. Provide incentives for industries to locate in the industrial park.

IMPLEMENTATION STRATEGIES:

1. Work in cooperation with the Town of Plymouth to revitalize and expand their existing County for this use.
2. Have the County develop a recommended incentives package to attract new industry.

INFRASTRUCTURE CARRYING CAPACITY

GOAL: Ensure adequate water supply for County residents now and in the future.

GOAL: Provide adequate sewage treatment for all County residents.

GOAL: Provide a safe, reliable, and efficient transportation system.

GOAL: Broaden access to opportunity and essential services for those who cannot or choose not to drive.

POLICIES:

1. Permit higher density uses mainly in the planning area's municipalities and surrounding areas where services are available or can be reasonably provided.
2. Require the retrofitting and revitalization of existing properties served by water and/or sewer before allowing new development in non served areas to occur.
3. Update the transportation master plan to develop new standards governing commercial access to major arterial roads. Develop service roads so as to avoid unnecessary traffic congestion.
4. Add at least two vans to the existing service that transports elderly to the doctor and other appointments by 2010.
5. Develop a bicycle and pedestrian plan for the County which includes maps of future bicycle lanes and trails to be located throughout the County by 2015.
6. Update the existing water and sewer plan that outlines and directs the future expansion and current maintenance of the County water system by 2015.
7. Create a sewer system in the County. Use sewer feasibility study to determine service areas.
8. The County GIS person shall work with the three municipalities to digitize information on water and sewer service lines by 2008.
9. Develop an Adequate Facilities Ordinance that ties or conditions development approval to the availability and adequacy of public facilities and services, thus ensuring that new development does not take place unless the infrastructure is available to support it by 2012.
10. Have municipalities develop Capital Improvement Programs (CIP) by 2015.
11. Retrofit and revitalize three unused deteriorating existing properties that have a good level of public services by 2015.

IMPLEMENTATION STRATEGIES:

1. Apply for the Bicycle and Pedestrian Planning Grants available through NC DOT.
2. Provide incentives to developers to undertake infill redevelopment and revitalization projects.
3. Seek funding for the construction of a countywide sewer system through a combination of sources including loans, grants, and bonds. Specifically the County should work to obtain Clean Water State Revolving Funds (CWSRF) which are available to units of local government at one-half (1/2) of the market rate for a period of up to twenty years.
4. Develop a priority funding list and establish an associated fund to obtain money for high priority issues in the County by 2010. The establishment of a sewage treatment facility should be a top priority on the funding list.

NATURAL HAZARD AREAS

GOAL: Promote development that is consistent with the capability and hazards presented by the county's natural systems.

GOAL: Minimize threats to life and property associated with development located in or adjacent to hazard areas.

POLICIES:

1. Update the Hazard Mitigation Plan by 2015.
2. Establish an educational program to provide information on hazards and mitigation strategies to residents by 2011.
3. Due to the significant number of mobile homes in the planning area, and other housing constructed prior to the implementation of Floodplain Regulations, the County will work to obtain funding to assist in elevating existing homes in flood-prone areas.
4. Discourage development and redevelopment within the floodplain; only allow development after the property owner has demonstrated strict adherence to the County's Flood Damage Prevention Ordinance.
5. Continue participation in the National Flood Insurance Program (NFIP) and work to improve the Community Rating System (CRS) score.
6. Amend the existing freeboard requirement in the County's Flood Damage Prevention Ordinance to require an elevation of two feet above established base flood elevations instead of the current one foot freeboard requirement by 2010.

7. Continue to enforce the Flood Damage Prevention Ordinance which requires all new construction, or structures that have been substantially improved, to be elevated above the established 100-year base flood elevation.
8. Update the master database of existing structures within the flood zone and their status in terms of compliance with existing regulations by 2010.
9. Continue to take inventory of drainage problem areas in the County after major storm events and periods of heavy rainfall.

IMPLEMENTATION STRATEGIES:

1. Secure funding from programs like the hazard mitigation grant program and community development block grant program to ensure ability to elevate existing homes in the floodplain.
2. Have Emergency Management divide the County into sections and designate staff to take inventory of different areas for drainage problems after storm events at least four times a year.
3. Planning & Safety staff shall conduct monthly monitoring of areas in the floodplain to ensure enforcement of the Flood Damage Prevention Ordinance.

WATER QUALITY

GOAL: Provide high quality water that meets water quality standards established by the Division of Water Quality (DWQ).

GOAL: Preserve and improve riverine and estuarine water quality.

POLICIES:

Potable Water Supply Protection

1. Require all new land developments to tie into the County water system if infrastructure is available in the area (not more than 500 feet from the proposed development).
2. Develop an incentive program to entice residents to tie into County water system by 2009.
3. Coordinate land development activities involving hazardous chemical or petroleum storage and disposal with the appropriate State or Federal regulatory agencies.
4. Continue to encourage management practices for hazardous materials that address their incidental use such as insecticides, herbicides, fertilizers, etc.

5. Initiate a local water quality monitoring program (including ground water monitoring) in the County by 2011.
6. Encourage farmers and timber operators to employ accepted Best Management Practices (BMP) to minimize the impact of these operations on water quality.
7. Ensure that developments locating adjacent to water bodies make every effort to mitigate any adverse effects on riverine and estuarine water quality and on identified primary nursery fishing habitat areas.
8. Develop a list of water conservation practices and groundwater protection measures and provide to local residents and businesses and any new residents or businesses that locate in the area by 2009.
9. Remove two water bodies from the impaired list by 2012.

Soil Suitability and Septic Tank Use

10. Create database to document the number and location of septic tanks in the County as well as the number of repair permits issued annually by 2013.
11. Reduce the number of failed septic systems by 15 percent by 2020.
12. Require major residential developments (50 lots or more) to install and maintain a package sewage treatment facility.
13. Only allow package treatment plants after all necessary and required permits are issued by appropriate State and Federal agencies and the proposed plans are approved.
14. Planning Board should amend existing Subdivision Ordinance by 2010 to include provisions outlying requirements for the perpetual upkeep and maintenance of the sewage treatment facilities as well as require the subdivision to identify the party responsible for upkeep and maintenance so the County will not have to use public funds to support private systems.
15. Hold two septic system workshops a year to provide local residents with the necessary expertise to maintain existing systems.
16. Establish an incentive program by 2012 that provides financial incentives to local residents who install environmentally friendly septic systems if they are unable to connect to a central sewer system.

Stormwater

17. The County shall place a fill limit on property within the County by 2015 in an effort to preserve to the greatest extent possible the natural topography of property and preserve existing stormwater drainage systems.

18. Encourage site planning which helps maintain site hydrology, minimizes impervious surfaces, and treats and manages stormwater on site.
19. The County shall promote the use of the best available management practices to minimize the degradation of water quality resulting from stormwater runoff.
20. Encourage Low Impact Development for all new development projects in the County.
21. Amend the Zoning Ordinance and Subdivision Ordinance by 2012 to require a certain percent of natural vegetation to be retained on a parcel of property.
22. Continue to reinforce the state's soil erosion and sedimentation control program and stormwater management program by requiring proper permits or approval of preliminary plats for subdivisions.
23. Adopt a Soil Erosion and Sedimentation Control Ordinance by 2011.
24. Adopt a Stormwater Management Ordinance by 2009.
25. The County shall adopt an impervious surface limitation requirement for all new proposed development within the region by 2015.
26. Establish a maximum impervious surface limitation on all commercial development by 2015 in an effort to reduce stormwater impacts on adjacent properties.
27. Continue to coordinate approval of land development projects with the DWQ permitting requirements and stormwater regulations and to coordinate approval of all soil and erosion and sedimentation plans with the Land Quality Section of the NC Division of Land Resources until the County adopts its own.
28. Continue to support and implement CAMA regulations requiring a 30-foot vegetative buffer along waterways in the County.
29. Establish and implement new regulatory measures requiring new development to incorporate stormwater management design strategies into their development proposals by 2011.

IMPLEMENTATION STRATEGIES:

1. Work with the Environmental Management section to set up a monitoring program.
2. Solicit state support and funding to conduct research into developing acceptable septic systems in the County.
3. Either adopt the DWQ's Phase II Model NC Stormwater Ordinance (although not subject to the NPDES Phase II rules) or participate in the Universal Stormwater

Management Program which is currently an optional program that has not been adopted by the State.

4. Look to the Division of Water Quality's Stormwater Runoff and Nonpoint Source Pollution section for guidance in establishing impervious surface limits, fill limits, and design requirements in the County.
5. The County should also use the DWQ's new BMP "Best Management Practices" Stormwater Design Manual as a guide in designing stormwater control measures and infrastructure.

LOCAL AREAS OF CONCERN

GOAL: Preserve natural areas, such as the county's wetlands and pocosins, with high biologic, economic, and scenic values.

GOAL: Preserve the County's historic and cultural resources.

GOAL: Enhance, protect and preserve the ambiance and environmental quality of Washington County while promoting a greater awareness of the scenic beauty and other positive attributes of the County.

GOAL: Maintain areas in their rural state and attempt to protect sensitive and unique land resources from degradation.

POLICIES:

General

1. Allow developers to dedicate all environmentally sensitive areas (flood zones, wetlands, etc) in a proposed residential development as open space.
2. Only allow development associated with water-dependent uses such as public access facilities, docks and piers, erosion control structures, or other uses permitted by CAMA use standards.
3. Develop an educational program to inform local residents about the need to protect environmentally sensitive areas by 2011.
5. Identify specific valuable natural and historic resources which the County wants to preserve by 2009.

6. Promote the conservation of open space within the County and actively promote the long-term preservation and maintenance of valuable natural resource areas.
7. Establish a fund for the purchase of environmentally sensitive land and a prioritization scheme to best allocate these funds by 2012.

Areas of Environmental Concern

8. Allow development in an AEC only after a plan laying out suitable steps to guarantee the continued protection of the area is in place.
9. Off-road vehicles, such as All Terrain Vehicles (ATV's), dirt bikes, go-carts, and similar vehicles not intended for highway travel or for legal use for travel along local roadways shall not be allowed to operate within the estuarine shoreline, AEC's, or any other identified environmentally sensitive area.
10. Only commercial and industrial land uses requiring water access shall be permitted near coastal wetlands and only in accordance with CAMA 7H.
11. Coastal wetlands shall only be filled consistent with applicable CAMA, State, and Federal guidelines and policies.

Wetlands (also see Areas of Environmental Concern)

12. Restrict development within identified wetland areas. If no viable alternatives are possible, require developer to designate the wetland areas on parcels slated for development as open space.
13. Washington County shall continue to follow and enforce CAMA and the US Army Corps of Engineers limit impacts on estuarine and wetland areas from development (also listed under Estuarine Waters).
14. Evaluate the functional significance of County wetlands and prepare a ranked list to be taken into consideration when approving new development by 2012.

Estuarine Waters

15. Restrict development in estuarine waters to those uses that will not cause significant degradation of the natural function or condition of the estuarine waters.
16. Only permit development that will not significantly interfere with existing public rights, usage, and access to navigable water or other public resources will be allowed in estuarine waters.
17. The County shall review the current Zoning Ordinance and amend relevant sections to only permit Low Impact development along estuarine shorelines.

18. Washington County shall continue to follow and enforce CAMA regulations to limit impacts on estuarine and wetland areas from development (also listed under Wetlands).

Fragile Areas

19. The County shall work with private land owners as well as public interest groups to instill protection measures on heritage areas in the County that currently have no protection.

Public Lands

20. The County shall continue to work with State and Federal agencies to guarantee the safe and effective management of all existing public lands in the region.

Historic, Natural, and Cultural Resources

21. The County shall develop a community awareness program to educate the public on the County's natural and historic resources including conservation methods as well as preservation and maintenance methods.
22. Review, revise, and update inventory of historic properties located within the County by 2012, and every five years after.
23. Preserve the integrity of the architectural and historic character of Washington County by protecting historic buildings and neighborhoods and the land around them from inappropriate uses.
24. Encourage private owners to register historic landmarks with the State Historic Preservation Office (SHPO).
25. Incorporate land use regulations that protect those properties listed on the County's register of historic structures from the impact of new development or redevelopment.

Forest

26. Encourage timber companies (and all timberland owners) to replant areas cleared for timber harvest, emphasizing the replanting of native species.

Agricultural lands

27. Identify the prime agricultural lands in the County by 2012.
28. Intensive development activities should only be permitted in areas where public services exist so as to preserve working farms throughout the region.
29. Strongly encourage farmers to employ accepted Best Management Practices (BMP) for stormwater and soil erosion and sedimentation control.

30. Continue to promote agriculture as a significant part of the County’s economic base for both production and its contribution to tourism through preservation of rural character and viewsheds.
31. Agricultural soils of highest local quality should be identified and preserved as an important natural resource.

IMPLEMENTATION STRATEGIES:

1. Support State and Federal agricultural programs designed to assist farmers and aid in identifying prime agricultural lands.
2. Work with Agricultural Extension Service and the Soil Conservation Service in an effort to assist local farmers in developing markets for their products.
3. Put “identification of specific valuable natural resources to preserve” on a planning board meeting agenda and encourage residents to attend and supply input.
4. Evaluate opportunities to charge fees, such as recreation fees, that could be used to fund the purchase of environmentally sensitive areas in the County.

HOUSING

GOAL: Provide a range of affordable housing types within the community in order to assure a choice for community residents.

GOAL: Provide adequate housing for all County residents.

POLICIES:

1. Revise the current zoning ordinance to develop specific types of residential zoning districts that permit different types of residential development (stick built homes, mobile homes) and densities in the County by 2020.
2. Identify all substandard housing units in the County and work to bring them up to code. Specifically, reduce the number of substandard housing units by 20 percent by 2015.
3. Adopt a housing ordinance which outlines minimum standards that all existing residential units must adhere to or risk being declared a nuisance and a potential threat to the public’s health, safety, and welfare. The purpose of this type of ordinance would be to require the upkeep of all residential property to avoid residential dwelling units falling into disrepair by 2015.

IMPLEMENTATION STRATEGIES:

1. Participate and apply for grant funds to support the development of affordable housing as well as encourage the development of additional housing for the elderly. Investigate the possibility of converting vacant County buildings into apartments for the elderly or for low income families.
2. Have County Inspections Department develop a strategy for identifying substandard housing in the County.
3. Participate in the Community Development Block Grant (CDBG) and Single-Family Rehabilitation Programs to upgrade the existing housing stock.

RECREATION

GOAL: Provide adequate recreational opportunities for County residents and visitors.

GOAL: Ensure that the recreational needs of all segments of the community are met.

POLICIES:

1. Develop a comprehensive recreational master plan for the County by 2020 which outlines the location of existing publicly owned recreation facilities and a plan to construct new facilities throughout the County. The master plan shall include a greenway plan that outlines the possible ways in which individual recreation sites can be interconnected to encourage universal pedestrian access.
2. Require developers of new residential developments to demonstrate how recreational amenities within a proposed development will tie into a universal greenway system.
3. Require developers of major subdivisions as described by the Subdivision Ordinance to dedicate a minimum of 10 % of the subdivision as open space to support development of recreational amenities based on subdivision density.
4. Take an inventory of existing parks and greenspace in the County and determine if these sites are adequate to serve the needs of the County by 2012.
5. Renovate the recreational facility and establish at least three programs for the youth by 2010.
6. Promote outdoor recreational opportunities such as camping, fishing, and eco-tourism in cooperation with public and private entities as a means of attracting additional visitors to the County.

IMPLEMENTATION STRATEGIES:

1. Recreation Department shall develop an inventory of existing parks and greenspace and identify community needs.
2. The Recreation Department shall be responsible for developing the recreational master plan or hiring or working with a consultant on the development of such a plan.
3. Establish a bond referendum to be used for greenway development, park land acquisition, facility upgrades and expansions, new park development and redevelopment of older park facilities.

ADVANCED CORE AREAS

ECONOMIC DEVELOPMENT

GOAL: Reverse the existing trend for major industry and commercial operations to leave the area.

GOAL: Provide a variety of employment opportunities to all segments of the population.

GOAL: Become more involved and proactive in business recruitment.

GOAL: Improve quality of life in the County by reducing unemployment and poverty and increasing per capita income.

GOAL: Ensure that every County resident of working age is trained adequately to enter the workforce.

GOAL: Expand the County's existing economic base by exploring economic development opportunities in the areas of industry, tourism, retail commercial and agriculture in order to strengthen the existing economy, generate tax revenue and additional employment opportunities.

GOAL: Improve educational quality in the County.

GOAL: Increase educational opportunities for all segments of the population.

GOAL: Significantly increase employment in the tourism industry, specifically expanding involvement in eco-tourism activities.

GOAL: Capitalize on the multitude of environmental and natural resources prevalent in the County.

POLICIES:

1. Form partnerships with local organizations to foster additional economic development within the area.
2. Develop a recruitment package to attract additional commercial and industrial development within the region by 2010.
3. Develop a comprehensive marketing plan outlining the steps that shall be taken to encourage new retail and industrial development by 2012.
4. Get three new businesses to locate in the County by 2020.
5. Develop an incentive program by 2010 to attract new businesses into the area that considers property tax credits or incentives, utility incentives such as a free or reduced water rate, financial assistance in providing any and all necessary training

of local residents to provide and immediate, trained workforce, and rent assistance.

6. Encourage economic development that provides employment-intensive opportunities for the local work force and, in particular, offers viable job opportunities for the youth and unemployed of Washington County.
7. Identify dilapidated commercial/industrial structures that can be rehabilitated to support new development by 2012.
8. Continue to participate in the Industrial Recruitment Program through the North Carolina Department of Commerce.
9. Encourage and support all types of economic development land uses which can be shown to complement, and not adversely impact, the existing demographic, economic and environmental base within the County.
10. Undertake an aggressive, pro-growth land use policy which shall underscore active industrial recruitment programs and focused Chamber of Commerce efforts.
11. Work with existing businesses and property owners to ensure the continued viability of and redevelopment opportunities for the County's existing commercial areas.
12. Identify business linkage opportunities within the existing marketplace by 2010, and actively promote Washington County as an ideal location for the future location of firms and industries that could properly take advantage of these opportunities.
13. Identify areas suitable for new economic development or the expansion of existing local operations by 2009, with an emphasis on long-term planning opportunities for well-designed industrial facilities within a park-like setting.
14. Identify and market two prime development sites that are compatible with the environment and existing land use pattern by 2015.
15. Encourage industrial and technological development in suitable locations to provide jobs and increase the County's tax base.
16. Aggressively market the developable parcels remaining within the Plymouth Industrial Park to existing County industries looking to expand or to new development parcels.
17. Identify sectors within the local retail marketplace in which local spending is "leaking" to surrounding localities by 2010, and actively promote the development of new and specialty retailers to take advantage of market niche opportunities.

18. Establish a fund for County revitalization in an effort to attract new commercial development to the area by 2011.
19. Continue to support the Washington County Economic Development Commission in their efforts to market the County's retail and industrial sites.
20. Support and provide public information pertaining to groups such as the Albemarle Commission, the Regional Development Institute, and the Small Business Institute at East Carolina University, which provide assistance to new and small businesses and to economic development projects.
21. Support and promote the Downtown and riverfront areas of localities as potential locations for seasonal/annual festivals, markets and recreational activities.
22. Educate owners of large, undeveloped tracts of land deemed suitable for economic development uses on the FLUM of the potential economic value of their land and work with them to coordinate necessary public improvements.
23. Work with East Carolina University and other surrounding colleges to extend the three year higher-education initiative deal through the Windows on the World Technology Center to continually provide on-site, online, and distance-learning opportunities to residents of all ages.

Education

24. Provide Internet access to local school and libraries by 2009.
25. Work with the local school system to establish a comprehensive adult education program by 2014. This program shall include working with the local Community Colleges in the region and with East Carolina University to provide local residents with more opportunities for vocational/technical training as well as additional opportunities for local residents to earn advanced degrees.
26. Provide training programs that match the needs of the industries in the County and the industries the County would like to attract.
27. Work with East Carolina University and other surrounding colleges to extend the three year higher-education initiative deal through the Windows on the World Technology Center to continually provide on-site, online, and distance-learning opportunities to residents of all ages.

Tourism

28. Establish a scenic canoe tour/route along the Roanoke River in an effort to attract tourists to the area by 2010.
29. Develop a tour of local special environmental areas by 2014. The tour would serve as an educational tool for local residents and visitors to the area on the

- importance of the natural environment and the different flora and wildlife indigenous to the area.
30. Encourage tourism-related retail and service development in appropriate areas in order to diversify the County's economic base.
 31. Hire tour guides and/or establish a bus or trolley system to lead tours and explain the history of the Civil War Trail and other historic resources in the County.
 32. Promote the construction of new hotels/motels and the renovation of existing hotels to encourage visitors to stay overnight in the County.
 33. Encourage the development of dine-in or waiter served restaurants in the County, specifically along the U.S. 64 corridor.

IMPLEMENTATION STRATEGIES:

1. The Washington County Chamber of Commerce shall work to strengthen partnerships with local, state, and federal agencies that provide economic development assistance. Specifically, the County shall work to identify and apply for all funding opportunities available from these agencies.
2. The Board of Commissioners shall reevaluate the County budget with a view toward increasing funding for economic development. Currently, the category "economic and physical development" has the smallest budget of any category, with only \$5000 allotted to economic development for the fiscal year 2004-2005.
3. Hire an economic developer to assist the County in its economic development efforts.
4. Look to resources such as the ETI drill down toolkit available at <http://www.uwm.edu/Dept/ETI/drilldowns/index.html> and The University of Wisconsin-Milwaukee Employment and Training Institute at <http://www.uwm.edu/Dept/ETI/PurchasingPower/ETImethodology.htm> to help identify sectors within the local retail marketplace in which local spending is "leaking" to surrounding localities.
5. Because of the large number of churches in the County, the County shall encourage congregations to partake in faith-based and community initiatives to tackle problems in the community. Funding is available at the federal level for these types of initiatives.
6. Work with state agencies such as the Small business and Technology Development Center to encourage small business development, specifically along the waterfront. These agencies provide a variety of resources including management education, business counseling, and funding.
7. Apply for local grants to aid in the obtainment of Internet access.

HAZARD MITIGATION

Mitigation Goals

- Goal 1: Enhance/upgrade existing emergency services and critical facilities to better serve the citizens of Washington County.
- Goal 2: Identify and implement techniques for improving drainage throughout the county.
- Goal 3: Evaluate and update/revise ordinances related to development and land use to incorporate mitigation.

Identification and Analysis of Mitigation Techniques

1. Prevention-preventative activities are intended to keep hazard problems from getting worse and reduce a community's future vulnerability. Preventative activities include:
 - Planning and zoning
 - Building codes
 - Floodplain regulations
 - Drainage system maintenance
 - Shoreline/riverine/fault zone setbacks
2. Property Protection-property protection measures involve the modification of existing buildings and structures to help them better withstand the forces of a hazard, or removal of the structures from hazardous locations. Property protection measures include:
 - Building acquisition or elevation
 - Critical facilities protection
 - Retrofitting (e.g. windproofing, floodproofing, seismic design techniques, etc).
 - Safe rooms, shutters, shatter-resistant glass
 - Insurance
3. Structural Projects-Structural mitigation projects are intended to lessen the impact of a hazard by modifying the environmental natural progression of the hazard event through construction. Structural mitigation projects include:
 - Reservoirs
 - Dams/levees/dikes/floodwalls/seawalls
 - Diversions/detention/retention
 - Channel modification
 - Storm sewers
4. Emergency Services-Emergency service measures minimize the impact of a hazard event on people and property. These actions are taken immediately prior to, during, or in response to a hazard event. Emergency service measures include:
 - Warning systems

- Evacuation planning and management
 - Emergency response training and exercises
 - Installing temporary shutters for wind protection
5. Public Education and Awareness-Public education and awareness activities are used to advise residents, elected officials, business owners, potential property buyers, and visitors about hazards, hazardous areas, and mitigation techniques they can use to protect themselves and their property. Public education and awareness measures include:
- Speaker series/demonstration events/hazard expositions
 - Hazard map information
 - Real estate disclosure
 - School children educational programs

Mitigation Action Plans

Washington County proposed 13 mitigation actions, Creswell proposed four, and Roper proposed three. The Town of Plymouth participated in Mitigation Advisory Committee meetings but is not covered by the Hazard Mitigation Plan. Tables 10.1, 10.2, and 10.3 list the proposed actions for Washington County and the Towns of Creswell and Roper, as well as information on funding, responsible parties, and the schedule for implementation.

Table 10.1: Mitigation Action Plans for Washington County

Action	Category	Hazard(s) Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule
Construct a new County Emergency Operations Center	Emergency Services	All	High	\$250,000	Department of Homeland Security, NC Division of Emergency Management	County Planning & Safety	Approximately two years
Remove lift stations located on the river and downtown in Plymouth	Property Protection	Flood	High	\$2 million	Department of Homeland Security, NC Division of Emergency Management	Mayor, Town of Plymouth	Approximately two years
Purchase and install generators for five (5) fire stations within the county.	Emergency Services	All	High	\$50,000	Department of Homeland Security, NC Division of Emergency Management	County Planning & Safety	Approximately one year
Purchase and install generators for all schools within the county.	Emergency Services	All	High	\$50,000	Department of Homeland Security, NC Division of Emergency Management	County Planning & Safety	Approximately one year
Purchase and install generators for all water treatment plants in the county.	Emergency Services	All	High	\$500,000	Department of Homeland Security, NC Division of Emergency Management	County Planning & Safety	Approximately two years
Construct an EMS building in Creswell and Roper in order to better provide emergency medical services throughout the county.	Emergency Services	All	High	\$1 million	Department of Homeland Security, NC Division of Emergency Management	County EMS Director	Approximately 5 years
Remove all destroyed mobile homes and debris throughout the county which have resulted from past events.	Prevention/Property Protection	All	Moderate	\$10 million	Department of Homeland Security, NC Division of Emergency Management	County Planning & Safety	Approximately two years
Update/revise zoning ordinance, sign ordinance, mobile home and travel trailer ordinance, and subdivision ordinance.	Prevention	All	Moderate	\$5,000	Department of Homeland Security, NC Division of Emergency Management	County Planning & Safety	Approximately two years
Upgrade Community Alerting System.	Emergency Services/Public Education and Awareness	All	Moderate	\$12,000	Department of Homeland Security, NC Division of Emergency Management	Local Emergency Planning Committee (LEPC)	Ongoing
Purchase a Trimble GPS unit in order to map utilities and critical facilities.	Prevention	All	Moderate	\$6,500	Department of Homeland Security, NC Division of Emergency Management	County GIS	One Year
Increase freeboard requirement from one foot to two feet.	Prevention	Flood	Low	\$0	n/a	County Building Inspections	Approximately two years
Work towards on-line offering of permits, inspections, tax and GIS services.	Public Education and Awareness/Prevention	All	Low	\$10,000	Local Funds	County Information Technology	Ongoing
Acquire a new permitting program to be used for elevation tracking, etc.	Prevention/Public Education and Awareness	Flood	Low	\$5,000	Department of Homeland Security, NC Division of Emergency Management	County Building Inspections	Approximately two years

Table 10.2: Mitigation Action Plans for Creswell

Action	Category	Hazard(s) Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule
Upgrade flood pumps and install generator for dike system	Structural projects	Flood	High	\$250,000	Department of Homeland Security, NC Division of Emergency Management	Mayor and Council, Town of Creswell	Approximately two years
Purchase and install generators for all lift stations in the Town of Creswell	Emergency Services	All	High	\$250,000	Department of Homeland Security, NC Division of Emergency Management	County Planning & Safety	Approximately two years
Upgrade water and sewer systems.	Prevention/Property Protection	Flood, Hurricanes, Tropical Storms	Moderate	\$1.5 million	Department of Agriculture Rural Development, NC Rural Economic Development Center, NC Division of Community Assistance	Mayor and Council, Town of Creswell	Approximately seven years
Evaluate resident interest in home elevation	Prevention/Property Protection	Flood	Low	\$0	Department of Homeland Security, NC Division of Emergency Management	Mayor and Council, Town of Creswell	Approximately one year

Table 10.3: Mitigation Action Plans for Roper

Action	Category	Hazard(s) Addressed	Priority	Estimated Cost	Potential Funding Sources	Lead Agency/Department Responsible	Implementation Schedule
Purchase and install generators for all lift stations in the Town of Roper	Emergency Services	All	High	\$250,000	Department of Homeland Security, NC Division of Emergency Management	County Planning & Safety	Approximately two years
Upgrade water and sewer systems	Prevention/Property Protection	Flood, Hurricanes, Tropical Storms	Moderate	\$1.5 million	Department of Agriculture Rural Development, NC Rural Economic Development Center, NC Division of Community Assistance	Mayor and Council, Town of Roper	Approximately seven years
Develop and implement a strategy to resolve drainage issues in the Town.	Prevention/Property Protection	Flood	Moderate	\$500,000	Department of Homeland Security, NC Division of Emergency Management	Mayor and Council, Town of Roper	Ongoing

XI. FUTURE LAND USE

The Future Land Use Map (FLUM) is derived through the study process during which the physical, social, economic, and environmental realities of the County are examined. The FLUM graphically outlines and assigns land use categories to individual geographical areas within the region. The Map is intended to serve as a general guideline to assist the County in the implementation of the Land Use Plan's policies and strategies.

The FLUM:

1. Provides a visual display of the County's land use goals, objectives, and policies as outlined in Section X of this document,
2. Is capable of implementation within the context of satisfying both the demands of the local economy while allowing the County to responsibly supply public services and infrastructure,
3. Satisfies CAMA requirements,
4. Clearly depict the land use and community development patterns encouraged by Washington County,
5. Is consistent with natural systems composite map and land suitability map, and
6. Is consistent with Washington County's water quality policies.

The Future Land Use Map (FLUM) 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 infrastructure policies.

The FLUM has four major land classifications all of which have subclasses for further identification resulting in twelve total land use categories.

1. Residential
 - Residential/Agriculture
 - Low density residential
 - Medium density residential
 - High density residential
2. Historic District
3. Commercial
 - Corridor commercial
 - Downtown/waterfront mixed use
4. Industrial
 - Heavy
 - Light
5. Office/Institutional

6. Conservation

- Public lands
- Environmentally Sensitive Areas

Each of the twelve land use categories is described below in more detail.

RESIDENTIAL

Residential/Agriculture (RA)

The purpose of this land use category is to provide a designation to support agricultural and forestry uses, and other similar uses traditionally associated with an agrarian region. County land meeting the intent of this classification should be located in relatively isolated and undeveloped areas which would be the most appropriate for the future development of large lot, single family detached residences. Residential development densities within this category range from 1 to 2 dwelling units per net developable acre and are areas where densities do not require the provision of urban type services. Conventional lot sizes in this land use designation range from 20,000 SF to 30,000 SF, depending upon the net development area ratios for particular subdivision projects.

Low Density Residential (LDR)

This land use category is designed to provide for an environment of low density single family detached residential structures. This land use is promoted in areas with significant environmental constraints and where water and/or sewer service does not exist nor be easily extended. The net housing density within the district ranges from 1 to 2 units per net developable acre with a minimum lot size of 20,000 SF.

Medium Density Residential (MDR)

Land areas carrying this designation are planned for single family detached residences developed at a moderate density in the range of 2 to 4 dwelling units per net developable acre, with conventional lot sizes of 12,000 SF to 20,000 SF. Water and sewer services are provided or could easily be extended in the future. Clustering is encouraged where feasible to achieve greater land use efficiencies and environmental protection.

High Density Residential (HDR)

This land use category provides a designation for both attached residential and multi-family housing including duplexes, triplexes, apartments, and retirement housing at a density in the range of 6 to 8 units per net developable acre. This residential land use category will afford the community another valuable means of providing additional affordable housing opportunities to its residents. The County should specifically focus efforts on retirement housing given current market demands and the potential for revenue generation. These lands are the most developed and urban residential areas and have in place, or are scheduled to have in place, public services including water, sewer, recreational facilities, public roads, and police and fire protection.

HISTORIC DISTRICT (HD)

This land use category includes areas recognized by the National Register of Historic Places. Structures must be at least 50 years old and have distinctive features including design and materials and/or represent a definitive period in history. This land use category was developed to promote the redevelopment and reuse of vacant stores and

other buildings in prime locations, specifically in the Town of Creswell. Structures in this land use category must meet more stringent design standards and work to maintain the historic integrity of the existing and surrounding structures to the greatest extent possible.

COMMERCIAL

Corridor Commercial (CC)

The Corridor Commercial land use category will designate land areas on heavily traveled County collectors and arterial streets, characterized principally by adjoining commercial and service uses. This category is intended to be applied to existing, stable retail areas, including commercial and neighborhood shopping centers located along the major entry corridors, as well as to areas suitable for future commercial development. This category will be applied mostly to highway commercial uses including convenient stores, country stores, auto-related uses, motels, restaurants and tourism retail uses.

This designation should in no way encourage “strip” style development patterns. Land use tools such as shared driveways, limited curb cuts, etc will prevent strip style development patterns from occurring.

Downtown/Waterfront Mixed Use (DWFMU)

This land use planning designation is specific to the municipal downtowns, including the Plymouth waterfront. It is intended to service close-in neighborhoods and includes a market radius of no more than one (1) mile. These areas are suitable for a planned mixed use community and promote a mix of residential, commercial, and recreational/public uses. Typical uses will include small grocery stores, drug stores, offices, services, restaurants, and some residences. Residences may be above retail and offices or adjacent to the center’s core. The center should be designed to encourage walking and biking and provide convenient access to and from adjacent neighborhoods for pedestrians and bicyclists.

INDUSTRIAL

Light Industrial (I-1)

This land use category is intended to include light industrial uses including light assembly and manufacturing centers and distribution and warehousing facilities. The intent of this category is to accommodate limited industrial uses in a well-planned setting where primary functions are to be conducted within completely enclosed buildings and where exterior storage operations are highly regulated. Site planning should emphasize high quality design standards. No use should be permitted within those land areas which might be harmful to the adjoining land uses and the residential ambience of the adjacent neighborhoods.

Heavy Industrial (I-2)

The Heavy Industry category is primarily intended to address those existing industries which have potentially hazardous impacts on the community and to provide enhanced guidelines for the continuation and/or expansion of such uses. Limited opportunities for heavy industrial expansion exist in select areas where the use could be adequately

buffered from adjacent users and traffic demands could reasonably be supported with adequate levels of service (specifically designated industrial parks).

OFFICE/INSTITUTIONAL (O-I)

This land use category is established to provide for the rendering of specialized services and public and private institutional functions, including but not limited to, government facilities, cultural facilities, educational facilities, and charitable institutions. This land use category was developed to promote economic growth while buffering residential neighborhoods from traffic arteries or commercial areas. Office/Institutional uses should be promoted in transitioning areas as well as established office parks. To protect the low intensity character of this land use category, retail and wholesale trade should be prohibited.

CONSERVATION

Public Lands (PUB)

This category includes parks and recreation facilities owned and maintained by the County, State, or Federal Government for use by the general public.

Environmentally Sensitive Areas (ESA)

The purpose of this classification is to promote for the effective long-term management and protection of significant environmental areas within the County. This category includes areas critical to the environmental enhancement, ecological stability and water quality of the region. Development within these areas is to be strictly limited and strongly discouraged. These areas include wetlands, marshes, swamps, canals, floodplains, wildlife habitats and other sensitive areas as defined by the DCM.

In a broad overview, the Future Land Use Map incorporates the policies outlined in Section X in the following manner:

- Non-residential development is clustered around major roadways, existing municipalities, and in locations where essential services are already available,
- The area around the shores of the Albemarle Sound, Pungo Lake, and Lake Phelps are placed in conservation areas to reflect the County's pledge to eliminate high intensity land uses from locating in areas where they could have a negative impact on water quality,
- Areas deemed least desirable to support development have been identified on the FLUM as being either conservation or residential/agricultural. The focus here is to be consistent with policy statements contained in Section X indicating that the County shall only allow low-density residential land uses in areas deemed to be environmentally sensitive,
- Medium and high density residential areas are centered around existing municipalities and major arterial roadways, specifically Highway 64 and NC 32, consistent with land use policies that require medium and high density development to be located in areas where services are either readily available or are intended to be available in the very near future.

Map 22 below displays the desired Future Land Use designations within the County.

Map 22: Future Land Use

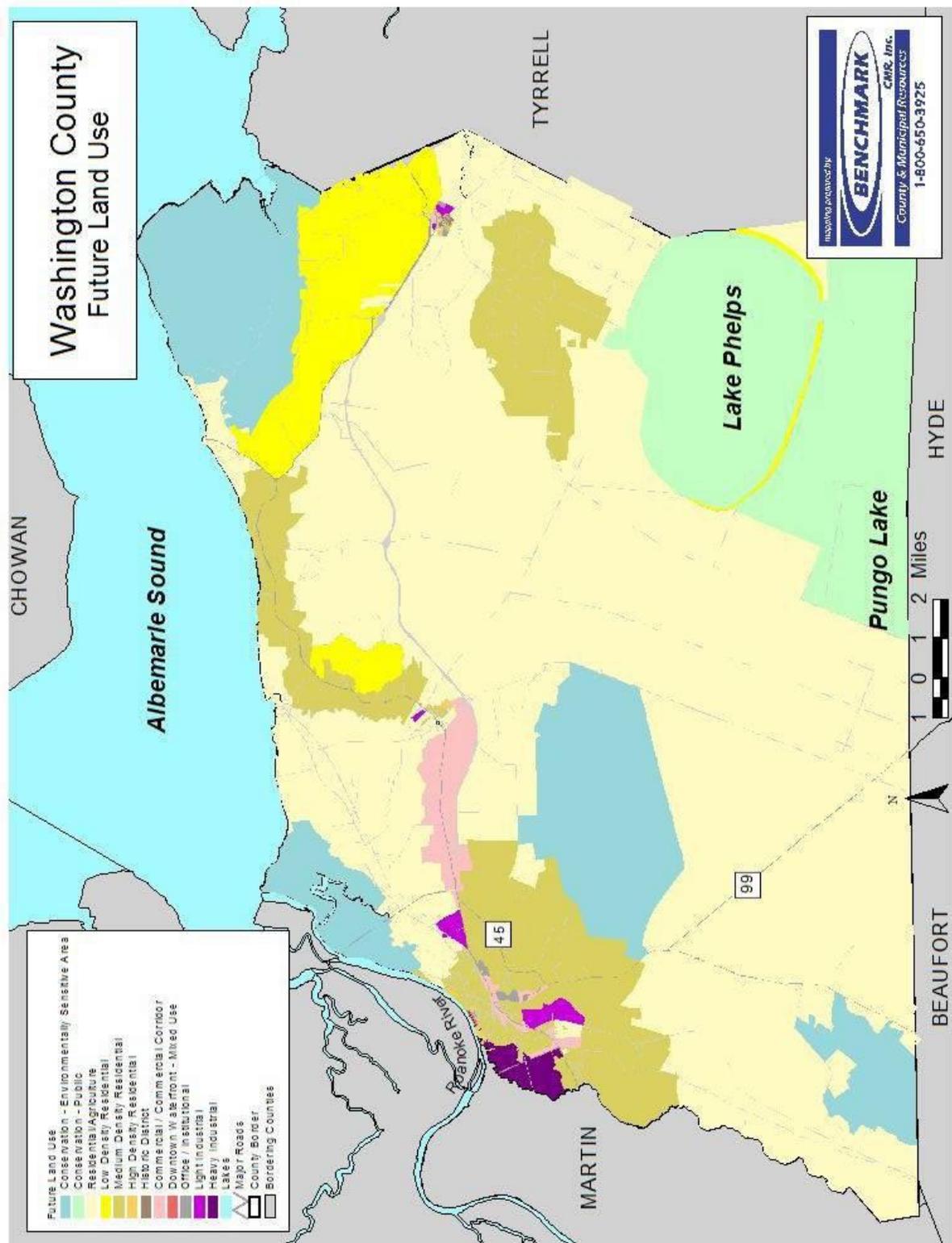


Table 11.1: Future Land Use in Washington County

Land Use Category	Acres	% of Total
Residential/Agriculture	129,688	54.60%
Low Density Residential	12,023	5.06%
Medium Density Residential	24,732	10.41%
High Density Residential	103	0.04%
Historic District	34	0.01%
Corridor Commercial	3018	1.27%
Downtown/Waterfront-Mixed Use	24	0.01%
Heavy Industrial	954	0.40%
Light Industrial	767	0.32%
Office/Institutional	165	0.07%
Public Lands	16,566	6.97%
Environmentally Sensitive Areas	31,683	13.34%
Water	17,761	7.48%
TOTAL	237,518	~100.00%*

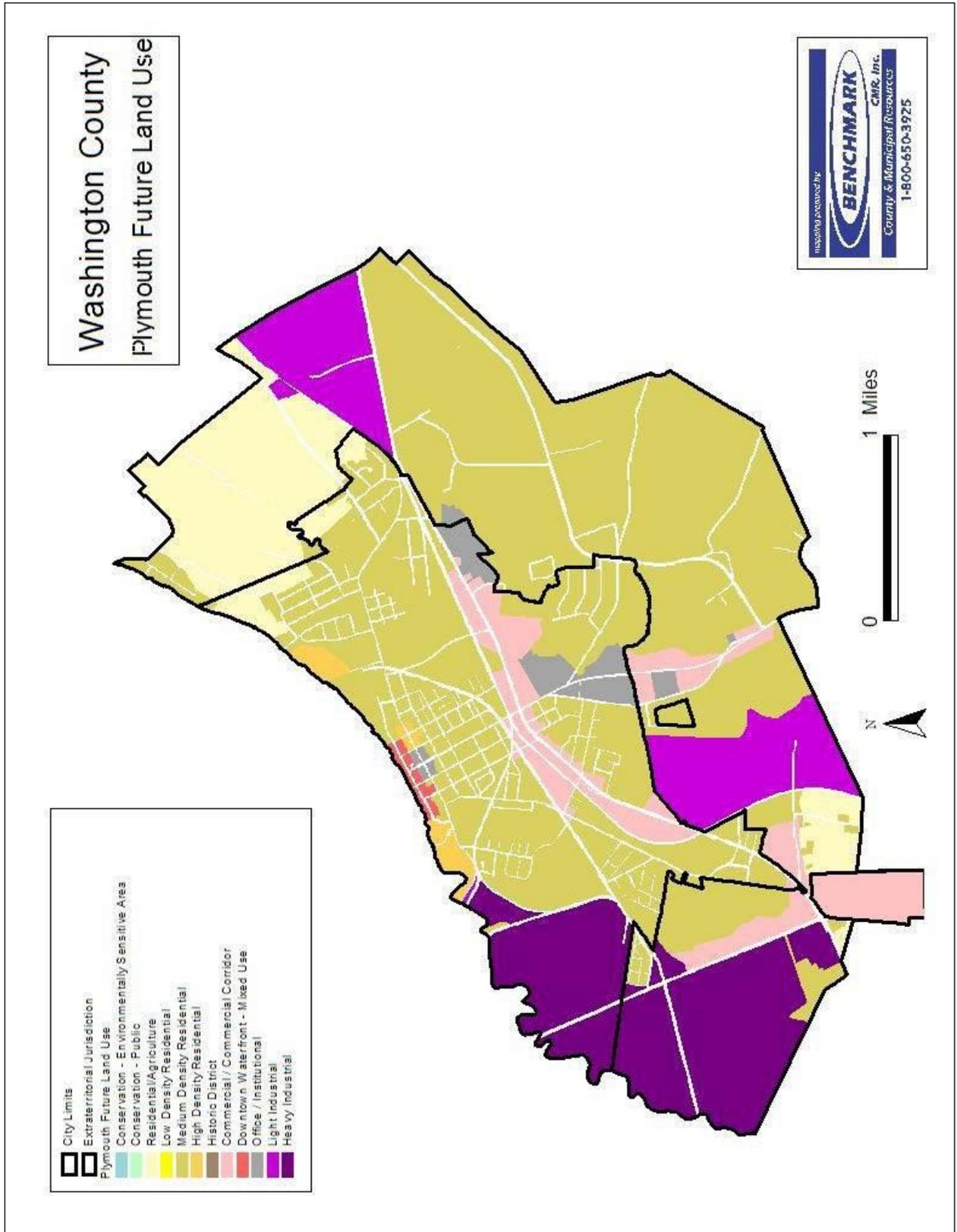
*slight difference due to rounding error

Table 11.1 provides a description of the number of acres and percentage of the total land use dedicated to each land use category. As indicated, a little over half (roughly 55 percent) of the County will continue to support agriculture and forestry uses, with very low density residential development. In areas with the fewest environmental constraints, higher density residential uses should be supported and encouraged. Environmentally sensitive areas should be protected from development. Commercial uses were expanded along the Highway 64 corridor.

Table 11.2: Future Land Use in Municipalities

Land Use Category	Plymouth		Roper		Creswell	
	Acres	% of Total	Acres	% of Total	Acres	% of Total
Residential/Agriculture	601	10.19%	1608	26.34%	1159	50.37%
Low Density Residential	0	0.00%	0	0.00%	939	40.81%
Medium Density Residential	3295	55.86%	581	19.06%	35	1.52%
High Density Residential	64	1.08%	28	0.92%	10	0.43%
Historic District	0	0.00%	0	0.00%	34	1.48%
Corridor Commercial	447	7.58%	803	26.34%	31	1.35%
Downtown/Waterfront-Mixed Use	20	0.34%	0	0.00%	4	0.17%
Heavy Industrial	764	12.95%	0	0.00%	0	0.00%
Light Industrial	572	9.70%	29	0.95%	59	2.56%
Office/Institutional	136	2.31%	0	0.00%	29	1.26%
Public Lands	0	0.00%	0	0.00%	0	0.00%
Environmentally Sensitive Areas	0	0.00%	0	0.00%	0	0.00%
TOTAL	5899	100.00%	3049	100.00%	2301	100.00%

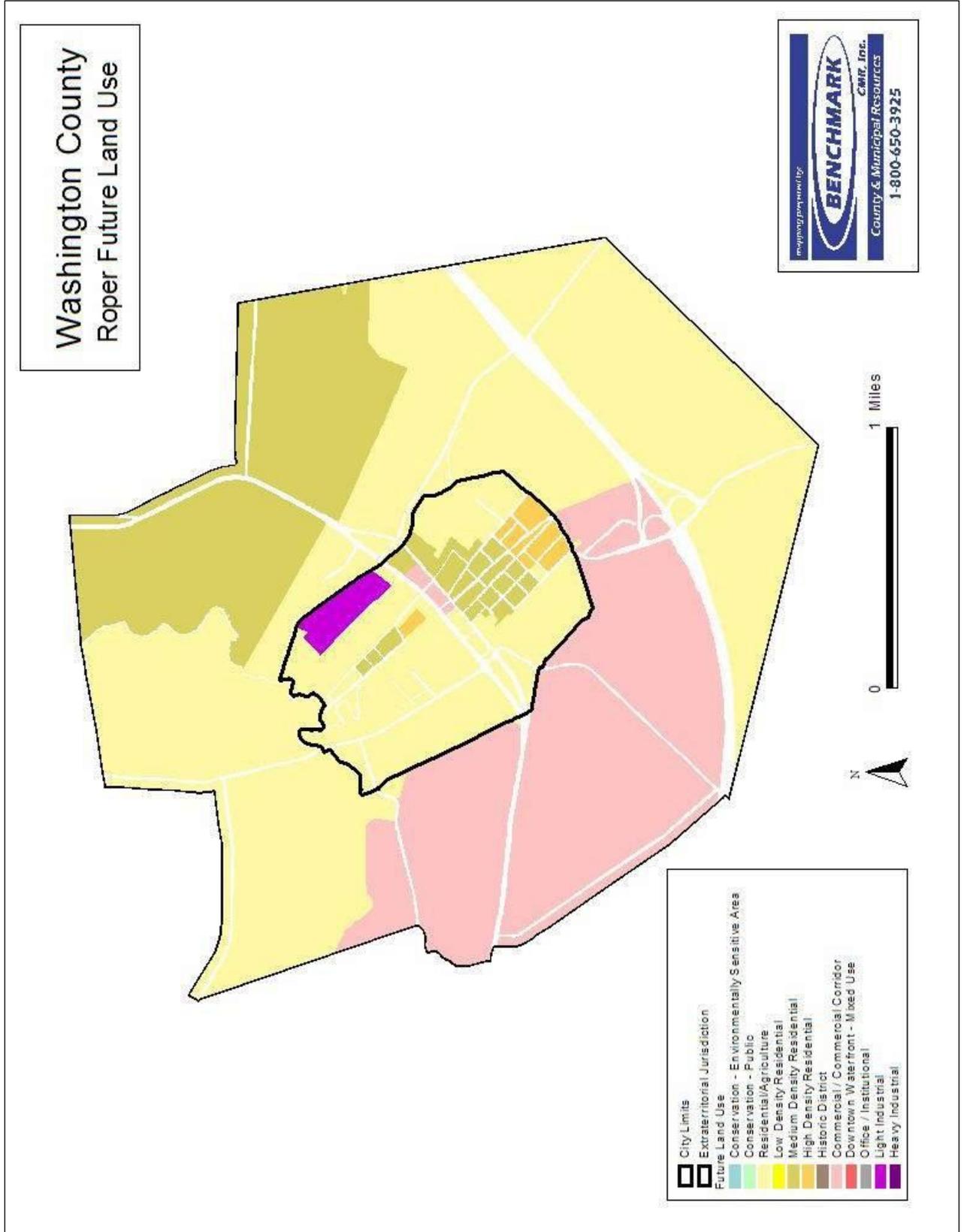
Map 23: Plymouth Future Land Use



Within the city limits of Plymouth, minor changes occurred from the Existing Land Use Map to the FLUM. Some industrial land uses on the east and west sides of town north of Main Street and along the Roanoke River will be replaced with high density residential land uses. Additionally, the waterfront will be designated as downtown/waterfront mixed use, allowing for a greater mix of residential, retail, restaurants and businesses. The industrial zone that run between the railroad tracks and between Washington Street and West Avenue is designated as commercial on the FLUM in an effort to expand existing highway commercial uses found in the area and industrial land uses remain on the fringes of Town.

The ETJ will remain largely residential, with expansion of light industrial uses in certain pockets as well as an increase of commercial and office/institutional uses along major arterials.

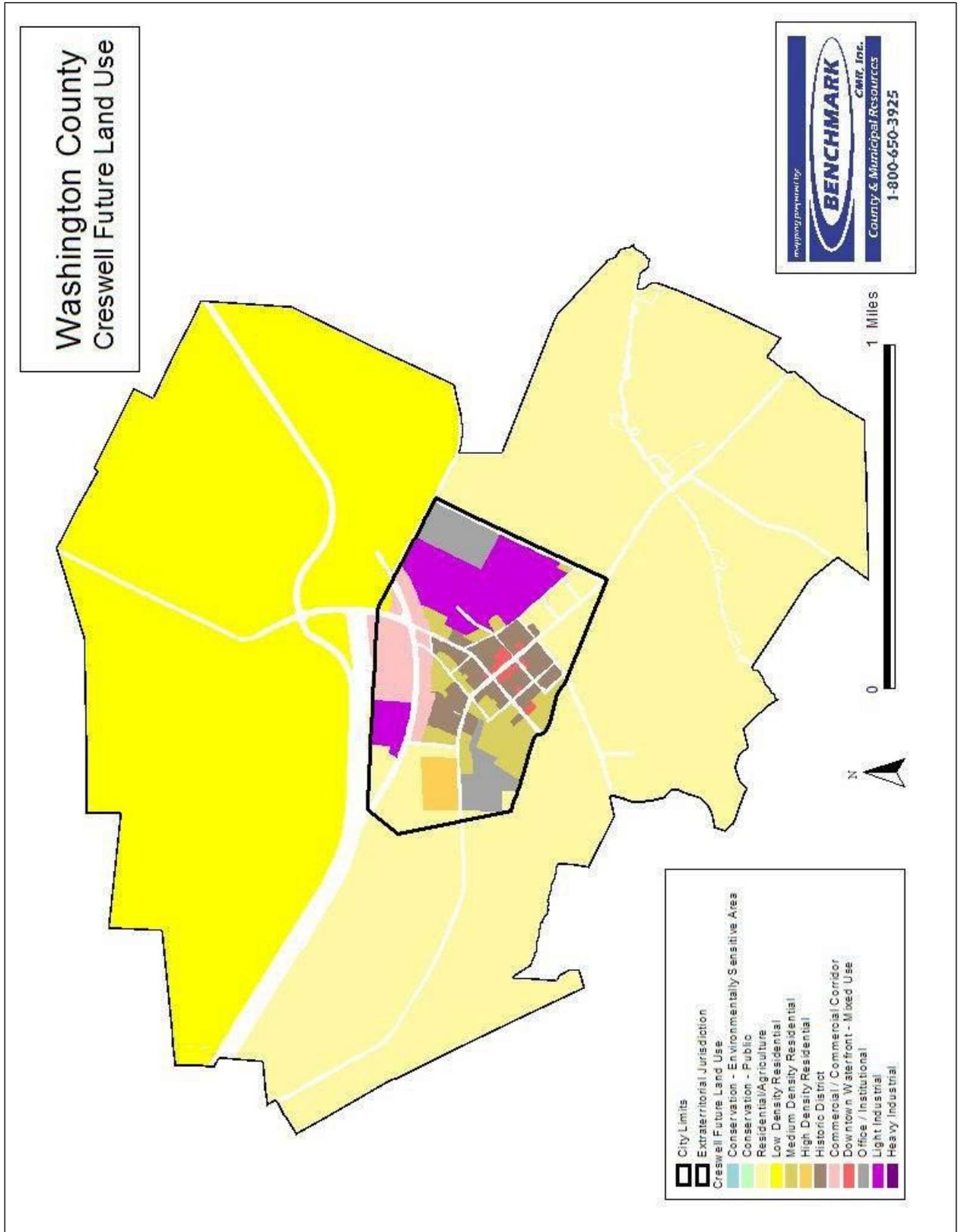
Map 24: Roper Future Land Use



The Town of Roper is roughly bisected by Kendrick's Creek, creating development constraints. All areas adjacent to the creek have greater difficulties supporting high density development and have been designated the lowest density residential development, Residential/Agriculture. Because a substantial amount of land within the city limits of Roper cannot support higher densities easily, higher densities should be promoted in those areas that can. A large existing residential area east of Kendrick's Creek and south of U.S. 64 will be designated as medium density residential as well as another area between the railroad and Plume Street. Two existing subsidized housing areas as well as an adjacent area on the edge of the town will be designated as high density residential. Industrial uses will be expanded around the wastewater treatment plan and commercial uses will be promoted along a portion of the U.S. 64 corridor.

The ETJ will be largely residential, with a large portion on the southwest side designated as Corridor Commercial to promote commercial development along U.S. 64 between Plymouth and Roper.

Map 25: Creswell Future Land Use



In the town of Creswell, several changes were made to the FLUM. First, commercial uses were expanded along the U.S. 64 corridor. A large light industrial area was added along the eastern town limits. A DWFMU area was designated along Main Street to promote the development of restaurants, shops, offices, and small retail stores in close proximity to residential areas in the town. The area surrounding the DWFMU area will be designated as Historic District in an effort to redevelop existing vacant stores and structures close in town. A high density residential area is designated on the western edge of town just north of Main Street.

Creswell’s ETJ will remain exclusively residential, the northern portion of the ETJ zoned Low Density Residential and the southern portion zoned Residential/Agriculture.

DEVELOPMENT GUIDELINES/DENSITY AND INTENSITY ESTIMATES

Table 11.3 reveals the density and intensity estimates for the land use categories described above.

Table 11.3: Development Guidelines

Land Use Category	Acres Devoted to Use	Maximum Density	Minimum Lot Size	FAR	Max. Building Height
Residential/Agriculture		2 dwelling units per acre	20,000 SF	NA	35 feet
Low Density Residential		2 dwelling units per acre	20,000 SF	NA	35 feet
Medium Density Residential		4 dwelling units per acre	12,000 SF	NA	35 feet
High Density Residential		8 dwelling units per acre	5,000 SF	NA	45 feet
Historic District		NA	NA	NA	NA
Corridor Commercial		NA	NA	.60-.80	55 feet
Downtown/Waterfront-Mixed Use		NA	NA	.60-.80	55 feet
Office/Institutional		NA	NA	.60-.80	35 feet
Light Industrial		NA	30,000 SF	.50-.70	55 feet
Heavy Industrial		NA	45,000 SF	.60-.80	55 feet
Public Lands		NA	NA	NA	NA
Environmentally Sensitive Areas		NA	NA	NA	NA

XII. TOOLS FOR MANAGING DEVELOPMENT

GUIDE FOR LAND USE DECISION-MAKING

The land use policies and FLUM will aid all members of the community in making local decisions regarding land use and development. Community members can look to the plan to obtain a better understanding of development proposals and property owners specifically can learn about the capabilities and limitations of their land. If developers look to the policies to determine the types of land uses and development desired by the community, they can design their development proposals accordingly, increasing their chances for approval. Planning staff will use the policies to review development proposals and form recommendations to their respective planning boards and elected officials. Finally, planning boards and elected officials, taking into consideration staff recommendations, will use the policies to make individual determinations of the consistency of development proposals with the land use plan policies.

EXISTING DEVELOPMENT PROGRAM

Ordinances

- Zoning Ordinance-This Ordinance is intended to promote the health, safety, and general welfare of the public and to implement the County's adopted Land Use Plan for the orderly and controlled development of the County. The ordinance was adopted in September 2003 and took effect January 2004.
- Subdivision Ordinance-This Ordinance establishes procedures and standards for the development and subdivision of land within the limits of the jurisdiction of Washington County. This ordinance took effect in September 1996.
- Mobile Home and Travel Trailer Park Ordinance – This Ordinance regulates the planning and construction of mobile home and travel trailer parks throughout the County and is enforced by the County Building Inspector. The Ordinance was originally adopted in 1974 and was last amended in 1979;
- Flood Damage Prevention Ordinance-This Ordinance regulates development within identified flood zones to minimize public and private losses due to flood conditions. This Ordinance was adopted in September 1994 and is enforced by the Director of Emergency Management for the County;
- Junk Vehicle Ordinance-This Ordinance provides for the removal and disposition or abandoned, nuisance, and junked motor vehicles. This Ordinance was adopted January 1998.

Codes

- State Building and Electrical Codes – This code is in conformance to County and State regulations. The County has implemented a permitting system to ensure that all structures built within the region are compliant with State requirements;

Local Plans

- CAMA Land Use Plan – The original Land Use Plan was adopted in 1976 with updates being completed in 1981, 1985, and 1994. This Plan will serve as the update to the 1994 Land Use Plan;
- Washington County Community Development Plan – This plan provided guidance to the citizens of the County as a review of county-wide improvements that would be necessary to upgrade the quality of living standards within the region;
- Washington County Housing Plan – The Plan, adopted in 1977, assessed the County's housing needs and offered proposals for meeting these needs. To date, there have been no major revisions to this plan, nor any significant update;
- Recreation Plans – The County has produced a number of recreational plans assessing the recreational resources and needs within the County;
- Economic Development Plans – The County has produced two (2) plans, one (1) in 1962 and the other in 1977. Each plan lists recommendations for priority commercial and economic needs based on available data;
- Hazard Mitigation Plan - The County adopted a comprehensive Hazard Mitigation Plan in November 2004 in conjunction with State and Federal regulations;
- Thoroughfare Plan – The County completed a Thoroughfare Plan in October 2001 that outlines the repair and upkeep of existing local roadways as well as establishing policies for the development of new roads within the County.
- Growth Opportunities Plan – In October 2000 the County developed a strategic plan for development that describes goals and objectives in several areas including economic development, historic preservation, land use, housing, and transportation as well as development guidelines for residential, commercial, and industrial development.

Programs

- Community Development Program – This is an ongoing program designed to address the needs of low and moderate income citizens of the County by providing funds to assist with the renovation and repair of dilapidated residential structures.

Studies

- Solid Waste Planning Study – The County completed this study in 1979 in an effort to identify alternative sites for possible future landfills;
- Water Feasibility Study – Washington County completed a comprehensive study in 1979 focusing on groundwater resources, existing water facilities, and projections for future water requirements. The County continues to review the need to expand existing water plant facilities but has not conducted a major water feasibility study since 1979;
- Sewer Feasibility Study – The County completed a sewer feasibility in 2003 focusing on the possibility of providing County wide sewage service to local residents.

Regulations

- Laws and Rules for Ground Absorption Sewage Disposal Systems – These regulations control the use of specified sanitary sewage disposal systems in the County. The regulations are administered by the Washington County Health Department;
- Signage Regulations- This article regulates the size, location, height, and construction of signs in Washington County. Sign regulations were adopted with the adoption of the zoning ordinance in September 2003 (effective January 2004).

State Plans:

- Transportation Improvement Program 2009-2015 – Prepared by the NC Department of Transportation, this document outlines the statewide schedule of road improvements to be completed by 2013. Washington County is included in the Division 1 section of the report.
- CAMA Permitting Process – The CAMA permitting process is enforced by the DCM. CAMA regulates development within designated areas of environmental concern.

Federal Regulations:

- Section 404 Wetland Regulations – The County recognizes the importance of protecting environmentally sensitive areas, which includes those lands designated as wetlands by the US Army Corps of Engineers. It is the policy of the County that all development within these areas conform to federal, state, and local regulations and ordinances regarding development.

TOOLS

The following section provides a summary of the necessary steps that Washington County must make to achieve its goals and objectives set forth in Section X of this plan. It should be noted that many policies are ongoing and the full extent of the County's efforts can only be realized by a thorough review of Section X.

New ordinances to create:

- Adequate Facilities Ordinance
- Stormwater Management Ordinance
- Soil Erosion and Sedimentation Control Ordinance
- Minimum Housing Standards Ordinance

Amendments to existing ordinances:

- Amend zoning ordinance to create separate commercial and industrial districts within the County. Specifically, create an industrial park in the County.
- Amend the existing freeboard requirement in the County's Flood Damage Prevention Ordinance to require an elevation of two feet above established base flood elevations instead of the current one foot freeboard requirement by 2010.
- Amend existing Subdivision Ordinance by 2010 to include provisions outlining requirements for the perpetual upkeep and maintenance of the private sewage treatment facilities as well as require the subdivider to identify the party responsible for upkeep and maintenance so the County will not have to use public funds to support private systems.
- Amend the Zoning Ordinance and Subdivision Ordinance to require a certain percentage of natural vegetation to be retained on a parcel of property.
- Revise the current zoning ordinance to develop specific types of residential zoning districts that require different types of residential development and densities
- Amend the Zoning Ordinance and Subdivision Ordinance to establish a maximum impervious surface limitation for all new development (can be different in different zoning districts)
- Amend the Zoning Ordinance and Subdivision Ordinance to add regulatory measures that require new development to incorporate stormwater management design strategies into their development proposals

Needed updates:

- Transportation master plan
- Hazard Mitigation Plan
- Water and sewer plan
- Database of existing structures within the flood zone
- Inventory of historic properties

Things to develop:

- Bicycle and pedestrian plan
- Comprehensive recreational master plan
- Incentives package to attract new industry and business
- Incentive program to entice residents to tie into County water system
- Recruitment package to attract commercial and industrial development
- Comprehensive marketing plan
- Capital Improvement Programs (at the municipal level)
- Priority funding list
- Educational programs in the areas of natural hazards, local areas of concern, and historic, natural, and cultural resources
- Water quality monitoring program
- List of water conservation practices and groundwater protection measures
- Database to document the number and location of septic tanks in the County and the number of repair permits issued annually
- Fund for the purchase of environmentally sensitive land
- Ranked list of functional significance of wetlands
- List of substandard housing units in County
- Inventory of existing parks and greenspace
- Recreational youth programs
- Training programs

ACTION PLAN/SCHEDULE

Table 12.1 is meant to condense the information provided in the Policy Section of the plan into a more usable and understandable form for the community. The chart describes the priority actions that will be taken by the local government to implement the CAMA Land Use Plan and specifies the fiscal year(s) in which each action is anticipated to start and finish. The action plan shall be used to prepare the implementation status report for the CAMA Land Use Plan.

Below is the key that should be used when interpreting the information found in Table 12.1.

Priority

- H-High
- M-Medium
- L-Low
- O-Ongoing (these policies should be implemented throughout the entire planning period and beyond)

All ongoing policies are highlighted in Orange in Chart 12.1 whereas policies with specific timeframes are indicated in yellow.

Resources

- \$-will require less than \$1,000
- \$\$-will require between \$1,000 and \$10,000
- \$\$\$-will require more than \$10,000
- S-one staff person needed
- SS-two staff people needed
- SSS-three or more staff people needed

Responsible Party

- WC-Washington County
- HD-Health Department
- M-Municipalities
- RD-Recreation Department
- COC-Chamber of Commerce
- R-Residents
- GIS-GIS staff person

Most importantly, the Planning Board should establish pre-determined times throughout the plan timeframe to review the Action Plan to evaluate progress. The Planning Board should add to and edit the Action Plan as well as other elements of the CAMA Land Use Plan as necessary to produce the most effective ‘roadmap’ for growth and development in Washington County over the next 20 years.

Table 12.1: Action Plan

Policy	Priority	Resources	Responsibility	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025
Public Access																
Build two public access sites, specifically targeting under-served areas of the County.	M	\$\$	WC													
Require developers to create public access sites in new developments along streams, lakes, rivers.	M-O	S	WC													
Restore one public access site that was lost or is in need of repair.	L	\$	WC													
Identify, record, and map existing public access sites and determine if these sites are adequate to serve the needs of the County.	H	S	WC													
Review existing and proposed access sites for accessibility by persons with disabilities and develop and pursue strategies to eliminate barriers.	M	S	WC													
Purchase at least one property along the estuarine shoreline for the development of a public access site.	L	\$\$\$	WC													
Land Use Compatibility																
Direct residential development to be located near major arterial roadways to guarantee adequate access to the proposed development by emergency vehicles.	M-O	S	WC													
Direct commercial development to locate along existing major arterial roads.	M-O	S	WC													
Only approve new residential development that fronts along roadways that have been constructed to NC DOT standards.	M-O	S	WC													
Do not allow for the development of commercial operations where necessary infrastructure is not in place, unless a contingency plan is approved by the County.	H-O	S	WC													
Promote the clustered expansion of commercial and industrial uses in the County in areas conveniently located to the county's residential communities but that do not conflict with the residential environment.	H-O	S	WC													
Amend the zoning ordinance to create separate commercial and industrial districts within the County. Specifically, create an industrial park in the County.	M-O	S	WC													
Provide incentives for industries to locate in the industrial park.	H-O	\$\$ S	WC													
The County considers the proposed OLF to be an incompatible and potentially hazardous use. 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 County continues to oppose designation of the County for this use.	H-O	S	WC/R													
Infrastructure Carrying Capacity																
Permit higher density uses mainly in the planning area's municipalities and surrounding areas where services are available or can be reasonably provided.	H-O	S	WC													
Require the retrofitting and revitalization of existing properties served by water and/or sewer before allowing new development in unserved areas to occur.	M-O	S	WC													
Update the transportation master plan to develop new standards governing commercial access to major arterial roads. Develop service roads as to avoid unnecessary traffic congestion.	M-O	S	WC													
Add at least two vans to the existing service that transports elderly to the doctor and other appointments.	M	\$\$	WC													
Develop a bicycle and pedestrian plan for the County which includes maps of future bicycle lanes and trails to be located throughout the County	M	SSS	WC/RD													
Update the existing water and sewer plan that outlines and directs the future expansion and current maintenance of the County water system	H	SS	WC													
Create a sewer system in the County. Use the sewer feasibility study to determine service areas.	H	\$\$\$	WC													

Policy	Priority	Resources	Responsibility	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025
The County GIS person shall work with the three municipalities to digitize information on water and sewer service lines.	L	S	GIS													
Develop an Adequate Facilities Ordinance that ties or conditions development approval to the availability and adequacy of public facilities and services, thus ensuring that new development does not take place unless the infrastructure is available to support it.	M	SSS	WC													
Develop Capital Improvement Programs.	M	S	M													
Retrofit and revitalize three unused deteriorating existing properties that have a good level of public services in need of repair.	L	\$\$	WC													

Natural Hazard Areas

Update the Hazard Mitigation Plan.	M	S	WC													
Establish an educational program to provide information on hazards and mitigation strategies to residents.	M	S	WC													
Due to the significant number of mobile homes in the planning area, and other housing constructed prior to the implementation of Floodplain Regulations, the County will work to obtain funding to assist in elevating existing homes in flood-prone areas.	H-O	\$\$\$	WC													
Discourage development and redevelopment within the floodplain; only allow development after the property owner has demonstrated strict adherence to the County's Flood Damage Prevention Ordinance.	H-O	S	WC													
Continue participation in the National Flood Insurance Program (NFIP) and work to improve the Community Rating System (CRS) score.	H-O	S	WC													
Enforce the Flood Damage Prevention Ordinance which requires all new construction, or structures that have been substantially improved, to be elevated above the established 100-year base flood elevation.	H-O	S	WC													
Revise and update the master database of existing structures within the flood zone and their status in terms of compliance with existing regulations.	H	S	WC													
Amend the existing freeboard requirement in the County's Flood Damage Prevention Ordinance to require an elevation of two feet above established base flood elevations instead of the current one foot freeboard requirement.	M	S	WC													
Take inventory of drainage problem areas in the County after major storm events and periods of heavy rainfall.	M-O	SS	WC													

Water Quality

Require all new land developments to tie into the County water system if infrastructure is available in the area (not more than 500 feet from the proposed development).	M-O	S	WC													
Develop an incentive program to entice residents to tie into County water system.	H	S	WC													
Coordinate land development activities involving hazardous chemical or petroleum storage and disposal with the appropriate State or Federal regulatory agencies.	M-O	S	WC													
Encourage management practices for hazardous materials that address their incidental use such as insecticides, herbicides, fertilizers, etc.	M-O	S	WC													
Initiate a local water quality monitoring program (including ground water monitoring) in the County .	M	S	WC/R													
Encourage farmers and timber operators to employ accepted BMP to minimize the impact of these operations on water quality.	H-O	S	WC													
Ensure that developments locating adjacent to water bodies make every effort to mitigate any adverse effects on riverine and estuarine water quality and on identified primary nursery fishing habitat areas.	H-O	S	WC													

Policy	Priority	Resources	Responsibility	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025
Develop a list of water conservation practices and groundwater protection measures and provide to local residents and businesses and any new residents or businesses that locate in the area.	M	S	WC													
Remove two waterbodies from the impaired list.	M	\$\$ SS	WC/R													
Create database to document the number and location of septic tanks in the County as well as the number of repair permits issued annually.	H	S	HD													
Reduce the number of failed septic systems by 15 percent.	H	S	HD/R													
Require major residential developments (30 lots or more) to install and maintain a package sewage treatment facility.	M-O	S	WC													
Only allow package treatment plants after all necessary and required permits are issued by appropriate State and Federal agencies and the proposed plans are approved.	M-O	S	WC													
Amend existing Subdivision Ordinance to include provisions outlying requirements for the perpetual upkeep and maintenance of the sewage treatment facilities as well as require the subdivision to identify the party responsible for upkeep and maintenance so the County will not have to use public funds to support private systems.	M-O	S	WC													
Hold two septic system workshops a year to provide local residents with the necessary expertise to maintain existing systems.	H-O	SS	WC													
Establish an incentive program that provides financial incentives to local residents who install environmentally friendly septic systems .	M	S	WC													
Place a fill limit on a property within the County in an effort to preserve to the greatest extent possible the natural topography of property and preserve existing stormwater drainage systems.	M	S	WC													
Encourage site planning which helps maintain site hydrology, minimizes impervious surfaces, and treats and manages stormwater on site.	M-O	S	WC													
Promote the use of best available management practices to minimize the degradation of water quality resulting from stormwater runoff.	H-O	S	WC													
Encourage Low Impact Development for all new development projects in the County.	M-O	S	WC													
Amend the Zoning Ordinance and Subdivision Ordinance to require a certain percentage of natural vegetation to be retained on a parcel of property .	M	S	WC													
Adopt a Stormwater Management Ordinance.	H	SSS	WC													
Adopt a Soil Erosion and Sedimentation Control Ordinance.	H	SSS	WC													
Continue to reinforce the state's soil erosion and sedimentation control program and stormwater management program by requiring proper permits or approval of preliminary plats for subdivisions.	H-O	S	WC													
Adopt an impervious surface limitation requirement for all new proposed development within the region.	M	S	WC													
Establish a maximum impervious surface limitation on all commercial development in an effort to reduce stormwater impacts on adjacent properties.	M	S	WC													
Continue to coordinate approval of land development projects with the DWQ permitting requirements and stormwater regulations and to coordinate approval of all soil erosion and sedimentation plans with the Land Quality Section of the NC Division of Land Resources until the County adopts its own.	M-O	S	WC													
Establish and implement new regulatory measures requiring new development to incorporate stormwater management design strategies into their development proposals.	M	S	WC													

Policy	Priority	Resources	Responsibility	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025
Local Areas of Concern																
Allow developers to dedicate all environmentally sensitive areas (flood zones, wetlands, etc) in a proposed residential development as open space.	M-O	S	WC													
Only allow development associated with water-dependent uses such as public access facilities, docks and piers, erosion control measures, or other uses permitted by CAMA use standards.	M-O	S	WC													
Review, revise, and update inventory of historic properties located within the County by 2012, and every five years after.	M	SS	WC													
Identify the prime agricultural lands in the County.	M	S	WC													
Develop an educational program to inform local residents about the need to protect environmentally sensitive areas.	M	S	WC													
Identify specific valuable natural and historic resource which the County wants to preserve.	L	S	WC/R													
Establish a fund for the purchase of environmentally sensitive land and a prioritization scheme to best allocate these funds.	H	\$\$ S	WC													
Promote the conservation of open space within the County and actively promote the long-term preservation and maintenance of valuable natural resource areas.	M-O	S	WC													
Allow development in an AEC only after a plan laying out suitable steps to guarantee the continued protection of the area is in place.	H-O	S	WC													
Off-road vehicles, such as ATVs, dirt bikes, go-carts, and similar vehicles not intended for highway travel or for legal use for travel along local roadways shall not be allowed to operate within the estuarine shoreline, AEC's, or any other identified environmentally sensitive area.	M-O	S	WC													
Only commercial and industrial land uses requiring water access shall be permitted near coastal wetlands and only in accordance with CAMA 7H.	M-O	S	WC													
Coastal wetlands shall only be filled consistent with applicable CAMA, State, and Federal guidelines and policies.	H-O	S	WC													
Restrict development within identified wetland areas. If no viable alternatives are possible, require developer to designate the wetland areas on parcels slated for development as open space.	H-O	S	WC													
Continue to follow and enforce CAMA regulations to limit impacts on estuarine and wetlands areas from development	M-O	S	WC													
Evaluate the functional significance of County wetlands and prepare a ranked list to be taken into consideration when approving new development.	M	S	WC													
Restrict development in estuarine waters to those uses that will not cause significant degradation of the natural function or condition of the estuarine waters.	H-O	S	WC													
Permit only development that will not significantly interfere with existing public rights, usage, and access to navigable water and other public resources in estuarine waters.	H-O	S	WC													
Review the current Zoning Ordinance and amend relevant sections to only permit low-density residential and commercial development along estuarine shorelines.	M-O	S	WC													
Work with private land owners as well as public interest groups to instill protection measures on heritage areas in the County that currently have no protection.	H-O	SS	WC													
Continue to work with State and Federal agencies to guarantee the safe and effective management of all existing public lands in the region.	M-O	S	WC													
Develop a community awareness program by 2014 to educate the public on the County's natural and historic resources including conservation methods as well as preservation methods and maintenance methods.	M	S	WC													
Preserve the integrity of the architectural and historic character of the County by protecting historic buildings and neighborhoods and the land around them from inappropriate uses.	H-O	S	WC													
Encourage private owners to register historic landmarks with the State Historic Preservation Office.	M-O	S	WC/R													

Policy	Priority	Resources	Responsibility	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025
Housing																
Revise the current zoning ordinance to develop specific types of residential zoning districts that permit different types of residential development (stick built homes, mobile homes) in different areas of the County.	M	S	WC													
Identify all substandard housing units in the County and work to bring them up to code. Specifically, reduce the number of substandard housing units by 20 percent by 2015.	M	S	WC													
Adopt a housing ordinance which outlines minimum standards that all existing residential units must adhere to or risk being declared a nuisance and a potential threat to the public's health, safety, and welfare. The purpose of this type of ordinance would be to require the upkeep of all residential property to avoid residential dwelling units falling into disrepair.	M	S	WC													
Recreation																
Develop a comprehensive recreational master plan for the County which outlines the location of existing publicly owned recreation facilities and a plan to construct new facilities throughout the County. The master plan shall include a greenway plan that outlines the possible ways in which individual recreation sites can be interconnected to encourage universal pedestrian access	H	S	WC/RD													
Require developers of new residential developments to demonstrate how recreational amenities within a proposed development will tie into a universal greenway system	M-O	S	WC													
Require developers of new subdivisions of 20 lots or more to dedicate a minimum of 10 percent of the subdivision as open space to support development of recreational amenities	M-O	S	WC													
Take an inventory of existing parks and greenspace in the County and determine if these sites are adequate to serve the needs of the County	M	S	WC													
Renovate the recreation facility and establish at least three programs for the youth.	M	\$\$	WC													
Promote outdoor recreational opportunities such as camping, fishing, and eco-tourism in cooperation with public and private entities as a means of attracting additional visitors to the County	M-O	S	WC													

Policy	Priority	Resources	Responsibility	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025
Economic Development																
Form partnerships with local organizations to foster additional economic development within the area.																
Develop a recruitment package to attract additional commercial and industrial development within the region.	H-O	S	WC													
Develop a comprehensive marketing plan outlining the steps that shall be taken to encourage new retail and industrial development.	H	S	WC/COC													
Get three new businesses to locate in the County.	H	S	WC/COC													
Develop an incentive program to attract new businesses into the area that considers property tax credits or incentives, utility incentives such as a free or reduced water rate, financial assistance in providing any and all necessary training of local residents to provide and immediate, trained workforce, and rent assistance.	H	\$\$\$	WC													
Encourage economic development that provides employment-intensive opportunities for the local work force and, in particular, offers viable job opportunities for the youth and unemployed of Washington County.	H	S	WC/COC													
Identify dilapidated commercial/industrial structures that can be rehabilitated to support new development.	H-O	S	WC													
Continue to participate in the Industrial Recruitment Program through the North Carolina Department of Commerce.	M-O	S	WC													
Encourage and support all types of economic development land uses which can be shown to complement, and not adversely impact, the existing demographic, economic and environmental base within the County.	M-O	S	WC													
Undertake an aggressive, pro-growth land use policy which shall underscore active industrial recruitment programs and focused Chamber of Commerce efforts.	H-O	S	WC													
Work with existing business and property owners to ensure the continued viability of and redevelopment opportunities for the County's existing commercial areas.	H-O	S	WC													
Identify business linkage opportunities within the existing marketplace, and actively promote the County as an ideal location for the future location of firms and industries that could properly take advantage of these opportunities.	M-O	S	WC													
Identify areas suitable for new economic development or the expansion of existing local operations, with an emphasis on long-term planning opportunities for well-designed industrial facilities within a park-like setting.	H	S	WC													
Encourage industrial and technological development in suitable locations to provide jobs and increase the County's tax base.	H-O	S	WC													
Aggressively market the developable parcels remaining with the Plymouth Industrial Park to existing County industries looking to expand or to new development parcels.	H-O	S	WC													
Identify sectors within the local retail marketplace in which local spending is "leaking" to surrounding localities, and actively promote the development of new and specialty	H-O	S	WC													
Establish a fund for County revitalization in an effort to attract new commercial development to the area.	H-O	\$ S	WC													
Continue to support the Washington County Economic Development Commission in their efforts to market the County's retail and industrial sites.	M	\$\$	WC													
Support and provide public information pertaining to groups such as the Albemarle Commission, the Regional Development Institute, and the Small Business Institute at East Carolina University, which provide assistance to new and small businesses and to economic development projects.	M-O	S	WC													
Support and promote the Downtown and riverfront areas of localities as potential locations for seasonal/annual festivals, markets and recreational activities.	M-O	S	WC													
Educate owners of large, undeveloped tracts of land deemed suitable for economic development uses on the FLUM of the potential economic value of their land and work with them to coordinate necessary public improvement.	M-O	S	WC													

Policy	Priority	Resources	Responsibility	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2020	2025			
Provide Internet access to local school and libraries.	M-O	S	WC	[Orange shaded]															
Work with the local school system to establish a comprehensive adult education program. This program shall include working with the local community colleges in the region and with ECU to provide local residents with more opportunities for vocational/technical training as well as additional opportunities for local residents to earn advanced degrees.	M	\$\$	WC	[Yellow shaded]						[Orange shaded]									
Provide training programs that match the needs of the industries in the County and the industries the County would like to attract.	H	\$\$ S	WC	[Yellow shaded]										[Orange shaded]					
Identify and market two prime development sites that are compatible with the environment and existing land use pattern.	H-O	\$\$ S		[Orange shaded]															
Work with East Carolina University and other surrounding colleges to extend the three year higher-education initiative deal through the Windows on the World Technology Center to continually provide on-site, online, and distance-learning opportunities to residents of all ages.	H-O	S	WC	[Orange shaded]						[Orange shaded]									
Establish a scenic canoe tour/route along the Roanoke River in an effort to attract tourists to the area.	H	\$\$\$	WC		[Yellow shaded]														
Develop a tour of local special environmental areas.	M	\$\$	WC	[Yellow shaded]						[Orange shaded]									
Encourage tourism-related retail and service development in appropriate areas in order to diversify the County's economic base.	M	\$\$	WC		[Yellow shaded]														
Hire tour guides and/or establish a bus or trolley system to lead tours and explain the history of the Civil War Trail and other historic resources in the County.	M-O	S	WC	[Orange shaded]															
Promote the construction of new hotels/motels and the renovation of existing hotels to encourage visitors to stay overnight in the County.	M-O	\$\$	WC	[Orange shaded]															
Encourage the development of dine-in or waiter served restaurants in the County, specifically along the U.S. 64 corridor.	L-O	S	WC	[Orange shaded]															
Hazard Mitigation																			
See tables 10.1, 10.2, 10.3 or the County Hazard Mitigation Plan				[Orange shaded]															