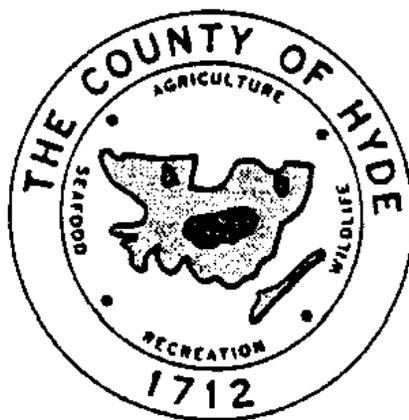


HYDE COUNTY, NC

CAMA CORE LAND USE PLAN



Adopted by the Hyde County Board of Commissioners: January 7, 2008

Certified by the Coastal Resources Commission: March 27, 2008

Prepared By:

HCP
Holland Consulting Planners, Inc.

Wilmington, North Carolina

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CORE CAMA LAND USE PLAN
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Appendix VII	Strategic Plan for Engelhard Implementation Strategies
Appendix VIII	Agricultural Best Management Practices
Appendix IX	Forestry Best Management Practices
Appendix X	Hazard Mitigation Plan Mitigation Strategies

MATRIX OF REQUIRED ELEMENTS

CAMA CORE LAND USE ELEMENT	ELEMENT DISCUSSED
(a) Organization of the Plan	page 1-3
(b) Community Concerns and Aspirations	
(1) Significant Existing and Emerging Conditions	page 13-15
(2) Key Issues	page 13-15
(3) A Community Vision	page 169
(c) Analysis of Existing and Emerging Conditions	page 16-25
(1) Population, Housing, and Economy	
(A) Population:	
(i) Permanent population growth trends using data from the two most recent decennial Censuses;	
(ii) Current permanent and seasonal population estimates;	
(iii) Key population characteristics;	
(iv) Age; and	
(v) Income	
(B) Housing Stock:	page 26-37
(i) Estimate of current housing stock, including permanent and seasonal units, tenure, and types of units (single-family, multi-family, and manufactured); and	
(ii) Building permits issued for single-family, multi-family, and manufactured homes since last plan update	
(C) Local Economy	page 37-45
(D) Projections	page 45-48
(2) Natural Systems Analysis	
(A) Mapping and Analysis of Natural Features	
(i) Areas of Environmental Concern (AECs);	page 66-79
(ii) Soil characteristics, including limitations for septic tanks, erodibility, and other factors related to development;	page 60-64
(iii) Environmental Management Commission water quality classifications and related use support designations, and Division of Environmental Health shellfish growing areas and water quality conditions;	page 86-89
(iv) Flood and other natural hazard areas;	page 52-54
(v) Storm surge areas;	page 55-57
(vi) Non-coastal wetlands including forested wetlands, shrub-scrub wetlands, and freshwater marshes;	page 75
(vii) Water supply watersheds or wellhead protection areas;	page 64-66
(viii) Primary nursery areas, where mapped;	page 89-90
(ix) Environmentally fragile areas; and	page 76-80
(x) Additional natural features or conditions identified by the local government.	pages 49-52 & 81-85

CAMA CORE LAND USE ELEMENT	ELEMENT DISCUSSED
(B) Composite Map of Environmental Conditions: <ul style="list-style-type: none"> (i) Class I (ii) Class II (iii) Class III 	page 91-94
(C) Environmental Conditions <ul style="list-style-type: none"> (i) Water Quality: <ul style="list-style-type: none"> (I) Status and changes of surface water quality, including impaired streams from the most recent NC Division of water Quality Basinwide Water Quality Plans, 303(d) List and other comparable data; (II) Current situation and trends on permanent and temporary closures of shellfishing waters as determined by the Report of Sanitary Survey by the Shellfish Sanitation Section of the NC Division of Environmental Health; (III) Areas experiencing chronic wastewater treatment system malfunctions; and (IV) Areas with water quality or public health problems related to non-point source pollution (ii) Natural Hazards: <ul style="list-style-type: none"> (I) Areas subject to storm hazards such as recurrent flooding, storm surges, and high winds; (II) Areas experiencing significant shoreline erosion as evidenced by the presence of threatened structures or public facilities; and (III) Where data is available, estimates of public and private damage resulting from floods and wind that has occurred since the last plan update (iii) Natural Resources: <ul style="list-style-type: none"> (I) Environmentally fragile areas or areas where resource functions may be impacted as a result of development; and (II) Areas containing potentially valuable natural resources 	page 94-103
(3) Analysis of Land Use and Development	page 131-165
(A) A map of land including the following: residential, commercial, industrial, institutional, public, dedicated open space, agriculture, forestry, confined animal feeding operations, and undeveloped;	page 134-157

CAMA CORE LAND USE ELEMENT	ELEMENT DISCUSSED
(B) The land use analysis shall including the following: <ul style="list-style-type: none"> (i) Table that shows estimates of the land area allocated to each land use; (ii) Description of any land use conflicts; (iii) Description of any land use-water quality conflicts; (iv) Description of development trends using indicators; and (v) Location of areas expected to experience development during the five years following plan certification by the CRC and a description of any potential conflicts with Class II or Class III land identified in the natural systems analysis 	page 131-158
(C) Historic, cultural, and scenic areas designated by a state or federal agency or by local government	page 165
(D) Projections of future land needs	page 169-173 & 239-242
(4) Analysis of Community Facilities	page 113-115
(A) Public and Private Water Supply and Wastewater Systems	page 104-108
(B) Transportation Systems	page 120-124
(C) Stormwater Systems	page 109-119
(D) Other Facilities (5) Land Suitability Analysis <ul style="list-style-type: none"> (A) Water quality; (B) Land Classes I, II, and III summary environmental analysis; (C) Proximity to existing developed areas and compatibility with existing land uses; (D) Potential impacts of development on areas and sites designated by local historic commission or the NC Department of Cultural Resources as historic, culturally significant, or scenic; (E) Land use and development requirements of local development regulations, CAMA Use Standards and other applicable state regulations, and applicable federal regulations; and (F) Availability of community facilities, including water, sewer, stormwater, and transportation 	page 165-168

CAMA CORE LAND USE ELEMENT	ELEMENT DISCUSSED
(6) Review of Current CAMA Land Use Plan (A) Consistency of existing land use and development ordinances with current CAMA Land Use Plan policies; (B) Adoption of the land use plan’s implementation measures by the governing body; and (C) Efficacy of current policies in creating desired land use patterns and protecting natural systems	page 125-130
(d) Plan for the Future (1) Land Use and Development Goals: (A) Community concerns and aspirations identified at the beginning of the planning process; (B) Needs and opportunities identified in the analysis of existing and emerging conditions	page 169-180
(2) Policies: (A) Shall be consistent with the goals of the CAMA, shall address the CRC management topics for land use plans, and comply with all state and federal rules; (B) Shall contain a description of the type and extent of analysis completed to determine the impact of CAMA Land Use Plan policies on the management topics, a description of both positive and negative impacts of the land use plan policies on the management topics, and a description of the policies, methods, programs, and processes to mitigate any negative impacts on applicable management topics; (C) Shall contain a clear statement that the governing body either accepts state and federal law regarding land uses and development in AECs or, that the local government’s policies exceed the requirements of state and federal agencies.	page 181-224
(3) Land Use Plan Management Topics.	
(A) Public Access	page 186
(B) Land Use Compatibility	page 187
(C) Infrastructure Carrying Capacity	page 198
(D) Natural Hazard Areas	page 205
(E) Water Quality	page 207
(F) Local Areas of Concern	page 211

Section 1. Introduction

A. *Background*

In 1974, the State of North Carolina adopted the Coastal Area Management Act (N.C.G.S. 113A-100, et seq. or CAMA). CAMA was adopted as a reaction to the growing threats to the natural environment from growing populations, increased industrial development in coastal and estuarine areas of the State, and increased recreational and commercial usage of the State's coastal and estuarine waters.

CAMA requires both regulatory (i.e., permitting) measures and State and local planning in the State's 20 CAMA-regulated counties, including Hyde County. The CAMA permit system is divided into major and minor permits, based on the size and possible impacts of a project. Major permits are required for activities that require other state or federal permits, for projects that cover more than 20 acres, or for construction covering more than 60,000 square feet. Applications for major permits are reviewed by 10 state and four federal agencies before a decision is made and this process is coordinated by the State's Coastal Resources Commission (CRC).

General permits are an expedited form of major permit used for routine projects that usually pose little or no threat to the environment. Minor permits are required for projects, such as single-family houses, that don't require major permits or general permits. They are reviewed, issued, and administered to CRC standards by Hyde County under contract with the Division of Coastal Management (DCM). (Source: Association of National Estuary Programs)

When it comes to planning, CAMA requires that the State, through DCM, identify regulated areas of environmental concern (AECs), set minimum standards for local plans, and provide oversight and review of local plans. It requires counties to develop locally based land use plans which specify how it wishes to grow in the future, assuming it meets minimum DCM planning standards. Specifically, the CAMA Land Use Plan (LUP) will be used by the CRC to determine whether any given development proposal subject to a major CAMA permit is consistent with the County's goals for its future development and for environmental protection.

If the County does not complete and update its own plan, it will be required to adopt and follow a State-developed CAMA Land Use Plan. Whereas the County wishes to maintain control over its own land use and development, it has determined it wise to develop and adopt its own CAMA Land Use Plan.

On June 4, 2006, copies of this draft land use plan were provided to Dare County, Washington County, Carteret County, Tyrrell County, and Beaufort County with a request for review and comment. As of November 15, 2006, no comments had been received from any of the jurisdictions.

B. Regulatory Authority and Planning Model

This plan is intended to fulfill the Coastal Area Management Act (CAMA) requirements for the preparation of a Core CAMA Land Use Plan. This plan is organized to adhere to the 15A NCAC 7B requirements, specifically rule .0702 which specifies the required content of CAMA land use plans. A matrix which specifies how and where in this Plan compliance with 15A NCAC 7B is accomplished follows the table of contents.

C. Planning Process and Citizen's Participation

The Hyde County Board of Commissioners (Board) adopted a Citizen Participation Plan (CPP) for the CAMA LUP on September 7, 2004. The CPP is intended to ensure full and thorough public participation in the CAMA LUP development process. A copy of the Citizen Participation Plan is included as Appendix I. The citizen input received during the development of this plan has greatly influenced the final contents of the plan and its policies.

On October 4, 2004, the Board designated a Land Use Plan Advisory Committee (LUPAC) to oversee the CAMA LUP development process. The LUPAC's role was to discharge all duties required of a "principal local board" as defined at 15A NCAC 71.0506, essentially overseeing and guiding the CAMA LUP development process and providing extensive input to the County's planning consultant, Holland Consulting Planners, Inc., as well as making a recommendation to the Board regarding adoption of the CAMA LUP.

The Hyde County LUPAC was composed of the following members. The area of the County they represent is shown in parenthesis:

Carol Ritchie (Ocracoke)	John Herina (Fairfield)
Steve Wilson (Ocracoke)	William Douglas Sawyer, Jr. (Western Hyde)
Frank Brown (Ocracoke)	Archie Green (Swan Quarter)
Carr Baynor (Western Hyde)	Wilson Daughtry (Engelhard)
Margie Brooks (Chamber of Commerce)	

Planning in Hyde County

The Office of Planning and Economic Development in Hyde County operates with a staff of one - Ms. Alice Keeney. The Hyde County Planner is charged with carrying on the planning function for Hyde County, while incorporating the need to strategically organize internal operations. The Planning Department must also meet the needs of our local government for planning within its authorized jurisdiction and determining the appropriate division of planning functions among the various levels and units of government that share jurisdiction over larger areas with interlinking concerns. The Planning Department is closely associated with the Building Inspections Department; although, the Building Inspections Department has enforcement responsibility (Source: Hyde County Government).

The LUPAC held a publicly advertised meeting on the 2nd Tuesday of almost every month for the duration of the Plan development period. A total of nineteen (19) meetings were held, beginning in December, 2004, and concluding in June, 2006.

Following adoption of this Plan by the Hyde County Board of Commissioners on January 7, 2008, it was submitted to the CRC for certification. Certification of the plan was achieved on March 27, 2008. NOTE: Appendix II provides the 15A NCAC 7B requirements for CRC approval or amendment of this plan.

The County realizes that adoption of this Plan is the beginning, not the end, of the land use planning process. The County is committed to making this CAMA LUP a living, breathing document by constantly monitoring and evaluating its implementation through the County's Planning Department.

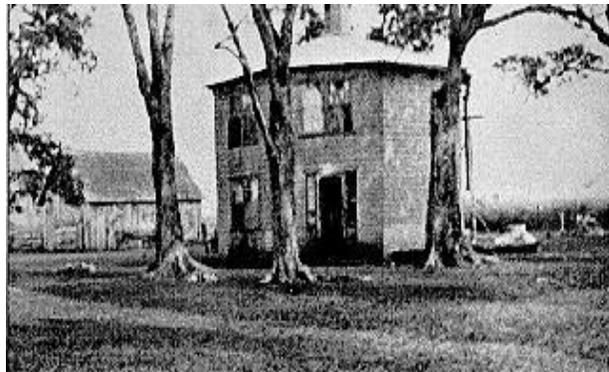
Section 2. History

Hyde County contains both a mainland portion and Ocracoke Island, part of North Carolina's Outer Banks (see Map 1). While Ocracoke Island is an intrinsic part of Hyde County, its history, and thus its growth and development, have had many unique aspects. For this reason, Ocracoke is provided with an additional separate historical section below:

A. *Mainland Hyde County*

Hyde County is one of the oldest counties in North Carolina, originally included in Bath County. In 1705, Bath County was divided into three precincts, one of them being "Wickham." In 1711, Wickham was changed to "Hyde," in honor of Edward Hyde, a cousin of Queen Anne who was made Colonial Governor of North Carolina.

A fact not generally known is that Bath, the oldest town in North Carolina and in Colonial days the state seat of government, was at one time in the old Hyde precinct. Hyde County's first seat of government was in Woodstock (now in Beaufort County). It was eventually moved to Germantown and then to Lake Landing. In 1836, it was moved to Swan Quarter, its present location.



Octagon House. Lake Landing vicinity, Hyde Co., ca. 1910
Photo courtesy of Octagon House Assoc

The county is crisscrossed with canals and ditches that give evidence of the many attempts at drainage of the lowlands and swamplands of the region. The rich, fertile peat soil has attracted various investors throughout the years. One such venture was a drainage operation aimed at converting Lake Mattamuskeet to farmland.

The timber logging industry brought the need for a means of transportation other than the horse or mule. Now nothing more than an overgrown path, the New Holland, Higginsport and Mt. Vernon Railroad once operated in the county.

Blessed with the bounties of nature, this unspoiled region was referred to as "the land of the huntsman's delight" and also known as the "Canada Goose Hunting Capital of the World". In its heyday, Mattamuskeet Lodge hosted hunters from throughout the world. Located in the Atlantic flyway, the County is still the annual migration home for thousands of tundra swan from Alaska, Canada geese, and over 200 species of other waterfowl.

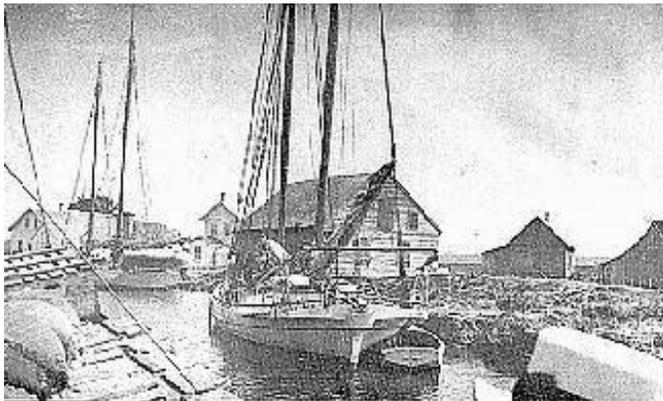
During the early colonial period (1524 to 1600), several European explorers visited from the Cape Fear River at Wilmington and northward along what is now the North Carolina coast and to Virginia. The French explorer Giovanni da Verrazano visited in 1524 and made the first historical

reference to the Indians living here. He supposedly kidnapped an Indian child who was then taken back to France.

In July 1584, English explorers arrived at Roanoke Island. Historians disagree on which inlet they passed through, with Ocracoke or Trinity Inlets or even one closer to Hatteras being a possibility. The exploration party became friendly with the Indians, and even convinced two of them, Manteo and Wanchese, to return to England with them.

The area was described as a paradise filled with grapes, birds, animals and the waters filled with fish. The Indians were said to have been gentle, loving people. With this news, England made plans to establish a colony in America.

The first English colony in America was established in 1585-1586 when Manteo and Wanchese returned with 108 men. Arriving in late June 1585 at Wococon, now known as Ocracoke Island, a party set out to explore the Pamlico Sound and River. In July 1585, they landed in Pomeioc Village known today as the Middletown area of Mainland Hyde County. Today, John White's drawings of the village and its inhabitants are recognized as invaluable documentation of that era. The colony was eventually established on nearby Roanoke Island.



**Boats at Nebraska, Hyde Co., ca. 1935
Photo courtesy of Octagon House Assoc**

During the 17th century, settlers from Europe continued to find their way to the area. Some were colonists seeking relief for their religious beliefs, others were trappers and traders seeking the riches of a new land. Some tried to establish a peaceful coexistence with the Indians, others sought to eradicate them entirely.

In the late 1600s, the profession of piracy was endorsed by the ruler of one country against another. Privateers were rewarded by their government for capturing the goods of another country. One such pirate named Edward Teach sailed the waters in and around the Pamlico Sound and made his sailing name, Blackbeard, one to be feared. Blackbeard made his home in Bath from 1716 to 1718. Just as renowned for his sailing ability as for his deadly raids, Blackbeard was at ease in coastal North Carolina's sometime treacherous waters.

The US Civil War (1861 to 1865) appears to have divided Hyde County as it did the country. The county had rich, fertile soil and many land owners had slaves. The road system within the county was maintained by the people of each community, but much difficulty was encountered trying to get grain out to the Confederacy. In March of 1863, Union troops landed in the county. They discovered that bridges and roads had been destroyed and some villages deserted. They burned

or destroyed everything they could find. Coming onshore at Rose Bay, they went to Fairfield and came around Lake Mattamuskeet to Lake Landing. Enroute to Swan Quarter they met a fierce battle with local townspeople.

Ocracoke Island was a part of Carteret County until 1845 when it was annexed to Hyde County.

The late 1800s gave rise to a timber boom on mainland Hyde County. Saw mills and lumber companies sprang up throughout the county and for a time the area prospered. By the 1930s, this economic upturn began to level off.

A huge land reclamation and drainage project began to take place in and around Lake Mattamuskeet in the early 1900s. In 1909, the State of North Carolina passed a law authorizing formation of the Mattamuskeet Drainage District. This district consisted of the 50,000-acre Lake Mattamuskeet and 50,000 acres around it. Engineers patterned the design of the drainage system after one for Haarlem Lake in Holland. The state sold its interests in the lake to a group of private investors who incorporated as the Southern Land Reclamation Company. Lake property was deeded to them in 1911.

Public funds financed construction of the drainage system and paid for the pumping plant and dredging. A network of 83 miles of canals was dredged in the lakebed. What is now known as Mattamuskeet Lodge was built as a pumping plant and housed the world's largest centrifugal pumps. The system was designed to push the fresh water from the lakebed seven miles into the Pamlico Sound.

Grand scale plans called for real estate development as well as farming. A town called "New Holland," which included a school, a motel, and other businesses, was eventually built in the lakebed. However, three different investors - each with varied ideas and actual accomplishments - eventually abandoned their plans.

August Heckscher, the third investor, sold the lake to the US Government in 1934 and the Lake Mattamuskeet Migratory Bird Refuge was established. The Civilian Conservation Corps worked on setting up the refuge and converting the old pumping plant into a rustic hunting and fishing lodge. The Lodge was closed in 1974 after a decline in the wintering of the Canada goose on the lake. The Lodge was listed on the National Register of Historic Places in 1981. In 1991, a grassroots effort to renovate the building was begun and it was briefly reopened to the public in 1994. However, in November 2000, it was again closed due to concern for the structural safety of the building. In 2005, negotiations with the US Department of Interior/US Fish and Wildlife Service began in an attempt to deed the building and approximately six surrounding acres to the State of North Carolina. Legislation was introduced in May 2006. If the ownership transfer is approved, plans are for the NC Wildlife Resources Commission to be the lead State agency in determining the future use of the Lodge.

In 1923, President Theodore Roosevelt's idea of The Intracoastal Waterway began to take shape in Hyde County. Dredges dug out the portion of the canal from the Alligator River in Fairfield southward to the Pungo River.

Ocracoke Island was home to a Navy base built there during World War II. Nearby waters became known as Torpedo Junction as German U-boats sunk merchant ships carrying vital war supplies. On the mainland, old fire towers built by the Civilian Conservation Corps in the 1930s served as observation points for spotting planes and submarines.

The quiet, isolated days on Ocracoke changed in 1953 when the National Park Service established a National Seashore Recreational Area on the Island. After the ferry system was established in the 1950s, Ocracoke began to see an influx of travelers. The mail and freight boats eventually gave way and today's modern state ferry system makes the tourist industry the main source of the Island's economy.

Today, Hyde County strives to maintain a balance between economic development, such as the development of the newly (2004) permitted Rose Acre Farms egg farm near Ponzer, and its natural heritage and environment.

B. Ocracoke Island

Some of the earliest recorded names for Ocracoke Island (Wokokon, Wocokon) reflect the Island's Native American connection. Ocracoke's first residents were members of the pre-Columbian Wocon tribe. Eventually the "W" was dropped and spellings such as 'Okok' and "Ocrkok" evolved into the present-day. The European history of the Island begins on November 11, 1719, when John Lovick, Secretary of the Colony of North Carolina and a Deputy of the Lords Proprietors, was granted the Island of Ocracoke, containing 2,110 acres. During the early eighteenth century, Ocracoke was used chiefly for raising cattle and sheep. Because larger vessels were unable to navigate the shallow Pamlico Sound, Ocracoke Island soon became a settlement for pilots who transported sought-after goods to ports on the North Carolina mainland.



The famous Ocracoke Island lighthouse. Built in 1823, it is North Carolina's oldest existing lighthouse (photography courtesy of Russ Finley)

Pirates have long been a part of the Island's history. Buccaneers continued to use the Island as a temporary campsite even after the infamous pirate Blackbeard was killed here in a naval battle on November 22, 1718. On July 30, 1759, William Howard, of the Province of North Carolina, bought Ocracoke Island for £105. He was the first owner to make his home on the Island, and may be the same William Howard who served as quartermaster to Blackbeard the pirate earlier in that century. Many of his descendants continue to live on the Island to this day. Over the next

two hundred years Ocracoke prospered and grew. Located near the southern end of the Island, and nestled around one of the most beautiful natural harbors in the new country, Ocracoke village attracted sailors, pilots, and commercial fishermen. Eventually, as sturdier homes were built and more families were raised on this isolated ribbon of sand, stores, churches, and a school were established.

Throughout its history Ocracoke and its people have been witnesses to a number of important events. Ocracoke Inlet, with its deep and navigable channel, was a strategic point of entry into Pamlico Sound and ultimately to mainland North Carolina during both the Revolutionary and Civil Wars.

During the US Civil War, local residents served proudly in both the Union and Confederate armies. Fort Ocracoke, on nearby Beacon Island, was the scene of a naval attack in 1861. The fortress was abandoned during that time, and later destroyed. Recently, marine archaeologists have uncovered numerous artifacts in the vicinity.

World War II saw the construction of a naval base on Silver Lake Harbor and the erection of the first radar tower near the beach on what is now known as "Loop Shack Hill." The war was closer to our shores than many Americans realized.

Throughout the conflict, local residents reported seeing numerous ships burning off-shore as the result of aggressive U-boat activity. The British Cemetery, next to the historic Howard family graveyard, is the final resting place of four sailors from HMS Bedfordshire which was torpedoed on May 11, 1942. Island residents discovered their bodies on the beach shortly after the tragedy and arranged for a fitting burial under the shade of several ancient live oak trees. Today the graves are under the care of the British War Graves Commission along with the US Coast Guard. Every spring, a memorial service is held to honor these and other brave sailors who served in WWII.

Ocracoke residents have survived not only world political unrest, but hurricanes and shipwrecks, as well. In the 1800s, many Islanders were owners, captains, or sailors on schooners that plied waters along the eastern seaboard. Over the years, more than 500 vessels have met their fate in the waters around nearby Diamond Shoals. Many older homes in the Ocracoke historic district were built with lumber salvaged from ships that wrecked in storm-tossed seas. Not a few local residents are direct descendants of the brave men who served in the US Life Saving Service. Their heroic deeds during many a daring rescue constitute a noble legacy that has been passed on to the younger generations.

Major hurricanes in 1899, 1933, and 1944 as well as more recent storms have pummeled the Island with high winds and rising water. Although native Islanders all have stories of exciting encounters with ferocious storms, very little property damage has resulted, and no one has ever lost a life in a hurricane.

Today Ocracoke is host to a growing number of vacationers, especially in the summer months. Sixteen miles of pristine, undeveloped beach, a part of the Cape Hatteras National Seashore, beckon first-time and veteran visitors every season.

Beachcombing, sunbathing and surf fishing are among the most popular summertime activities. In addition, Ocracoke boat captains offer fishing charters in the relatively shallow waters of Pamlico Sound, as well as off-shore in the warm waters of the Gulf Stream.

C. A Note on Sources and Other Histories of Hyde County and Ocracoke Island

The above history for Hyde County is excerpted verbatim from the Historic Albemarle Tour (HAT) web site (www.albermarle-nc.com) except where noted. HAT also credits the following histories of Hyde County:

HYDE YESTERDAYS, A HISTORY OF HYDE COUNTY

written by: Morgan H. Harris; published by: New Hanover Printing & Publishing, Inc.

HYDE COUNTY HISTORY

written by: the Hyde County Historical Society; published by: Herb Eaton, Inc. & Walsworth Publishing Co.

ALONG FREEDOM ROAD

written by: David Cecelski; published by: Chapel Hill Press

THE LODGE AT LAKE MATTAMUSKEET

a brochure written by: Dr. Lewis C. Forrest, Jr., The Mattamuskeet Foundation

The above history for Ocracoke Island is excerpted verbatim from the Ocracoke Civic and Business Association web site (www.ocracokevillage.com) and is copyrighted by Mr. Phillip Howard, 2002.

Readers interested in additional information on Ocracoke History may want to read:

OCRACOKERS

written by: Alton Ballance; published by: University of North Carolina Press

Section 3. Regional Setting

A. Regional Location

Hyde County is located in the extreme east-central coastal plain of North Carolina, approximately 160 miles south/southeast of the state capitol of Raleigh (see Map 1). Hyde County is bounded on the north by Dare and Tyrrell counties, on the northwest by Washington County and on the west by Beaufort County. Across the Pamlico River (in southern Hyde County) is Pamlico County and across the Pamlico Sound to the south are Carteret and Craven counties. To the east of Ocracoke Island is the Atlantic Ocean.

B. Regional Setting

For purposes of planning analysis, the State of North Carolina formed seventeen (17) regional planning councils in 1970 (see Exhibit 1). Hyde County is located in Region R, which contains ten coastal counties and fifteen towns in north-central and north-eastern North Carolina (see Table 1 below). Region R is served by the Albemarle Commission based in Hertford, NC.



Exhibit 1. North Carolina Regional Planning Councils (Source: NC Association of Regional Councils)

Table 1: Local Governments in Planning Region “R”

- Camden County
- Chowan County: Edenton
- Currituck County
- Dare County: Duck, Kill Devil Hills, Kitty Hawk, Manteo, Nags Head, Southern Shores
- Gates County: Gatesville
- Hyde County
- Pasquotank County: Elizabeth City
- Perquimans County: Hertford, Winfall
- Tyrrell County: Columbia
- Washington County: Creswell, Plymouth, Roper

Source: NC Association of Regional Councils.

Of the ten counties in Region R, only three - Dare, Currituck and Hyde - have direct access to the open ocean and the ocean shoreline, while the remainder have estuarine and sound access only.

Map 1 - Regional Location Map

As depicted in Table 2, below, the proximity to the ocean (and oceanfront property) appears to have a significant impact on population growth and tax base of Hyde County and its neighbors, with estuarine/soundfront communities growing more slowly and oceanfront communities growing very rapidly.

Despite its oceanfront access, Hyde County has not benefitted significantly in terms of population growth and development. This is due to the fact that the amount of oceanfront property and access to this property is limited. Hyde County's only oceanfront access is on Ocracoke Island, which can be reached only by ferry or by another boat (rather than by car).

Table 2: Population (1970 and 2003) and 2003-2004 Tax Valuation of Property for Counties in NC Planning Region R

	Population 1970	Estimated Population 2003	% Increase / Decrease in Population (1970 to 2003)	2003-2004 Assessed Property Valuation (in US \$)	Assessed Property Valuation per Person (in US \$)
Camden County	5,453	7,844	43.85	492,919,860	62,840
Chowan County	10,764	14,366	33.46	810,776,000	56,437
Currituck County	6,976	20,589	195.14	2,457,244,539	119,347
Dare County	6,995	33,328	376.45	5,750,000,000	172,528
Gates County	8,524	10,834	27.10	482,000,000	44,490
Hyde County	5,571	5,720	2.67	611,825,711	106,963
Pasquotank County	26,824	36,432	35.82	1,490,644,105	63,141
Perquimans County	8,351	11,712	40.25	739,502,206	40,916
Tyrrell County	3,806	4,226	11.04	228,305,817	54,024
Washington County	14,038	13,468	-(4.06)	539,550,550	40,062
Region R Total	97,302	158,519	62.91	12,863,266,582	85,812
State of North Carolina	5,082,059	8,418,090	65.64	630,144,954,471	74,856

Source: US Census Bureau for 1970 population, NC State Demographic Office for 2003 population estimates, NC Association of County Commissioners for property valuation.

Absent the significant growth stimulus of large quantities of oceanfront property and access, and geographically isolated from many other growth stimuli (e.g., large cities, industrial or commercial developments), Hyde County has maintained a relatively stable growth pattern and economy. These trends will be discussed in detail in Section 5(B) and (D) of this Plan.

Section 4. Hyde County Concerns and Aspirations

A. *Identification of Primary Planning Issues*

This document will attempt to assess all issues and concerns that may affect the growth and natural environment in Hyde County over the 20-year planning period. Due to resource and time limitations, however, primary or “key” issues must be identified and prioritized. These key issues are those that the County will spend additional resources in analyzing, assessing and developing goals, policies, objectives and implementing tasks to address over the planning period.

In order to identify these issues, the County held Issues Identification Meetings on October 27, 2004 (Hyde County Mainland) and October 28, 2004 (Ocracoke Island). These meetings were widely advertised, through direct solicitation of citizens with known interests in civic affairs and representatives of organizations with interest in these affairs (including State representatives - see Appendix III for a full listing). Additionally, a notice was sent to popular retail and commercial locations for posting and was advertised in the Washington Daily News and the Coastland Times (Manteo, NC) newspapers.

At the meetings, the County’s planning consultant, Holland Consulting Planners, Inc., provided an overview of the CAMA Land Use Planning process and then broke the assembled group of approximately 30 persons (at each meeting) into 4 to 6 smaller groups to “brainstorm” issues that the group adjudged to be significant to Hyde County’s growth and environment over the planning period. These issues were then listed on large writing pads and affixed to the wall of the Mattamuskeet School Cafeteria (Mainland meeting) and the Ocracoke Civic Center (Ocracoke Island meeting) where the meetings were held. At the end of the each meeting, participants received 10 “votes” and identified their 10 top issues (1 vote per issue - no “multi-voting” with multiple votes per issue). The results are recorded in Tables 3 and 4 below.

Table 3: Key issues identified at the October 27, 2004 (Mainland Hyde County) Issues Identification Meeting

Issue Score	Issue
19	Retain deep water access
18	Compensation for property lost through regulation
15	Need for improved communications infrastructure (especially high-speed/digital infrastructure)
15	Limit the conversion of farmland to wetlands for mitigation
14	Decrease regulation of drainage
14	Economic development, including eco-tourism (emphasis on new business recruitment)
12	Increase and improve transportation access to the County
12	Improve recreational facilities and programs
11	Removal of condemned and dilapidated housing

Table 3: Key issues identified at the October 27, 2004 Issues Identification Meeting (continued)

Issue Score	Issue
9	Improvement of the ferry system
9	Cost-effective disposal of solid waste
9	Expand the existing sewer districts, as needed, for development
8	Decrease erosion control requirements
8	Infrastructure improvement and expansion
7	Improve drinking water quality (private systems)
6	Increase number and mileage of paved roads
5	Need for County-wide zoning plan
5	Emphasize Ocracoke / Outer Banks issues
4	Utilization of existing industrial park site
4	Improve and allow for expansion of airport
3	Access to specialized health care
3	Improve access to dental care
3	Creation of new sewer districts as needed and feasible
3	Protection of Areas of Environmental Concerns (AECs)
2	Hazard mitigation planning
1	Access to post-secondary educational opportunities
1	Expand and improve school facilities
1	Require repair of substandard housing
1	Mitigation of stormwater drainage
1	Implement the Engelhard Strategic Plan

NOTE: "Key" or "primary" issues are in bold.

Source: Hyde County Planning Department and Holland Consulting Planners, Inc.

Other key issues include the development of the Machapungo Park Project and other Heritage Tourism Projects and the development of permanent Post Offices at Engelhard and Swan Quarter.

Table 4: Key issues identified at the October 28, 2004 (Ocracoke Island Meeting) Issues Identification Meeting

Issue Score	Issue
19	Beach Renourishment / Stabilization of NC Hwy 12
18	Taxation
17	Waste Management
15	Comprehensive Drainage Plan

Table 4: Key issues identified at the October 28, 2004 Issues Identification Meeting (continued)

Issue Score	Issue
13	Affordable Housing
12	Traffic and Congestion
10	Concern with "Daytrippers" (e.g., Parking, Trash, Restrooms, Congestion)
10	Maintain Historic Character
10	Maintaining Minimum CAMA Regulatory Standards
10	Navigable Waters
9	Development and Density
8	Emergency Management
8	Emergency Services
7	Bike and Pedestrian Lanes
7	Electrical System Growth Needs
7	Water Quality (non-potable)
7	Wildfire Management
7	Zoning (Commercial versus Residential)
6	Open Space and Recreation
5	Drinking Water Quantity and System Expansion
5	Mosquito Control
5	Nuisance Control
4	Elder Services
4	Wetland Regulations
3	Airport Maintenance, Expansion and Lighting
2	Improvement of County Facilities - Including School
1	Pamlico Sound Access

NOTE: "Key" or "primary" issues are in bold.

Source: Hyde County Planning Department and Holland Consulting Planners, Inc.

The top ten to twelve issues identified were flagged for additional analysis and consideration in the remainder of this document. In addition, based on the results of these meetings a survey was developed and mailed out to a sampling of the county's absentee property owners. A total of 450 surveys were sent out; 164 completed questionnaires were received. See Appendix IV for the results of the absentee property owners survey.

Section 5. Analysis of Existing and Emerging Conditions

A. *A Note on Data Analysis in this Plan*

As many readers will know, Hyde County does not have any incorporated municipal governments and thus serves as the sole local government entity for all Hyde County citizens. For this reason, this Land Use Plan is being developed as a unified plan for the entire County. It is important to note, however, that Ocracoke Island, although not a separate municipal government, is subject to dramatically different economic, housing, demographic and environmental influences than is the mainland of Hyde County, in many cases. Therefore, when appropriate and when data is available, separate analyses will be provided for mainland Hyde County and for Ocracoke Island in this section of the Plan.

B. *Population*

1. **Hyde County Permanent Population**

The estimated population of Hyde County on July 1, 2003, was 5,720 according to the NC State Demographic Office, reflecting a 1.8% (or 106 person) decrease since the 2000 US Census. While State population estimates are open to dispute because they are not based on direct enumeration of persons, they appear plausible due to the tremendous damage (and economic dislocation) caused by Hurricanes Isabel (September, 2003) and Alex (August, 2004) and the overall weakness in the regional and state economy since the year 2001, coupled with existing deficiencies in the County's infrastructure (discussed in greater detail in Section 5(B)(3) and (B)(4) of this Plan). Population forecasts through the year 2030 will be provided in Section 5(E) of this Plan.

In general, however, the population of mainland Hyde County has been remarkably stable since 1970 as modest population declines due to out-migration and natural decline (i.e., deaths outnumbering births) have been offset by an increase in the County's institutional population due largely to the opening of Hyde Correctional Center in 1996, a minimum and medium security State correctional facility with approximately 600 inmates north of Swan Quarter and the associated employment attracted by that facility (Source: NC Department of Corrections and NC State Demographics Office).

The population of Ocracoke Island increased significantly between 1970 and 1980 (from 541 to 658) and has increased modestly since 1980, to an estimated year 2000 population of 769. Interim (i.e., between decennial Census years) population forecasts are not available for Ocracoke, but based on a review of water service connections and water usage since 2000, it is fair to assume that the permanent (i.e., 6+ months per year) population has either remained the same or risen only slightly since the year 2000 (Source: Ocracoke Sanitary District).

As noted above, population projections will be provided in Section 5(E) of this Plan, but barring significant increases in allowable building density, economic opportunities, and infrastructure availability, the population of Ocracoke can only increase modestly to moderately during the planning period (through 2011) - limited primarily to those who can afford to retire on the Island and live off investments and/or other income not generated by wages.

Table 5: Permanent Population of Hyde County, Hyde County Mainland and Ocracoke Island, 1970, 1980, 1990, 2000, and 2003 estimate

Area	Population					% Growth/Decline (1970 to 2003)
	1970	1980	1990	2000	2003 Estimate	
Hyde County (Total)	5,571	5,873	5,411	5,826	5,720	2.67
Hyde County (Mainland Only)	5,030	5,215	4,698	5,057	4,951	(1.57)
Ocracoke Island	541	658	713	769	N/A*	42.14

* Population estimates from the NC State Demographics Office for Ocracoke Island only are not available for non-census years.

Source: 1970 - 2000 US Census Bureau, 2003 estimate, NC State Demographics Office.

2. Seasonal Population

Seasonal population (i.e., population present for less than six months per year) is an extremely significant contributor to future impacts on the environment, growth and development, and demand for infrastructure and other governmental services on Ocracoke Island. The vast majority of governmental and other public services, such as water, electricity, emergency management capabilities, roadways and ferry service must be sufficient (or be adjusted to be sufficient) to meet not just average, but “peak,” or maximum demands generated by the large transient population present on Ocracoke Island during the peak summer vacation season (between May and October). Additionally, it is these seasonal visitors that drive the Island’s economy and thus its growth and development.

While seasonal population is notoriously difficult to estimate, a key indicator of seasonal population is ferry traffic. Ocracoke Island is accessible only by boat, and the vast majority of visitors arrive by ferry service operated by the NC Department of Transportation (NCDOT). Based on consultations with NCDOT, the Ocracoke Sanitary District estimates the current peak seasonal population (to occur, generally, on a weekend in July or August) at 8,000 to 10,000 persons, in addition to the permanent population discussed above.

Again based on Sanitary District estimates, the minimum seasonal population on the Island during peak season (May through October) is assumed to be 3,000, and the average is

approximately 6,000. These estimates include “daytrippers” (i.e., visitors not staying overnight on the Island) and vary widely depending on weather and economic conditions, but seasonal water consumption and ferry usage has increased on the Island every year since 1977, with very few exceptions such as 1996 and 2004, which are anomalies due to hurricane activity during those years.

Seasonal populations fluctuations also occur on the Hyde County mainland. The County’s vast gamelands attract hunters and fishermen, especially during the peak season of October through February. The seasonal population probably peaks during the October through January period when permitted bear hunting season and duck hunting season overlap. As the vast majority of the lodging for seasonal visitors is private homes and lodges, the number of seasonal visitors and the number of overnight visitors is difficult to estimate.

Based on a review of permits given for duck and deer hunting in the Mattamuskeet National Wildlife Refuge (NWR) in November, 2003, the NWR issued 150 deer hunting permits, 878 migratory bird hunting permits and had an average of 4,000 visitors per week for non-hunting activities (Source: Jerry Fringeli, US Fish and Wildlife Service). Pocosin Lakes NWR also registered approximately 800 hunters and other visitors per week in November, 2003. The Pocosin and Mattamuskeet NWRs are only two of the many game hunting and bird watching areas on the Mainland of Hyde County, so assuming total visits to the County are double the permitted hunters and visitors to the NWRs, we can assume that there are as many as 12,000 day visitors on the Mainland of the County at peak hunting/bird watching season. Assuming that 50% of these visitors stay overnight in Hyde County, the Mainland’s population swells by approximately 6,000 seasonal visitors during peak hunting/bird watching season.

Despite this large influx of seasonal visitors to the Mainland of Hyde County, the peak County population of 15,720 is likely to be achieved during weekends in July or August, due to the approximately 10,000 visitors to Ocracoke Island, together with the estimated 2003 permanent population of 5,720.

3. Population Profile

a. Racial Composition

Approximately 62.65% of the County's population was white in the year 2000, with the remaining 37.35% non-white, according to the US Census Bureau (see Table 6). Of the non-white population, the vast majority (93.8% or 2,042 persons) defined themselves as Black or African-American (the term "African-American" will be used for the remainder of this document). Citizens of the County defining themselves as more than one race, "some other race," Asian, or American Indian were approximately 1% of the County population each.

Table 6: Racial Composition of Hyde County, Hyde County Mainland, Ocracoke Island and Region R, 1990 and 2000

Area	Population				% of Total Population	
	1990 (White)	1990 (Non- White)	2000 (White)	2000 (Non-White)	White, 1990	White, 2000
Hyde County (Total)	3,596	1,815	3,650	2,176	66.46	62.65
Hyde County (Mainland Only)	2,893	1,805	2,911	2,146	61.58	57.56
Ocracoke Island	703	10	739	30	98.60	96.10
Region R Planning Area	91,439	38,767	105,932	44,115	70.23	70.60

Source: US Census Bureau.

As is reflected in Table 6, the racial composition of the populations of the mainland of Hyde County and of Ocracoke Island vary significantly. Ocracoke Island was approximately 96% white in 2000, while the mainland alone (i.e., excluding Ocracoke) was only approximately 57% white.

Overall, the racial composition of the population is similar to that of the Region R Planning area (63% white in Hyde County, 71% white region-wide).

Only 131 citizens of the County, or 2.2% of the total population, defined themselves as Hispanic in the 2000 US Census. The vast majority of these citizens (91 of 131 persons) identified themselves as being of Mexican descent. (Please note that “Hispanic” denotes a national origin and is defined as someone from one of the Spanish-speaking nations of South or Central America. “Hispanic” does not have a racial designation.)

Although only 2.2% of the County’s population is Hispanic, according to the 2000 U.S. Census, extensive anecdotal evidence (e.g., school enrollment, rental applications) suggests that there has been a sharp increase in the number of Hispanic persons in the County since the year 2000, particularly on Ocracoke Island. This influx of Spanish-speaking persons has created or exacerbated problems regarding affordable housing, school capacity/costs, and social services and should be carefully monitored.

b. Age and Gender Composition

The median age of Hyde County's citizenry was 39.7 years in the year 2000, based on US Census statistics (see Table 7 below). This represents an increase of almost 4 years in County-wide median age since 1990. This rise in median age reflects the State and Nationwide trend of an aging population, as well as the out-migration of younger persons in their child bearing and rearing years from the County.

Table 7: Age Composition of Hyde County, Hyde County Mainland, Ocracoke Island, and North Carolina 1990 and 2000

Area	Median Age, 1990	Median Age, 2000	Population Under Age 18, 2000	% of Total Population Under Age 18, 2000	Population Aged 18-64, 2000	% of Total Population Aged 18-64, 2000	Population Aged 65 & Over, 2000	% of Total Population Aged 65 & Over, 2000
Hyde Co. (Total)	35.8	39.7	1,006	17.27	3,867	66.37	953	16.35
Hyde Co. (Mainland Only)	N/A*	N/A*	906	17.92	3,336	65.96	815	16.12
Ocracoke Island	N/A*	46.4	100	13.00	531	69.05	138	17.95
State of North Carolina	33.2	35.3	1,964,047	24.40	5,113,390	63.60	969,048	12.00

*Statistic not computed in 1990 US Census.
Source: US Census Bureau.

The median age on Ocracoke Island in 2000 was 46.4 - 11.1 years higher than the State average. In fact, 52.5% of all permanent residents on Ocracoke Island as of the 2000 US Census were age 45 or older, as opposed to 40.9% of the County as a whole. This reflects the increasing attractiveness of Ocracoke Island as a retirement destination and the (relatively) limited opportunities available for wage earners in their middle years.

The above-noted trends are further suggested by the fact that Hyde County has an elderly population almost 4 percentage points higher (as a percentage of total population) than that of the State at-large (see Table 7) and the number of children under the age of 18 is almost 6 percentage points lower (again, as a percentage of total population) than the State.

Table 8 (A through C) below depicts the gender composition of the County, by age cohort. The gender composition of the County is very similar to the State average, except for the fact that males aged 18 to 64 greatly outnumber females. This fact can be explained by the large number of institutionalized males in the County Correctional Center in 2000.

Table 8(A): Age and Gender Composition of Hyde County (Including Ocracoke Island), 2000

Age	Number			Males per 100 females
	Both sexes	Male	Female	
Under 18 years	1,186	592	594	99.7
18 to 64 years	3,687	2,114	1,573	134.4
65 years and over	953	374	579	64.6

Source: US Census Bureau.

Table 8(B): Age and Gender Composition of Ocracoke Island, 2000

Age	Number			Males per 100 females
	Both sexes	Male	Female	
Under 18 years	100	62	38	163.2
18 to 64 years	531	261	270	96.7
65 years and over	138	54	84	64.3

Source: US Census Bureau.

Table 8(C): Age and Gender Composition of the State of North Carolina, 2000

Age	Number			Males per 100 females
	Both sexes	Male	Female	
Under 18 years	1,964,047	1,006,125	957,922	105.0
18 to 64 years	5,116,218	2,547,559	2,568,659	99.2
65 years and over	969,048	389,011	580,037	67.1

Source: US Census Bureau.

c. Female-Headed and Non-Family Households

The US Census Bureau defines a “non-family” household as a household with only one person or with two or more persons where no residents of the home are related by blood or marriage. A female-headed household is one where no husband is present. Numerous studies have demonstrated a high correlation between female-headed households (and to a lesser extent “non-family” households) and poverty, low-educational attainment and low rates of homeownership.

Additionally, Federal and State policies over the past decade or so appear to have disproportionately hurt the economic situation of this type of household. In a 1999 study conducted by the Center on Budget and Policy Priorities, it was found that between 1995 and 1997 the income of the poorest 20 percent of female-headed families with children fell an average of \$580 per family. The study included the families' use of food stamps, housing subsidies, the Earned Income Tax Credit, and other benefits. Even when these benefits are included, these families have incomes below three-quarters of the poverty line. Additionally, studies have found that single mothers on welfare rarely find full-time, permanent jobs at adequate wages. Recent welfare legislation has focused on child support enforcement. However, full payment of child support only constitutes a small portion of the total cost of raising a child.

Fortunately, Hyde County and Ocracoke Island's percentage of households that are female-headed with no husband present and total number of family households are comparable to the State average (see Table 9). The only unusual statistic in regards to family composition is the low percentage of households with children on Ocracoke (18.7% versus 34.7% Statewide), probably reflecting the large percentage of persons beyond childbearing years.

Table 9: Household Composition and Family Type, Hyde County Mainland, Ocracoke Island, and North Carolina, 2000

Subject	Hyde County Mainland (w/out Ocracoke)		Ocracoke Island		State of North Carolina	
	# of Households	% of all Households	# of Households	% of all Households	# of Households	% of all Households
Household Type						
Total households	1,815	100.0%	370	100.0%	3,132,013	100.0%
Family households	1,215	66.9%	219	59.2%	2,158,869	68.9%
Nonfamily households	600	33.1%	151	40.8%	973,144	31.1%
Family Type and Presence of Own Children						
Families	1,215	66.9%	219	59.2%	2,158,869	68.9%
With related children under 18 years	595	32.8%	69	18.7%	1,087,110	34.7%
Married-couple families	891	49.1%	173	46.8%	1,645,346	52.5%
With related children under 18 years	406	22.4%	50	13.5%	747,993	23.9%
Female householder, no husband present	254	14.0%	33	8.9%	389,997	12.5%
With related children under 18 years	159	8.7%	14	3.8%	268,443	8.6%

Source: US Census Bureau.

d. Educational Attainment

A recent US Census Bureau report (*Educational Attainment in the United States*, March 2000) recently found that, on average nationwide, the average worker over the age of 25 with a bachelor's degree makes over \$20,000 more per year in earnings than the same worker without any college degree (see Exhibit 2 below).

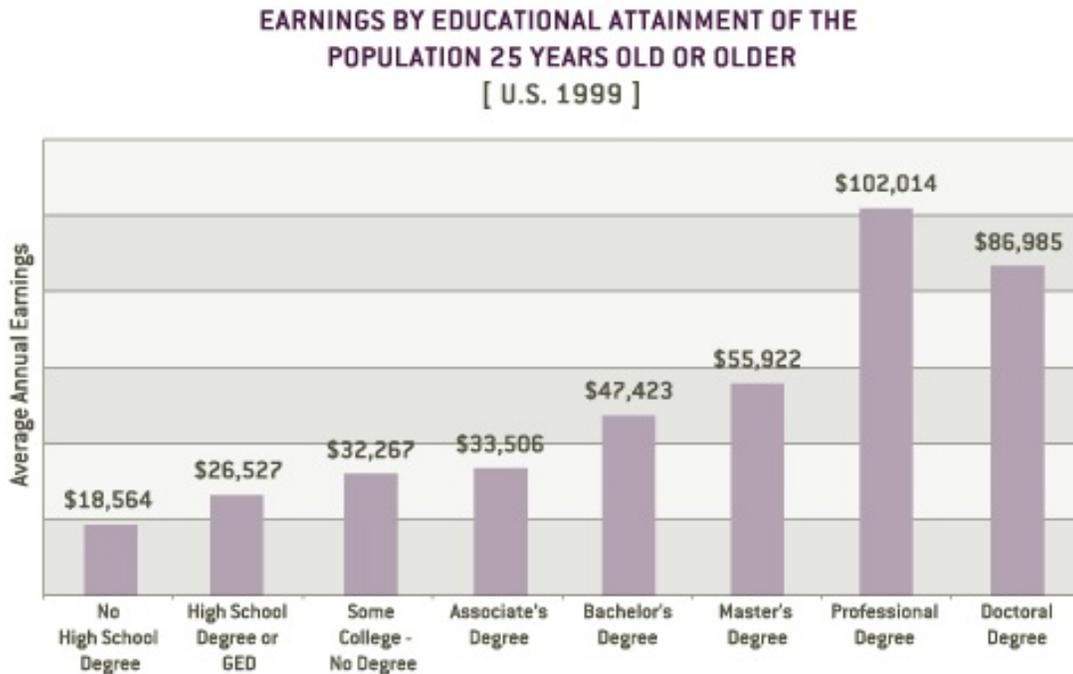


Exhibit 2. Earnings by Education Attainment of the Population 25 Years Old or Older, 1999 (Source: US Census Bureau)

The Hyde County mainland (excluding Ocracoke Island) has a significantly lower level of educational attainment than the State average. For example, there are almost twice as many persons (as a percentage of total population over age 25) without a high school diploma (or equivalent) on the Hyde County mainland than in the State on average (approximately 35% versus 22% and almost three times as many persons with a bachelor's degree or higher (approximately 8% versus 22%) (see Table 10). Despite the fact that these figures represent an increase in educational attainment since 1990 (40% of County population without a high school diploma and 7.7% of County population with a Bachelor's Degree or higher), this phenomenon is a serious impediment to economic development in the County and policies addressing this issue should be considered.

Table 10: Educational Attainment for Population Over Age 25, Hyde County Mainland, Ocracoke Island, and the State of North Carolina, 2000

Educational Attainment	Hyde County (w/out Ocracoke)		Ocracoke Island		State of North Carolina	
	Number	% of All Persons Over Age 25	Number	% of All Persons Over Age 25	Number	% of All Persons Over Age 25
Population 25 years & over	3,605	100.00%	585	100.00%	5,282,994	100.00%
Less than 5th grade	78	2.16%	0	0.00%	101,778	1.93%
5th to 8th grade	447	12.40%	21	3.59%	311,717	5.90%
9th to 12th grade, no diploma	718	19.92%	62	10.60%	741,229	14.03%
High school graduate (incl. equivalency)	1,313	36.42%	208	35.56%	1,502,978	28.45%
Some college credit, less than 1 year	292	8.10%	26	4.44%	362,337	6.86%
1 or more years of college, no degree	240	6.66%	82	14.02%	718,167	13.59%
Associate degree	226	6.27%	34	5.81%	358,075	6.78%
Bachelor's degree	184	5.10%	131	22.39%	808,070	15.30%
Master's degree	71	1.97%	14	2.39%	253,794	4.80%
Professional degree	29	0.80%	7	1.20%	78,279	1.48%
Doctorate degree	7	0.19%	0	0.00%	46,570	0.88%

Source: US Census Bureau.

4. Summary of Population Profile

- The estimated population of the County in July, 2003, was 5,720 according to the NC State Demographic Office, reflecting a slight (1.8%) decrease from the 2000 Census population of 5,826.
- The population of Ocracoke Island as of the April, 2000, US Census was 769 persons - approximately 13.2% of the County's total population and a 7.9% increase over the 1990 population.
- Seasonal (May through October) population is a very significant influence on the demand for services, environmental impacts, and growth and development on Ocracoke Island, as the large seasonal population provides the Island's economic base. The peak seasonal population is estimated between 8,000 and 10,000 additional (non-permanent resident) persons on the Island in July or August.

- The racial composition of Hyde County was approximately 63% white and 37% non-white in 2000, according to the US Census Bureau. Almost all (2,146 of 2,176) non-white citizens lived on the mainland of Hyde County (rather than on Ocracoke Island) and were African-American (2,042 of 2,176).
- The relatively large percentage of the County's population in group quarters, particularly the approximately 600 inmates at the Hyde Correctional Center, severely skews the County's demographic profile towards unmarried families and lower educational attainment. The County should pursue policies with the U.S. Census Bureau in which prison populations are either omitted from consideration in overall County population statistics or are presented with caveats.
- As of the year 2000, the median age of Hyde County's citizens is 39.7 years, well above the State average of 35.3 years. The median age of Ocracoke Island residents was 46.4 - over 11 years older than the State average. The percentage of persons below the age of 18 is well below the Statewide average for both Mainland and Ocracoke. For both the Mainland and Ocracoke, these trends appears to reflect both the overall aging of American society as well as the out-migration of young persons of child-bearing and rearing age from the County.
- Gender distribution for Ocracoke and the Mainland are both consistent with Statewide averages, except for the 18 to 64 age cohort on the mainland, which has approximately 600 more men than women due to the presence of a large, male-only correctional facility in the County.
- Household composition and family type in the County are similar to Statewide averages, except for the above-referenced relatively low number of households with children present.
- Educational attainment on Ocracoke Island is comparable to the State average, but it is far below the State average on the Mainland. For example, there are almost twice as many persons (as a percentage of total population over age 25) without a high school diploma (or equivalent) on the Hyde County mainland than in the State on-average (approximately 35% versus 22% and almost three times as many persons with a bachelor's degree or higher (approximately 8% versus 22%). This phenomenon is a serious impediment to economic development in the County.

C. *Housing*

The following section of the Plan provides salient statistics regarding housing and householder characteristics in the County.

1. Housing Units and Density

Hyde County had a total of 3,302 housing units in 2000 according to the U.S. Census Bureau, and a land area of approximately 613 square miles, or 5.39 housing units per square mile. This represents the second lowest density of housing in the State (Tyrrell County is first), although this figure is somewhat misleading since the large majority of housing in the County is concentrated in the communities of Engelhard, Fairfield, Ocracoke, Ponzer, Sladesville, Scranton, and Swan Quarter. If Ocracoke is excluded from the above figures, the effective housing density drops to 4.07 housing units per square mile (2,458 housing units on 604 square miles of land). This primarily rural and well-dispersed development pattern may be attractive for retirees and others seeking large lots and privacy.

Based on 2000 U.S. Census data, Ocracoke Island has a total of 844 housing units on only 8.71 square miles (5,575 acres), or 96.9 housing units per square mile. This figure is also misleading since all residential development on the Island is in the Ocracoke Village community, which comprises only approximately 775 acres (1.21 square miles), resulting in an effective (i.e., excluding non-developable Federal lands and other protected areas) housing density of 697.5 housing units per square mile or 1.09 units per acre of land area. This “effective” density is roughly equivalent to or slightly lower than other North Carolina coastal communities without public sewer that attract numerous vacationers, such as Atlantic Beach.

Table 11: Population, Housing Units, Land and Water Areas and Population and Housing Unit Density for the State of North Carolina, Hyde County, Ocracoke Island and nearby Counties

Geographic area	Population (2000 U.S. Census)	Housing units	Land area (sq.mi.)	Density per square mile of land area	
				Population	Housing units
State of North Carolina	8,049,313	3,523,944	48,710.9	165.2	72.3
Hyde County	5,826	3,302	613.1	9.5	5.4
Ocracoke Island	769	844	8.7	88.3	96.9
Tyrrell County	4,149	2,059	390.0	10.6	5.3
Beaufort County	44,958	22,658	828.2	54.3	27.4
Washington County	13,723	6,235	348.0	39.4	17.9

Source: U.S. Census Bureau, 2000 U.S. Census.

2. Housing Occupancy and Tenure

Of the County's 3,302 housing units, 2,185, or 66.2% of all units, were occupied at the time of the 2000 U.S. Census. This occupancy rate is notably lower than the State housing unit occupancy rate of 89% (see Table 12 below). This fact can be explained primarily by the very high percentage of units that are occupied only for seasonal use on Ocracoke. In 2000, only 43.1% (364 of 844 units) of the housing units on Ocracoke were occupied year-round. The occupancy rate of housing units on the mainland was 74.1% (1,821 of 2,458 units). This relatively low occupancy rate on the mainland reflects the relatively large number of vacant dilapidated units on the mainland, as well as the relatively large number of housing units used for seasonal hunting/fishing use.

Of the 2,185 occupied units in the County, 1,713, or 78.4% of occupied units, are owner-occupied. This represents a rate that far exceeds the State average of 61%. High rates of owner-occupancy in both Ocracoke Island (298 of 364, or 80.0%) and the Hyde County mainland (1,422 of 1,821, or 78.1%) bode well for the County, as research has indicated that owner-occupants use their homes as a significant source of wealth (i.e., equity) by building and maintaining their homes in a superior fashion to rental units generally, presuming the economic ability to do so (N. Edward Coulson, Seok-Joon Hwang, and Susumu Imai, "The Benefits of Owner-Occupation in Neighborhoods", *Journal of Housing Research*, Volume 14, Issue 1).

Salient statistics regarding housing occupancy and tenure in the County, Ocracoke Island, and the State for 2000 are provided in Table 12.

Table 12. Housing Tenure and Occupancy, Hyde County, Ocracoke Island and the State of North Carolina, 2000

Housing Unit Description	Hyde County		Ocracoke Island		State of North Carolina	
	# of Housing Units	% of Total*	# of Housing Units	% of Total*	# of Housing Units	% of Total*
Total # of Units	3,302	100%	844	100%	3,523,944	100%
Occupied Units	2,185	66%	364	43%	3,132,013	89%
Owner-Occupied Units	1,713	52%	298	34%	2,172,355	61%
Renter-Occupied Units	472	14%	66	9%	959,658	38%
Vacant Units	1,117	34%	480	57%	391,931	11%
Vacant Units for Rent	90	3%	12	1%	43,896	1%
Vacant Units for Sale	56	2%	22	3%	92,888	3%
Vacant Units for Seasonal, Recreational or Occasional Use	510	15%	446	53%	134,824	4%
All Other Vacant Units	15	<1%	0	0%	120,323	3%

*Does not total to 100% since categories are not mutually exclusive.

Source: U.S. Census Bureau, 2000 U.S. Census.

The County experienced a net increase of 397 housing units, or 13.7%, from 1990 to 2000. Recent development patterns will be analyzed in other sections of this Plan, but the fact that the County's total population has increased by only 415 persons from 1990 to 2000 indicates that the County is experiencing the same trend that is happening Statewide and Nationwide – the reducing size of the average household (see Section 5(C)(5) below). An increase in the number of units for seasonal/recreational use is also indicated.

3. Units per Structure (as related to Tenure)

The majority of owner-occupied housing units in Hyde County (74.8% in the year 2000 according to the U.S. Census Bureau) and renter-occupied units (59.3%) were single-family detached, site-built houses (see Table 13). On Ocracoke Island alone, the vast majority of owner-occupied and (full-time, permanent) renter-occupied units were single-family detached units (89.3 and 81.8, respectively). These figures equal or exceed the State averages for single-family detached units as a percentage of total occupied housing stock.

On mainland Hyde County, 502 of 1,821 (27.6%) of all occupied-housing units are mobile (or “manufactured”) homes, compared with approximately 15% Statewide. This is one of the highest rates of mobile homes as a percentage of all homes in the State and reflects the limited availability of other affordable housing options.

The low-density development pattern in the mainland portion of the County primarily reflects the scarcity of centralized sewer and poorly draining soils which restrict dense development, and affordable land prices which limit the demand for highly dense residential development.

On Ocracoke Island, the development pattern depicts the fact that the vast majority of year-round residents live in single-family detached structures, while the medium to high density residential units almost exclusively reserved for part-time/seasonal residents and rentals.

Table 13. Structures per Unit and Tenure, Hyde County, Ocracoke Island and the State of North Carolina, 2000

	Hyde County		Ocracoke Island		State of North Carolina	
	Number	% of Total	Number	% of Total	Number	% of Total
Owner-occupied housing units	1,713	100.0%	298	100.0%	2,172,270	100.0%
1, detached	1,282	74.8%	266	89.3%	1,718,100	79.1%
1, attached	0	0.0%	0	0.0%	53,422	2.5%
2	0	0.0%	0	0.0%	6,747	0.3%
3 or 4	8	0.5%	0	0.0%	8,723	0.4%
5 or more	0	0.0%	0	0.0%	19,689	0.9%
Mobile home	423	24.7%	32	10.7%	364,414	16.8%
Boat, RV, van, etc	0	0.0%	0	0.0%	1,175	0.1%

Table 13. Structures per Unit and Tenure, Hyde County, Ocracoke Island and the State of North Carolina (continued)

	Hyde County		Ocracoke Island		State of North Carolina	
	Number	% of Total	Number	% of Total	Number	% of Total
Renter-occupied housing units	472	100.0%	66	100.0%	959,743	100.0%
1, detached	280	59.3%	54	81.8%	332,742	34.7%
1, attached	13	2.8%	5	7.6%	41,410	4.3%
2	36	7.6%	7	10.6%	69,629	7.3%
3 or 4	7	1.5%	0	0.0%	92,337	9.6%
5 to 9	18	3.8%	0	0.0%	121,395	12.6%
10 to 19	7	1.5%	0	0.0%	90,110	9.4%
20 to 49	0	0.0%	0	0.0%	38,334	4.0%
50 or more	0	0.0%	0	0.0%	43,066	4.5%
Mobile home	111	23.5%	0	0.0%	130,141	13.6%
Boat, RV, van, etc	0	0.0%	0	0.0%	579	0.0%

Source: U.S. Census Bureau, 2000 U.S. Census.

4. Age, Condition, and Characteristics of Housing Units

The average owner-occupied house in Hyde County is six (6) years older than the average owner-occupied house Statewide (see Table 14). In fact, approximately 31.4% of the County's occupied housing units, and 38.6% of the occupied housing units on Ocracoke Island were built prior to 1959, versus approximately 22% Statewide. This percentage is higher than that found in many neighboring counties.

Older housing presents a paradox. On one hand, many historic houses (i.e., those over 50 years of age) are difficult to replace or duplicate in terms of beauty and overall appeal. The charm and character of the many older houses, particularly on Ocracoke, remain essential to the county's efforts to attract new visitors and residents. The existence of this older housing stock, however, also brings special challenges and costs, as such housing units are more costly to maintain than newer units. In general, the older housing stock on the mainland is in poorer condition than that on Ocracoke and much of it is vacant. This deteriorating housing stock presents a significant impediment to economic development as low and moderate income households have a difficult time locating affordable housing that is in good condition.

Table 14. Tenure by Year Structure Built, Ocracoke Island, Hyde County, and the State of North Carolina, 2000

	Ocracoke Island		Hyde County		State of North Carolina	
	Units	Percentage	Units	Percentage	Units	Percentage
Owner-occupied housing units	298	100.0%	1,713	100.0%	2,172,270	100.0%
Built 1999 to March 2000	0	0.0%	110	6.4%	91,289	4.2%
Built 1995 to 1998	46	15.4%	101	5.9%	302,569	13.9%
Built 1990 to 1994	55	18.5%	219	12.8%	253,589	11.7%
Built 1980 to 1989	19	6.4%	262	15.3%	414,560	19.1%
Built 1970 to 1979	37	12.4%	250	14.6%	378,348	17.4%
Built 1960 to 1969	26	8.7%	234	13.7%	271,748	12.5%
Built 1950 to 1959	28	9.4%	169	9.9%	206,939	9.5%
Built 1940 to 1949	43	14.4%	90	5.3%	108,105	5.0%
Built 1939 or earlier	44	14.8%	278	16.2%	145,123	6.7%
Median	1972		1973		1979	
Renter-occupied housing units	66	100.0%	472	100.0%	959,743	100.0%
Built 1999 to March 2000	6	9.1%	20	4.2%	21,613	2.3%
Built 1995 to 1998	0	0.0%	38	8.1%	88,463	9.2%
Built 1990 to 1994	0	0.0%	43	9.1%	83,152	8.7%
Built 1980 to 1989	12	18.2%	51	10.8%	195,835	20.4%
Built 1970 to 1979	5	7.6%	83	17.6%	193,987	20.2%
Built 1960 to 1969	7	10.6%	111	23.5%	128,992	13.4%
Built 1950 to 1959	7	10.6%	15	3.2%	102,948	10.7%
Built 1940 to 1949	7	10.6%	33	7.0%	64,618	6.7%
Built 1939 or earlier	22	33.3%	78	16.5%	80,135	8.3%
Median	1956		1970		1975	

Source: U.S. Census Bureau, 2000 U.S. Census.

Occupancy-per-room and availability of essential services such as telephone, plumbing, and kitchen facilities are generally comparable to the Statewide average for the mainland of Hyde County and far exceed the State average on Ocracoke Island (see Table 15 below). On Ocracoke Island, in fact, the 2000 U.S. Census did not identify a single occupied unit that lacked telephone, plumbing, or kitchen facilities.

Rental units on the Hyde County mainland lack basic kitchen and plumbing facilities and telephone service at approximately three times the Statewide average (see Table 15 below). Despite the fact that the County has a minimum housing code, these facts suggest the limited availability of affordable rental units in “standard” or code compliant condition in the County.

Table 15. Occupancy per Room and Availability of Essential Services per Housing Unit by Tenure, Hyde County, Ocracoke Island and the State of North Carolina, 2000

	Hyde County		Ocracoke Island		State of North Carolina	
	Units	Percentage	Units	Percentage	Units	Percentage
TENURE BY OCCUPANTS PER ROOM						
Owner-occupied housing units	1,713	100.0%	298	100.0%	2,172,270	100.0%
0.50 or less occupants per room	1,271	74.2%	223	74.8%	1,625,862	74.8%
0.51 to 1.00 occupants per room	403	23.5%	69	23.2%	507,834	23.4%
1.01 to 1.50 occupants per room	34	2.0%	6	2.0%	28,660	1.3%
1.51 or more occupants per room	5	0.3%	0	0.0%	9,914	0.5%
Mean	0.38		0.35		0.42	
Renter-occupied housing units	472	100.0%	66	100.0%	959,743	100.0%
0.50 or less occupants per room	329	69.7%	57	86.4%	577,448	60.2%
0.51 to 1.00 occupants per room	80	16.9%	9	13.6%	314,110	32.7%
1.01 to 1.50 occupants per room	44	9.3%	0	0.0%	40,823	4.3%
1.51 or more occupants per room	19	4.0%	0	0.0%	27,362	2.9%
Mean	0.55		0.44		0.54	
TENURE BY TELEPHONE SERVICE AVAILABLE						
Owner-occupied housing units	1,713	100.0%	298	100.0%	2,172,270	100.0%
With telephone service	1,643	95.9%	298	100.0%	2,139,976	98.5%
No telephone service	70	4.1%	0	0.0%	32,294	1.5%
Renter-occupied housing units	472	100.0%	66	100.0%	959,743	100.0%
With telephone service	402	85.2%	66	100.0%	897,100	93.5%
No telephone service	70	14.8%	0	0.0%	62,643	6.5%
TENURE BY PLUMBING FACILITIES						
Owner-occupied housing units	1,713	100.0%	298	100.0%	2,172,270	100.0%
With complete plumbing facilities	1,704	99.5%	298	100.0%	2,166,786	99.6%
Lacking complete plumbing facilities	9	0.5%	0	0.0%	9,484	0.4%
Renter-occupied housing units	472	100.0%	66	100.0%	959,743	100.0%
With complete plumbing facilities	457	96.8%	66	100.0%	949,932	99.0%
Lacking complete plumbing facilities	15	3.2%	0	0.0%	9,811	1.0%
TENURE BY KITCHEN FACILITIES						
Owner-occupied housing units	1,713	100.0%	298	100.0%	2,172,270	100.0%
With complete kitchen facilities	1,704	99.5%	298	100.0%	2,166,160	99.7%
Lacking complete kitchen facilities	9	0.5%	0	0.0%	6,110	0.3%
Renter-occupied housing units	472	100.0%	66	100.0%	959,743	100.0%
With complete kitchen facilities	457	96.8%	66	100.0%	949,651	98.9%
Lacking complete kitchen facilities	15	3.2%	0	0.0%	10,092	1.1%

Source: U.S. Census Bureau, 2000 U.S. Census.

5. Household Characteristics

The County's persons-per-household (2.36) is slightly less, but consistent with, the Statewide average of 2.49 persons per household (see Table 16). As has been previously noted, homeowners in Hyde County are older than the State average and the County has a slightly higher percentage of "non-family" households than the Statewide average (approximately 34.4% for the County versus approximately 31% Statewide). A "non-family" household is defined by the U.S. Census Bureau as one where a householder is living alone or with unrelated individuals. This fact is likely related to the large number of elderly persons living alone in the County (see Table 16). Overall, however, owner and rental unit characteristics on the mainland of Hyde County are similar to the State averages.

For Ocracoke Island, the same trends noted above for Hyde County are also present – more non-family households and (much) fewer families with children present in the home than the State average.

Table 16. Persons per Housing Unit and Various Household Characteristics, Hyde County, Ocracoke Island and the State of North Carolina, 2000

	Hyde County		Ocracoke Island		State of North Carolina	
	Number	Percent	Number	Percent	Number	Percent
Household Type						
Total households	2,185	100.0%	370	100.0%	3,132,013	100.0%
Family households	1,434	65.6%	219	59.2%	2,158,869	68.9%
Male householder	1,030	47.1%	167	45.1%	1,566,232	50.0%
Female householder	404	18.5%	52	14.1%	592,637	18.9%
Nonfamily households	751	34.4%	151	40.8%	973,144	31.1%
Male householder	324	14.8%	63	17.0%	442,653	14.1%
Living alone	286	13.1%	47	12.7%	337,575	10.8%
Female householder	427	19.5%	88	23.8%	530,491	16.9%
Living alone	382	17.5%	67	18.1%	457,696	14.6%
Average household size	2.36		2.08		2.49	
Average family size	2.94		2.55		2.98	
Family Type and Presence of Own Children						
Families	1,434	100.0%	219	100.0%	2,158,869	100.0%
With related children under 18 years	664	46.3%	69	31.5%	1,087,110	50.4%
With own children under 18 years	577	40.2%	65	29.7%	995,648	46.1%
Under 6 years only	113	7.9%	23	10.5%	249,471	11.6%
Under 6 and 6 to 17 years	86	6.0%	5	2.3%	181,009	8.4%
6 to 17 years only	378	26.4%	37	16.9%	565,168	26.2%

Table 16. Persons per Housing Unit and Various Household Characteristics, Hyde County, Ocracoke Island and the State of North Carolina (continued)

	Hyde County		Ocracoke Island		State of North Carolina	
	Number	Percent	Number	Percent	Number	Percent
Married-couple families	1,064	100.0%	173	100.0%	1,645,346	100.0%
With related children under 18 years	456	42.9%	50	28.9%	747,993	45.5%
With own children under 18 years	423	39.8%	46	26.6%	707,506	43.0%
Under 6 years only	80	7.5%	18	10.4%	182,166	11.1%
Under 6 and 6 to 17 years	68	6.4%	4	2.3%	137,703	8.4%
6 to 17 years only	275	25.8%	24	13.9%	387,637	23.6%
Female householder, no husband present	287	100.0%	33	100.0%	389,997	100.0%
With related children under 18 years	173	60.3%	14	42.4%	268,443	68.8%
With own children under 18 years	121	42.2%	14	42.4%	227,351	58.3%
Under 6 years only	24	8.4%	3	9.1%	50,294	12.9%
Under 6 and 6 to 17 years	15	5.2%	0	0.0%	36,117	9.3%
6 to 17 years only	82	28.6%	11	33.3%	140,940	36.1%

Source: U.S. Census Bureau.

6. Housing Conditions

Although detailed data is lacking, a visual inspection of the County's housing stock by Holland Consulting Planners, Inc., indicates that a majority of the homes on mainland Hyde County are moderately deteriorated, severely deteriorated, or dilapidated. "Moderately deteriorated" means that two or more major housing systems (e.g., roof, plumbing, walls, foundation) are in poor repair and in need of significant repair/renovation. "Severely deteriorated" means that three or more major housing systems are in poor repair and in need of significant repair/renovation. "Dilapidated" means that a unit is vacant or abandoned and beyond economically efficient repair.

The presence of substandard housing is a significant deterrent to development or redevelopment of nearby areas and, more importantly, it limits economic development since workers have limited options for affordable housing in good condition.

The County has worked, and will continue to work, diligently to identify and address these areas through the procurement of Federal and State community development and housing repair funds.

7. Mortgage Status, Housing Values, and Housing Costs

Only 44.7% of Hyde County owner-occupants, and 33.3% of owner-occupants on Ocracoke Island alone, currently have a mortgage on their homes. This compares to approximately 69.1% of owner-occupants Statewide, 60% in Brunswick County, 62% in Camden County, 58% in Carteret County, and 59% in Atlantic Beach. This fact means that Hyde County homeowners have, on average, significantly more equity in their homes than the average North Carolinian (see Table 17). The benefit of this accrued equity for homeowners on the mainland of Hyde County is reduced by the fact that the average value of an owner-occupied home in Hyde County was \$76,500, only 70% of the Statewide average of \$108,300. On Ocracoke Island, the average house value in the year 2000 was \$186,600, over double the average house value on the mainland and over 70% higher than the Statewide average.

Despite the high homeownership rates in the County and on Ocracoke Island, Table 17 also indicates the need for additional affordable, quality housing and for more and higher-paying employment, in both the mainland of the County and on Ocracoke. For example, 38.6% of owner-occupants with mortgages in the County spend 30% or more of their monthly income on housing costs, as opposed to 25.5% Statewide. Coupled with the 21.6% of households in the County who are in rental units, 31.3% of County households either rent or are paying more than 30% of their income in housing costs. This situation is even more severe when Ocracoke Island is looked at in isolation from the mainland, due to the high housing and land costs.

Table 17. Mortgage Status and Housing Values for the State of North Carolina, Hyde County, and Ocracoke Island, 2000

	State of North Carolina		Hyde County		Ocracoke Island	
	Units	Percentage	Units	Percentage	Units	Percentage
Total Owner Occupied Units	1,615,713	100.0%	1,166	100.0%	258	100.0%
MORTGAGE STATUS AND SELECTED MONTHLY OWNER COSTS						
With a mortgage	1,116,287	69.1%	521	44.7%	86	33.3%
Median monthly cost (dollars)	985	(X)	689	(X)	950	(X)
Without a mortgage	499,426	30.9%	645	55.3%	172	66.7%
Median monthly cost (dollars)	254	(X)	285	(X)	353	(X)
MORTGAGE STATUS AND SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME						
With a mortgage	1,116,287	69.1%	521	44.7%	86	33.3%
Less than 20 percent	503,428	45.1%	203	39.0%	32	37.2%
20 to 24 percent	192,990	17.3%	72	13.8%	18	20.9%
25 to 29 percent	129,457	11.6%	37	7.1%	8	9.3%
30 to 34 percent	80,271	7.2%	67	12.9%	10	11.6%
35 percent or more	204,338	18.3%	134	25.7%	18	20.9%
Not computed	5,803	0.5%	8	1.5%	0	0.0%
Median	21.3	(X)	23.7	(X)	23.1	(X)

Table 17. Mortgage Status and Housing Values for the State of North Carolina, Hyde County, and Ocracoke Island (continued)

	State of North Carolina		Hyde County		Ocracoke Island	
	Units	Percentage	Units	Percentage	Units	Percentage
MORTGAGE STATUS AND SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME (continued)						
Without a mortgage	499,426	30.9%	645	55.3%	172	66.7%
Less than 20 percent	391,876	78.5%	423	65.6%	113	65.7%
20 to 24 percent	29,945	6.0%	42	6.5%	9	5.2%
25 to 29 percent	18,125	3.6%	56	8.7%	10	5.8%
30 to 34 percent	11,912	2.4%	38	5.9%	0	0.0%
35 percent or more	38,117	7.6%	86	13.3%	40	23.3%
Not computed	9,451	1.9%	0	0.0%	0	0.0%
Median	10.0	(X)	13.4	(X)	14.3	(X)
VALUE						
Less than \$10,000	5,249	0.3%	15	1.3%	0	0.0%
\$10,000 to \$14,999	5,175	0.3%	49	4.2%	0	0.0%
\$15,000 to \$19,999	7,627	0.5%	9	0.8%	0	0.0%
\$20,000 to \$24,999	9,859	0.6%	56	4.8%	0	0.0%
\$25,000 to \$29,999	12,970	0.8%	25	2.1%	0	0.0%
\$30,000 to \$34,999	18,238	1.1%	49	4.2%	0	0.0%
\$35,000 to \$39,999	22,523	1.4%	78	6.7%	10	3.9%
\$40,000 to \$49,999	58,651	3.6%	80	6.9%	0	0.0%
\$50,000 to \$59,999	80,727	5.0%	87	7.5%	0	0.0%
\$60,000 to \$69,999	107,709	6.7%	86	7.4%	0	0.0%
\$70,000 to \$79,999	124,172	7.7%	75	6.4%	0	0.0%
\$80,000 to \$89,999	144,580	8.9%	111	9.5%	7	2.7%
\$90,000 to \$99,999	134,174	8.3%	55	4.7%	10	3.9%
\$100,000 to \$124,999	230,602	14.3%	97	8.3%	25	9.7%
\$125,000 to \$149,999	191,184	11.8%	66	5.7%	29	11.2%
\$150,000 to \$174,999	132,094	8.2%	57	4.9%	17	6.6%
\$175,000 to \$199,999	87,080	5.4%	67	5.7%	67	26.0%
\$200,000 to \$249,999	95,012	5.9%	47	4.0%	47	18.2%
\$250,000 to \$299,999	57,519	3.6%	46	3.9%	40	15.5%
\$300,000 to \$399,999	47,107	2.9%	11	0.9%	6	2.3%
\$400,000 to \$499,999	19,185	1.2%	0	0.0%	0	0.0%
\$500,000 to \$749,999	15,591	1.0%	0	0.0%	0	0.0%
\$750,000 to \$999,999	4,674	0.3%	0	0.0%	0	0.0%
\$1,000,000 or more	4,011	0.2%	0	0.0%	0	0.0%
Median (dollars)	108,300	(X)	76,500	(X)	186,600	(X)

Source: U.S. Census Bureau, 2000 U.S. Census.

8. Summary of Housing Characteristics

- Hyde County had 3,302 housing units according to the 2000 U.S. Census, an increase of 397 units since 1990, or 13.7%. The majority of these new housing units were on Ocracoke Island (240 of 397, or 60.5%). Ocracoke Island had 844 housing units in 2000, an increase of 240 units since 1990, or 39.7%.
- The County has approximately 5.4 housing units per square mile, giving it one of the lowest housing densities in North Carolina (second only to Tyrrell County). When Ocracoke Island is excluded, the effective housing density on the mainland is 4.07 units per square mile. Ocracoke Island has 96.9 housing units per square mile, but if non-developable public lands are excluded, the density rises to 697.5 units per square mile, or 1.09 units per acre. This “effective” density is roughly equivalent to the density of other tourism-based North Carolina coastal communities without public sewerage.
- Approximately 66.2% of all housing units in the County, or 2,185, were occupied in April of 2000 according to the U.S. Census Bureau. The occupancy rate was 74.1% on the mainland of Hyde County and 43% on Ocracoke Island. These figures reflect the relatively large number of vacant dilapidated units on the mainland, as well as the relatively large number of housing units used for seasonal hunting/fishing use.
- Of occupied units in the County, 78.4%, or 1,713, were owner-occupied, with the remainder rental units. The owner-occupancy rate on the mainland was 78.1% (1,422 of 1,821) and 80.0% on Ocracoke Island (291 of 364). These rates far exceed the Statewide average of 61%.
- Over half the units on Ocracoke Island (53%), or 446 units, are used primarily as seasonal rental units or for occasional use by their owners.
- The vast majority (74.8%) of owner-occupied housing units were single-family detached homes in 2000, roughly comparable to the State average. The majority of renter-occupied units (59.3%) in the County in 2000 were also single-family detached homes, well in excess of the State average of 34.7%. These statistics reflect the low development density of the County and the lack of demand (and availability) of multi-family housing in the County.
- On Ocracoke Island, the vast majority of both owner-occupied (89.3%) and renter-occupied (81.8%) units occupied permanently, or “year-round”, are single-family detached homes.

- Approximately 31.4% of the County’s housing stock, 38.6% on Ocracoke Island, was built before 1959 – far greater than the Statewide average of approximately 22%. The majority of the older homes on Ocracoke Island are historically and architecturally significant while the majority of the older homes on the mainland are in need of some type of rehabilitation/repair.
- The availability of essential facilities and services, such as plumbing, kitchen and potable water, are universal on Ocracoke Island, but are three times the State average on the mainland (approximately 3.2% versus 1.1% Statewide) in the County’s housing units. It should be noted, however, that the absolute number of such units is very small (approximately 15).
- The County has an average of 2.36 persons-per-household, just below the State average of 2.49 persons per household. Ocracoke Island has an average of 2.08 persons-per-household. Both of these figures can be attributed primarily to the relatively large number of older homeowners without children at home, particularly on Ocracoke.
- While the County has made great strides in improving housing quality through the procurement of Federal and State community development and housing repair funds, there are still substantial concentrations of substandard housing in the mainland portion of the County.

D. Income, Employment, and Economy

1. Income and Poverty Status

Hyde County is below the Statewide averages for all measures of income and economic well-being, but is comparable to the Regional average for adjacent counties. According to the U.S. Census, for example, the County’s per capita income (i.e., total income divided by total residents) was \$13,164 compared to \$20,307 Statewide and \$18,032 for Ocracoke Island alone. As a result, the County has 19.5% of its children under the age of 18 and 23.0% of its elderly citizens below the Federally-defined poverty level (see Table 18). Ocracoke Island, when assessed separately from mainland Hyde County, has income statistics much closer to the State averages and poverty statistics well below the State average, with only 8.7% of children and 9.3% of all persons living in poverty, as compared with 15.7% and 12.3% Statewide, respectively.

Table 18. Selected Income and Poverty Statistics for the State of North Carolina, Hyde County, and Ocracoke Island, 1999

Geographic area	Median income		Median earnings of full-time workers			Income below poverty level			
	Households	Families	Per Capita Income	Male	Female	% of population for whom poverty status is determined			% of families
						All ages	Related children under 18 years	65 years & over	
State of North Carolina	\$39,184	\$46,335	\$20,307	\$32,132	\$24,978	12.3%	15.7%	13.2%	9.0%
Hyde County	\$28,444	\$35,558	\$13,164	\$25,216	\$20,482	15.4%	19.5%	23.0%	10.3%
Ocracoke Island	\$34,315	\$38,750	\$18,032	\$26,667	\$25,625	9.3%	8.7%	10.4%	7.7%

Source: US Census Bureau, 2000.

As Table 18 indicates, income in Hyde County is highly correlated with family status, as is the case regionally, Statewide, and nationally. For example, the median income of families (i.e., 2 or more related individuals living together) in the County was \$35,558, while for households (i.e., all households including single individuals and unrelated persons living together in one housing unit) was \$28,444.

Income and poverty status are also correlated with race, both in Hyde County, regionally, Statewide, and nationally. This is another phenomenon particularly relevant to the County, due to the large disparity between the poverty status of white citizens and African-American citizens combined with the large number of African-American residents in the County (see Table 19). It should be noted, however, that the overall percentage of persons in poverty has significantly decreased since 1990 for persons of all races, particularly for African-Americans in the County (see Table 19).

Table 19. Poverty Status by Race, State of North Carolina and Hyde County, 1990 and 2000

	Hyde County		State of North Carolina	
	1990	2000	1990	2000
Number of African-American Persons in Poverty	537	424	377,109	379,349
Percentage of Total African-American Persons in Poverty	41.99%	24.31%	27.09%	22.89%
Number of White Persons in Poverty	3,567	3,577	419,479	477,510
Percentage of Total White Persons in Poverty	15.05%	11.85%	8.65%	8.45%

Source: U.S. Census Bureau, 1990 and 2000 U.S. Census.

2. Employment and Economy

a. Total Employment and Employment by Sector

The total number of employed persons in Hyde County (overall) and on Ocracoke Island are provided in Table 20 below. The percentage of persons over the age of 16 participating in the labor force, meaning that they are either employed or seeking employment, is much lower than the State average (49.2% for the County and 54.7% on Ocracoke versus 65.8% Statewide). This statistic indicates the relatively large number of retired persons in the County and relatively large number of families with a single wage earner.

Table 20. Selected Employment Statistics, Hyde County and Ocracoke Island, 2000

Employment Statistic	Ocracoke Island	Hyde County
Total Employed Persons (Age 16+)	351	2,236
Total Unemployed Persons (Age 16+)	7	124
Total Labor Force Participation	358	2,360
Labor Force Participation Rate (%)	54.7%	49.2%

Source: U.S. Census Bureau, 2000 U.S. Census.

Historically, agriculture, forestry, fishing and hunting have been the chief source of employment in the County. Since 1970, however, when farming and fishing employment peaked, tourism-related businesses have become the chief source of employment on Ocracoke Island and government employment has become the chief source of employment on the mainland of Hyde County.

As indicated by Table 21 below, persons employed in retail trade and those employed in accommodations/food services made up 47.6% of the total labor force on Ocracoke Island, as compared to 18.4% in these fields Statewide – or approximately three times the State average.

For Hyde County overall, approximately 28.1% of all employed persons worked in education/social services or public administration – fields almost always associated with government employment. This compares to 23.3% Statewide in these fields. It should be noted that although the prominence of agriculture, forestry, fishing and hunting employment has declined in the County as a relative percentage of all employment, it still makes up 15.9% of all employment in the County – one of the highest rates Statewide.

According to the State of North Carolina Department of Commerce, the County's unemployment rate was 3.0% in September, 2004, the 23rd lowest in the State (out of 100 counties).

Table 21. Employment by Sector, Hyde County, Ocracoke Island, and the State of North Carolina, 2000

Industry	Hyde County		Ocracoke Island		North Carolina	
	Persons	Percentage	Persons	Percentage	Persons	Percentage
Agriculture, forestry, fishing and hunting, and mining	355	15.9%	13	3.7%	61,185	1.6%
Construction	175	7.8%	14	4.0%	312,038	8.2%
Manufacturing	171	7.6%	33	9.4%	755,252	19.7%
Wholesale trade	62	2.8%	8	2.3%	131,330	3.4%
Retail trade	247	11.0%	72	20.5%	439,868	11.5%
Transportation and warehousing, and utilities	136	6.1%	44	12.5%	176,412	4.6%
Information	20	0.9%	0	0.0%	89,797	2.3%
Finance, insurance, real estate, and rental and leasing	132	5.9%	10	2.8%	231,222	6.0%
Professional, scientific, management, administrative, and waste management services	60	2.7%	29	8.3%	296,075	7.7%
Educational, health and social services	345	15.4%	26	7.4%	733,440	19.2%
Arts, entertainment, recreation, accommodation and food services	200	8.9%	95	27.1%	265,585	6.9%
Other services (except public administration)	50	2.2%	7	2.0%	176,908	4.6%
Public administration	283	12.7%	0	0.0%	155,629	4.1%

Source: U.S. Census Bureau, 2000 U.S. Census.

b. Wages, by Employment Sector

Average wages in Hyde County are \$453 per week, or 67.6% of the State average of \$670 per week. As Table 22 below indicates, wages in the fields of agriculture/forestry/fishing and retail trade, on average, fall far below Statewide averages, and these fields make up a fairly large portion of the County workforce (see Table 21 above). Manufacturing, traditionally a higher wage employment sector, has not taken hold in Hyde County, due primarily to the lack of necessary water and sewer infrastructure and the relatively small County and regional population.

Table 22. Wages, by Sector (First Quarter, 2004) for Hyde County and the State of North Carolina

<u>Employment Sector</u>	<u>Hyde County</u>	<u>North Carolina</u>
Total All Industries	\$453	\$670
Total Government	\$588	\$755
Total Private Industry	\$389	\$671
Agriculture Forestry Fishing & Hunting	\$381	\$465
Mining	*	\$969
Utilities	\$782	\$1,441
Construction	\$412	\$591
Manufacturing	\$262	\$802
Wholesale Trade	\$428	\$933
Retail Trade	\$289	\$416
Transportation and Warehousing	\$530	\$712
Information	\$216	\$1,034
Finance and Insurance	\$561	\$1,437
Real Estate and Rental and Leasing	\$351	\$570
Professional and Technical Services	\$416	\$919
Management of Companies and Enterprises	*	\$1,741
Administrative and Waste Services	*	\$433
Educational Services	\$534	\$603
Health Care and Social Assistance	\$391	\$637
Arts, Entertainment and Recreation	\$492	\$478
Accommodation and Food Services	\$216	\$229
Other Services Ex. Public Admin	\$269	\$428
Public Administration	\$520	\$677
Unclassified	\$261	\$540

Source: N.C. Department of Commerce.

c. Establishments

As indicated by Table 23 below, the vast majority of all business establishments and retail sales come from retail trade establishments, such as clothing and general merchandise stores, and accommodations/food service establishments, particularly on Ocracoke Island. More significantly, the number of retail trade establishments in the County dropped from 55 in 1992 to 36 in 1997 (the last year for which data is available), and total sales rose only \$973,000 in those five years. This strongly indicates the establishment of highly competitive “big box” retailers in adjacent Counties (especially Beaufort) that can significantly out-compete small local retailers on price. Also notable is the sharp increase in the number of eating and drinking establishments and those that

offer accommodations (e.g., hotels, motels, and rental cottages/condos) from 17 in 1992 to 33 in 1997.

Table 23. Establishments and Retail Sales, Hyde County, 1997

	Establishments	Sales
Retail Trade Establishments	36	\$26,782,000
Professional, Scientific and Technical Services Establishments	5	\$715,000
Administrative, Support and Waste Management Services Establishments	3	\$266,000
Arts, Entertainment and Recreation Establishments	2	X
Accommodations and Food Services Establishments	33	\$10,168,000

X = Omitted to Protect the Privacy of Individual Firms

Source: U.S. Census Bureau, 1992 and 1997 Economic Censuses.

Table 24 presents the ten largest employers in the County. It is noteworthy that four of the ten largest employers in the County are State or Local Government (see Table 24), and that the three large manufacturing concerns are seafood processing operations reliant on the fishing industry. As mentioned earlier in this Section, the governmental sector and the agricultural/fishing sector remain the mainstays of the local economy.

Table 24. Largest Employers in Hyde County, 2003

Company Name	Industry	Employment Range
North Carolina Dept. of Corrections	Public Administration	250-499
County of Hyde	Public Administration	100-249
Engelhard Shrimp Fish & Oyster Co	Manufacturing	100-249
Hyde County Board of Education	Services	100-249
N C Dept of Transportation	Public Administration	100-249
Cross Creek Healthcare	Services	50-99
Carolina Seafood Ventures	Manufacturing	50-99
Mattamuskeet Seafood Inc	Manufacturing	50-99
The East Carolina Bank	Finance, Insurance, and Real Estate	50-99
Howard's Pub	Leisure and Hospitality	20-49
Williams Seafood Inc.	Trade, Transportation, and Utilities	20-49
Bardo Corporation	Manufacturing	20-49
Pelican Restaurant	Leisure and Hospitality	20-49
Sawyer's Land Development Co.	Construction	20-49
Martelle's	Leisure and Hospitality	20-49

Source: NC Employment Security Commission.

d. Economic Development

Also significant are the many successful efforts in economic development underway in Hyde County that should help diversify the County's economic base. A good example of this emerging and more diversified economy is East Carolina Bank (ECB), which has its headquarters in Engelhard. ECB is a bank with 20 branches throughout Eastern North Carolina and is traded on the NASDAQ stock exchange with a current market value of over \$63 million. An overview of several pending or planned projects, provided below, presents a picture of the economic future of Hyde County:

- Hyde Davis Business Enterprise Center was established at the old Davis School site near Engelhard in 2003. This site will allow small entrepreneurs to establish locally-based businesses with support and training from the Hyde County CDC, Hyde County Chamber, and other organizations.
- Rose Acre Farms, an Indiana-based poultry company, will soon open an egg laying facility near Ponzer that will bring approximately 125 full-time jobs and the purchase of locally grown grain – an estimated 3 million to 4 million bushels of corn and 1 million bushels of soybeans to feed its anticipated 4 million hens.
- Plans are in place for the construction of a cardboard and construction waste recycling center and a barge terminal to be built along the Intracoastal Waterway. These recycling centers is expected to provide 45 full-time jobs and save the County between \$70,000 and \$90,000 annually in solid waste transportation costs. The facilities should open in late 2006.
- Numerous initiatives are underway to promote ecotourism in the County's vast and beautiful wildlife preserves, parks, rivers, and sounds.

3. Income, Employment and Economy Summary

- Hyde County is below regional and Statewide averages for all measures of income and economic well-being, but is comparable to other Counties in the Region on these measures. Ocracoke Island is very close to Statewide averages on these measures.
- The per capita (per person) income for Hyde County in the year 2000 was \$13,164, well below the Statewide average of \$20,307. The per capita income for Ocracoke Island in 2000 was \$18,032.

- The median income for households (related and non-related individuals) in the County was \$28,444 and \$35,558 for families (related persons only), below the Statewide averages of \$39,184 and \$46,335, respectively. For Ocracoke Island, these figures were \$34,315 and \$38,750, respectively.
- Approximately 19.5% of all children under the age of 18 in the County and approximately 23% of persons over the age of 65 live below the Federally-defined poverty level, above the Statewide average. On Ocracoke Island, the number of persons living in poverty is below the State average (9.3% of all persons, 8.7% of children, 10.4% of the elderly).
- Average household and family incomes in the County are highly correlated with race and family status, as is the case State and Nationwide.
- African-American persons in the County were over twice as likely to live below the Federal poverty line than white persons (24.31% versus 11.85%), although the percentage of African-American persons in poverty has dramatically dropped from 1990 (from 41.99%).
- The total percentage of persons over the age of 16 participating in the labor force on both the mainland of Hyde County and on Ocracoke Island are among the lowest in the State (49.2% and 54.7% respectively). This fact reflects the relatively large number of retired and elderly persons in the County.
- The total number of persons employed in manufacturing in the County declined by almost 50% from 1990 to 2000 - from 1,048 to 528.
- The economic base of Ocracoke Island is tourism, characterized by large percentages of persons employed in retail sales and accommodations/food service. The economic base of the Hyde County mainland is government employment (State and local) and agriculture/fishing.
- There is currently very little manufacturing employment in the County, due primarily to the lack of infrastructure required by industry and to the low regional population. Manufacturing employment, on average, tends to pay one of the highest wages of any sector for workers without college degrees.
- The average weekly wage in the County is \$453 per week, of 67.6% of the State average.

- The number of retail trade establishments in the County has fallen since 1992, due primarily to competition from national retailers in adjacent counties. During the same time, the number of eating/drinking establishments and hotels/motels/rental cottages/condos has increased significantly, primarily on Ocracoke Island.
- Of the ten largest employers in the County, four (4) are State or local government and three (3) are seafood processing establishments.
- The County has made, and continues to make, great strides in expanding and diversifying its economy. The County is the headquarters of a publicly traded bank and will soon be the home of a large egg laying facility and a large construction waste recycling facility. Increased efforts in promoting ecotourism and small business development are also underway.

E. Population Projections

Section 5(B) of this Plan provided permanent population for the County and Ocracoke Island through the year 2000 (2003 estimate for the County). This section of the Plan provides population forecasts through 2030 (the planning period for this document). Population forecasts are very important, since they help determine the need for future residential, commercial and related land requirements, as well as the need for capital facilities, such as roads, sewage treatment facilities, and parks.

The population forecasts provided in this section are based on population forecasts for Hyde County provided by the North Carolina State Demographics Office (NCSDO). The NCSDO projections were based on extrapolating April 2000, to July 2004, growth trends through the year 2030 based on a statistical model developed by NCSDO and released in June 2005. The complete methodology used by NCSDO can be found on the World Wide Web at <http://demog.state.nc.us>. As with any population forecast, if the birth, death, or migration assumptions used change significantly over time, the validity and accuracy of this forecast will be endangered.

For Hyde County, NCSDO forecasts an essentially level population through the year 2030 (i.e., 2030 population will be very close to 2004 estimated population, see Table 25). Essentially stated, NCSDO's forecast is based on the assumption that net in-migration from outside the County will be roughly counterbalanced by a death rate that exceeds births by almost one percentage point per year through the 2030 planning period. For example, from April 2000 to January 2004, there were 248 recorded births to County residents and 285 recorded deaths. Additionally, there appears to be a small, net out-migration of County natives that is, on whole, counterbalanced by a small, net in-migration of new residents to the County, according to NCSDO.

Peak seasonal population growth for Mainland Hyde County was estimated at 1% per year through 2030 over the current (2005) seasonal population peak of 6,000 (see Section 5(B) of this Plan). This estimate is based on the NCSDO's overall population forecast for growth in the State's Planning Regions P, Q, and R through 2030, which represent the 24 counties geographically closest to Hyde County (see Exhibit 1 on page 10 of this Plan).

As noted above, forecasts can change dramatically based on changed assumptions about growth. A number of factors, including enhanced economic development efforts; planned or actual infrastructure improvements in Swan Quarter, Engelhard, and on Ocracoke Island; and recent land speculation suggest that the County could experience growth well in excess of that projected by NCSDO. For this reason, Holland Consulting Planners has estimated a conservative 10% growth in population over current (i.e., estimated 2005) NCSDO population estimates by 2030 (see Table 25). Specifically, NCSDO estimates were adjusted upwards by 2% in 2010, 4% in 2015, 6% in 2020, 8% in 2025, and 10% in 2030.

Table 25. Forecast Populations for Ocracoke Island and Hyde County through 2030

	2005*	2010*	2015*	2020*	2025*	2030*
Ocracoke Island (Permanent)	777	803	836	883	930	979
Ocracoke Island (Peak Seasonal - May to August)	10,906	11,326	11,751	12,202	12,669	13,151
Hyde County Mainland (Permanent - Excluding Ocracoke Island)	4,830	4,797	4,782	4,761	4,675	4,621
Hyde County Mainland (Peak Seasonal - Nov to Mar)	6,000	6,306	6,628	6,966	7,321	7,695
Hyde County (Permanent - Total)	5,607	5,600	5,618	5,644	5,605	5,600
Hyde County (Total - Peak Seasonal - May to Aug)	16,513	16,926	17,369	17,846	18,274	18,751
Hyde County (Permanent -Total - Adjusted by HCP)	5,607	5,720	5,873	5,983	6,053	6,158
Hyde County (Total - Peak Seasonal May to Aug - Adjusted by HCP)	16,513	17,265	18,064	18,917	19,736	20,626

* = Forecast only. Hyde County (Total) figures are produced by the NCSDO, Hyde County (Adjusted) and Ocracoke Island figures by Holland Consulting Planners based on assumptions herein.
Source: NCSDO, U.S. Census Bureau, and Holland Consulting Planners, Inc.

Neither the North Carolina Office of State Planning nor the North Carolina State Demographic Office or any other State agency produces municipal population projections in North Carolina. Furthermore, population projections in a community with large seasonal populations are notoriously difficult to make with accuracy, due to the fact that most housing units frequently vary in tenure between seasonal occupancy, rental occupancy, and permanent occupancy.

Nonetheless, permanent and seasonal population projections for Ocracoke Island through the year 2030 are essential in predicting the need for critical infrastructure and land for residential and commercial development.

This plan projects an average annual permanent population growth rate of 0.91% per year in the Village through the year 2030, starting from the 2000 US Census population of 769 permanent residents, resulting in a 2030 permanent population of 979. Table 25 reflects these projections. This projection is based on the following data and assumptions:

- Due to the limited availability of currently undeveloped and developable raw land in the area of Ocracoke Village, the Village's inability to annex more raw land, the lack of sewer facilities in the Village, political resistance, and numerous regulatory restraints make significantly increased overall density of residential redevelopment in the Village highly unlikely. Current cumulative residential density in the Village is 1.09 housing units per acre (844 units on 775 acres).

As land continues to become more valuable, however, and water system expansion on the Island occurs, a slight increase in cumulative residential density is forecast. Therefore, we have assumed the addition of 5 new, net (i.e., accounting for tear-downs), residential units per year through the 2030 planning period.

- Based on US Census figures for the year 2000, only 43.0% of residential units in the Ocracoke Village are permanently (i.e., more than six continuous months per year) occupied. Society-wide demographic trends related to the impending retirement of the "baby-boom" generation (born between 1946 and 1964) indicate that more and more currently "seasonal" housing units will be converted to "permanent" units as retirees flock to permanently settle in coastal Sunbelt locations such as Ocracoke Island. Therefore the percentage of residential units in Ocracoke Village that are permanently, rather than seasonally, occupied is projected to increase by 0.25 percentage points per year through 2030, resulting in 49.25% of the units in Ocracoke Village permanently occupied by 2030.
- The average number of persons per housing unit is anticipated to dip slightly from the current 2.08 persons per household to 2.00 by 2010. The housing vacancy rate of housing units, currently at 4.0%, is anticipated to stay the same through the planning period (2030). These assumptions are based on broad trends in the area towards older and smaller households and real estate averages regarding vacancy rates.

- It should be noted that most residents of Ocracoke Island and Hyde County believe that US Census population enumerations chronically underestimate the number of permanent residents in the Village, due to the fact that many residents do have secondary residences and they may wish to retain legal residence in these secondary residences for a variety of reasons, despite the fact that they spend more than six months each year on Ocracoke Island.

Peak daily (i.e., overnight visitors plus daytime only visitors) seasonal population for 2000 is estimated at 10,000 and peak overnight seasonal population is estimated at 2,129. The number of daytime only visitors is expected to grow by approximately 25% by 2030, while the number of overnight guests is expected to rise only slightly. Seasonal population projections through 2030 are depicted on Table 25. Seasonal population projections are based on the following data and assumptions:

- The total number of units available for seasonal use is assumed to be the total number of units minus permanent units minus vacant units. One-hundred percent occupancy of these designated “seasonal units” is assumed at peak weekends (Memorial Day, Labor Day, or the 4th of July).
- Two (2) guests are assumed per permanent residence during the peak weekend.
- Three (3) guests are assumed per seasonal residence during the peak weekend.

F. *Natural Systems Analysis*

1. **Mapping and Analysis of Natural Features**

The purpose of this section of the CAMA Land Use Plan Update is to describe, analyze and map the natural features and environmental conditions currently found in Hyde County and Ocracoke Island and to assess their capabilities and limitations for development.

As required by CAMA regulations at Chapter 15A of the North Carolina Administrative Code, planning should be done on a watershed basis. As such, the six-digit and 14-digit hydrological unit codes (HUC) for the County are depicted on Map 10 (see page 96) and will be referenced throughout this Plan. Refer to the adjacent text box for a definition of the HUC and a description of its significance.

What are Hydrological Units?

The United States is divided and sub-divided into successively smaller hydrologic units which are classified into six levels. The first of these four are established by the U.S. Geological Survey and are as follows: regions, sub-regions, accounting units, and cataloging units. The hydrologic units are arranged within each other, from the smallest (cataloging units) to the largest (regions). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system.

The Natural Resources Conservation Service (NRCS) has further subdivided the aforementioned cataloging units into smaller units - the 11-digit HUC (watershed) and the 14-digit HUC (sub watershed or local watershed).

a. *Topography / Geology*

Hyde County is located in the Coastal Plain Flatwoods physiographic region of the State and has a very flat topography. The highest elevation on the mainland is located in the area west of Alligator Lake and is approximately 18 feet above mean sea level. Slopes are generally 1 to 2 percent, with slopes in excess of 5 percent found very rarely and only at ridges.

Hyde County is underlain with numerous sedimentary deposits dating from the Cretaceous Era, formed about 130 million years ago to more modern deposits. These deposits are arrayed in a wedge-shaped body, north-south oriented mass ranging in thickness from approximately 1,000 feet below surface near Ponzer to approximately 10,000 feet at Ocracoke, and contain beds of sand, clay, marl, and limestone. Interspersed throughout these layers of geological deposits are two primarily limestone aquifers that serve as the source of the County's water supply - the Yorktown and Castle Hayne aquifers. These aquifers will be discussed in further detail below. Ocracoke Island's water supply comes only from the Castle Hayne aquifer.

The primary ramifications of the County's topography and geology are:

- 1) The flat, low-lying topography of the County coupled with its location directly on the Pamlico Sound exposes the County to significant risks from hurricanes and other tropical/extra-tropical weather systems and the potential impacts of sea level rise.

Flooding resulting from sea level rise may be a long-term problem for Hyde County, particularly for Ocracoke Island. Over the last 100 years, the sea level has risen approximately one foot. Most experts agree that the rate of sea level rise will increase over the next 100 years. The most reliable current estimate of sea level rise over the next century is approximately two feet, with a maximum increase of as much as four to seven feet (Source: *The Probability of Sea Level Rise*. James G. Titus and Vijay Narayanan. 1995. Washington, D.C.: U.S. Environmental Protection Agency. 186 pp. EPA 230-R95-008).

An increase of that magnitude (i.e., four to seven feet) would be a serious problem for the County, as almost all of Ocracoke Island and approximately 75% or more of the County could be inundated. For this reason, the rate of sea level rise should be carefully monitored.

- 2) The aforementioned Castle Hayne aquifer, because of its geological composition, is susceptible to salt water intrusion. This condition is exacerbated by the expected sea level rise described above. Salt water is present in the eastern portion of the Castle Hayne aquifer. The top of the salt water ranges from 250 to 800 feet below ground surface. There does not appear to be any impermeable strata separating the fresh and salt water. The US Marine Corps base at Camp Lejeune in Onslow County, the Town of Wrightsville Beach in New Hanover County, and the PCS Phosphate mining operations in Beaufort County have witnessed increases in chloride concentrations in groundwater which had been fresh water.

Because of the concerns regarding salt water intrusion and aquifer recharge rates, approximately 2,500 square miles of the Castle Hayne aquifer have been designated as the Central Coastal Plan Capacity Use Area (CCPCUA) by the NC Groundwater Section due primarily to large groundwater withdrawals by the PCS Phosphate mine near Aurora and to increased withdrawals associated with urban development. The NC Ground Water Section manages the permitting process for the CCPCUA. A capacity use area is defined as an area where the use of water resources threatens to exceed the replenishment ability to the extent that regulation may be required.

Although Hyde County is not in the capacity use area and the reverse osmosis water systems used by the County and Ocracoke Island help minimize the impact of salt water intrusion, this issue will continue to be a serious problem confronting private wells in the County and must be closely monitored.

b. Climate

The climate of Hyde County is mild throughout the year. Summers are generally hotter and humid, but sea breezes frequently cool the area, particularly on Ocracoke Island. Winter is mild with brief cold spells. Rainfall is frequent throughout the year, but is heaviest in the late summer. Relevant climate statistics for the County (as collected at Belhaven in Beaufort County) and for Ocracoke Island are provided in Tables 26 and 27.

Table 26: Climatic conditions by month at Ocracoke Island, NC

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Average temp. (°F)	46.2	47.3	53.2	60.7	68.6	75.5	79.7	79.0	75.1	66.0	57.6	49.9
High temp. (°F)	53.5	54.6	60.9	68.4	75.9	82.3	86.2	85.3	81.4	72.7	64.6	57.0
Low temp. (°F)	38.9	39.9	45.4	53.0	61.2	68.8	73.2	72.6	68.8	59.3	50.6	42.8
Precipitation (in)	5.5	3.7	4.7	3.2	3.9	4.1	5.0	6.2	5.4	4.8	4.5	4.4
Days with precip.	11	10	11	9	10	9	12	11	9	9	9	10
Wind speed (mph)	11.8	11.7	11.9	11.7	10.6	10.6	10.0	9.5	10.3	10.6	10.6	11.2
Morning humidity (%)	80	80	80	78	81	83	85	86	84	82	81	80
Afternoon humidity (%)	68	65	63	60	65	68	70	70	68	65	65	67
Sunshine (%)	48	52	60	67	65	65	65	65	64	60	56	48
Days clear of clouds	9	9	10	10	9	7	7	8	10	11	10	10
Partly cloudy days	7	5	7	9	10	10	10	10	9	8	8	7
Cloudy days	16	14	14	11	13	12	14	13	11	12	12	14
Snowfall (in)	0.4	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6

Source: State Climate Office of North Carolina

Table 27: Climatic conditions by month at Mainland Hyde County, NC (as reported at Belhaven, NC)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Average temp. (°F)	43.3	46.3	52.9	61.5	68.9	76.0	79.8	78.1	73.1	62.3	54.5	45.9
High temp. (°F)	53.2	56.7	64.1	73.2	79.6	85.9	89.2	87.4	82.9	73.5	65.3	56.0
Low temp. (°F)	33.4	35.8	41.7	49.7	58.1	66.1	70.3	68.7	63.2	51.2	43.7	35.8
Precipitation (in)	4.3	3.1	4.2	3.2	4.5	4.8	5.6	5.9	5.0	3.4	2.9	3.2

Table 27: Climatic conditions by month at Mainland Hyde County, NC (continued)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Days with precip.	11	10	11	9	10	9	12	11	9	9	9	10
Wind speed (mph)	11.5	11.5	11.8	11.5	10.4	10.3	9.7	9.2	10.0	10.3	10.4	11.0
Morning humidity (%)	80	79	80	78	81	83	85	86	85	83	81	80
Afternoon humidity (%)	66	64	61	58	64	66	68	69	67	64	64	66
Sunshine (%)	49	53	60	66	64	65	64	64	63	60	56	49
Days clear of clouds	9	9	10	10	9	7	7	8	10	11	10	10
Partly cloudy days	7	5	7	9	10	10	10	10	9	8	8	7
Cloudy days	16	14	14	11	13	12	14	13	11	12	12	14
Snowfall (in)	0.8	0.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6

Source: State Climate Office of North Carolina.

c. Flood Zones

In August 2002, the Hyde County Flood Insurance Rate Maps (FIRM) were updated by the Federal Emergency Management Agency (FEMA) and subsequently adopted by the County. They determined that approximately 92% of Hyde County and 99% of Ocracoke Island lie within Special Flood Hazard Areas (SFHAs). A SFHA is defined as a land area with a 1% or greater chance per year of flooding and is also known as a “floodplain”. An additional 1% of all areas on the mainland and on Ocracoke Island are in “Shaded X” zones, or areas where there is a 0.2% chance (or greater) per year of flooding, also known as the “500-year floodplain” (source: FEMA). The only area of the County relatively safe from the flood hazard is the extreme northwest portion of the County west of Alligator Lake.

SFHAs are indicated on FIRMs, which are considered the most reliable and consistent source for delineating SFHAs and are the source used to determine whether or not the purchase of flood insurance is mandatory for developed properties with mortgages. According to FEMA, a home located within an SFHA has a 26% chance of suffering flood damage during the term of a 30-year mortgage.

SFHAs in the County can be broken down into “A zone” areas and “V zone” areas. An “A zone” is a riverine or swampy area with greater than 1% chance per year of flooding that is not a floodway. A “V zone” is an area subject to a greater than 1% chance per year of flooding and that is also subject to the effects of velocity action from waves. “V zones” are almost always directly abutting large water bodies, such as the Pamlico Sound or the Atlantic Ocean, that are subject to the high velocity waters associated with waves.

Flood hazard areas are depicted graphically on Map 2 and characterized in Table 28 and 29.

Table 28: Land Area by SFHA on the Hyde County Mainland, 2005

Flood Zone	Acres	%
A	374,440	85.31%
SHADED X	5,242	1.19%
V	28,158	6.42%
Outside of Flood Hazard Area	31,054	7.08%
TOTAL	438,894	100.00%

Source: Holland Consulting Planners and Federal Emergency Management Agency (FEMA).

Table 29: Land Area by SFHA on Ocracoke Island, 2005

Flood Zone	Acres	%
A	5,879	95.35%
SHADED X	67	1.08%
V	220	3.57%
TOTAL	6,166	100.00%

Source: Holland Consulting Planners and Federal Emergency Management Agency (FEMA).

One of the greatest threats of flooding in Hyde County is from storm surge. The majority of the County's land area lies below ten feet above mean sea level and is potentially subject to storm surge related flooding. Storm surge is ocean overwash associated with hurricanes or other tropical or extra-tropical weather events.

Map 3 shows the general areas of Hyde County which may be affected by hurricane-generated storm surge based on the SLOSH (Sea, Lake, and Overland Surges from Hurricanes) model developed by the National Oceanic and Atmospheric Administration (NOAA), which computes storm surge heights from tropical cyclones, such as hurricanes.

Tables 30 and 31 provide a tabular representation of the areas in the County inundated by storm surge flooding at different category events. These tables reflect the extent of the risk of storm surge - over 60% of the mainland and 98% of Ocracoke Island is subject to storm surge flooding in the event of a Category 1, the weakest hurricane category with winds between 74 and 95 miles per hour.

Map 2 - Flood Hazard Areas

Map 3 - Storm Surge Inundation

Table 30: Storm Surge Inundation at Different Magnitude Storm Events for Hyde County Mainland based on SLOSH Model

Hurricane Category	Acres	% of Land Area
Category 1 & 2	264,161.45	61.05%
Category 3	313,959.79	72.55%
Category 4 & 5	354,968.62	82.03%

Source: Holland Consulting Planners, Inc., and NOAA.

Table 31: Storm Surge Inundation at Different Magnitude Storm Events for Ocracoke Island based on SLOSH Model

Hurricane Category	Acres	% of Land Area
Category 1 & 2	6,043.036	98.01%
Category 3	6,144.792	99.66%
Category 4 & 5	6,166.000	100.00%

Source: Holland Consulting Planners, Inc., and NOAA.

The various categories of storm surge areas and a description of expected damages are provided below:

Category 1. Winds of 74 to 95 miles per hour. Damage primarily to shrubbery, trees, foliage, and unanchored mobile homes. No appreciable wind damage to other structures. Some damage to poorly constructed signs. Storm surge possibly 4 to 5 feet above normal. Low-lying roads inundated, minor pier damage, some small craft in exposed anchorage torn from moorings.

Category 2. Winds of 96 to 110 miles per hour. Considerable damage to shrubbery and tree foliage; some trees blown down. Major damage to exposed mobile homes. Extensive damage to poorly constructed signs. Some damage to roofing materials of buildings; some window and door damage. No major wind damage to buildings. Storm surge possibly 6 to 8 feet above normal. Coastal roads and low-lying escape routes inland cut by rising water 2 to 4 hours before arrival of hurricane center. Considerable damage to piers. Marinas flooded. Small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying island areas required.

Category 3. Winds of 111 to 130 miles per hour. Foliage torn from trees; large trees blown down. Practically all poorly constructed signs blown down. Some damage to roofing materials of buildings; some window and door damage. Some structural damage to small buildings. Mobile homes destroyed. Storm surge possibly 9 to 12 feet above

normal. Serious flooding at coast and many smaller structures near coast destroyed; larger structures near coast damaged by battering waves and floating debris. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives.

Category 4. Winds of 131 to 155 miles per hour. Shrubs and trees blown down; all signs down. Extensive damage to roofing materials, windows, and doors. Complete failure of roofs on many small residences. Complete destruction of mobile homes. Storm surge possibly 13 to 18 feet above normal. Major damage to lower floors of structures near shore due to flooding and battering by waves and floating debris. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives. Major erosion of beaches.

Category 5. Winds greater than 155 miles per hour. Shrubs and trees blown down; considerable damage to roofs of buildings; all signs down. Very severe and extensive damage to windows and doors. Complete failure of roofs on many residences and industrial buildings. Extensive shattering of glass in windows and doors. Some complete building failures. Small buildings overturned or blown away. Complete destruction of mobile homes. Storm surge possibly greater than 18 feet above normal. Major damage to lower floors of all structures less than 15 feet above sea level. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives.

It should be noted that the above data regarding storm surge presumes a “direct hit” by the eye of the storm at Hyde County. Actual inundation areas, damages, and impacts will likely be less severe than the model if the County receives a “glancing blow” from a storm.

The County also experiences intermittent flooding from high intensity rainfall and storm water runoff. The soil associations shown on Map 4 (page 63) provide an indication of the locations of high water table areas. The water table depths, flooding frequency, and permeability rates for various soil types are provided in Section 5(F)(1)(e).

d. Man-Made Hazards/Restrictions

There are two primary man-made hazards in the County. These are Tier II facilities and Underground Storage Tanks (UST). These hazards are described below.

i. Tier II Facilities

Facilities covered by the Federal Emergency Planning and Community Right-to-Know Act (EPCRA) must report the characteristics and quantities of chemicals stored on-site as well as emergency contact information by the first day of March every year. This information, known as Tier II reporting, is submitted to the State

Emergency Response Commission, the Local Emergency Planning Committee (LEPC), and the fire department with jurisdiction over the facility. Once information is submitted by the facility, it must be reviewed and filed at the state and county levels.

In general, facilities that have Tier II reporting requirements contain materials that can be mildly to extremely (depending on the specific chemical) dangerous if mishandled, spilled, or burned. Such facilities should generally be located away from residential and retail commercial land uses. Table 32 provides a listing of Tier II facilities in the County that the US Environmental Protection Agency (EPA) characterize as Extremely Hazardous Substances (EHS) under Section 302 of the Emergency Planning and Community Right-to-Know Act.

Table 32. Tier II Facilities in Hyde County, 2005

Facility Name	Facility Address
Royster Clark, Inc.	10140 Piney Woods Road, Fairfield
Sprint Communication	Swan Quarter Facility
Williford Farms	12491 North Lake Road, Engelhard

Source: Hyde County Emergency Management.

ii. Underground Storage Tanks (UST)

Another significant man-made hazard located in Hyde County is fuel storage tanks located at marinas, retail stores, and service stations that are engaged in selling fuel. Because the County relies on groundwater for its supply, the underground fuel tanks could pose a threat. There are 45 facilities with underground storage tanks registered with the Groundwater Section of the North Carolina Division of Waste Management, Department of Environment and Natural Resources in the mainland portion of the County and 18 on Ocracoke Island. This issue is of particular concern for mainland areas of the County where County water is not available and private wells are in use that may be subject to contamination by leaking USTs.

North Carolina's UST program is administered by the Division of Waste Management's UST Section in the North Carolina Department of Environment and Natural Resources (DENR). The UST Section enforces UST regulations and manages funds used to perform cleanups of petroleum UST discharges or releases. The program was initiated in 1988 in response to growing reports of USTs leaking petroleum into soil and drinking water supplies. All tank removal and efforts to remove ground and groundwater contamination should be coordinated with the

UST Section of DENR. The following should be accomplished concerning potential releases from home heating oil underground storage tanks:

- The NCDENR Washington Regional Office Underground Storage Tank (UST) Section recommends removal of any abandoned or out-of-use underground storage tanks within the project area. The UST Section should be contacted regarding use of any proposed or on-site USTs.
- Any above-ground fuel tanks must be installed and maintained in accordance with applicable local, state, and federal regulations.
- Any chemical or petroleum spills must be contained and the area of impact must be properly restored. Spills of significant quantity must be reported to the NC Department of Environment and Natural Resources, Division of Water Quality, in the Washington Regional Office.
- Any soils excavated during demolition or construction that show evidence of chemical or petroleum contamination, such as stained soil, odors or free product must be reported immediately to the local Fire Marshall to determine whether explosion or inhalation hazards exist. Also notify the UST Section of the Washington Regional Office.
- Any questions or concerns regarding USTs should be directed to the UST Section.

There was no offshore oil exploration or drilling underway in 2005. However, future exploration and/or drilling could pose a threat for the County's shoreline if it were to occur.

Presently there are two known hazardous waste sites identified in Hyde County. These subject sites are described as follows:

- Mattamuskeet National Wildlife Refuge
- United States Coast Guard Station, Ocracoke

According to the NC Division of Waste Management, there are no storers of hazardous waste in the county. The two identified hazardous waste sites are not large quantity hazardous waste generators. There have not been any significant issues associated with underground storage tanks in the county. NOTE: refer to implementing actions I.120 and I.121, page 215.

iii. Other Hazardous Sites

The USAF Dare County Range Site (NC6 570 027 460) is located in Hyde County. The site is mainly in Dare County, but has a small section that crosses the border into Hyde County at the northeast end of the County along Highway 264. The site is undergoing further evaluation under the Installation Restoration Program. It is unlikely that any project in Hyde County will affect the site and vice versa.

e. Soils

A detailed soils survey of Hyde County was completed by the Natural Resources Conservation Service in 2001. This survey was made to provide information about the soils in Hyde County. The information includes a description of the soils and their location, and a discussion of the suitability, limitations, and management of the soils for specified uses. Soil scientists observed the steepness, length, and shape of slopes; the general pattern of drainage; and the kinds of crops and native plants growing on the soils.

Based on that survey, there are 45 different soils types located within the County. These soil types are delineated on Map 4 and their conditions for site development are provided in Table 33. Prime agricultural lands are delineated on the map and identified in the table. Most of the soils within the County (over 90%) are hydric soils that are prone to flooding and thus present constraints to development, particularly to the emplacement of traditional septic tanks and septic tank drainfields and to the stability of buildings constructed without fill or site stabilization.

Table 33. Hyde County, Building Site Development Soil Features and Prevalence of Soil Types, 2001

Map Symbol and Soil Name	Dwellings	Local Roads and Streets	Septic Tank Absorption Fields	Acres	% of Total County
AcA - Acredale***	Severe: flooding, wetness	Severe: low strength, wetness	Severe: wetness, percs slowly	13,750.6	3.1776%
ArA - Argent**	Severe: flooding, wetness	Severe: low strength, wetness	Severe: wetness, percs slowly	10,477.0	2.4211%
BaA - Backbay	Severe: flooding, ponding	Severe: ponding, wetness	Severe: flooding, ponding, percs slowly	9,148.1	2.1141%
BcA, BeE - Beaches	Severe: flooding, wetness	Severe: flooding, wetness	Severe: flooding, wetness, poor filter	1,050.3	0.2427%
BmA, BnA - Belhaven	Severe: flooding, wetness, low strength	Severe: wetness	Severe: wetness, percs slowly	30,719.1	7.0989%

Table 33. Hyde County, Building Site Development Soil Features and Prevalence of Soil Types (continued)

Map Symbol and Soil Name	Dwellings	Local Roads and Streets	Septic Tank Absorption Fields	Acres	% of Total County
BoA - Bolling*	Severe: flooding	Moderate: low strength, wetness, flooding	Severe: wetness	1,032.0	0.2385%
BrA - Brookman	Severe: flooding, wetness	Severe: low strength, wetness	Severe: wetness, percs slowly	8,606.8	1.9890%
CaA, CbA, CeA - Carteret	Severe: flooding, ponding	Severe: ponding, flooding	Severe: flooding, ponding, poor filter	3,096.0	0.7155%
ChA - Chapanoke***	Severe: flooding, wetness	Severe: low strength, wetness	Severe: wetness, percs slowly	1,294.2	0.2991%
CoA - Conaby***	Severe: flooding, wetness	Severe: wetness	Severe: wetness	4,307.3	0.9954%
CrB - Corolla	Severe: flooding	Moderate: wetness, flooding	Severe: wetness, poor filter	596.1	0.1377%
DeA - Delway	Severe: subsides, flooding, ponding	Severe: subsides, flooding, ponding	Severe: flooding, ponding, percs slowly	17,747.5	4.1013%
DoA - Dorovan	Severe: subsides, flooding, ponding	Severe: subsides, flooding, ponding	Severe: subsides, flooding, ponding	5,562.5	1.2855%
DuA - Duckston	Severe: flooding, wetness	Severe: wetness	Severe: wetness, poor filter	1,498.5	0.3461%
EaA, EnA - Engelhard***	Severe: flooding, ponding, wetness	Severe: flooding, ponding, wetness	Severe: flooding, ponding, wetness	8,560.8	1.9783%
FkA - Fork***	Severe: flooding, wetness	Moderate: wetness, flooding	Severe: wetness	1,349.0	0.3117%
FoA - Fortescue***	Severe: flooding, wetness	Severe: low strength, wetness	Severe: wetness, percs slowly	4,667.1	1.0785%
GuA - Gullrock***	Severe: flooding, wetness	Severe: wetness	Severe: wetness	7,859.7	1.8163%
HyA - Hydeland***	Severe: flooding, wetness	Severe: low strength, wetness	Severe: wetness, percs slowly	19,753.0	4.5648%
LfA - Longshoal	Severe: subsides, flooding, ponding	Severe: subsides, flooding, ponding	Severe: flooding, ponding, poor filter	19,381.7	4.4790%
NaD, NcC - Newhan	Severe: flooding, slope	Moderate: flooding	Severe: poor filter, slope	635.5	0.1469%
NeA, NhA - Newholland***	Severe: flooding, wetness	Severe: wetness, flooding	Severe: wetness, poor filter	5,201.9	1.2021%
PaA - Pasquotank***	Severe: flooding, wetness	Severe: wetness	Severe: wetness	653.8	0.1511%
PeA - Pettigrew	Severe: flooding, wetness, shrink-swell	Severe: shrink-swell, low strength, wetness	Severe: wetness, percs slowly	5,429.2	1.2546%
PnA - Ponzer**	Severe: subsides, flooding, wetness	Severe: subsides, low strength, wetness	Severe: wetness, percs slowly	37,605.6	8.6903%

Table 33. Hyde County, Building Site Development Soil Features and Prevalence of Soil Types (continued)

Map Symbol and Soil Name	Dwellings	Local Roads and Streets	Septic Tank Absorption Fields	Acres	% of Total County
PoA - Portsmouth ^{***}	Severe: flooding, wetness	Severe: wetness	Severe: wetness, poor filter	5,277.3	1.2195%
PuA - Pungo	Severe: subsides, flooding, wetness	Severe: subsides, wetness, low strength	Severe: subsides, wetness, percs slowly	93,868.4	21.6923%
RoA - Roper ^{***}	Severe: flooding, wetness	Severe: low strength, wetness	Severe: wetness, percs slowly	25,204.2	5.8245%
ScA - Scuppernong	Severe: subsides, flooding, wetness	Severe: subsidies, wetness	Severe: wetness, percs slowly	61,774.4	14.2756%
SeA - Seabrook	Severe: flooding	Moderate: wetness, flooding	Severe: wetness, poor filter	656.2	0.1516%
StA - Stockade ^{***}	Severe: flooding, wetness	Severe: wetness	Severe: wetness, percs slowly	2,551.3	0.5896%
Ud - Udorthents (Urban Land)	N/A (Urbanized/ Developed Areas)	N/A (Urbanized/ Developed Areas)	N/A (Urbanized/ Developed Areas)	3,714.8	0.8585%
WaA - Wasda ^{***}	Severe: flooding, wetness	Severe: wetness	Severe: wetness	6,935.7	1.6028%
WeA, WkA - Weeksville ^{****}	Severe: flooding, ponding	Severe: wetness, ponding, flooding	Severe: flooding, wetness, ponding	7,174.4	1.6579%
WyA - Wysocking ^{***}	Severe: flooding, wetness	Severe: wetness	Severe: wetness, percs slowly	2,326.9	0.5377%
YeA - Yeopim [*]	Severe: flooding	Severe: low strength	Severe: wetness, percs slowly	517.8	0.1197%
YoA - Yonges ^{***}	Severe: flooding, wetness	Severe: wetness	Severe: wetness, percs slowly	2,743.6	0.6340%

*All areas are prime farmland.

**Farmland of statewide importance.

***Prime farmland, if drained.

****WeA is prime farmland if drained; WkA is prime farmland if drained and either protected from flooding or not frequently flooded during the growing season.

Source: Soil Survey of Hyde County, North Carolina, USDA/NRCS, 1999

Almost all soils on Ocracoke Island are poorly suited for development. The vast majority of soils on the Island are Beach sands, Corolla fine sands, or Duckston fine sands. These soils are extremely wet and have severe limitations for dwellings, septic tanks, and streets or roads (see Map 4).

Map 4 - soils

f. Water Supply

As mentioned above, both the mainland of Hyde County and Ocracoke Island rely on groundwater for their water supply (see text box to right for discussion of groundwater). Ocracoke Island maintains its own independent Sanitary District (OISD) which operates a potable water utility on the Island. OISD maintains three wells drilled into the Castle Hayne Aquifer, a limestone aquifer that underlays the County (and much of Eastern North Carolina) as the source of its water supply and withdraws up to 534,000 gallons per day from it to serve its customers. The Ocracoke Island Sanitary District Treatment Plant has a permitted capacity of 534,000 gallons per day but can potentially withdraw over 800,000 gallons per day from the system's three wells. It subjects these waters to a process known as "reverse osmosis" which filters and decontaminates the water that is sometimes high in minerals (see Section 5(F)(1)(i)(v) of this Plan for a further discussion of water supply).

Groundwater - What Is it?

The ground beneath our feet is not completely solid. It is more like a sponge with pores of many shapes and sizes. When rain falls, it soaks into the ground and moves throughout this pore space. Pore space may account for up to 50 % of the total volume of some soils.

Near the soil surface, in the unsaturated zone, the pores contain a combination of air and water. Further down is the saturated zone where all of the pore space is filled with water. This water is called groundwater. The water table is the boundary between the saturated zone and the unsaturated zone. A well must reach down below the water table, into the saturated zone, to obtain groundwater.

Groundwater

Aquifers and Confining Beds

The word aquifer comes from the Latin for "water bearing" and is used for any geologic formation that contains water in sufficient quantity and with sufficient mobility to be useful as a water source (for example, a layer of sand or gravel).

When water mobility is very limited (such as in a layer of clay or silt), the formation is called a confining bed or an aquitard.

Recharge and Discharge

Aquifer recharge is the movement of water from the surface down into an aquifer. In a recharge area, the net movement of water is downward. Recharge usually occurs in the upland areas between streams.

On the other hand, a discharge area is an area where the net movement of water is toward the surface. Groundwater discharge usually occurs in low areas close to streams and through the banks and beds of streams. (Source: Rodney L. Huffman, Publication Number AG-450, NC Cooperative Extension Service, 1996).

The Hyde County and Ocracoke Island Sanitary Districts submitted local water supply plans in 2002. An update to these plans must be submitted at least every five years as required by NC General Statute 143-355(L). The 2002 Water Supply Plans include

proposed expansions of service areas and identify increases in demand which may occur. The water shortage response plan (Part 3, Section 9 of the Water Supply Plan) has not been submitted. The water shortage response plan must be submitted before a local water supply plan is considered completed for adoption.

Hyde County operates its own water system serving a limited area of eastern Beaufort County and western Hyde County, primarily near the communities of Ponzer and Fairfield. This system draws water from both the Castle Hayne and Yorktown aquifers. County residents in the eastern mainland portion of the County are typically on private wells drilled into the Castle Hayne aquifer and yielding 5 to 75 gallons per minute. Private wells in the County are prone to relatively high iron content in some locations.

The Castle Hayne aquifer is the most productive aquifer in the state. It is primarily limestone and sand. The Castle Hayne is noted for its thickness (more than 300 feet in places) and the ease of water movement within it, both of which contribute to high well yields. It lies fairly close to the surface toward the south and west, deepening rapidly toward the east. Chloride content exceeds 250 parts per million east of a line between Gates and Hyde counties. Water in the Castle Hayne aquifer ranges from hard to very hard because of its limestone composition. Iron concentrations tend to be high near recharge areas but decrease as the water moves further through the limestone (source: Rodney L. Huffman, Publication Number AG-450, NC Cooperative Extension Service, 1996).

As noted earlier, the Castle Hayne aquifer is subject to salt water intrusion. Salt water intrusion has been documented in Martin, Pitt, Craven, Onslow, and western Beaufort counties in North Carolina, but currently no farther east than the City of Washington, North Carolina. Exacerbating the risk of salt water intrusion are declining water levels in the Castle Hayne aquifer. These declining water levels are due to dewatering activities attributable to industrial activities, particularly mining, and urbanization in areas that overlay the aquifer, particularly those areas west and north of Hyde County such as Kinston, Goldsboro, Greenville and New Bern (see page 50-51 for additional information on this phenomenon). Water levels in the Cretaceous and Upper Aquifers, aquifers above and adjacent to the Castle Hayne, are declining between 1 and 9 feet per year, on average (source: George Kunkel, "Ground Water Supply in Coastal North Carolina", 2000).

The Yorktown aquifer lies below the surficial aquifer in the northern half of the coastal plain. The Yorktown is thin toward the west, sometimes less than 20 feet. It thickens eastward, to as much as 300 feet in Dare County. The Yorktown aquifer is mostly fine sand, silty and clayey sand, and clay with shells and beds of shells throughout.

The Yorktown aquifer is an important source of water in the northeastern part of the region, where deeper aquifers are too salty. It is not used as much in the western part, since more productive sources are available.

Salt water encroachment, dewatering, and declining water levels are not, at the present time, a significant concern to Hyde County, but could become so over time without vigilant monitoring and regulation of groundwater supplies, particularly from the Castle Hayne aquifer. This is particularly true since the August 2004, report from the NC Division of Water Resources (prepared under the direction of the Environmental Management Commission) entitled “Central Coastal Plain Capacity Use Area Status Report” encourages urbanizing communities in the Coastal Plain to consider developing “alternate aquifers”, especially the Castle Hayne, and reducing reliance on the Cretaceous and Upper (Surficial) aquifers referenced above. A copy of the report may be found on the NC Division of Water Resources website. Any such efforts should be carefully monitored and evaluated for their potential impact on the available water supply in Hyde County. Public water service in the County will be addressed in Section 5(G) of this Plan.

In 1986, the Safe Drinking Water Act Amendments were passed and required states to establish Wellhead Protection Programs. The program intent is to protect underground sources of drinking water through pollution prevention and management. While local programs are not mandatory, having them provides additional protection to the local governments water supply. The Hyde County Water System and the Ocracoke Sanitary District both have Wellhead Protection Programs. The Hyde County Water System Wellhead Protection Plan was approved by the Division of Environmental Health’s Public Water Supply Section on October 24, 2006, and the Ocracoke Sanitary District Wellhead Protection Plan became effective on February 26, 2004.

g. Fragile Areas and Areas of Environmental Concern (AEC)

CAMA establishes “Areas of Environmental Concern” (AECs) as the foundation of the Coastal Resources Commission's permitting program for coastal development. An AEC is an area of natural importance: it may be easily destroyed by erosion or flooding; or it may have environmental, social, economic or aesthetic values that make it valuable.

In coastal North Carolina, fragile areas are considered to include coastal wetlands, ocean beaches and shorelines, estuarine waters and shorelines, public trust areas, complex natural areas, areas sustaining remnant species, unique geological formations, registered natural landmarks, swamps, prime wildlife habitats, areas of excessive slope, areas of excessive erosion, scenic points, archaeological sites, historical sites, and 404 wetlands. While not identified as fragile areas in the 15A NCAC 7H use standards, maritime forest and outstanding resource waters (ORWs) should also be considered fragile areas.

This Section discusses the AECs and fragile areas in Hyde County which include: estuarine waters and shorelines, public trust areas, coastal wetlands, natural resource fragile areas, and outstanding resource waters.

i. Estuarine Waters and Estuarine Shorelines (AEC)

Why are Estuaries Important?

The lands and waters of the estuarine system are home to fish nursery areas, spawning areas, shellfish beds and other habitats essential to North Carolina's commercial and recreational fishing industries. More than 90 % of North Carolina's commercial and recreational seafood species (such as shrimp, flounder and crabs) depend on the protective habitat and nutrients found in coastal wetlands and estuarine waters for much of their lives.

The stems, roots, and seeds of many coastal wetland plants provide food and nesting materials for waterfowl and other wildlife. Marsh plants guard against erosion and flood damage. Their leaves and stems dissipate wave energy, and their root systems bind soil. The nutrients and decayed plant material the marsh plants produce also contribute to the productivity of the estuarine system. Estuarine plants trap debris and excess nutrients and help regulate the flow of fresh water into the estuary, maintaining the system's balance.

Estuarine shorelines act as natural barriers to erosion and flooding. Certain soil formations and plant communities along estuarine shorelines also help slow erosion. Natural buffers along the shoreline protect the water from excess sediment and pollutants, and they protect nearby developments from flooding and erosion.

Estuarine waters and public trust areas are important for tourism, because they support commercial and recreational fishing, boating, swimming and other recreational activities. (Source: NC Division of Coastal Management, "CAMA Handbook for Development in Coastal North Carolina, Section 2, 2002).

An "estuary" can be defined as "a semi-enclosed coastal body of water which has a free connection to the open sea and within which sea water is measurably diluted with fresh water derived from land drainage" (Source: D. Pritchard, *Advances in Geophysics*, 1952, page 243). Estuaries basically serve as transition zones between fresh and salt water and are protected from the full force of ocean wind and waves by barrier islands, mudflats, and/or sand. As illustrated in the adjacent text box, estuaries provide significant environmental and economic benefits to Hyde County.

In Hyde County, estuarine waters include the waters of the Pungo, Long Shoal, and Alligator Rivers, Juniper Bay and Pamlico Sound, as well as all bays, rivers, and creeks feeding these waterways.

Estuarine shorelines are land areas leeward of mean high tide that are immediately adjacent to or bordering estuarine waters. These areas support the ecological function

of estuaries and are highly vulnerable to erosion caused by wind or water and to damage caused by development. In Hyde County, this includes the shoreline of Silver Lake.

Under CAMA rules, all lands 75 feet leeward from the mean high tide are classified as estuarine shorelines and are subject to CAMA development regulations at 15A NCAC 7H.0205-,0208), as follows:

- The location, design and construction of your project must give highest priority to conserving the biological, economic and social values of coastal wetlands, estuarine waters and public trust areas, and protect public rights of navigation and recreation in public trust areas.
- Your project should be designed and located to cause the least possible damage to the productivity and integrity of:
 - coastal wetlands;
 - shellfish beds;
 - submerged grass beds;
 - spawning and nursery areas;
 - important nesting and wintering areas for waterfowl and other wildlife; and
 - important natural barriers to erosion, such as marshes, cypress fringes and clay soils.
- Your project must follow the air and water quality standards set by the NC Environmental Management Commission. Generally, development will not be permitted if it lowers water quality for any existing uses of the water (such as shellfishing, swimming or drinking). For more information, contact the NC Division of Air Quality or the Division of Water Quality.
- Your project must not significantly increase siltation or erosion, which can smother important habitats, block sunlight from aquatic plants, and choke fish and shellfish.
- Your project must not create a stagnant body of water, which can effect oxygen levels and accumulate sediments and pollutants that threaten fish and shellfish habitats and public health.
- You must time the construction of your project to have the least impact on the life cycles and migration patterns of fish, shellfish, waterfowl and other wildlife. The life cycles of animals that depend on the estuarine system are especially sensitive during certain times of the year. For more information, contact the Coastal Management office nearest you.
- Your project must not cause major or irreversible damage to valuable archaeological or historic resources. Archaeological resources, such as the remains of Native and Early American settlements, shipwrecks and Civil or Revolutionary War artifacts, provide valuable information about the history of the coastal region and its people. Information on the location of these sites is available from the NC Division of Archives and History in the Department of Cultural Resources.
- Your project must not reduce or prevent the use of, and public access to, estuarine waters and public trust lands and waters.

- Your project must comply with the local land use plan. A land use plan is a "blueprint" developed by local leaders to help guide decisions that affect the growth of the community. CAMA requires each of the 20 coastal counties to prepare a local land use plan and update it according to CRC guidelines. More than 70 cities and counties have adopted their own plans.

ii. Public Trust Areas

The North Carolina 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. These areas often overlap with estuarine waters, but they also include many inland fishing waters. 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.

Although public trust areas must be delineated by on-site analysis, all submerged lands adjacent to and within the County mainland and the sound-side of Ocracoke Island should be considered public trust areas.

Under CAMA regulations, all lands 30 feet leeward of public trust areas are subject to the restrictions specified above for estuarine shoreline areas.

iii. Coastal and 404 Wetlands

Coastal Resources Commission's rules define "Coastal Wetlands" as any marsh in the 20 coastal counties (including Hyde County and Ocracoke Island) that regularly or occasionally floods by lunar or wind tides, and that includes one or more of the following 10 plant species:

Spartina alterniflora: Salt Marsh (Smooth) Cord Grass
Juncus roemerianus: Black Needlerush
Salicornia spp.: Glasswort
Distichlis spicata: Salt (or Spike) Grass
Limonium spp.: Sea Lavender
Scirpus spp.: Bulrush
Cladium jamaicense: Saw Grass
Typha spp.: Cattail
Spartina patens: Salt Meadow Grass
Spartina cynosuroides: Salt Reed or Giant Cord Grass

COASTAL WETLAND PLANT SPECIES

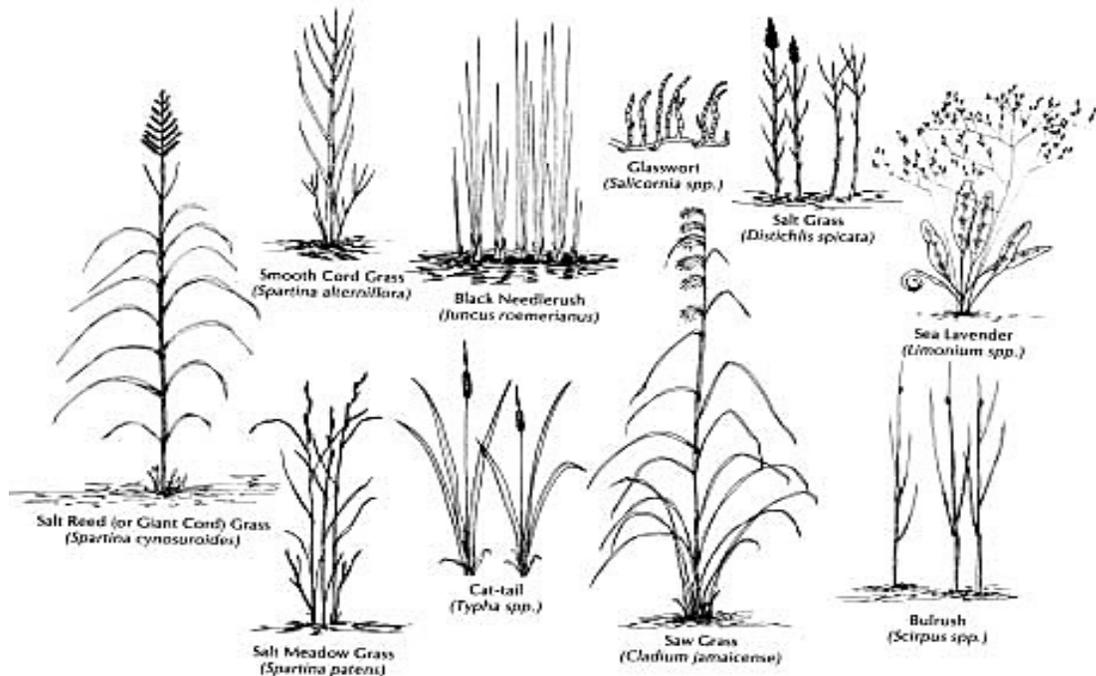


Exhibit 3. Coastal Wetland Plant Species in North Carolina (Source: NCDWM, "CAMA Handbook for Development in Coastal North Carolina", 2002)

It should be noted that some members of the public and the Hyde County LUPAC believe that this definition of "Coastal Wetlands" is unduly expansive and can result in the inclusion of almost any area in Hyde County, regardless of its environmental significance or function as a "Coastal Wetland." Hyde County policies regarding this issue will be addressed in Section 6 of this CAMA Land Use Plan Update. Coastal wetlands provide significant environmental and economic benefits to Hyde County. They protect against flooding, help maintain water quality, provide habitat to wildlife, and serve as part of the estuarine system described earlier in this plan.

In 2003, NCDPCM classified and mapped coastal wetlands based on an analysis of several existing data sets, including aerial photographs and satellite images of coastal areas in North Carolina, including Hyde County. Even though the presence of wetlands must be established by an onsite delineation and investigation of plants, NCDPCM produced an excellent representation of wetlands in the County, and throughout coastal North Carolina (see Map 5).

According to NCDPCM's 2003 Coastal Wetlands Inventory, approximately 57% of the County's land area, or 249,598 acres, were coastal wetlands (see Tables 34 and 35 below).

Table 34: Hyde County (Mainland Only), Coastal Wetlands by Type and Aerial Extent, 2003

Wetland Type	Acres	%
Bottomland Hardwood	57.5	0.01%
Cleared Bottomland Hardwood	1.1	0.0002%
Cleared Depressional Swamp Forest	761.9	0.18%
Cleared Estuarine Forest	0.1	0.00003%
Cleared Estuarine Shrub/Scrub	6.2	0.0014%
Cleared Hardwood Flat	536.3	0.12%
Cleared Headwater Swamp	16.0	0.004%
Cleared Pine Flat	265.2	0.06%
Cleared Pocosin	241.4	0.06%
Cutover Bottomland Hardwood	4.1	0.001%
Cutover Depressional Swamp Forest	923.8	0.21%
Cutover Estuarine Forest	3.3	0.001%
Cutover Estuarine Shrub/Scrub	56.1	0.01%
Cutover Hardwood Flat	1,063.8	0.25%
Cutover Headwater Swamp	13.1	0.003%
Cutover Pine Flat	712.6	0.16%
Cutover Pocosin	365.8	0.08%
Depressional Swamp Forest	29,102.0	6.73%
Drained Depressional Swamp Forest	2,371.1	0.55%
Drained Estuarine Forest	3.0	0.001%
Drained Estuarine Shrub/Scrub	5.0	0.001%
Drained Freshwater Marsh	23.2	0.01%
Drained Hardwood Flat	2,427.5	0.56%
Drained Pine Flat	3,138.2	0.73%
Drained Pocosin	24,480.3	5.66%
Drained Riverine Swamp Forest	42.3	0.01%
Drained Salt/Brackish Marsh	148.4	0.03%
Estuarine Forest	210.4	0.05%

Table 34: Hyde County (Mainland Only), Coastal Wetlands by Type and Aerial Extent (continued)

Wetland Type	Acres	%
Estuarine Shrub/Scrub	2,583.4	0.60%
Freshwater Marsh	3,671.8	0.85%
Hardwood Flat	10,661.5	2.46%
Headwater Swamp	512.0	0.12%
Human Impacted	2,076.5	0.48%
Managed Pineland	24,563.3	5.68%
Pine Flat	17,847.3	4.12%
Pocosin	74,117.2	17.13%
Riverine Swamp Forest	5,834.0	1.35%
Salt/Brackish Marsh	37,938.8	8.77%
TOTAL	246,785.7	57.03%

Source: NCDCM Wetlands Inventory, 2003.

Table 35: Ocracoke Island, Coastal Wetlands by Type and Aerial Extent, 2003

Wetland Type	Acres	%
Cleared Estuarine Shrub/Scrub	48.3	0.78%
Cutover Estuarine Shrub/Scrub	36.8	0.60%
Drained Estuarine Shrub/Scrub	1.3	0.02%
Drained Salt/Brackish Marsh	96.3	1.56%
Estuarine Shrub/Scrub	574.6	9.32%
Managed Pineland	25.4	0.41%
Salt/Brackish Marsh	2,029.2	32.91%
TOTAL	2,811.9	45.60%

Source: NCDCM Wetlands Inventory, 2003.

The following provides the NCDCM descriptions of the various wetland areas found in Hyde County:

Salt/Brackish Marsh. Any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses), as long as this flooding does not include hurricane or tropical storm waters. Coastal wetland plant species include: smooth cordgrass; black needlerush; glasswort; salt grass; sea lavender; salt marsh bullrush; saw grass; cattail; salt meadow cordgrass; and big cordgrass.

MAP 5 - WETLANDS

Estuarine Shrub/Scrub. Any shrub/scrub dominated community subject to occasional flooding by tides, including wind tides (whether or not the tide waters reach these areas through natural or artificial watercourses). Typical species include wax myrtle and eastern red cedar.

Estuarine Forested. A forested wetland community subject to occasional flooding by tides, including wind tides (whether or not the tide waters reach the marshland areas through natural or artificial watercourses). Examples include pine-dominated communities with rushes in the understory or fringe swamp communities such as those that occur along the Albemarle and Pamlico sounds.

Maritime Swamp Forest. A forested community characterized by its stunted growth due to the stresses imposed by its proximity to salt spray from the ocean. Typical vegetation includes live oak, red maple and swamp tupelo.

Freshwater Marsh. Herbaceous areas that are flooded for extended periods during the growing season. Included are marshes within lacustrine systems, managed impoundments, some Carolina Bays, and other non-tidal marshes (i.e., marshes which do not fall into the Salt/Brackish Marsh category). Typical communities include species of sedges, millets, rushes and grasses that are not specified in the coastal wetland regulations. Also included are giant cane, arrowhead, pickeralweed, arrow arum, smartweed, and cattail.

Bottomland Hardwood. Riverine forested or occasionally shrub/scrub communities usually occurring in floodplains, that are seasonally flooded. Typical species include oaks (overcup, water, laurel, swamp chestnut), sweet gum, green ash, cottonwoods, willows, river birch, and occasionally pines.

Swamp Forest. Very poorly drained riverine or non-riverine forested or occasionally shrub/scrub communities which are semi-permanently flooded, including temporarily flooded depressional systems. Typical species include cypress, black gum, water tupelo, green ash and red maple.

Headwater Swamp. Wooded, riverine systems along first order streams. These include hardwood dominated communities with soil that is moist most of the year. Channels receive their water from overland flow and rarely overflow their own banks.

Hardwood Flat. Poorly drained interstream flats not associated with rivers or estuaries. Seasonally saturated by high water table or poor drainage. Species vary greatly but often include sweet gum and red maple.

Pine Flat. Freshwater, seasonally saturated pine communities on hydric soils that may become quite dry for part of the year. Generally occur in flat or nearly flat areas that are not associated with a river or stream system. Usually dominated by loblolly pine. This category does not include managed pine systems.

Managed Pineland. Seasonally saturated, managed pine forests (usually loblolly pine) occurring on hydric soils. Since this category is based primarily on soils data and 30 meter resolution satellite imagery, it is less accurate than the other wetland categories.

Human Impacted (w-type 40). Areas of human impact have physically disturbed the wetland, but the area is still a wetland. Impoundments and some cutovers are included in this category, as well as other disturbed areas, such as power lines.

Partially Drained Wetland. Any wetland system described above that is, or has been, effectively drained (according to the National Wetlands Inventory).

Cutover Wetland. Areas for which satellite imagery indicates a lack of vegetation in 1994. These areas are likely to still be wetlands, however, they have been recently cut over. Vegetation in these areas may be regenerating naturally, or the area may be in use for silvicultural activities. Note that marshes can not be considered cutover.

Cleared Wetland. Areas of hydric soils for which satellite imagery indicates a lack of vegetation in both 1988 and 1994. These areas are likely to no longer be wetlands.

Areas identified as coastal wetlands are subject to CAMA regulations as specified above for estuarine shoreline areas.

Freshwater swamps and inland, non-tidal wetlands are not in the CAMA permit jurisdiction, unless they are within the estuarine shoreline or public trust shoreline. However, these wetlands are protected by Section 404 of the Federal Clean Water Act. An Army Corps of Engineers "Section 404" permit (USACE 404) may be required for projects taking place in these wetlands. Site-specific delineation of potential wetlands is required, under USACE wetland delineation guidelines, in order to determine whether a specific proposed development project requires a USACE 404 permit. There are several different types of USACE 404 permits. In general, however, the basic premise of the USACE 404 program is that no discharge of dredge or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded (source: USACE website, <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/oceover.htm>).

iv. Protected lands and Significant Natural Heritage Areas

“Protected Lands” are areas dedicated to conservation and open space based uses that are protected from development by regulation or by ownership by governments or non-profit organizations. NCDCM has identified these areas through the assistance of the NC Center for Geographic Information and Analysis (NCGIA).

As reflected in Table 36 below, Hyde County has one of the highest percentage of protected lands in the State of North Carolina, with over 34% of its land area in protected lands. This fact presents a tremendous opportunity to develop eco-tourism unavailable in many other areas of the State where few protected lands exist. Map 6 graphically depicts the data provided in Table 37.

Table 36: Protected Lands in Hyde County (Mainland Only), 2005

Protected Lands	Acres	%
Alligator River National Wildlife Refuge	20,348.9	4.7%
Dare County Bombing Range	487.9	0.1%
Duncan Hunt Club Tract	49.7	0.01%
Hyde County Wildlife Preservation Lands	374.4	0.1%
Mattamuskeet National Wildlife Refuge	49,783.0	11.5%
Pocosin Lakes National Wildlife Refuge	40,700.4	9.4%
Pungo River Game Land	97.1	0.02%
Selby Brothers	392.5	0.1%
Swan Quarter National Wilderness Area	5,458.7	1.3%
Swan Quarter National Wildlife Refuge	11,137.0	2.6%
Wildlife Resource Commission - Islands	8.9	>0.0%
WRC Engelhard Access Area	4.1	>0.0%
WRC Gull Rock Refuge	21,530.1	5.0%
Total	150,372.6	34.7%

Source: NCDCM and NCGIA.

It should be noted that some members of the public and the Hyde County LUPAC believe that the large percentage of land in public ownership in Hyde County is a significant hindrance to economic development and limits the ad valorem tax base, due to the fact that publicly-owned land is untaxable and undevelopable. Hyde County policies regarding this issue will be addressed in Section 6 of this CAMA Land Use Plan Update.

MAP 6 - PROTECTED LANDS

The vast majority of Ocracoke Island consists of the protected lands of Cape Hatteras National Seashore. Approximately 5,391 acres, or 87%, of the Island is in Federal ownership as a protected National Seashore and thus not subject to substantial development.

“Significant Natural Heritage Areas” (SNHA) are areas containing ecologically significant natural communities or rare species. The North Carolina Natural Heritage Program of the NC Division of Parks and Recreation (NCDPR) identifies and helps facilitate the protection of these areas. NCDPR has identified these areas through the assistance of the NC Center for Geographic Information and Analysis (NCGIA).

As with protected lands, Hyde County has a tremendous inventory of significant natural heritage areas. As shown in Table 37, almost 45% of the County is considered a SNHA by NCDPR, including such ecological gems as Roper Island, Gull Rock Game Land, and Mattamuskeet National Wildlife Refuge. As with protected lands, these lands provide a tremendous resource for the County in attracting tourists, businesses, and residents looking for an area with tremendous unspoiled natural resources. Map 7 provides the location of these SNHAs.

Table 37: Significant Natural Heritage Areas in Hyde County (Mainland Only), 2005

Significant Natural Heritage Areas	Site Numbers	Acres	%
Alligator River Refuge/Southeast Marshes	S.USNCHP*41	0.19	0.00004%
Lake Landing Jointvetch Sites	S.USNCHP*47	5.39	0.00125%
Dare County Pocosin	S.USNCHP*745	39.43	0.00911%
Alligator River Swamp Forest	S.USSERO1*1627	373.33	0.08627%
Pantego Swamp and Pocosins	S.USNCHP*977	592.36	0.13689%
Back Landing Bay	S.USNCHP*1236	912.46	0.21086%
Pungo Lake Natural Areas	S.USNCHP*581	1,358.57	0.31396%
Gibbs Point Marsh	S.USNCHP*1024	1,461.36	0.33771%
Upper Pungo River Wetlands	S.USNCHP*994	1,868.58	0.43181%
Upper Alligator River Pocosin	S.USNCHP*740	2,134.79	0.49333%
Rose Bay Marshes	S.USNCHP*1329	3,067.34	0.70884%
Long Point and Wysocking Bay Marshes	S.USNCHP*792	4,043.50	0.93442%
Scranton Hardwood Forest	S.USNCHP*641	4,303.44	0.99449%
Caffey Bay Wetlands	S.USNCHP*1023	5,018.69	1.15978%
Harvester Road Tall Pocosin	S.USNCHP*327	8,362.81	1.93258%
Roper Island	S.USNCHP*613	8,732.32	2.01797%
Upper Alligator River Marshes and Forests	S.USNCHP*1011	10,650.13	2.46116%
Long Shoal River Marshes and Pocosins	S.USNCHP*1013	10,749.55	2.48414%

Table 37: Significant Natural Heritage Areas in Hyde County (continued)

Significant Natural Heritage Areas	Site Numbers	Acres	%
Swan Quarter Bay Wetlands	S.USNCHP*701	14,483.46	3.34701%
New Lake Fork Pocosin and New Lake	S.USNCHP*499	15,352.38	3.54781%
Gull Rock Game Land	S.USNCHP*90	22,908.19	5.29390%
Alligator River/Swan Creek Lake Swamp Forest	S.USSERO1*274	27,125.27	6.26844%
Mattamuskeet National Wildlife Refuge	S.USNCHP*438	49,389.48	11.41352%
Total		192,933.01	44.58529%

Source: NCDPR.

Table 38 provides a listing of significant natural heritage areas on Ocracoke Island. Numerous areas within the Cape Hatteras National Seashore on the Island are considered SNHAs for their ecological significance and diversity, including the Springer's Point Heronry and the Hatteras and Ocracoke Inlet islands. Over 71.2% of the total land area on the Island is in SNHAs. Map 7 depicts the SNHAs on Ocracoke Island.

Table 38: Significant Natural Heritage Areas in Hyde County (Ocracoke Island Only), 2005

Significant Natural Heritage Areas	Site Numbers	Acres	%
Ocracoke Inlet Bird Nesting Islands	S.USNCHP*522	35.00	0.6%
Hatteras Inlet Bird Nesting Islands	S.USNCHP*329	48.94	0.8%
Springers Point Heronry	S.USNCHP*1859	79.64	1.3%
Ocracoke Island Western End (Sand Flats)	S.USNCHP*525	1,196.52	19.4%
Ocracoke Island Eastern End	S.USNCHP*524	1,499.72	24.3%
Ocracoke Island Central Section	S.USNCHP*523	1,533.04	24.9%
Total		4,392.84	71.2%

Source: NCDPR.

h. Wildlife Species

Certain species in Hyde County have been granted protection by the US Fish and Wildlife Service under the Federal Endangered Species Act and/or the NC Wildlife Resource Commission under the State Endangered Species Act. Hyde County has two species that are protected. The Piping Plover is considered threatened by the state and federal government. The Red Wolf is considered endangered with an experimental population by the federal government.

MAP 7 - SNHA

i. *Areas of Resource Potential*

i. **Regionally Significant Parks**

As noted above, Hyde County has environmentally significant wildlands in abundance. Two regionally significant parks in the County are home to a good representation of these areas, as described below:

Mattamuskeet National Wildlife Refuge (MNWR). Owned and operated by the Federal government's US Fish and Wildlife Service, the MNWR is comprised of over 49,000 acres of land and water in north/central Hyde County. The MNWR is home to significant wintering populations of ducks, Canada geese, snow geese, and tundra swans. Also, concentrations of bald eagles and other raptors, wading birds and shorebirds occur seasonally. Significant fishery resources including largemouth bass, sunfish (bream), white perch, crappie, alewives (herring) and blue crabs are associated with Lake Mattamuskeet and canals. Habitats consist of open water (40,000 acres), freshwater marsh (3,180 acres), forested wetlands (3,500 acres), managed wetlands or impoundments (2,600 acres), croplands (520 acres), and forested uplands/admin. lands (80 acres).

The refuge's main feature is Lake Mattamuskeet (40,000 acres) and is North Carolina's largest natural lake. The MNWR has a staff of 11 permanent employees and 5-10 temporary or interns, draws approximately 100,000 visits annually, and generates more than \$1 million in revenues in the County yearly from visitors (Source: U.S. Fish and Wildlife Service).

Cape Hatteras National Seashore (CHNS). CHNS is owned and operated by the Federal government's National Park Service (NPS) and is spread over 70 miles of barrier islands in Dare and Hyde Counties. Approximately 5,391 acres of CHNS are on Ocracoke Island, meaning that CHNS occupies approximately 87% of Ocracoke Island. The unique maritime forests in the Park are full of oak, cedar, and yaupon holly and the waters of the Atlantic and the Pamlico Sound provide excellent opportunities for crabbing and clamming. The ocean also harbors a bounty of life, which includes channel bass, pompano, sea trout, bluefish, and other sport fish. Wintering snow geese, Canada geese, ducks, and many other kinds of birds populate the island (Source: NPS).

CHNS is also home to the world-famous Ocracoke Island Lighthouse, dating from 1823, and the equally famous wild banker ponies of Ocracoke Island, descendants of horses brought by early European settlers to the Island. The CHNS is popular with tourists, particularly during the warmer months and attracts about 2 million visitors annually.

ii. Marinas and Mooring Fields

“Marinas” are defined as any publicly- or privately-owned dock, basin, or wet boat storage facility constructed to accommodate more than ten boats and providing any of the following services: permanent or transient docking spaces, dry storage, fueling facilities, haulout facilities, and repair service. Not included in this definition are facilities that only allow boat access or temporary docking and that do not include the services provided by marinas specified above.

To receive a CAMA permit to construct a marina, a marina must meet the general CAMA rules for coastal wetlands, estuarine waters, and public trust areas specified above as well as the specific rules below (Source: 15A NCAC 7H .0208(b)(5)):

- Marinas should be built in non-wetland sites or in deep waters that don't require dredging. They must not disturb valuable shallow-water or wetland habitats, except for dredging necessary for access to high-ground sites. Marinas should be designed to protect the environment as much as possible. The following are four alternatives for siting marinas, ranked in order of Coastal Resources Commission preference:
 - 1) An upland site that requires no alteration of wetlands or other estuarine habitats and has adequate water circulation to prevent the accumulation of sediment and pollutants in boat basins and channels;
 - 2) An upland site that causes no significant damage to fisheries or wetlands and requires dredging for access only unless in a primary nursery area;
 - 3) An open water site that doesn't require dredging or wetland alteration and is not a primary nursery area; and
 - 4) An open water site that requires dredging in less productive habitat, but not deeper than any connecting channels.
- Marinas that require dredging may not be in primary nursery areas or in areas that require dredging a channel through nearby primary nursery areas to deeper waters. DCM will consider maintenance dredging in primary nursery areas for existing marinas on a case-by-case basis.
- Marinas that require dredging must provide acceptable disposal areas to accommodate future maintenance dredging.
- Marinas may not be enclosed within breakwaters that hinder the water circulation needed to maintain water quality. Breakwaters that obstruct or alter the circulation of estuarine waters can accumulate sediment and pollutants and accelerate erosion on nearby shorelines. This could threaten marine life and public health, and it requires more frequent maintenance dredging.

- Marinas serving residential developments and built in public trust waters must be limited to 27 square feet of public trust area for every one linear foot of adjacent shoreline. The square-footage limit shall not apply to fairways between parallel piers or any portion of the pier used only for access from land to the docking spaces.
- Marinas may not be located within areas where shellfish harvest for human consumption is a significant use, or in adjacent areas, if the proposed marina will cause closure of the harvest areas. Construction or enlargement of a marina must not lead to the closure of an open shellfishing area.
- Marinas should minimize interference with public waters by using a mixture of dry storage areas, public launching facilities and docking spaces.
- Marinas may not be built without written confirmation that the proposed location is not subject to a submerged lands lease or deed. (State law requires that marina owners receive an easement from the State Property Office.)
- Marina basins must be designed to promote flushing: Basin and channel depths should gradually increase toward open water and must not be deeper than connecting waters. When possible, an opening shall be provided at opposite ends of the basin to promote flow-through circulation.
- Marinas must be designed to minimize adverse effects on boat traffic, federally maintained channels and public rights to use and enjoy state waters.
- Marinas must meet all applicable requirements for stormwater management.
- Boat maintenance areas must be designed so that all scraping, sandblasting and painting is over dry land and so that pollutants such as grease, oil, paint and sediments do not flush into estuarine waters. Grease and sediment traps can protect water quality at the marina and throughout the estuarine system.
- Marinas shall post a notice prohibiting the discharge of waste from boat toilets and explaining the availability of information on pumpout services. If dumped overboard, marine sewage can present a threat to marine life and public health.
- Marinas must comply with all other applicable standards for docks and piers, bulkheading, dredging and spoil disposal.
- Marina replacement may be allowed if all rules are met to the maximum extent practicable.
- New marinas over public trust bottoms are subject to the North Carolina Environmental Policy Act and must undergo a NCEPA review.

- Upland development associated with marinas must comply with coastal shoreline rules, which require that structures with non-water-dependent uses be located at least 30 feet from the water, unless the structures are located in a designated urban waterfront.

A “freestanding mooring” is any means to attach a ship, boat or other water craft to a stationary underwater device, mooring buoy, buoyed anchor, or piling not associated with an existing or proposed pier, dock, or boathouse. When more than one or more freestanding mooring is used in the same general vicinity, it is known as a “mooring field.” CAMA has regulations for the safe siting and operation of moorings and mooring fields at 15A NCAC 7H.0208 (b) (10) or 7H.2200.

Because of its waterfront location, there are a number of marinas and mooring field sites in Hyde County. Public and private marina sites are listed in Table 39.

Table 39: Marina Sites with Public Access and Greater Than 10 Slips in Hyde County, 2005

Marina Name	Location	Community
GunBarrell Point Marina	NC Highway 12 and Silver Lake Drive	Ocracoke Island
Community Square Docks	NC Highway 12 at Silver Lake	Ocracoke Island
Anchorage Inn and Marina	NC Highway 12	Ocracoke Island
O’Neal’s Dockside Marina	NC Highway 12	Ocracoke Island
Rose Bay Marina	U.S. 264	Scranton
Van Horn’s Marina	Germantown Road	Scranton
Clark’s Marina	Landing Road	Swan Quarter
Big Trout Marina	Summerlin Road	Engelhard

Source: Holland Consulting Planners, Inc.

iii. Floating Homes or Structures

A floating home or structure is any structure, not a boat, supported by means of flotation and designed to be used without a permanent foundation that is used for human habitation or commerce. A structure is considered a floating home or structure if it is inhabited or used for commercial purposes for more than 30 days in any one location. A boat may be deemed a floating structure if its means of propulsion have been removed or rendered inoperative and it contains at least 200 square feet of living area. There are no known or permitted floating homes or structures within Hyde County’s jurisdiction at this time.

iv. Channel Maintenance

Hyde County is known as “the Land of Many Waters”, and for good reason. The Alligator and Pungo Rivers provide the County’s northern and western boundaries. To the east and south lies the Pamlico Sound. North Carolina’s largest natural lake, Lake Mattamuskeet, and two smaller lakes, the Alligator and the Pungo, are here. Hundreds of miles of winding creeks, inlets, and man-made canals and the Atlantic Intracoastal Waterway (AIWW) meander through the county. Navigability of these waterbodies is essential to the County’s economic well-being.

Ocracoke is the only settled portion of the Outer Banks that can be reached by water alone. For this reason, channel maintenance is essential to the Island’s survival. A 16-mile ferry route connects the mainland of Hyde County (at Swan Quarter) to Ocracoke Island. From Swan Quarter on mainland Hyde County, Ocracoke is served by a reliable, well-marked channel with minimum depths of 8 feet. The state provides regular ferry service through this cut. The State also maintains ferry service from Hatteras Village across Hatteras Inlet to Ocracoke. Finally, Ocracoke Inlet to the south of the Island is a vital route of recreational and commercial boating that must be maintained.

Maintenance of navigable channels in all the aforementioned waterbodies is essential to the economic health and well-being of the County. Section 5(G) will discuss issues of channel maintenance in greater detail.

The AIWW is a series of federally (i.e., USACE) maintained navigation channels that extend from Norfolk, VA to Miami, FL. For much of its length, the system consists of naturally deep estuaries, rivers, and sounds. These natural stretches are connected by man-made cuts through land areas and shallows, many of which require periodic dredging to maintain their depths. The authorized project depth of the AIWW is 12 ft (at low tide) from Norfolk, VA to Ft. Pierce, FL (Source: Atlantic Intracoastal Waterway Association).

Proper maintenance of channels is very important to Hyde County because of the substantial economic impact of commercial fisheries and to a lesser extent, tourism. If silt or other deposits fill in the channels, safe and efficient movement of commercial fishing and recreational vehicles could be impeded. Recent cutbacks in the USACE budget for channel maintenance of the AIWW threaten the safe navigability of the AIWW and should be carefully monitored.

A general CAMA permit can be obtained from the regional CAMA office for maintenance dredging of channels, canals, boat basins and ditches in estuarine waters, public trust areas and estuarine shorelines, as long as the maintenance does not remove more than 1,000 cubic yards of material.

North Carolina Water Quality Basics

WHAT ARE SURFACE WATER 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 (for example swimming, fishing, drinking water supply) and carry with them an associated set of water quality standards to protect those uses. Surface water classifications are one tool that state and federal agencies use 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.

HOW DO THEY AFFECT ME?

Before you buy property, plan a new development project, construct a new road or undertake other land use activities, you should check with local, state and federal agencies about the assigned surface water classification for the waterbody on your property. Many of the newer classifications, especially those designed to protect drinking water supplies and certain high quality waters, have protection rules which regulate some land or disturbance other human activities.

WHY DO THEY SOMETIMES OVERLAP?

Many streams, rivers and lakes may have several classifications applied to the same area. This is because surface waters are classified to protect different uses or special characteristics of the waterbody. For example, a stream or specific stream segment may be classified as Class WS-III Tr HQW by the NC Division of Water Quality (DWQ). This protects it as a drinking water supply (WS-III), as Trout Waters (Tr) and as High Quality Waters (HQW). The stream segments upstream or downstream may have different classifications based on other water uses or stream characteristics.

STREAM'S CLASSIFICATION?

DWQ classifies all surface waters. A waterbody's classification may change at the request of a local government or citizen. DWQ reviews each request for a reclassification and conducts an assessment of the waterbody to determine the appropriateness of the reclassification. DWQ also conducts periodic waterbody assessments which may result in a recommendation to reclassify the waterbody. In order for a waterbody to be reclassified it must proceed through the rule-making process (Source: NC Department of Environment and Natural Resources, "Surface Freshwater Classifications Used in North Carolina", 1997).

v. Marine Resources (Water Quality)

In North Carolina, the water quality of each stream segment and body of water is evaluated and rated by the N.C. Division of Water Quality (DWQ) (see text box below). Hyde County has over 210 stream segments in four different watershed subbasins that have been evaluated by DWQ for water quality. Appendix V provides the water quality classifications for all stream segments in the County.

All surface waters in North Carolina are assigned a primary classification by the NC Division of Water Quality (DWQ). All waters must at least meet the standards for Class C (fishable/swimmable) waters. The other primary classifications provide additional levels of protection for primary water contact recreation (Class B) and drinking water (Water Supply Classes I through V). Supplemental classifications are sometimes added by DWQ to the primary classifications to provide additional protection to waters with special uses or values.

The following provides the definition of DWQ water quality classifications found in Hyde County:

Primary Classifications

Class C. Waters protected for secondary recreation, fishing, wildlife, fish and aquatic life propagation and survival, agriculture and other uses

suitable for Class C. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized, or incidental manner. There are no restrictions on watershed development or types of discharges.

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

Class SB. Surface waters that are used for primary recreation, including frequent or organized swimming and all SC uses. Stormwater controls are required under CAMA and there are no categorical restrictions on discharges.

Class SA. Surface waters that are used for shellfishing or marketing purposes and all SC and SB uses. All SA waters are also HQW by definition. Stormwater controls are required under CAMA. No domestic discharges are permitted in these waters. Class SA waters that are closed to shellfishing are impaired waters.

Supplemental Classifications

Supplemental classifications are sometimes added by DWQ to the primary classifications to provide additional protection to waters with special uses or values.

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

- WS-I,
- WS-II,
- SA (shellfishing),
- ORW,
- Waters designated as Primary Nursery Areas or other functional nursery areas by the Marine Fisheries Commission, or
- Native and special native (wild) trout waters as designated by the Wildlife Resources Commission.

The following waters can qualify for supplemental HQW designation:

- Waters for which DWQ has received a petition for reclassification to either WS-I or WS-II, or
- Waters rated as Excellent by DWQ.

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

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

Outstanding Resource Waters (ORW). Supplemental classification intended to protect unique and special waters having excellent water quality and being of exceptional state or national ecological or recreational significance. To qualify, waters must be rated Excellent by DWQ and have one of the following outstanding resource values:

- Outstanding fish habitat or fisheries,
- Unusually high level of water-based recreation,
- Some special designation such as NC or National Wild/Scenic/Natural/Recreational River, National Wildlife Refuge, etc.,
- Important component of state or national park or forest, or
- Special ecological or scientific significance (rare or endangered species habitat, research or educational areas).

No new or expanded wastewater discharges are allowed although there are no restrictions on the types of discharges to these waters. There are associated development controls enforced by DWQ. ORW areas are HQW by definition.

Swamp Waters (Sw). Supplemental classification intended to recognize those waters that generally have naturally occurring very low velocities, low pH and low dissolved oxygen. No specific restrictions on discharge types or development are involved.

A review of the water quality classifications in the County (see Appendix V) indicates that water quality is generally very good, with numerous high quality waters (HQW), outstanding resource waters, and waters suitable for shellfishing (SA).

It should be noted that several development restrictions exist in areas of the County that abut waters with the HQW and SA designations, as follows:

- 1) Stormwater best management practices and lower density uses are required under CAMA for projects that may affect SA or HQW waters (approximately 1 dwelling unit per acre unless specific stormwater controls allow higher density as approved by CAMA).
- 2) No domestic or industrial wastewater discharges are permitted into these waters.

The local CAMA permitting official should be consulted for specific requirements, as they may vary based on the specific development proposal.

vi. Primary Nursery Areas, Anadromous Fish Spawning Areas, Submerged Aquatic Vegetation

“Anadromous” fish are those that migrate up rivers (or into estuaries) from the sea to breed in fresh water. The North Carolina Marine Fisheries Commission (MFC) defines anadromous fish spawning areas as those where evidence of spawning of anadromous fish has been documented by direct observation of spawning, capture of running ripe females, or capture of eggs or early larvae as established under NCAC 15A 3I.0101 (20)C.

Anadromous fish nursery areas are those areas in the riverine and estuarine systems used by juvenile anadromous fish as established at NCAC 15A 3I.0101 (20)D. The primary fish nursery areas and anadromous fish spawning areas near Hyde County are depicted on Map 8.

Under provisions of the North Carolina Fisheries Reform Act of 1997, the North Carolina Marine Fisheries Commission disallowed trawling in approximately 200,000 acres of submerged areas designated as Submerged Aquatic Vegetation (SAV). These vast grassbeds provide protection and also serve as nursery areas for fish, scallops, crabs and shrimp. Restricted SAV areas in and near Hyde County are depicted on Map 8.

Map 8 - Water Quality

2. Environmental Composite Map

In 2002, the N.C. Coastal Resources Commission adopted revisions to the land use planning guidelines regulating CAMA plans [15A NCAC 7B]. One of the primary modifications to these guidelines was in the area of land suitability analysis. Essentially stated, the new guidelines ask local governments to do more analysis of the planning area's supply of land that is suited for development. This analysis should place more emphasis on how local governments address natural system constraints in land use planning.

This new requirement was borne of a recognition of the fact that all land use development is heavily influenced by attractive and repellent forces caused by the natural and built environments. For example, the presence of a public sewer line near a particular parcel of land will, all other things being equal, attract the dense development allowed by a sewer system. On the other hand, the presence of a wastewater treatment plant will discourage most types of development in immediately adjacent areas.

Section 5(j) of this plan will present a land suitability analysis (LSA) based on a number of factors, including compatibility with existing land uses and development patterns, existing land use policies, and the availability of community facilities, as well as natural system constraints.

But first, pursuant to CAMA regulatory requirements, we have developed an Environmental Composite Map for Hyde County that will be used in conjunction with the LSA referenced above to provide a guide to the County for the most appropriate use of land. The Environmental Composite Map was popularized by Scottish landscape architect and urban planner Ian McHarg following his 1969 classic work, *Design with Nature*. McHarg argued that the natural landscape - its constraints and its positive features - should be the most significant factor considered when planning for and siting future land use development. In order to do this, McHarg posited, multi-layered maps must be developed that depicted the various natural features of land masses. Advances in Geographic Information System (GIS) technology in the 1990's and 2000's have made using McHarg's approach more feasible and precise.

The Environmental Composite Map (Map 9) breaks down land masses within the County into three different categories based on natural features and environmental conditions. The categories utilized are as follows:

Class I. Land that contains only minimal hazards and limitations that can be addressed by commonly accepted land planning and development practices. Class I land will generally support the more intensive types of land uses and development.

Class II. Land that has hazards and limitations for development that can be addressed by restrictions on land uses, special site planning, or the provision of public services, such as water and sewer. Land in this class will generally support only the less intensive uses, such as low density residential, without significant investment in services.

Class III. Land that has serious hazards and limitations. Land in this class will generally support very low intensity uses, such as conservation and open space.

An overlay analysis was performed, breaking the County into one-acre cells utilizing only map layers determined to be environmental factors. The layers used, and their assigned classes, are outlined in Table 40.

Table 40: Environmental Composite Layers for Hyde County

Layer	Class I	Class II	Class III
Coastal Wetlands			✓
Exceptional or Substantial Non-Coastal Wetlands			✓
Beneficial Non-Coastal Wetlands		✓	
Estuarine Waters			✓
Soils with Slight or Moderate Septic Limitations	✓		
Soils with Severe Septic Limitations			✓
Flood Zones		✓	
Storm Surge Areas		✓	
HQW/ORW Watersheds		✓	
Water Supply Watersheds		✓	
Significant Natural Heritage Areas		✓	
Protected Lands			✓

For a given cell, the computed value of the cell will be determined by the highest class theme that contains the cell. For example, if a cell is in a coastal wetland (Class III) and in a storm surge area (Class II) and intersects a soil with a slight or moderate septic limitation (Class I), the cell value will be Class III. In other words, if a cell does not meet the criteria for Class III, but qualifies as Class II, it has Class II for a value. If a cell does not qualify for either Class III or Class II, then it is Class I by default. This order enables the modeler to leave out themes that are not associated with Classes II or III to simplify the model (yielding the same results).

Map 9 - Environmental Composite Map

Table 41: Hyde County Composite Classifications by Category and Acreage, 2003

	Hyde County Mainland		Ocracoke Island		Total	
	Acres	% from Total	Acres	% from Total	Acres	% from Total
Class 1	0.0	0.0%	0.0	0.0%	0.0	0.0%
Class 2	137,964.5	31.9%	546.3	8.9%	138,510.8	31.6%
Class 3	294,763.4	68.1%	5,619.6	91.1%	300,383.0	68.4%
TOTAL	432,727.9	100.0%	6,165.9	100.0%	438,893.8	100.0%

Source: Holland Consulting Planners, Inc.

As Table 41 indicates, the majority of the County is located in the least environmentally suitable classification. As Map 9 illustrates, the environmental suitability land in the County for development generally increases with distance from the Pamlico Sound and the Pamlico River and its tributaries.

Although the type of analysis presented in this section should serve as a valuable tool in determining the most appropriate use of land in Hyde County, it has significant limitations that should be acknowledged, as follows:

- The environmental composite map only allows land areas to be analyzed on one acre blocks. This level of aggregation is too large to effectively assess each developable site within the County for environmental conditions.
- The Environmental Composite Map, as the name suggests, only analyzes environmental factors when considering the appropriateness of land development. Environmental development constraints, while significant to consider, should always be considered in conjunction with the other forces that attract or repel development, such as the availability of community facilities and consumer demand for different types of land development. The LSA provided in Section 5(j) of this plan provides this more comprehensive analysis of land suitability for development.

3. Water Quality

a. Introduction

Water quality is discussed thoroughly throughout the context of this plan due to the significant relationship between land use and water quality. Water quality is an extremely important issue within Hyde County because of its impact on marine fisheries, tourism, recreation, and overall quality of life. This section of the plan will discuss water quality observations established under the North Carolina Basinwide Planning Program. This program is a non-regulatory watershed based approach to protecting and improving the overall water quality throughout North Carolina.

"Watershed" is the term used to describe the geographic area of land that drains water to a shared destination. The drainage system (and the watershed) also includes the geographic area surrounding the stream system that captures precipitation, filters and stores water, and determines water release into stream systems. The stream system is the visible, aboveground portion of a larger drainage system. A watershed, therefore, is "an area of land that drains water, sediment, and dissolved materials to a common outlet."

Watersheds are further broken down into areas referred to as subbasins. Subbasins are made up of a combination of drainage areas and/or hydrologic features, all draining to the primary watershed. Hyde County falls within two different watersheds, and within those watersheds four separate subbasins. Refer to Map 10 for an overview of the county and the delineation of all watershed and subbasin boundaries. A small portion of northern Hyde County falls within the Pasquotank River Basin, while the remainder of the county, including Ocracoke and the Outer Banks, falls within the Tar-Pamlico River Basin.

In North Carolina, water quality is assessed primarily at the watershed or river basin (i.e., "basinwide") level, due to the interconnectedness of watersheds described above. Basinwide water quality plans are prepared by the North Carolina Division of Water Quality (DWQ) for each of the seventeen major river basins in the State and updated at five-year intervals. The basinwide plan for the Pasquotank River Basin was initially developed by DWQ in September, 1997 and updated in July, 2002. The basinwide plan for the Tar-Pamlico River Basin was initially developed in December of 1994, updated in July of 1999, and the current plan was adopted in March of 2004. This document will be referred to as "BWP" in this Plan.

The goals of the BWP are as follows:

- Identify water quality problems and restore full use to impaired waters;
- Identify and protect high value resource waters;
- Protect unimpaired waters while allowing for reasonable economic growth;
- Develop appropriate management strategies to protect and restore water quality;
- Assure equitable distribution of waste assimilative capacity for dischargers; and
- Improve public awareness and involvement in the management of the state's surface waters.

b. Pasquotank River Basin Watershed

Approximately 113.5 square miles of northern Hyde County falls within the Pasquotank River Basin Watershed. This portion of the county is further broken down into two subbasins as follows: subbasin 03-01-51 (72,201 acres); and subbasin 03-01-53 (471 acres).

Map 10 - river basins

The Pasquotank River Basin covers a total of 3,635 square miles throughout the low-lying lands of the northeast coastal plain of North Carolina. This river basin contains several small watersheds that drain into the Albermarle, Currituck, Croatan, Roanoke, and Pamlico Sounds. There is a small portion of the Pasquaotank River Basin that falls within Virginia, which is managed by the state of Virginia. There are eleven municipalities that fall within this river basin, however, none of these are within Hyde County. A majority of the land within Hyde County that falls within the Pasquaotank River Basin is considered to be undeveloped, or forest/wetland.

The Pasquotank River Basin is part of the Albermarle-Pamlico Estuarine System, the second largest estuarine system in the United States. In 1987, this estuarine system became part of the Environmental Protection Agency National Estuary Program and was the subject of a major study known as the Albermarle-Pamlico Estuarine Study.

Within this river basin there are a total of seven subbasins, 474 stream miles, and 110 coast miles. The following provides a summary of water quality within each of these subbasins that fall within Hyde County.

i. Subbasin 03-01-51

This subbasin consists of the Alligator River and its tributaries, Alligator (New) Lake, part of the Albemarle Sound, Croatan Sound, Roanoke Island, and part of Roanoke Sound in Dare, Tyrrell and Hyde Counties (Source: BWP, page 86). A majority of the waters within this subbasin are brackish estuarine. The following table provides a summary of population and land coverage figures as reported in the 2002 BWP:

Table 42. Subbasin 03-01-51 Statistics

Land and Water:	
Total Area	978 square miles
Land Area	568 square miles
Water Area	410 square miles
Population Statistics:	
1990 Est. Population	9,240 people
Population Density	16 persons per square mile
Land Cover (%):	
Forest/Wetland	53
Surface Water	39
Urban	< 1
Cultivated Crop	8
Pasture/Managed Herbacious	< 1

Source: 2002 Pasquaotank River Basinwide Water Quality Plan

The most notable waterbodies located within Hyde County in this subbasin are portions of the Alligator River and Alligator (New) Lake. All portions of the Alligator River in Hyde County are classified as Outstanding Resource Waters (ORW). There are six permitted dischargers in this subbasin; however, the Town of Manteo's wastewater treatment plant is the only major discharge.

The 2002 BWP does not report any impaired waters in the subbasin, however, some indications of deteriorating water quality conditions were reported in the upper reaches of the Alligator River. These areas were reported to have elevated nitrogen concentrations, low PH, and low dissolved oxygen concentrations. According to the BWP the low PH values suggested that much of the oxygen problem was related to drainage from Hollow Ground Swamp, but possible effects from agricultural runoff around New Lake could not be ruled out.

ii. Subbasin 03-01-53

A very small portion of northern Hyde County (470 acres) is located within subbasin 03-01-53 of the Pasquotank River Basin. The Scuppernong River, which drains to the Albermarle Sound is the most substantial waterbody in this subbasin. This subbasin contains a diversity of public lands and Significant Natural Heritage Areas, including Lake Phelps State Park, Bull Neck Swamp, East Dismal and the Scuppernong River Swamp Forest (Source: BWP, page 99). The portion of Hyde County that falls within this subbasin is primarily comprised of forested land, and does not contain any waterbodies. Due to this fact, Hyde County has a minimal impact on water quality issues within subbasin 03-01-53.

iii. Registered Animal Operations Within the Pasquotank River Basin

Animal waste from farms and livestock/poultry and dairy production operations can severely threaten water quality if not managed properly. There are currently 28 swine operations, and 1 cattle operation located within the Pasquotank River Basin. These figures only account for those operations required by law to be registered, and therefore, does not account for every operation within the river basin. The presence of hog lagoons are the most significant concern in terms of water quality with respect to animal operations within the Pasquotank River Basin. The state of North Carolina has already reached an agreement with Smithfield Farms to phase out all hog lagoons to be replaced with systems that utilize newer technologies for the processing of animal waste. It is anticipated that the next step will be to phase out all hog lagoons statewide. There is currently a moratorium on new construction of or expansion of existing swine operations.

Table 43 below provides statistics on registered animal operations in the subbasins of the Pasquotank River Basin in which Hyde County is located.

Table 43. Registered Animal Operations in Subbasins 03-01-53 and 03-01-51 of the Pasquotank River Basin, 2002

Subbasin	Swine		Cattle		Poultry	
	No. of Facilities	No. of Animals	No. of Facilities	No. of Animals	No. of Facilities	No. of Animals
03-01-51	2	25,350	0	0	0	0
03-01-53	8	15,241	1	120	0	0

Source: Pasquotank River Basinwide Management Plan.

c. Tar-Pamlico River Basin Watershed

A majority of Hyde County falls within the the confluence of the Tar-Pamlico River Basin Watershed. This river basin ultimately flows into the Pamlico Sound off the shores of eastern Hyde County. Within the county there are portions of two separate subbasins including: subbasin 03-03-08 (252,123 acres); and subbasin 03-03-07 (114,071 acres).

The Tar-Pamlico River Basin is the fourth largest river basin in the state and is one of only four river basins whose boundaries fall completely within North Carolina. This system originates in north central North Carolina in the counties of Person, Granville, and Vance. As these waters flow southeast they converge into the Pamlico River at the City of Washington. The Pamlico River is a tidal estuary that ultimately flows into the Pamlico Sound at Hyde County.

The Tar-Pamlico River Basin covers a 5,440-square mile area, making it the fourth largest river basin in the state. It encompasses all or portions of 16 counties and 51 municipalities. Major tributaries within the river basin include Fishing Creek, Swift Creek, Cokey Swamp, Tranter’s Creek, and the Pungo River. The basin also includes North Carolina’s largest natural lake, Lake Mattamuskeet, which is located within Hyde County.

i. Subbasin 03-03-07

This area is primarily estuarine in nature, extending from tidal freshwater areas around Washington to Roos Point, east of the Pungo River. Tides in these estuarine areas tend to be wind dominated rather than following a lunar cycle. Freshwater streams in this subbasin are limited to headwaters of estuarine creeks and the East Dismal Swamp. Most streams in the East Dismal Swamp are ditched canals. Primary land use is agriculture with an urban area around Washington and

a phosphate mine near Aurora. Four major dischargers, the largest being the PCS phosphate mine, are permitted to discharge into this subbasin (Source: BWP, page 127).

There are several areas throughout the subbasin that are classified as impaired within the 2004 BWP. Only one of these areas is located within Hyde County, at Slade Creek. This creek is a tributary of the Pungo River. The BWP does not identify any recommendations or details regarding the impaired status of this stream. The Pungo River, however, is currently impaired in the recreation category because the Department of Environmental Health (DEH) Recreational Water Quality Monitoring had posted swimming advisories for greater than 61 days of the assessment period.

The following table provides a summary of population and land coverage figures as reported in the 2004 BWP:

Table 44. Subbasin 03-03-07 Statistics

Land and Water:	
Total Area	1,190 square miles
Land Area	997 square miles
Water Area	193 square miles
Population Statistics:	
1990 Est. Population	44,232 people
Population Density	44 persons per square mile
Land Cover (%):	
Forest/Wetland	55.5
Surface Water	17.5
Urban	0.5
Cultivated Crop	25.5
Pasture/Managed Herbacious	1.0

Source: 2004 Tar-Pamlico River Basinwide Water Quality Plan.

ii. Subbasin 03-03-08

This subbasin, with the exception of Ocracoke along the Outer Banks, is one of the most rural throughout the coastal areas of North Carolina. The predominant land use in this area is forest and wetland, with some concentrations of cultivated cropland. This subbasin encompasses a majority of Hyde County (57.4%), and its boundaries fall entirely within the county. There are seven NPDES wastewater discharge permits throughout this subbasin.

There are several impaired waterbodies throughout this subbasin. These waterbodies are classified as impaired because they are either prohibited or permanently closed for shellfishing. The following stream segments fall into this category: Portions of the Pamlico River, Rose Bay, Germantown Bay and Tributaries, Swanquarter bay, Juniper Bay, Wysocking Bay, Middle Town Creek, Cedar Creek, Lone Tree Creek, Far Creek and Tributaries, Berrys Bay, Long Shoal River. The Department of Environmental Health Shellfish Sanitation Division will continue to monitor bacteria levels in all of these impaired waterbodies. DWQ, DEH, and DCM are working together to identify more efficient and comprehensive methodology for monitoring water quality. These efforts are aimed at supporting necessary closures due to impaired water quality conditions. Additionally, DWQ is working with local communities to establish methods of reducing bacteria levels throughout the county. Additionally, Lake Mattamuskeet and Boundary Canal were identified as having indications of water quality issues, however these areas are not classified as impaired.

The following table provides a summary of population and land coverage figures as reported in the 2004 BWP:

Table 45. Subbasin 03-03-08 Statistics

Land and Water:	
Total Area	1,220 square miles
Land Area	356 square miles
Water Area	864 square miles
Population Statistics:	
1990 Est. Population	9,053 people
Population Density	25 persons per square mile
Land Cover (%):	
Forest/Wetland	21.3
Surface Water	71.0
Urban	0.2
Cultivated Crop	7.3
Pasture/Managed Herbacious	0.2

Source: 2004 Tar-Pamlico River Basinwide Water Quality Plan.

iii. Registered Animal Operations in the Tar/Pamlico River Basin

Agriculture is an extremely important component of the economy in the Tar-Pamlico River Basin. As evidenced by the land cover data presented previously in this section, almost one-quarter of the entire area of the Tar-Pamlico Basin is

comprised of cultivated cropland. Within the entire state, Pitt County is ranked as number one in tobacco production and number two in wheat production, and Beaufort County is ranked as the top producer of corn, wheat, and sorghum (NC Department of Agriculture, 1998).

Animal agriculture is also prominent in the Tar-Pamlico River Basin. In the last several years, much attention has been given to this sector of agriculture due to concerns for environmental impacts associated with these operations. In 1992, the Environmental Management Commission adopted a rule modification (15A NCAC 2H.0217) establishing procedures for managing and reusing animal wastes from intensive livestock operations. The rule applies to new, expanding or existing feedlots with animal waste management systems designed to serve animal populations of at least the following size: 100 head of cattle, 75 horses, 250 swine, 1,000 sheep or 30,000 birds (chickens and turkeys) with a liquid waste system. These facilities are also required to obtain an approved waste management plan certification. In 1996, Senate Bill 1217 required any operator of a dry litter animal waste management system involving 30,000 or more birds to develop an animal waste management plan by January 1998. The plan must consist of three specific items: 1) periodic testing of soils where waste is applied; 2) development of waste utilization plans; and 3) completion and maintenance of records on-site for three years (source: BWP, page 26).

Table 46 below provides statistics on registered animal operations in the subbasins of the Tar/Pamlico River Basin in which Hyde County is located.

Table 46. Registered Animal Operations in Subbasins 03-03-08 and 03-03-07 of the Tar/Pamlico River Basin, 2004

Subbasin	Swine		Cattle		Poultry	
	No. of Facilities	No. of Animals	No. of Facilities	No. of Animals	No. of Facilities	No. of Animals
03-03-08	4	15,412	0	0	0	0
03-03-07	18	79,988	0	0	0	0

Source: Tar-Pamlico River Basinwide Management Plan.

iv. Tar-Pamlico Buffer Rules and Nutrient Sensitive Waters

The Tar-Pamlico River Basin was designated as Nutrient Sensitive Waters (NSW) by the Environmental Management Commission as a result of finding nutrient levels in excess within the basin. The NSW designation required the development of a strategy that would decrease the nutrient levels. The strategy consisted of three phases. Phase I initially targeted point source pollutants but evolved into a collective nutrient trading program between point source and nonpoint source pollutants. Phase I was effective from 1990-1994. Phase I successfully reduced overall nitrogen and phosphorus loads by about 20% and an association of dischargers was formed that consisted of 14 dischargers. Phase II covered the period from 1995-2004 and the major goal was to establish nutrient reduction goals for nonpoint sources and point sources and to implement a plan for the nonpoint source reductions. The goals were to reduce nutrients by 30% and to have no increase in phosphorus loads. Phase III covers the period through December 2014 and involves continued nutrient control for point source dischargers, reaffirms loading goals set in Phase II, and proposes time frames for restoration of nutrient related estuarine use support. The nutrient rules for the Tar-Pamlico River follow:

Buffer Rules. Existing vegetated riparian buffers in the basin must be protected and maintained on both sides of intermittent and perennial streams, lakes, ponds, and estuarine waters. Fifty (50) feet on each side of water bodies (Zone 1 - within the first 30 feet is to remain undisturbed with some exceptions; Zone 2 - the outer 20 feet must be vegetated with certain uses allowed).

Nutrient Management Rule. Requires people that apply fertilizer, other than residential homeowners applying fertilizer to their own land, to take either a state-sponsored nutrient management training course or have a nutrient management plan in place for the land on which they apply fertilizer.

Stormwater Rule. Requires stormwater programs to be implemented within six municipalities and five counties within the basin. The entities were selected based on their possible nutrient contribution.

Agricultural Rule. Requires farmers to implement land management practices that achieve certain nutrient reduction goals – reduction in nutrient loading and control of phosphorus levels.

G. *Analysis of Existing Community Facilities/Services*

1. Transportation

The following is an excerpt from the ECU Field Station for Coastal Studies at Mattamuskeet's 2001 article entitled *Transportation History of Hyde County* that well characterizes the early days of transportation in the County:

"There were no paved roads into Hyde County until 1927. The county received an average of 60 inches of rainfall each year, so it was not unusual for the dirt roads to be impassable...

Between 1919 and 1921, North Carolina Farms Company built and equipped a 35-mile private railroad from New Holland (near Lake Mattamuskeet) to Wenona in Washington County at a cost of \$977,353. While operated by North Carolina Farms Company, the train made one scheduled round trip each day. Leaving New Holland, it stopped at Benhampton, Harrison, Higginsport, Wilbanks, Patberry, and Kirwin, before reaching its final stop at Wenona. The train hauled coal, freight, produce, and people. New Holland Corporation canceled the authority to operate as a public railroad, and used the train strictly for hauling freight and farm products for his commercial farming operation. When New Holland Corporation shut down its operation in the fall of 1932, it also ended railroad service into Hyde County. The railroad included nine miles laid directly in the lakebed (of Lake Mattamuskeet). When the lake refilled, those nine miles were under water. A salvage contractor took up the tracks in 1936. All that remains is an occasional cross tie in the lakebed or the remains of a trestle crossing a canal.

During the drainage years, Hyde residents had driven across the drained lakebed to get to distant points in the county. In the 1940s, the State of North Carolina built a causeway across the lake from south to north to provide direct access from one side of the county to the other. It was no longer necessary to drive around the huge lake."

Today there are approximately 225 miles of paved roads in Hyde County and approximately 60 miles of unpaved roads. The primary roads in the County are US Highway 264 (running east and west across the south-central part of the County), NC Highway 94 (running north and south through the center of the County), NC Highway 45 (running from the Ponzer area to Swan Quarter), and NC Highway 12 on Ocracoke Island. Map 11 depicts average daily traffic counts for significant stretches of roadway in the County in 2004.

All major thoroughfares in the County and most minor collector roads are State-owned and maintained. State roadway maintenance and improvements are provided through the State's Department of Transportation (NCDOT), Division 1, based in Edenton. Each year NCDOT produces a Transportation Improvements Plan (TIP) that specifies roadway, ferry, and other transportation improvements over the coming six year period. The Draft 2006-2012 TIP for NCDOT Division 1 indicates the replacement of several bridges along US 264, the primary east/west thoroughfare across the County, including bridges at Rose Bay Creek and Scranton Creek, the latter of which was recently completed. Bridges along State Roads 1110 and 1340 will also be replaced prior to 2010. There is also a planned bridge replacement project on NC Highway 12 in Ocracoke, as a section of the roadway is especially subject to washout on National Park Service land (TIP

R-3116A). The project should be completed in 2006. Appendix VI provides a complete listing of projects listed in the TIP for Hyde County through 2012. Map 11 depicts the TIP projects for the 2006-2012 planning period.

Probably the most significant highway improvement in the County since the County's 1997 CAMA Land Use Plan was the replacement of the NC Highway 94 bridge at Fairfield in 2001. This 3,900-foot bridge is one of several bridges to span the Atlantic Intracoastal Waterway (AIWW) through North Carolina and one of the last to be replaced from the original 1930's era bridges. This roadway improves access to and from the AIWW, the Fairfield area, and to the Lake Mattamuskeet area.

The County is prohibited by State law from providing road maintenance, and thus it does not own and cannot accept private roads for maintenance. On both the Mainland and Ocracoke, many internal subdivision roads were developed in a manner inconsistent with State roadway standards (e.g., too narrow, non-standard construction practices). Therefore, these roads remain private roads that must be maintained by property owners within each subdivision, resulting in significant costs for these property owners and unsafe/deteriorated roadway conditions in some cases. This situation is exacerbated by the fact that the County did not have a subdivision ordinance requiring dedicated roadway right-of-ways and minimum construction practices until the year 2000.

Hyde County Non-Profit Private Transportation System Inc., based in Swan Quarter, provides subscription and dial-a-ride transportation services for residents of Hyde County. Hours of operation are 6:30 a.m. to 6:00 p.m., Monday through Friday. Some weekend services are available. In addition, there is now a rural general public route available.

NCDOT-owned ferry service operates on Pamlico Sound to connect Ocracoke Island with Cedar Island in nearby Carteret County, and across Hatteras Inlet to connect Ocracoke Island with the village of Hatteras in neighboring Dare County. Ferry service also operates on Pamlico Sound within Hyde County between Ocracoke Island and the village of Swan Quarter. The 2004-2010 TIP calls for the refurbishment of the Ocracoke Visitor's Center, the purchase of two 180-foot double-ended ferries for service between Hatteras and Ocracoke, and the purchase of a "fast ferry" from Cedar Island to Ocracoke, which will cut down on crossing times by as much as 20%. The need for a high speed ferry from Swan Quarter to Ocracoke remains a topic of discussion as an important need.

The significance of this ferry service to the Ocracoke economy cannot be understated. Ocracoke Island is the only populated area in the State accessible only by air or by water. As such, the ferry provides the conduit for not just tourists - the lifeblood of the local economy - but for all off-island goods and services. Therefore, any increases or decreases in ferry service should be closely monitored, as they will have a tremendous impact on the growth (both permanent and seasonal) of Ocracoke Island.

MAP 11 - AADT COUNTS/TIP PROJECTS

Table 47 below provides a summary of vehicular and total passenger occupancy on all ferries to Ocracoke Island.

Table 47: Ferry Occupancy (Vehicular and Total Passenger) on NCDOT Ferries to Ocracoke Island, 2001-2004

Year	Number of Vehicles (Swan Quarter)	Total Passengers* (Swan Quarter)	Number of Vehicles (Cedar Island)	Total Passengers* (Cedar Island)	Number of Vehicles (Hatteras)**	Total Passengers* (Hatteras)**
2001	12,795	27,303	53,789	134,489	197,048	501,180
2002	12,074	26,858	53,715	132,711	197,385	497,585
2003	13,538	27,115	42,139	104,971	159,181	413,106
2004	11,683	23,560	42,715	105,920	174,051	443,106

* Includes vehicle occupancy, pedestrians, and bicyclists.

** NCDOT does not separate trips by direction (i.e., trips from Hatteras to Ocracoke, trips from Ocracoke to Hatteras). Therefore, total number of trips has been divided by two.

Source: NCDOT Division 1.

As Table 47 indicates, total ferry traffic has yet to recover from its peak in 2001, due to disruptive hurricane events in 2003 (Isabel) and 2004 (Alex). The overall trend, however, is unmistakably upward. From Swan Quarter alone, the total number of passengers has increased from 18,727 in 1993 to 27,303 in 2001, a 46% increase in eight years.

Hyde County has a general aviation airport located approximately three miles northeast of Engelhard. This facility does not have a permanent attendant, but does have a terminal building, a 4,700' x 100' paved runway, and features pilot-controlled lighting, medium intensity runway lighting, and a Visual Approach Slope Indicator system. The location of the airport is delineated on Map 12. The nearest airport with commercial aviation service is the Craven County Regional Airport near New Bern, approximately 90 miles from Swan Quarter, or the Pitt-Greenville Airport near Greenville, approximately 75 miles from Swan Quarter.

Ocracoke Island Airport is owned by the National Park Service and operated/maintained by the North Carolina Department of Transportation Aviation Division. The Airport has a 3,000 foot long runway and does not have commercial aviation or services such as runway lights and fuel, but is open to private aircraft.

Hyde County adopted a Thoroughfare Plan Report in 1993. That report included recommendations for bridge replacements, ferry upgrades, and widening of certain roadways to 24 feet.

Map 12 - community facilities

2. Health Care

While there is no hospital facility in Hyde County, excellent health care options do exist. Pungo District Hospital in Belhaven is located approximately 27 miles from Swan Quarter. It was established in 1947 and is a private non-profit 49-bed acute care community hospital. The hospital provides medical care to patients in eastern Beaufort and Hyde counties, with an approximate patient population base of 25,000 and a service area of approximately 1,260 square miles.

Services offered at Pungo District Hospital include acute care, transitional care, intensive care, ventilator care services, surgical/ endoscopy services, and a 24-hour emergency care center. In addition, Pungo District Hospital offers a wide range of outpatient clinics and programs which include a cardiology clinic, nephrology clinic, pulmonary clinic, EKG/EEG, home health, sleep apnea program, physical therapy, speech therapy, laboratory medicine, mammography, imaging services, cardio-pulmonary services, mental health services, nutritional counseling, and patient education.

The hospital currently employs approximately 130 full-time people. It has an affiliation with Beaufort County Hospital, located 59 miles from Swan Quarter, and is also affiliated with Pitt County Memorial Hospital, a tertiary care center, approximately 77 miles from Swan Quarter. Patients requiring intensive/tertiary care are transported by a mobile intensive care ground unit or by a helicopter provided by Eastcare.

The Hyde County Health Department has two full-time registered nurses and a full-time nutritionist on staff. Services include health promotion activities, women and children's supplemental food program (WIC), child health care, maternal care, immunizations, family planning, breast and cervical cancer control, rabies control, communicable and sexually transmitted disease control, home health, personal care and homemaker aide service, and laboratory specimen collection and analysis.

Hydeland Home Care Agency, a division of the Hyde County Health Department, employs four full-time registered nurses and provides care to the frail and elderly in order that they may remain at home and live as independently as possible. The agency provides in-home care in Beaufort, Hyde, and Washington counties. Skilled nursing, physical, speech and occupational therapy, and home health aide services are delivered by highly trained personnel in the clients' own homes. In-home aide services are offered to Medicaid recipients in need of personal care and light housekeeping tasks.

Tideland Mental Health Center, a non-profit Local Management Entity (LME), manages comprehensive mental health, developmental disabilities, and substance abuse programs in the County, as well as in four adjacent counties. Services are provided through a network composed of both public and private providers. Tideland's administrative offices are located in Washington,

NC, but it operates branch offices in Swan Quarter and Fairfield. Tideland is affiliated with the NC Division of Mental Health, Developmental Disabilities, and Substance Abuse Services.

The non-profit organization Mattamuskeet Opportunities of Fairfield operates a program for persons (over age 16) having mental retardation and/or physical disabilities or mental illness. The group's mission is to identify and train the consumers to become as independent as possible in functioning at home, at work, and in the community.

The Engelhard Medical Clinic in Engelhard opened in 2004, and provides basic medical treatment and primary care for citizens of Hyde County.

On Ocracoke Island, primary medical care is provided through Ocracoke Health Center, Inc. A physician's assistant and nurse practitioner provide general medical care for all ages at this small island clinic, which is overseen by Dr. Seaborn Blair of HealthEast Family Care on Hatteras Island. Walk-ins are accepted, but appointments are preferred. Hours are Monday, Wednesday, and Friday from 8:30 a.m. to 5:00 p.m. A 1999 grant from the Kate B. Reynolds Charitable Trust helped construct upgraded emergency facilities and two new examination rooms at the facility. Dental services are also available by appointment at the Ocracoke Health Center.

The closest full service hospital is the Outer Banks Hospital in Nags Head, 81 miles and a ferry ride away from Ocracoke. Therefore, the Ocracoke Health Center is of critical importance to the community.

Although there are no dentists based in Mainland Hyde County, the Dare County Department of Public Health, through a grant from the Kate B. Reynolds Charitable Trust, operates the "Miles of Smiles" program. This program offers full pediatric dentistry services to students in Hyde County schools. Private dentistry is available in Hatteras, Washington, and New Bern.

3. Law Enforcement

Because there are no incorporated towns in Hyde County, there are no municipal police departments. The Hyde County Sheriff's Office has the responsibility to cover the entire County, with the assistance of the North Carolina State Highway Patrol, the North Carolina Marine Patrol, the North Carolina Wildlife Commission, and the National Park Service on Ocracoke Island. There are currently three full-time State Trooper positions in Hyde County.

The Sheriff's Department employs twelve sworn officers - the Sheriff, one chief deputy, three sergeants, six deputies, and a D.A.R.E. drug education officer. The Department also employs three auxiliary officers who can be used seasonally, in emergency situations, or to fill in for full-time officers in case of sickness or vacation. The Department employs five dispatchers who also serve as jailers and three auxiliary jailers/dispatchers.

The duties of the deputies consist of serving civil and criminal papers, transporting inmates, transporting mental and substance abuse citizens, serving as bailiff for all courts held in Hyde County, investigating criminal and drug-related incidents, and working some traffic problems. The Department maintains seven marked patrol cars and two unmarked vehicles. Patrol cars are equipped with radios, K9 dogs, in-car video equipment, radar, radar trailers, and computers (MDTs).

The Department’s Chief Deputy, a sergeant, and 2 full-time deputies are assigned to Ocracoke Island. The Sheriff, 2 sergeants and 4 full-time deputies are assigned to the mainland of Hyde County.

The large geographic area of Hyde County, coupled with its lack of municipal law enforcement, makes communication between Sheriff’s Department officials and other first responders, such as fire/rescue and emergency management critical. Effective procedures and equipment to facilitate such communication should be encouraged through policies and programs of the County.

As indicated in Table 48 below, crime has historically been, and remains low in Hyde County. The burgeoning summertime population on Ocracoke Island has raised concerns about the level of law enforcement protection relative to the large seasonal population. Although the number of Sheriff’s personnel on the Island has risen from 3 to 4 since the 1997 CAMA Land Use Plan update and seasonal personnel are employed during summer months, the matter of seasonal crime on Ocracoke should be carefully monitored.

Table 48: Crime Statistics for Hyde County, 2002 and 2003

Year	Total Index Crime	Murder	Rape	Agg. Assault	Burglary	Larceny	Motor Vehicle Theft
2002	37	0	1	1	6	29	0
2003	28	0	0	0	1	27	0

Source: North Carolina State Bureau of Investigation.

4. Fire/Rescue/Emergency Medical Services

On the mainland of Hyde County fire suppression services are provided by five volunteer fire departments, as follows: Engelhard, Swan Quarter, Fairfield, Scranton, and Pungo River. Pungo River is based in eastern Beaufort County (near the Pungo Community) and serves the northwestern portion of Hyde County. The remaining departments are based in Hyde County and serve the aforementioned communities and surrounding areas (up to approximately 6 miles from each fire house). The County Emergency Management Director serves as the Fire Marshall and supports the aforementioned volunteer fire departments.

Ocracoke Island is served by the Ocracoke Volunteer Fire Department located on State Road 1324 (Firehouse Road). Through a mutual aid agreement with the National Park Service, the Ocracoke VFD maintains a 250-gallon per minute trailer-mounted pump to assist it with maintaining/establishing water pressure. Concerns remain about fire department equipment access on some subdivision streets and about water pressure for fighting fires in structures three stories or greater.

Emergency Medical Services (EMS) are provided on the mainland through the County and are dispatched by the Sheriff's Department (via 9-1-1). The County contracts EMS to the Ocracoke Health Center (Ocracoke EMS) for Ocracoke Island and to Belhaven Fire and EMS for mainland areas of the County west of the Walter B. Jones Intracoastal Waterway Bridge. Hyde County EMS serves the remainder of the County.

Hyde County EMS operates two on-duty ambulances from various sections of the County with full time personnel. A backup unit is staffed on an as-needed basis by off duty personnel and volunteers. Belhaven EMS operates with volunteer personnel. (Source: Hyde County Emergency Operations Plan, 2004)

Ocracoke EMS operates one ambulance unit with paid personnel. A backup unit is staffed on an as-needed basis by off-duty personnel and volunteers. Ocracoke Health Center has a contractual agreement with Pender EMT to ensure that a fully qualified emergency medical technician (EMT) is on call at all times.

5. Administration

Hyde County is governed by a five member Board of Commissioners who bear the responsibility of serving the people and improving the quality of life in the county. The county is divided into five townships (Currituck, Fairfield, Lake Landing, Ocracoke, and Swan Quarter) with one commissioner elected from each township. The Board serves four year staggered terms with elections held every two years. A County Manager, hired by the Commissioners, acts on their behalf. The Board meets on the 1st and 3rd Mondays of each month. The 1st Monday meeting is held at Mattamuskeet School Cafeteria, 20392 US 264, Swan Quarter, NC. The 3rd Monday meeting rotates to various sites throughout the county.

The Clerk of Court, the Register of Deeds and the Sheriff are elected every four years. The Clerk of Court is custodian of the court system in the county and that office is financed completely by the State of North Carolina. The Register of Deeds and the Sheriff operate on a budget approved annually by the Commissioners.

The Board of Education is responsible for the operation of the county school system and is also elected at large by the people. County funds usually maintain the buildings and provide funds for other capital projects with state funds paying salaries, and purchasing textbooks and

supplies. The Hyde County Board of Education meets on the 1st Monday of each month in the Superintendent's office in Swan Quarter.

The Health Department and the Department of Social Services have separate boards that are appointed by the commissioners. The hiring of employees in these departments is the responsibility of the Department Director and the salary and number of positions are approved by the commissioners.

The County also provides water service (on the mainland), emergency management, emergency medical services, planning, tax collection and assessment, and veteran's services assistance.

6. Water System

On the mainland of Hyde County, public water is provided by the Hyde County Water System, a department of Hyde County government.

Hyde County water system production is processed by two state-of-the-art water treatment plants known as Reverse Osmosis. One is located in the Ponzer area just off NC Highway 45, the other is located just off State Road 1305 in the Fairfield Area (see Map 12). There are two production wells located near each treatment plant (for a total of four), and these wells operate on alternating days. Current service areas on the mainland are near Ponzer, Fairfield, Swan Quarter, and Engelhard (see Map 12).

Reverse Osmosis (RO) is a membrane separation process, where a microscopically thin man-made plastic-like membrane is used to filter out dissolved material from water. The filtration process is done on the molecular level and is efficient enough to remove up to 98% of the dissolved material found in water.

The County's water system has approximately 2,000 service connections and a capacity of 1,152,000 gallons per day (gpd) (Ponzer plant = 432,000 gpd; Fairfield plant = 720,000 gpd). Demand varies significantly between seasons, since the systems largest users are agricultural and seafood processing operations whose water uses vary throughout the year. The system operates and maintains approximately 380 miles of water lines.

The water system is in the final planning stages of building a new water plant in the Engelhard area. The Engelhard area is currently served by the Fairfield and Ponzer plants which requires pumping water from the western to the eastern end of the County - a costly and inefficient process. The County has received approximately \$800,000 in capacity building/planning grants from the NC Rural Center and a \$400,000 grant from the Hyde County Revolving Loan program to build a new water plant at Engelhard that will add 300,000 gpd of capacity to the system when complete. The new Engelhard plant should be under construction by 2006 and completed by 2007.

The system has four elevated tanks with a total holding capacity of approximately 1,152,000 gallons of potable water, including the Engelhard and Swan Quarter areas which each have a 75,000 gallon tank. There is also a 200,000 gallon tank in the Ponzer area and a 100,000 gallon tank in the Fairfield area.

An independent sanitary district - the Ocracoke Sanitary District - operates on Ocracoke Island and provides the Island's residents with potable water. The District operates three wells, with water drawn from the Castle Hayne aquifer, and a state-of-the-art RO treatment plant with a capacity to treat 534,000 gpd. As might be expected, there is a tremendous variance between peak-season (May through October) and non-peak water demands. In 2003, for example, the system produced 2.71 million gallons of water in January and 9.17 million gallons (or approximately 296,000 gpd) in August, the peak month.

The District is currently working on the planning and engineering studies necessary to enlarge the water treatment plant building, which will allow the District to add more RO equipment and thus increase capacity. Until such time as this plant upgrade is complete, the District is not releasing any substantial new or upgraded service connections to the water system, in order to ensure sufficient water service for existing users. The proposed water treatment plant expansion is projected to cost approximately \$2.2 million. Whereas the site of the proposed plant expansion is on National Park Service land, the expansion plans are currently in the Federal permitting process.

7. Wastewater Disposal

Although the majority of the County relies on private septic tanks for wastewater disposal, two centralized sewage collection and disposal systems have been developed in the County since the 1997 CAMA Land Use Plan Update - one in the Engelhard Community and one in the Swan Quarter Community.

The 1989 Hyde County Shoreline Economic Development study recommended that sewer systems be installed in both the Swan Quarter and Engelhard areas in order to attract new growth to the County and to preserve environmental quality endangered by poorly treated septic tank outflows.

An environmental scan in 1995 revealed a water quality issue in the community of Engelhard. A shoreline survey conducted by the Department of Environment and Natural Resources (DENR) in Hyde County found 55 direct and indirect discharges of septic systems into Far Creek, a very important primary nursery area of Pamlico Sound. It was determined by meetings with community leaders and personnel from the North Carolina Cooperative Extension Service (NCCE) and DENR that an innovative waste management system would be needed. Specialists from NCCE helped design a waste management system with a research component for the community. After a series of public meetings to make the community aware of the issue,

community leaders sought and were granted 5 million dollars in funding from the General Assembly to build the system. The system serves approximately 850 persons in 300 residences and businesses and became operational in 2003, thus saving tons of nutrients from degrading the water quality of Far Creek. The system is run through an appointed Sanitary District Board, the Engelhard Sanitary District, under contract to EnviroTech, Inc., of Harbinger, North Carolina. The system is permitted to discharge 129,000 gallons per day of treated effluent.

In June 2002, a sanitary sewer system began operation in the Swan Quarter area. The Swan Quarter sewage system serves approximately 250 customers (500 persons) and is permitted to discharge 39,000 gallons per day of treated effluent. The system is operated by the Swan Quarter Sanitary District, which was formed in December 2004.

A sewer feasibility study for the Fairfield area was completed in 2002 by the County Planning and Economic Development Department and found that a small centralized sewer collection system in the area would be feasible. To date, however, community opposition to community sewerage has prevented further consideration in the Fairfield area.

Several facilities on the mainland use private wastewater disposal facilities known as “package plants” that provide a level of disinfection and treatment of wastewater beyond that of typical septic tank systems. Mattamuskeet National Wildlife Refuge and the Mattamuskeet Schools both use such systems. The County only owns and operates one package plant – the lagoon and spray irrigation plant used for waste disposal at the Hyde Correctional Center – which is permitted to dispose of 67,500 gallons of wastewater per day.

On Ocracoke Island, wastewater disposal is provided by privately-owned, on-site septic systems or small package systems. Increasingly, traditional septic systems on the Island are being replaced with more sophisticated (and effective) mound systems and low-flow trickling filter systems as the old systems wear out and as properties are sold. The only publicly-owned wastewater disposal facility on the Island is the Ferry Landing, operated by NCDOT. Due to concerns about negative environmental impacts and a significant increase in building density on the Island, the establishment of centralized sewer on Ocracoke Island does not appear to be supported by Island residents at this time.

The Hyde County Health Department is responsible for septic tank permitting throughout Hyde County.

8. Solid Waste

According to the North Carolina Department of Environment and Natural Resources (DENR), Hyde County produced 2,427 tons of solid waste that ended up in landfills in 2002-2003.

On the mainland of Hyde County, the County has contracted with David's Trash Service (David's) for one curbside pickup per week (up to two privately-provided containers per week) from each residential and commercial business for a \$120 per year Solid Waste Availability fee, which includes collection and disposal. If this service is not sufficient for a customer's waste disposal needs, then customers can bring trash directly to one of three convenience sites provided by the County at Engelhard, Swan Quarter, and Ponzer. Both curbside and convenience center waste is taken by David's to the Waste Management transfer station near Washington, NC, and on to the East Carolina Environmental Landfill in Bertie County.

On Ocracoke Island, the County has contracted with Dare County to provide solid waste collection and disposal services. The County provides twice weekly curbside pickup service for residential customers and a convenience site located beside the post office. A convenience center for waste disposal is located near the Ocracoke Health Center. The same \$120 fee mentioned above for mainland customers applies.

For businesses, up to two 8 cubic yard containers will be collected curbside two times per week for the \$120 yearly residential fee. Additional 8 cubic yard containers will be collected weekly for a fee of \$800 per year. It should be noted that many businesses use private contractors and "opt-out" of the County's waste collection/disposal service due to the high costs associated with the program for businesses generating a large quantity of waste. All waste is taken by Dare County to the Waste Management transfer station near Washington, NC, and on to the East Carolina Environmental Landfill in Bertie County.

Hyde County operates a recycling program for brown and clear glass, steel cans, aluminum cans, #1 and #2 plastic, and newspaper. These items are collected curbside on the mainland, but not on Ocracoke. Recyclable materials may also be taken to the aforementioned convenience sites. All recyclables are taken by David's to the East Carolina Vocational Center in Greenville for recycling.

White goods (e.g., refrigerators, stoves, and other appliances), tires, and used motor oil are collected at the above-referenced convenience sites and disposed of through contractors. These items are not collected curbside.

9. Schools

The Hyde County Public School system has four public schools, three of which are located on US Highway 264 just west of NC 94 at the former Mattamuskeet High School site (see Map 12). Although they operate separate facilities, the mainland's only elementary school (K-5), middle school (6-8) and high school (9-12) are located at the Mattamuskeet School site. The elementary and middle school facilities were completed in 1998. The high school was originally constructed in 1964, with additions and improvements made in 1970, 1987, and 1998.

Table 49 provides enrollment information for the Hyde County School System.

Table 49: Hyde County Public Schools, 2004-2005 Enrollment Information

<u>School Name</u>	<u>Enrollment, 2004-2005</u>
Mattamuskeet Elementary (K-5)	229
Mattamuskeet Middle (6-8)	146
Mattamuskeet High School (9-12)	176
Ocracoke School (K-12)	103
TOTAL	654

Source: Hyde County Public Schools.

Ocracoke Island has one public school, Ocracoke School (K-12), which is the smallest public school in the state with a total enrollment of 103. The school facility was constructed in 1971. Ocracoke School was recognized as a North Carolina School of Distinction in 2000 and 2001.

Ocracoke Island also has a licensed day care center called Ocracoke Child Care, Inc., which provides day care service for children aged 6 weeks to 12 years. The facility is located on Old Beach Road.

According to the Hyde County School System, in the 2004-2005 school year, approximately 48% of all students are African-American, 48% are White, and approximately 3.5% are of Hispanic origin.

No post-secondary educational institutions exist in the County, but the Hyde County School System in conjunction with the County, the Beaufort County Community College (BCCC), and with the assistance of a grant from the North Carolina Rural Internet Access Authority have developed the "Digital Parity for the Pamlico Peninsula" project. This program allows students to enroll at BCCC but take most of their classes in Hyde County using the Internet and video streaming technology available at Mattamuskeet School and at the Ocracoke School.

10. Recreation

The County does not maintain a formal Parks and Recreation Department or programs, but the County received a \$65,000 grant in 1996 from the North Carolina Parks and Recreation Trust Fund to develop a passive recreational park in the Ponzer community, known as the "Ponzer Community Park." The Park was opened in 1998 and also contains a small community meeting facility. A youth recreation center is also operated at the Davis Park School site by the Engelhard Development Corporation, under a lease agreement with the County.

A 350-acre park site near Ponzer called the Machapungo Park (MPP) is currently under development along the Pungo River. The project is being sponsored by the Mattamuskeet Foundation and will include cultural and natural interpretation, such as an authentic colonial homestead from the 1720's, live music and theater, an Indian Village, and wetlands exhibits and information. Funding is being provided by the NC Recreation Trails program, East Carolina Bank, the Hyde County Commissioners, and numerous local individuals. Upon completion, the MPP should be a regional attraction, such as Colonial Williamsburg in Virginia, and draw up to 200,000 patrons per year to the area and provide up to 60 full and part-time jobs.

On the Mainland of Hyde County, the NC Wildlife Resources Commission owns and maintains public boat ramps at Engelhard and Juniper Bay. On Ocracoke Island, the National Park Service (NPS) operates a boat ramp on the Island's sound side from NPS property.

The County does not have any CAMA Shoreline Access locations; however, the county applied for a CAMA waterfront access grant to develop an interpretative waterfront site and boardwalk. While there are no CAMA shoreline access locations at the present time, there are still numerous shoreline access opportunities which exist in the several Federal Parks/Wildlife Refuges in the County, as delineated in Section 5(F)(1)(i) of this Plan.

Year-round outdoor recreational opportunities, including camping, hiking and wildlife observation and year-round or seasonal fishing opportunities can be found at Cape Hatteras National Seashore on Ocracoke and at Swan Quarter National Wildlife Refuge (NWR), Alligator River NWR, Pocosin Lakes NWR, and at Mattamuskeet NWR.

The Mainland of the County has abundant privately-owned hunting and lodging opportunities and private campgrounds, and both the Mainland and Ocracoke Island have numerous private marinas, as depicted in Table 39. Private campgrounds on the Mainland of Hyde County include Big Trout and Wysocking Bay Campgrounds in the Engelhard area; Van Horn's Campground in Scranton; Osprey Nest Campground in Fairfield; Mattamuskeet Campground near Swan Quarter; and Riverside Campground in Ponzer. Campgrounds on Ocracoke Island include Teeter's and Beechcomber Campgrounds and the NPS-owned and operated campgrounds located in the Cape Hatteras National Seashore.

11. Electrical Power Service

Electrical power service is provided to all of Hyde County by the Tideland Electric Membership Corporation (EMC). Tideland EMC is a distribution electric cooperative that purchases its power from Progress Energy and serves over 21,000 accounts in six northeastern North Carolina counties. The cooperative's headquarters is located in Pantego (in eastern Beaufort County) with full service offices in Engelhard and Ocracoke. Consistent availability of service has been good since 1990 when a larger supply cable and a cogeneration plant were completed, reducing brownout and blackout problems that had occurred prior to that time. Electrical service

was out to all of Hyde County for three to five days following Hurricane Isabel in September, 2003. However, Tideland EMC deployed generators strategically throughout the County to provide at least limited electrical service in most areas of the County within 36 to 48 hours following the storm. The Ocracoke Sanitary District, Hyde County Water System, Engelhard Sanitary District (sewer), and Swan Quarter Sanitary District (sewer) all maintain their own generators to ensure emergency operations of critical facilities during disaster events, as do many private homeowners and businesses.

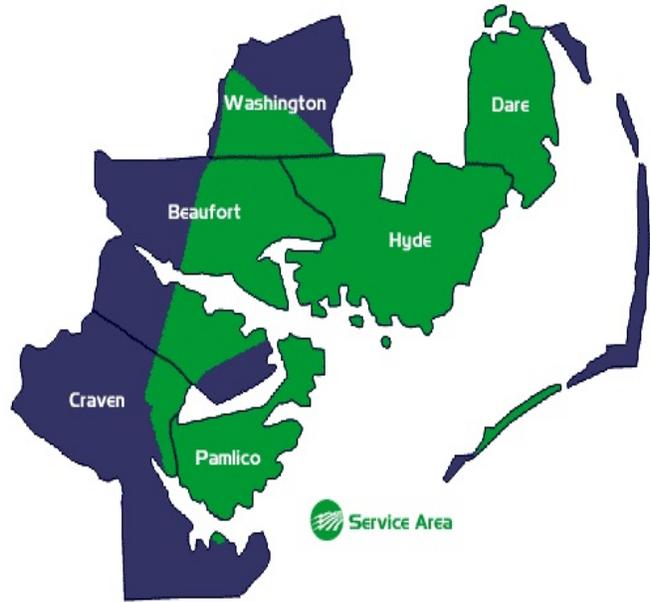


Exhibit 4: Tideland EMC Service Area (Source: Tideland EMC)

12. Telephone Service

Local and long distance telephone service is available through Sprint and Tri-County Telephone Membership Corporation.

13. Internet Service

High speed (DSL) internet service is available through Sprint, Tri-County Telecom, and Inter.net of Beaufort/Hyde. Inter.net of Beaufort/Hyde offers high speed cable internet service on Ocracoke. Dial-up internet service is available through dozens of regional and national providers, including the three listed above. Free high-speed internet access is available at the Davis-Hyde Enterprise Center, at Mattamuskeet School, and at the Ocracoke Library. Public high-speed internet access is available for a fee at Ride the Wind Surf and Kayak on Ocracoke.

14. Cable Television Service

Basic, premium and digital cable services are available in Mainland Hyde County through Tri-County Telecom and Hyde County Cablevision, and through Ocracoke Cable Service on Ocracoke Island. A number of statewide and regional service providers provide satellite television services to the County.

15. Cellular Phone Service

Cellular telephone and paging services are available locally from Sprint and Tri-County Telecom, as well as from service providers with offices in Washington or Greenville, including: Alltel, Verizon Wireless, Sprint, AT&T Wireless, Nextel, U.S. Cellular, and SunCom. Service is not

available in all areas of the County due to limited coverage of the area by cellular phone towers, particularly the Fairfield area and the area between Swan Quarter and Ponzer.

The importance of reliable and cost-effective cellular telephone communications in Hyde County, with its vast area and diffuse population, is difficult to overestimate. This is particularly true in emergency response situations, but poor quality and spotty cellular telephone service availability also hinders economic development by preventing businesses reliant on cellular telephone service from locating here.

Cellular telephone service is good on Ocracoke Island, due primarily to the recent installation of additional cellular telephone equipment on the Island by US Cellular. Communications between Ocracoke Island and the Mainland of Hyde County are often poor, however, due to limited service on the Mainland. The County will consider policies to address this issue in Section 6 of this Plan (Plan for the Future), and it should be carefully monitored.

16. Stormwater Management/Drainage

a. Introduction

Stormwater discharges are generated by run-off from land and impervious areas such as paved streets, parking lots, and building rooftops during rainfall and snow events. They often contain pollutants in quantities that can adversely affect water quality and create flooding problems. When roads, parking lots, sidewalks, homes, and offices replace the natural and permeable landscape, rainfall that would once soak into vegetated ground is now available for stormwater runoff. As surfaces become more and more impermeable, water simply moves across them. These impermeable surfaces connect to form a stormwater super highway. One of the effects of this water super highway is that more and more stormwater reaches streams because there is less opportunity for it to infiltrate the ground. Peak flows also increase, transporting runoff from large areas rapidly. Velocities in streams increase causing more erosion potential, and lastly, base flow is lower during dry weather because of a lack of infiltration. Using a traditional analysis, such as the Natural Resource Conservation Service (NRCS) stormwater model, TR 55, or the United States Corps of Engineers' (USCE) many versions of HEC, it can be shown that peak flows alone can increase by as much as four times from pre-post development conditions. Flooding is the result of this urbanization.

b. Erosion and Sedimentation

Erosion and sedimentation have long been recognized as water quality concerns. The North Carolina legislature passed laws to curb sedimentation in 1973; however, sedimentation remains the number one pollutant in NC waters. In the 1990s, the focus of the Piedmont and Eastern NC watersheds turned towards excess nutrients in surface

waters. The excess was due to extensive farming operations in the area. Fertilizers contain nutrients for plants to grow, but if excess fertilizer is inadvertently applied to pavement, these nutrients enter the waters during runoff periods causing harm to water quality. Even proper amounts of applied fertilizer can allow nutrients to enter streams in other ways, such as atmospheric deposition, wildlife and pet waste, and septic system malfunctions.

There are numerous ways to reduce pollutant loading. Proper application of fertilizer and proper maintenance of septic systems can reduce loading. Structural devices can also help curb this problem. These structural devices, known as Best Management Practices (BMPs), can be constructed to treat runoff, thereby reducing the amount of pollutant that enters the waterways. These BMPs include wet ponds, stormwater wetlands, infiltration trenches, wells, sand filters, bioretention rain gardens, rubble spreaders, riparian buffers, and reinforcing grassy swells.

c. EPA Regulations

The Environmental Protection Agency (EPA) has begun implementation of Phase II of the Stormwater Management Plan. These policies apply to municipalities with populations greater than 10,000 and/or with densities of 1,000 per square mile. For municipalities that meet these parameters, submittal of a stormwater management plan is required. Phase II regulations also apply to entities designated under the 1990 census as a Small MS4 (Small Municipal Separate Storm Sewer System). MS4's are defined as a publicly-owned conveyance or system of conveyances designed or used for collecting and conveying stormwater. MS4's are not combined with sewer and are not part of a publicly-owned treatment facility. Municipally-owned MS4's can include counties, towns, airports, federal properties, hospitals, schools, etc. Small community MS4's are regulated if they discharge into impaired or sensitive US waters. In addition, counties classified as a Tier 4 or Tier 5 county are regulated. At this time, Hyde County is not required to meet the new EPA Phase II Storm Water Management Program regulations, but expects to be required to meet all Phase II requirements in the near future. However, Hyde County is currently subject to the Tar-Pamlico Buffer Rules (see page 103).

The EPA has developed guidelines for implementing the Phase II Stormwater Management Program. The stormwater pollution problem has two main components: the increased volume and rate of runoff from impervious surfaces and the concentration of pollutants in the runoff. Both components are directly related to new developmental and urbanizing areas. Both components also cause changes in the hydrology and water quality that result in a variety of problems, such as habitat modification, increased flooding, decreased aquatic biological diversity, and increased sedimentation and erosion. Effective management of stormwater runoff offers a multitude of possible benefits. Benefits include protection of wetlands and aquatic eco-systems, improved quality of receding water

bodies, conservation of water resources, protection of public health through flood control, and improved operation and hydraulic characteristics of streams receiving run-off, all of which can cause higher peak flow rates that increase frequency and duration of bank full and sub-bank full flows. Increased occurrences in downstream flooding can also be reduced by lowering base flood levels, such as with traditional flood control methods that rely on the detention of the peak flows. They are generally not targeted to the reduction of flooding and in many cases have exacerbated the problems associated with changes in hydrology and hydraulics. The EPA recommends an approach that integrates control of stormwater peak flows and the protection of natural channels to sustain physical and chemical properties of aquatic life.

The EPA has outlined six steps for the development of BMP's for a stormwater management plan. The six steps are as follows:

- (1) Public Education and Outreach on Stormwater Impacts
- (2) Public Involvement and Participation
- (3) Elicit Discharge Detection and Elimination
- (4) Construction Site and Stormwater Runoff Control
- (5) Post-Construction Stormwater Management, and New Development or Redevelopment
- (6) Pollution Prevention and Good Housekeeping for Municipal Operations

d. Construction Activities

Stormwater runoff from construction activities can have a significant impact on water quality, contributing sediment and other pollutants exposed at construction sites. The NPDES Stormwater Program requires operators of both large and small construction sites to obtain authorization to discharge stormwater under an NPDES construction stormwater permit. In 1990, the Phase I Stormwater Management Program regulations addressed large construction operations that disturbed five or more acres of land. The NPDES program also addresses small construction activities – those that disturb less than five acres of land – which were included in the Phase II final rule. Construction activities that disturb over one acre of land are required to develop and implement a stormwater pollution prevention plan specifically designed for the construction site. The development implementations of the plan follow the basic phases listed below:

- (1) Site Planning and Design Development Phase
- (2) Assessment Phase
- (3) Control Selection/Design Phase
- (4) Certification/Verification/Approval Phase
- (5) Implementation/Construction Phase
- (6) Final Stabilization/Termination Phase

e. North Carolina Shoreline Buffering

In August 2000, the State of North Carolina developed a 30-foot buffering rule for all new development in the 20 coastal counties governed by the Coastal Area Management Act (CAMA). This rule applies to all navigable waters, excluding the ocean, which has previously established setback requirements. The development of this buffer does not restrict the construction of water dependent structures, such as docks and boat ramps. The benefits of the buffering include the following:

- (1) Flood Control – by reducing the velocity and providing a collection area for stormwater runoff and precipitation. Buffers encourage water infiltration into the ground, rather than flooding low-lying areas.
- (2) Groundwater Recharge – buffers are also beneficial to recharging the groundwater supply and promoting groundwater flow.
- (3) Soil Erosion Prevention – vegetated buffers stabilize the soil and reduce sedimentation.
- (4) Conservation of Coastal Riparian Wildlife Habitats – these natural areas provide breeding, nesting, and habitat, and protect wildlife from predication. Vegetated buffers help increase the diversity of wildlife while providing sites for foraging and corridors for dispersal.

CAMA buffer requirements for coastal shorelines in 15A NCAC 7H.0209 no longer apply to coastal shorelines when the Environmental Management Commission (EMC) has adopted rules that contain buffer standards, or to coastal shorelines where the EMC adopts such rules. The EMC adopted the Tar-Pamlico River Basin Riparian Buffer Protection Rules, administered by the Division of Water Quality as stated in 15A NCAC 2B.0259, to protect 50-foot wide riparian or waterside buffers along waterways in the Tar-Pamlico River Basin.

f. Stormwater Management/Drainage as Related to Hyde County

Hyde County (Mainland or Ocracoke Island) does not meet the threshold requirements for community-wide NPDES permits for managing stormwater management under the program's "Phase II" as described above. Furthermore, the County does not have sufficient urban concentrations to justify the cost of treating, retaining, or pumping stormwater.

This does not mean that there are no drainage problems throughout the County. These problems primarily result from low elevation and depressed areas which do not have any natural drainage. This is particularly true on Ocracoke Island.

It should be noted, however, that Ocracoke Village has very limited options in effectively dealing with stormwater management/drainage concerns, due to the generally high water table, very flat relief, and the extremely limited amount of available land on which to detain or retain stormwater runoff.

Flooding is most serious throughout Hyde County during strong summertime conventional storms. Because of the porous soils, the standing water normally seeps into the ground in several hours. The County does not have a master drainage plan.

The Hyde County Soil and Water Conservation District (WCD) has primary responsibility for stormwater management and drainage issues in the County. The District is a governmental subdivision of the State; a public body corporate and politic organized in accordance with the provisions of Chapter 139 of the General Statutes of North Carolina and is subject to the powers and restrictions as set forth in G.S. 139. The District board is made up of five supervisors and meets monthly to handle current business and stay up to date on environmental matters. Annual and long-range programs of conservation and development within the District boundaries are developed and carried out with the assistance of local, state, and federal agencies.

The North Carolina Agricultural Cost Share Program has been a great initiative to encourage landowners and land users to apply best management practices (BMPs). The USDA-Natural Resources Conservation Service, working through a Mutual Agreement, is the major source of assistance. This agreement enables the WCD to furnish technical service to individuals, groups, and other agencies and units of government. The District, with the assistance from USDA-Natural Resources Conservation Service, offers county residents/landowners the following: 1) Consultative Assistance, 2) Technical Assistance to Land Users, 3) Technical Assistance to Units of Government, and 4) Information and Education Assistance.

It should be noted that the North Carolina Division of Water Quality's review of scientific studies has resulted in a determination that where local governments simply defer to state and federal rules to address water quality, impaired water quality may result. This is based on the following conclusions:

- 10% impervious or greater areas can be linked to local stream degradation.
- Biological diversity has been shown to drop when area impervious surface increases beyond 10-15%.
- Stream stability affected when impervious surface approaches 10% in an area.
- Estuaries generally degrade after 10% impervious surface area occurs.
- Sensitive fish species loss increases after about 12%.

H. Current Plans, Policies, and Regulations

In Hyde County, the functions of planning and economic development are run through a one-person office of Planning and Economic Development. Duties and responsibilities of this office are as follows:

The **Hyde County Planner** is charged with carrying on the planning function for Hyde County, while incorporating the need to strategically organize internal operations. The Planning Department must also meet the needs of the local government for planning within its authorized jurisdiction and determining the appropriate division of planning functions among the various levels and units of government that share jurisdiction over larger areas with interlinking concerns. The Planning Department is closely associated with the Building Inspections Department; although, the Building Inspections and Health Departments share enforcement responsibilities.

The **Economic Developer** in Hyde County is charged with providing a framework within public and private sector resources to promote rural economic development to ensure the highest standard of living possible for those residing in Hyde County. This mission can only be accomplished by effective collaboration between various entities to meet the needs and identify economic development issues that affect the Mainland and Ocracoke Island. The Hyde County Economic Developer works with the Hyde County government and allies to identify strategic use of available resources to achieve short-term and long-term rural economic development.

Services offered by the Office of Planning and Economic Development include:

- One of three Review Officers for Hyde County Register of Deeds Office
- Contact person for information regarding Hyde County Revolving Loan Fund
- Contact person for information regarding Hyde County Subdivision Ordinance
- Contact person for information regarding Hyde County Travel Trailer and Mobile Home Ordinance
- Contact person for Hyde/Davis Business Enterprise Site (Incubator Site)
- Business Recruitment

The following provides a description of each of the County's land use-related codes, ordinances, or planning documents:

1. 1997 Hyde County CAMA Land Use Plan Update

Hyde County's existing Coastal Area Management Act (CAMA) land use plan was certified by the Coastal Resources Commission on September 25, 1998, and was developed by the County in conjunction with William C. Overman and Associates of Virginia Beach, Virginia. The document complies with the 15A NCAC 7B planning requirements. In addition, the policies contained within

the plan meet or exceed the State of North Carolina minimum use standards for areas of environmental concern as set forth in 15A NCAC 7H.

The 1997 CAMA Land Use Plan relied heavily on various state and federal programs for the enforcement/implementation of the plan's recommendations. This was especially true within the county's 15A NCAC 7H designated areas of concern. The primary exception to this reliance has been enforcement of the Ocracoke Development Ordinance. This ordinance has assisted the county in effectively implementing policies to:

- Limit the construction of new marinas on Silver Lake.
- Regulation of floating structures.
- Regulation of the length of piers.
- Regulation of land use.
- Protection of the 15A NCAC 7H areas of environmental concern.

The county has supported the majority of the plan's policies and implementing actions. However, Hyde County has notably failed to successfully implement the following strategies:

- Hyde County will study and may develop and adopt a local ordinance designed to regulate the removal of natural vegetation.
- Hyde County will seek state technical assistance and funding to study and prepare a management plan for its remaining maritime forest.
- Hyde County may request that a classification study be done by the Division of Water Quality with respect to Silver Lake and study the ramifications of such a re-classification.
- Hyde County will seek funding and technical assistance to develop a stormwater management plan and ordinance to aid in eliminating standing water.
- Hyde County will seek grant monies and/or technical assistance to study the development of zoning regulations for the mainland and Ocracoke Island.
- Hyde County will seek grant monies and/or technical assistance to study the development of a signage ordinance for the mainland and Ocracoke Island.
- Hyde County will seek grant monies and/or technical assistance to study the development of a recreational facilities plan.
- Hyde County will seek grant monies and technical assistance to study ways to mitigate traffic congestion and parking problems on Ocracoke Island.

- Hyde County will seek the aid of the North Carolina Department of Transportation to develop a comprehensive transportation plan.
- Hyde County will seek grant monies and/or technical assistance to study the development of a shoreline access plan.
- Hyde County will seek grant monies and/or technical assistance to study the development of a capital improvement plan.

These issues/implementing actions will be addressed in the policies/implementing actions contained in this CAMA Core Land Use Plan.

2. North Carolina State Building Code (and Associated Codes)

The County has adopted and enforces the North Carolina state building, plumbing, heating, electrical, and residential codes through a County building inspector who serves the entire County. The Building Inspector also enforces a minimum housing code.

3. Flood Damage Prevention Ordinance and Community Rating System

In 1987, the County adopted the flood damage prevention ordinance in order to comply with the National Flood Insurance Program (NFIP). Specifically, the ordinance requires the following:

- All new residential construction or improvements greater than 50% of structure's market value must be elevated to or above 100-year base flood elevations.
- Commercial buildings must be elevated above base flood elevations or floodproofed.
- Anchorings and pilings designs must be certified by a registered engineer or architect, or must be in full compliance with the NC State Building Code.
- No alterations of frontal dunes or fill for structural support is allowed in "V" or velocity zones except as may specifically be allowed under CAMA regulations.

Updated Flood Insurance Rate Maps (FIRMs) took effect in July 2004. Hyde County participates in the Community Rating System as a "Class 9" community. This program, which is a voluntary program through the NFIP, allows County residents to receive a 5% discount on their flood insurance premiums for policies purchased under the NFIP.

4. Ocracoke Village Development Ordinance

The Ocracoke Village Development Ordinance was originally adopted on April 21, 1986, and has been subsequently amended (most recently in April, 1998). The Ordinance establishes minimum lot sizes, total lot cover (i.e., no more than 50% of any lot can be covered with structures or other impervious surfaces to help control stormwater), setbacks, and height restrictions on new development and substantial redevelopment, but does not provide zoning or restrict specific land uses. It is administered by the County Building Inspector and an Ocracoke Village ordinance advisory committee.

5. Emergency Operations Plan

Hyde County has developed and adopted an Emergency Operations Plan which predetermines actions to be taken by government agencies and private organizations in response to an emergency or disaster event. The Plan was adopted in March 1993, and revised in December 2000. For the most part, the Plan describes the County's capabilities to respond to emergencies and establishes the responsibilities and procedures for responding effectively to the actual occurrence of a disaster (Source: Hyde County Hazard Mitigation Plan).

6. Hyde County and Ocracoke Local Water Supply Plans

A Local Water Supply Plan is an assessment of community water supply needs and the ability of a water system to meet those needs. North Carolina General Statute (G.S. 143-355(l)) requires all units of local government that provide or plan to provide public water service to prepare a Local Water Supply Plan and to update that plan at least every five years. In addition, all community water systems having 1,000 connections or serving more than 3,000 people in North Carolina are required to prepare a Local Water Supply Plan. A local water supply plan is an assessment of a water system's current and future water needs and its ability to meet those needs. By looking at current and future needs, local governments will be better able to manage water supplies and better prepared to plan for water supply system improvements (Source: North Carolina Division of Water Resources).

The Hyde County Mainland Water System and the Ocracoke Sanitary District water supply plans were updated in 2002.

7. Swan Quarter Historic Waterfront Plan/Ocracoke Village Circulation Concepts Plan (April, 2001)

Using a grant provided under the State's Historic Waterfront Revitalization Initiative, the County hired LandMark Design Group of Virginia Beach, Virginia, to develop preliminary design concepts and to identify planning issues related to waterfront development in the Swan Quarter area and on Ocracoke Island, particularly focusing on making the waterfront of these communities

accessible by ferry, by automobile or by foot. This Plan suggests the development of a trolley system in Ocracoke Village, which is now in the final implementation planning stages by Hyde Transit, the North Carolina Department of Transportation, local businesses, and the National Park Service.

8. Hyde County Subdivision Ordinance

Adopted in March 2000, the Hyde County subdivision ordinance is intended to regulate and control the subdivision of land within the County to ensure that stormwater management, transportation, and other site design issues are addressed in a manner that protects public safety and the environment.

Specifically, the subdivision regulations require that:

- County services shall not be provided until a final subdivision plat is approved;
- No streets or utilities shall be accepted until a final subdivision plat is approved;
- No construction permits shall be issued until a final subdivision plat is approved.

Review and approval of subdivision plats is provided by the County Board of Commissioners.

9. Hyde County Travel Trailer and Mobile Home Ordinance

This ordinance was adopted in March 2000, and regulates the placement of mobile homes and the construction or expansion of mobile home and travel trailer parks through a registration and permitting process, conducted by the County Planner and the County Building Inspector. The ordinance requires home anchors/tie-downs, clearance of brush/undergrowth from near homes, and site design adequate to ensure property drainage.

10. Outer Banks Scenic Byway Corridor Management Plan (September, 2003)

The State of North Carolina has designated NC Highway 12 from Whalebone Junction (near Manteo) to just north of Beaufort in Carteret County a “Scenic Byway” - or automobile route of unique scenic, natural, historical, cultural, and/or recreational value to the State and its citizens. This plan makes numerous recommendations about how to maintain and improve the unique qualities of NC 12, including the portion of the roadway through Ocracoke Island. Numerous strategies were developed, focusing on scenic resource preservation and enhancement, natural resource preservation, recreation access, and historic interpretation. The North Carolina Department of Transportation will be the primary agency responsible for implementation.

11. Strategic Plan for Engelhard (May, 2004)

As part of a Community Development Block Grant (CDBG) Revitalization Strategies grant the County received in 2002, the County, with the assistance of Holland Consulting Planners, Inc., developed a strategic plan for the Engelhard area intended to formulate strategies designed to develop the economic base of the Engelhard area while preserving its unique rural character and improving housing, education, and recreational opportunities and improving infrastructure and services in the area. This strategic plan is supported by this CAMA Core Land Use Plan, see policy P.125 and the implementing actions for areas of local concerns, pages 212 to 223.

12. Fairfield, North Carolina Wastewater Feasibility Study (April, 2002)

With the assistance of MacConnell and Associates Engineering, the County developed this study to characterize the existing wastewater disposal situation in the Fairfield area and to analyze wastewater collection, treatment and disposal options that were feasible for the area. The study found that a centralized (i.e., public sewer) low-pressure grinder pump collection system would be feasible and cost effective, due to the likelihood of substantial Federal and State construction assistance and due to the significant reduction in environmental contamination likely with the abandonment of failing septic tanks in the area. The project's recommendations have not been implemented to date due to lack of support for the report's conclusions in the Fairfield area.

13. Hyde County Hazard Mitigation Plan

Developed by the Planning Director in conjunction with consulting firm Post, Buckley, Schuh, and Jernigan (PBS&J) and adopted in October 2003, the Hazard Mitigation Plan (HMP) identifies potential natural hazards that may affect the County, identifies the extent of the risk the County faces from these hazards, and adopted goals, policies and procedures to help minimize these risks over the long term.

This Plan was required by Federal and State laws adopted in the year 2000 that require all local governments to have a hazard mitigation plan in place as a condition of disaster recovery and hazard mitigation assistance after November, 2004.

14. Ocracoke Island Trolley Program Plan (May, 2005)

In order to address the choking traffic experienced in the spring and summer of each year, and reduce the resultant accidents between bicyclists, automobiles, and pedestrians, Hyde County Transit, in conjunction with NCDOT, local businesses, and the National Park Service has developed a plan to operate trolleys seasonally on the Island by 2007. Capital and operation costs for the trolley system would be split between the State, the County, local business, and grant funds, with the intent of making the system fare-free for users.

I. Analysis of Land Use and Development

1. Introduction

This section of the plan will aim to address existing land use throughout the county, and provide some analysis of existing issues and problems related to current development trends. The Division of Coastal Management Land Use Plan Guidelines (15A NCAC 7B.0207) require that existing land uses and water uses be mapped. The land and water use maps in conjunction with the land suitability map, page 168 should be utilized as working documents and serve as a basis for the development of the future land use map(s). Specifically, this plan should address the following:

- Significant land use compatibility problems;
- Significant water use compatibility problems including those identified in any water supply plan appendix and those identified in the applicable Division of Water Quality basinwide plan;
- Significant problems that have resulted from unplanned development and that have implications for future land use, water use, or water quality;
- An identification of areas experiencing or likely to experience changes in predominant land uses, including agricultural and forestry land being converted to other uses and previously undeveloped shoreline areas where development is now occurring;
- Significant water quality conditions and the connection between land use and water quality.

2. Existing Land Use in Hyde County

In order to address future development within the county, it is necessary to establish a snapshot of what portions of land are currently developed or undeveloped. Conducting a land use survey allows for a review of existing land use patterns. This survey will assist in identifying land use patterns and trends that exist throughout Hyde County. This process will serve two main purposes: identifying key conflicts in land use and addressing the issue of water quality in relation to existing land use. This review will provide a solid foundation for decisions regarding future land use and policy development later in the document.

Existing land use within Hyde County has been broken down into two separate discussions. Land use for the rural parts of the county, and land use within each of the community core study areas discussed within the context of this plan. These study areas include the following communities, and will be discussed later in this section: Engelhard, Swan Quarter, Ocracoke, Scranton/Sladesville, Fairfield, and Ponzer.

Land uses for Hyde County falling outside of the designated study areas were mapped based on two primary data sets. These included land use maps compiled in previous CAMA land use plans in conjunction with aerial photographs that were taken subsequent to Hurricane Isabel by the North Carolina Flood Mapping Program. Due to the rural nature of the county, land use designations were established for portions of land that are unsuitable for development (unbuildable). These portions of land fall into two primary categories: coastal wetlands and national seashore areas. Mapping these areas in conjunction with existing developed and undeveloped areas allows for an overall view of vacant property that may be utilized for future development. Map 13 provides the boundaries of the existing land use categories discussed below:

Agricultural. This land use category includes large tracts of land that are utilized for farming and/or farm related activities. Agriculture is an important part of the economy within Hyde County, and this is reflected through the land use map, in that 19.1% of acreage within the county is utilized for farming activities. A majority of the agricultural land falls within the northern portion of the county, where there is an abundance of land better suited for these activities.

Campground. This land use category accounts for all public/private campground facilities located within the county (including National Park campgrounds). The land use map does account for the location of the proposed Machapungo Park Project, which will increase the acreage devoted to both recreation and camping within the county. For a more detailed discussion of this project, refer to the recreation discussion included in the community facilities section of the plan.

Forest/Open Space/Vacant. This land use category comprises approximately 38% of the county and includes the National Wildlife Refuge and Gamelands. A majority of Hyde County still remains undeveloped forest land or open space, as is evidenced by the percentage of land that falls within this category. Within this land use district, there may be single family homes, however, development exists in extremely low densities. In some portions of the county, adjacent homes may be more than a mile apart. Of all the vacant property that exist within the county, the property located adjacent to the Scranton/Sladesville Community Core Study Area is the most likely to see a substantial increase in development. Although the existing land use map defines much of this property as coastal wetland, it is likely that this land will be developed as moderate density residential. There is also some potential for a residential development increase surrounding the Engelhard and Swan Quarter communities. This is where a majority of development within mainland portions of the county is located, and therefore, these areas provide better access to services and facilities.

Industrial. There are currently no manufacturing operations within Hyde County, but there are several pieces of property that have been designated as industrial uses for the purposes of this plan. There are only a handful of these facilities, and they are scattered throughout the county. Examples of facilities that have been classified as industrial include: the Hyde County Regional

Airport, the Hyde County Correctional Facility, and large scale agricultural warehousing and/or supply operations.

Office and Institutional. This land use district accounts for all properties whose use is dedicated to governmental facilities, churches, office space, and organizational facilities. A majority of the office and institutional land use within Hyde County is comprised of either churches or governmental facilities. The governmental facilities serve both the county, as well as several state and federal agencies including the North Carolina Department of Transportation and the Forestry Service. As with a majority of the development within Hyde County these facilities and structures are scattered throughout the county.

Residential. The residential land use category for rural portions of the county designates portions of the county where housing density is considered moderate. Single-family residential development exists throughout the county; however, a majority of these houses are sparsely scattered throughout very rural portions of the county. This land use district is intended to identify pockets of residential growth. It should be noted that this land use district is not intended to specify the location of all single-family residential homes throughout Hyde County.

Unbuildable (Coastal Wetlands). Coastal wetland areas are discussed in detail within the natural systems analysis, and includes large portions of land surrounding coastal portions of the county. A specific land use category was established for wetland areas, due to the fact that these portions of land are generally poorly suited for development. On-site inspections are required to determine if a specific piece of property falls within a coastal wetland area; however, this map will serve to provide a general overview of where these areas are located throughout the county.

Unbuildable (National Seashore). The portion of Hyde County that falls within the Cape Hatteras National Seashore area has been classified as a distinct land use district. The intent of this land use district is to define those portions of land outside of the Ocracoke Community Study Area that may not be developed due to the presence of this large conservation area.

Unbuildable (Water). This land use category accounts for Lake Mattamuskeet and Alligator Lake. These two waterbodies cover large portions of land within the county, and are generally not involved in discussions of future land use. The only possible use of these two areas, beyond recreation, would be the development of marina or dockage facilities.

Utility. This land use category is intended to identify properties occupied by utility and/or infrastructure facilities. Examples of these facilities include: elevated storage tanks, treatment plants, and pump stations.

Study Areas. This category designates the location of the six Community Core Study Areas. These areas will be discussed below, and have not been included within the acreage for the county overall.

MAP 13 - COUNTY EXISTING LAND USE

Table 50 summarizes the acreage for all land use districts discussed above.

Table 50. Hyde County Existing Land Use

Land Use	Acreage by Land Use	% of Total County Acreage
Agricultural	84,038	19.1
Campground	55	<0.1%
Forest/Open Space/Vacant*	165,921	38.0%
Industrial	580	0.1%
Office and institutional	54	<0.1%
Residential	5,757	1.3%
Unbuildable**	173,672	39.6%
Utility	2	<0.1%
Study Areas	8,864	1.8%
Total	438,943	100.0%

*Includes the National Wildlife Refuge and Gamelands.

**Includes Coastal Wetlands, National Seashore, and Water.

Source: 1992 CAMA Land Use Plan, 1997 CAMA Land Use Plan Update, Holland Consulting Planners, Inc.

3. Community Core Study Areas

As part of the CAMA Land Use Plan, the county has designated six portions of the county as Community Core Study Areas. These areas have been designated as urban centers located throughout the county that have some regional significance beyond that of rural portions of Hyde County overall. In an effort to address each of these study areas, the following profiles provide an overview of these communities with respect to history, general demographics, existing land use, and community assets and liabilities. Existing land use for each of the study areas was mapped on a per property basis, through the use of Geographic Positioning System (GPS) technology. This results in a much more detailed land use survey, that will serve more useful during the development of future land use maps within each of these study areas.

The land use districts utilized within each of the community core study areas are slightly different than those discussed for rural parts of the county. The reasoning behind this is that land use within each of these study areas is much more urban than Hyde County overall. Because of this, the land use districts are similar to those used in small municipal jurisdictions. The following summarizes the land use districts discussed throughout this section.

Commercial. This land use category includes private business operations located throughout the study areas. These include restaurants, marinas, retail shopping facilities, hotels, grocery stores, etc.

Office & Institutional. These properties include all professional office related uses, as well as any governmental (local, state, or federal) or institutional uses. Institutional uses include churches, membership organization, and meeting facilities.

Industrial. This land use category includes all facilities that involve production or manufacturing of goods. This ranges from commercial fish houses to fabrication facilities. Generally, industrial sites are determined to be land uses that are detrimental to adjacent properties in the form of air, noise, and water pollution.

Recreational. Recreational land uses correspond to all public recreational facilities. This includes all state and county park facilities, as well as public access locations to the beach or waterfront locations.

Residential. This land use category includes all single-family residential dwellings.

Transportation. This land use category is intended to account for all transportation facilities aside from the state road network that runs through the county. Essentially this land use will address the ferry terminal at Swan Quarter and Ocracoke.

Utility. This land use category is reserved for all properties that have utility system components or other infrastructure components situated on them.

Vacant. All vacant or undeveloped land falls under this category.

a. *Engelhard Community*

i. **History**

The quaint fishing village of Engelhard dates back to the mid-eighteenth century. Farming and fishing are still the two main industries supporting the community. An abundance of wildlife has long provided extra income from visiting hunters. There are several remaining century old stores that were built on the banks of Far Creek with rear doors facing the creek in order to easily load and unload freight. The East Carolina Bank has its corporate headquarters in Engelhard, where it first opened its doors in 1920. The bank has the distinct honor of being the bank that did not close during the disastrous stock market troubles of 1929. Due to the remoteness of the area, President Roosevelt's proclamation was not received in time for the bank to close.

ii. Demographics

The following table provides a summary of general demographics for the Engelhard community. This information was compiled based on census block data. Census block data is the smallest subdivision that the census bureau utilizes for reporting information. All census blocks that fall within the defined boundaries of the community core study area as depicted on Map 14 were included in the calculations.

Table 51. Engelhard Demographic Summary

Total Population:	445
Racial Composition:	
White	264
African-American	178
American Indian/Alaska Native	0
Asian Alone	0
Native Hawaiian/Pacific Islander	0
Some Other Race Alone	1
Two or More Races	2
Housing:	
Average household size	1.9
Number of housing units	896

Source: US Census Bureau; Holland Consulting Planners, Inc.

iii. Existing Land Use

Engelhard is the most developed of the five mainland community core study areas. Engelhard is home to the headquarters of East Carolina Bank, which has made a substantial investment in their facilities over the last few years. This bank still exists as the only banking institution in Hyde County. This small coastal community serves as the retail center for the county. There is a grocery store, several hardware stores, and several service related businesses located here. The Davis Ventures non-profit facility and Hyde Davis Business Enterprise Center are also located within Engelhard adjacent to the Engelhard Community Park. This facility provides a wide range of services to Hyde County youth and citizens including: computer classes, youth education, conferencing, etc. There are several properties within this area that are coded as industrial. These properties are primarily dedicated to fish houses located around or adjacent to the harbor. The

office and institutional land use within Engelhard is comprised of banking facilities, government facilities (fire station), medical offices, and churches.

Map 14 provides an overview of land use and the following table provides a summary of land use acreage within the community core study area of Engelhard.

Table 52. Engelhard Existing Land Use

Land Use	Acres	% of Total
Commercial	32.3	2.4%
Transportation	0.0	0.0%
Office and Institutional	25.5	1.9%
Recreational	4.9	0.4%
Industrial	11.2	0.8%
Residential	158.9	12.0%
Utility	2.0	0.1%
Vacant	1,089.4	82.3%
Total	1,324.1	100.0%

Source: Holland Consulting Planners, Inc.

iv. Community Assets/Liabilities

For each of the community core study areas, a list of assets and liabilities was established. These key concerns and issues will be utilized in conjunction with the existing land use map to formulate the future land use map, as well as the policy statements later in this document. The following provides a summary of key assets and liabilities for the Engelhard community:

Assets: Engelhard Sanitary District
 Citizen participation
 Possible growth and development (subdivisions, businesses, etc.)

Liabilities: County water not extended to all areas (Hyde County Airport, Gull Rock, etc.)
 Natural gas not coming
 Waterfront needs development

NOTE: Refer to Appendix VII which provides the implementing activities for the Strategic Plan for the Engelhard Community (September 2004), and policy P.125 on page 215.

MAP 14 - ENGELHARD EXISTING LAND USE

b. *Fairfield Community*

i. **History**

Fairfield has not always been the small town that it is now. At one time there was as many as 1,100 people living in Fairfield Township and the small, surrounding communities. At one time Fairfield was incorporated; there were nine stores, most of them general stores, one hotel and one bar.

Fairfield is probably most famous for its canal which is quite old. The original charter for the Fairfield Canal and Turnpike Company was granted January 29, 1840, and was first dug by a dredging company from Wilmington. As larger boats began to come into the canal, it was made wider so that the boats could maneuver more easily. Around the turn of the century the canal was owned by Captain Flave Spencer. He charged 2¢ toll for a bushel of beans and corn, and \$2.00 for fertilizer. It took about a week for goods to be transported from Fairfield to Elizabeth City, Norfolk and return. Over time the trips to Elizabeth City were much easier and faster since the Inland Waterway was opened. It was started in 1924 and finished in 1928 for the Fairfield area. The canal was very profitable until produce began to be shipped by trucks; it was put completely out of use for transporting goods around 1938/39 after the Fairfield Bridge was completed.

By taking a look at Fairfield now you would never believe it once had a mayor, a deputy sheriff, town hall, and a jail. The mayor about the time of WWI was David Carter. The Town Hall was located between Arthur Bell Harris' home and the Fairfield Christian Church. The Deputy Sheriff was Alonzo Cuthrell. He would jail people overnight who violated the law; the jail was located in the yard of his home.

Fairfield also had many schools – the Fairfield Academy, Baum School, Carmur School, Lakeside School, and Newlands School, and Fairfield School, the last one in operation until all the county schools were consolidated.

There are several old homes in Fairfield such as the Baum House, built in 1802, which still bears the ax marks on the doors where Yankee soldiers tried to break into the house during the Civil War.

There are several legends on how Fairfield was named, one such is inscribed on a tombstone; it reads, "Foremost in every good work, the Pioneer of International Improvement. His energy reclaimed Fairfield from swamps and left it a garden." The man referred to was David Carter, Jr. Whether this legend is true no one can say, but it is strange that it has lived on this long.

ii. Demographics

The following table provides a summary of general demographics for the Fairfield community. This information was compiled based on census block data. Census block data is the smallest subdivision that the census bureau utilizes for reporting information. All census blocks that fall within the defined boundaries of the community core study area as depicted on Map 15 were included in the calculations.

Table 53. Fairfield Demographic Summary

Total Population:	352
Racial Composition:	
White	174
African-American	175
American Indian/Alaska Native	1
Asian Alone	0
Native Hawaiian/Pacific Islander	0
Some other Race Alone	0
Two or More Races	2
Housing:	
Average household size	1.74
Number of housing units	196

Source: US Census Bureau; Holland Consulting Planners, Inc.

iii. Existing Land Use

The Fairfield community is located just north of Lake Mattamuskeet adjacent to the large farm operations which are so abundant in this area. Land use within this community is dominated by a combination of churches and farm supply/resource operations. The community of Fairfield definitely serves as a resource center for farmers operating throughout Hyde County. As stated, there are a large number of churches in this community, some of which are very historic. East Carolina Bank operates a branch office in Fairfield, and there is a small convenience retail operation here as well. The US Postal Service also operates a post office within this community.

Map 15 provides an overview of land use and the following table provides a summary of land use acreage within the community core study area of Fairfield.

MAP 15 - FAIRFIELD EXISTING LAND USE

Table 54. Fairfield Existing Land Use

Land Use	Acres	% of Total
Commercial	26.5	1.8%
Transportation	0.0	0.0%
Office and Institutional	17.2	1.2%
Recreational	0.0	0.0%
Industrial	5.3	0.4%
Residential	263.9	17.9%
Utility	0.0	0.0%
Vacant	1,168.7	78.8%
Total	1,481.6	100.0%

Source: Holland Consulting Planners, Inc.

iv. Community Issues

For each of the community core study areas, a list of assets and liabilities was established. These key concerns and issues will be utilized in conjunction with the existing land use map to formulate the future land use map, as well as the policy statements later in this document. The following provides a summary of key assets and liabilities for the Fairfield community:

Assets: Lake Mattamuskeet
Possible subdivision growth
National Register Historic District

Liabilities: Citizens do not want a sanitary district
Decline in population (population of Hyde County Correctional Facility is not factored into this figure)
No boat ramp access to AICC

c. Ponzer Community

i. Demographics

The following table provides a summary of general demographics for the Ponzer Community. This information was compiled based on census block data. Census block data is the smallest subdivision that the census bureau utilizes for reporting information. All census blocks that fall within the defined boundaries of the community core study area as depicted on Map 16 were included in the calculations.

Table 55. Ponzer Demographic Summary

Total Population:	57
Racial Composition:	
White	42
African-American	15
American Indian/Alaska Native	0
Asian Alone	0
Native Hawaiian/Pacific Islander	0
Some other Race Alone	0
Two or More Races	0
Housing:	
Average household size	2.1
Number of housing units	26

Source: US Census Bureau; Holland Consulting Planners, Inc.

ii. Existing Land Use

Land use within the Ponzer community is comprised entirely of residential properties. The only non-residential property within Ponzer is the presence of an elevated storage tank, which is tied into the county’s water system. This area is much less developed than the other community core study areas, and is the only community without the presence of a permanent postal facility. Development of two large projects are currently in the planning stages for this area. These include the Rose Acre Farms facility and the Machapungo Park Project. Both of these projects have been discussed earlier in the land use plan. Upon completion of these two projects, it is anticipated that there will be some additional growth in this area.

The following uses are located in the vicinity of Ponzer: Alligator River Recycling, Rose Acres Farm, Martin Lumber Company, M&H Pallet and Crate, Pantego Overhead Door, and Sawyer’s Land Development. Where map scale will permit, these uses are shown on the Hyde County Existing Land Use Map (Map 13).

Map 16 provides an overview of land use and the following table provides a summary of land use acreage within the community core study area of Ponzer.

MAP 16 - PONZER EXISTING LAND USE

Table 56. Ponzer Existing Land Use

Land Use	Acres	% of Total
Commercial	0.0	0.0%
Transportation	0.0	0.0%
Office and Institutional	0.0	0.0%
Recreational	0.0	0.0%
Industrial	0.0	0.0%
Residential	29.8	31.0%
Utility	0.6	0.7%
Vacant	65.5	68.3%
Total	95.9	100.0%

Source: Holland Consulting Planners, Inc.

iii. Community Issues

For each of the community core study areas, a list of assets and liabilities was established. These key concerns and issues will be utilized in conjunction with the existing land use map to formulate the future land use map, as well as the policy statements later in this document. The following provides a summary of key assets and liabilities for the Ponzer Community:

Assets: Land elevation higher (more developable land)
 Rose Acre Farms
 Productive farm lands
 Suitable waterfront development

Liabilities: Needs public wastewater collection & treatment system
 Needs a local volunteer fire department
 State and federal guidelines

d. Ocracoke Island

i. History

Refer to pages 7-9 of this document for a history of Ocracoke Island.

ii. Demographics

Refer to Section 5 (beginning on page 16) of the land use plan for a summary of demographics for Ocracoke Island. Ocracoke was discussed

thoroughly throughout this section. The primary reason for this is that the US Census Bureau reports for Ocracoke Island. This is the only community within Hyde County for which the census bureau provides detailed reports.

iii. Existing Land Use

Ocracoke Island is a thriving seasonal/tourist destination. It has recently been rated as the #2 beach in the world by Dr. Stephen P. Leatherman, a recognized travel expert who specializes in beach travel. Due to all of the attention that prestigious ratings such as this bring, the popularity of this quaint oceanside community is growing annually. Ocracoke can be reached only by ferry; from Cape Hatteras to the north in Dare County, from Swan Quarter within mainland Hyde County, and from Cedar Island in Carteret County. It is the only community within Hyde County located on the Outer Banks of North Carolina.

Ocracoke is by far the most densely developed portion of Hyde County. A majority of the land use on Ocracoke is comprised of single-family homes. There is also a large number of hotel and other small overnight accommodations. There are local retail facilities to support the resident and visitor population; however, these facilities are minimal. Ocracoke continues to grow as a vacation spot, and this growth is only expected to increase into the future.

Map 17 provides an overview of land use and the following table provides a summary of land use acreage within the community core study area of Ocracoke.

Table 57. Ocracoke Existing Land Use

Land Use	Acres	% of Total
Commercial	35.7	5.3%
Transportation	12.8	1.9%
Office and Institutional	31.6	4.7%
Recreational	0.0	0.0%
Industrial	0.0	0.0%
Residential	350.0	51.5%
Utility	0.0	0.0%
Vacant	275.1	36.7%
Total	705.2	100.0%

Source: Holland Consulting Planners, Inc.

MAP 17 - OCRACOKE EXISTING LAND USE

iv. Community Issues

For each of the community core study areas, a list of assets and liabilities was established. These key concerns and issues will be utilized in conjunction with the existing land use map to formulate the future land use map, as well as the policy statements later in this document. The following provides a summary of key assets and liabilities for the Ocracoke Community:

Assets: #2 Beach in the world
National Register Historic Place
Tourist attraction
Developing a pedestrian trail

Liabilities: Development is out of control (no zoning)
Lack of privately-owned developable land
Congestion in peak season
Water system needs to be expanded
Needs public wastewater collection & treatment system
Needs stormwater runoff system

e. Scranton Community

i. History

Prior to 1892, what is now known as Scranton was a small sparsely settled community first known as “Clarks,” then as Broad Creek. This name was thought to have derived from the name of the first postmaster, surname Clark. In the year 1892, a new industry moved into Broad Creek, named the Scranton Land and Lumber Company. From this came the name Scranton after the company’s hometown, Scranton, Pennsylvania.

Scranton Experiences a Change in Economy. The small community of Broad Creek was primarily an agricultural community. Its only known industry was farming. But in 1892 all this changed with the coming of the Scranton Land and Lumber Company. This company had a great effect on the economy of the small community, giving employment to the local people and a market for their lumber. The company applied for the first post office, established a boat line with barges to carry their lumber to northern markets, and supplied the community with a new name.

A short time later – around 1900 – this lumber company was taken over by the Allegheny Lumber Company. The Allegheny Lumber Company improved on the lumber operations of the old Scranton Land and Lumber Company. They put in a new double band saw mill capable of cutting twenty to thirty feet of timber a day

and built a large company store. In 1905, the Allegheny Company was taken over by the John L. Roper Company.

The John L. Roper Company continued to improve and enlarge lumber operations until 1909 when the company transferred its operations to Belhaven, North Carolina, causing a great loss to the economy of Scranton and Hyde County.

The First Post Office. After the Scranton Land and Lumber Company began operations in 1892 it was the necessity of having some mail system; so after applying for a post office, a federal post office was established in 1892 and named Scranton. The location of this post office was thought to be in the company store.

One of the early mail carriers was Mr. Asa John Smith from Sladesville. He carried the mail from Scranton to Sladesville and on to Makelyville, returning with the out coming mail which was then taken to Leechville and on to Belhaven, North Carolina.

The Community Prospers. The Scranton Land and Lumber Company was responsible for the first post office, a boat line with barges going to northern markets, and a change in economy in Scranton. The first thing accomplished by the Allegheny Lumber Company was a company store employing two to four clerks. Mr. Harry Jackson, bookkeeper, and Mr. Allair, timekeeper, were sent from Pennsylvania.

The community prospered and soon afterwards board walks were added and electric lights installed. The current for the lights was supplied by the mill. Next to be added to the community was a boarding house, owned and operated by Mrs. W. R. Roberts, it was known as the "Shingle House."

The necessity of having a doctor to take care of Allegheny Company employees was soon realized. The company employed Dr. Norfleet M. Gibbs from Fairfield.

"Over in Berkley." Most of the mill employees lived across the river from Scranton toward Belhaven. This was known to the local people as "Berkley," which vanished completely when a fire destroyed 14 homes of the inhabitants. The mill owners and managers lived in Scranton itself, and some of their homes are still standing.

Scranton Schools. The first Scranton school that can be remembered was situated in a house on what is known as "Pudding Hill." Children walked from "Over in Berkley" and Scranton to school. Another school house was located in the home of Mrs. Morris, beside the Christian Church in Scranton.

Scranton is mainly an agricultural community just as it has always been. People still log and there is still a place where barges dock to load logs, which are cut and sold by the local people, but this is not the main economy.

ii. Demographics

The following table provides a summary of general demographics for the Scranton/Sladesville community. This information was compiled based on census block data. Census block data is the smallest subdivision that the census bureau utilizes for reporting information. All census blocks that fall within the defined boundaries of the community core study area as depicted on Map 18 were included in the calculations.

Table 58. Scranton/Sladesville Demographic Summary

Total Population:	134
Racial Composition:	
White	31
African-American	103
American Indian/Alaska Native	0
Asian Alone	0
Native Hawaiian/Pacific Islander	0
Some Other Race Alone	0
Two or More Races	0
Housing:	
Average household size	0.59
Number of housing units	71

Source: US Census Bureau; Holland Consulting Planners, Inc.

iii. Existing Land Use

Land use within the Scranton/Sladesville community is comprised almost entirely of single-family residential homes. The only non-residential facility is a post office located centrally along Sladesville-Credle Road. Residential development in this area has been very slow over the years; however, it is anticipated that this will change in the near future. This portion of the county, most notably the waterfront portion south of the study area, is under the greatest development pressure of any area within mainland Hyde County. It is anticipated that waterfront and inland portions of the Scranton/Sladesville area will begin to see significant development. One of the driving factors behind this is the areas proximity to services and healthcare provided in Belhaven, North Carolina to the south.

The following uses are located in the vicinity of Scranton/Sladesville: Van Horn’s Campground and Marina, Sears store, and Mayo’s Commercial Fishing Supply. Where map scale will permit, these uses are shown on the Hyde County Existing Land Use Map (Map 13).

Map 18 provides an overview of land use and the following table provides a summary of land use acreage within the community core study area of Scranton/Sladesville.

Table 59. Scranton/Sladesville Existing Land Use

Land Use	Acres	% of Total
Commercial	0.0	0.0%
Transportation	0.0	0.0%
Office and Institutional	1.0	0.2%
Recreational	0.0	0.0%
Industrial	0.0	0.0%
Residential	65.0	10.4%
Utility	0.0	0.0%
Vacant	563.2	89.5%
Total	629.2	100.0%

Source: Holland Consulting Planners, Inc.

iv. Community Issues

For each of the community core study areas, a list of assets and liabilities was established. These key concerns and issues will be utilized in conjunction with the existing land use map to formulate the future land use map, as well as the policy statements later in this document. The following provides a summary of key assets and liabilities for the Scranton/Sladesville Community:

Assets: Premier waterfront development opportunities
 Productive farmlands
 Closer proximity to medical care, shopping, etc.

Liabilities: County water not extended to all areas
 Frequent salt water intrusion
 State and federal guidelines
 Needs public wastewater collection & treatment system

MAP 18 - SCRANTON/SLADESVILLE EXISTING LAND USE

f. *Swan Quarter Community*

i. **History**

In the 1700s, Samuel Swann settled in the Wickham precinct (afterward Hyde Precinct). He cleared and made a settlement along the Pamlico Sound which was the boundary on the east and the south of the Wickham Precinct. *Swann's Quarter* was the first name given to this section. Eventually, the last *n* was dropped and the name given to the settlement was *Swan Quarter*. Another legend is that the town of Swan Quarter was settled in 1812 and was named for the thousands of swans that used the bay as a winter haven.

This little town, its streets lined by drainage canals, is near the head of Swan Bay. About two-tenths of a mile from the courthouse is the town's tiny harbor. This is the terminus of the canal leading up from Pamlico Sound. Here are fish and oyster houses and oyster and fishing boats (several thousand acres of surrounding land comprise a federal water fowl refuge).

This quiet little trading post center of about three hundred people became the county seat of Hyde County in 1836. It is one of North Carolina's unincorporated county seats. In 1836, commissioners were named to purchase land either from Zacheriah Gibbs for a county seat or within one-fourth mile of the place called *Swan Quarter* and to erect a courthouse on the property about 1854. It was remodeled and annexes were added in 1878, 1909, and 1950. It is a brick structure with courtrooms on the second floor. The bricks of the building are said to have been brought from England.

About 1910, The Bank of Hyde was established in Swan Quarter. However, early in 1927 the bank declared bankruptcy. The Branch Bank & Trust Company in Wilson, NC, took the bank over as receivers to liquidate the Bank of Hyde. The Branch Bank & Trust Company converted all assets possible into cash and was able to pay off a small percentage on the dollar to the depositors. The bank building was purchased and converted into an office. About 1934, the Engelhard Bank & Trust Company opened the bank in one-half of the building. Around 1950, the name was changed to The East Carolina Bank.

According to records, Thomas E. Mace was postmaster in the 1860s; however, the location of the office is not known. The next postmaster on record was Alexander Berry in the 1910s, and the office was located in a building owned by Mr. Berry. From this building, the post office was moved several more times. In 1948, the post office was moved to a permanent location – the new brick structure built especially for the Swan Quarter Post Office. Records show that the

Swan Quarter Post Office was always the main office in Hyde County. Star Route agents carried mail to offices at Swindell Fork, Fairfield, Lake Comfort, New Holland, Lake Landing, Engelhard, and Middletown.

About 1903, Harry Sussman of Belhaven started the first telephone service to Hyde County. A small switchboard was installed in the living room of the home of Mrs. Rosa Mason in Swan Quarter who, with her daughters Clyde and Ebbie Mason, operated it. The switchboard was operated with a small hand crank as were the telephones that hung on the wall. At first all the service was local. As the operation grew and more phones were installed, the company enclosed a part of the front porch to make an office for the switchboard. The service extended to other parts of the county and later to long distance.

ii. Demographics

The following table provides a summary of general demographics for the Swan Quarter community. This information was compiled based on census block data. Census block data is the smallest subdivision that the census bureau utilizes for reporting information. All census blocks that fall within the defined boundaries of the community core study area as depicted on Map 19 were included in the calculations.

Table 60. Swan Quarter Demographic Summary

Total Population:	327
Racial Composition:	
White	266
African-American	44
American Indian/Alaska Native	0
Asian Alone	4
Native Hawaiian/Pacific Islander	0
Some Other Race Alone	4
Two or More Races	9
Housing:	
Average household size	1.74
Number of housing units	152

Source: US Census Bureau; Holland Consulting Planners, Inc.

iii. Existing Land Use

Swan Quarter is the county seat of Hyde County, and therefore is home to the county's administrative facilities. At this time these facilities are not operational due to damage incurred during Hurricane Isabel. The land use within this area is comprised of a mix of commercial, office and institutional, and residential properties. Several of the commercial retail operations within Swan Quarter have closed down. A majority of the county facilities including the health department are located within this area, this includes the county's temporary office facilities which are located adjacent to the former O.A. Peay School. Industrial operations within Swan Quarter are made up of commercial fishing, as well as some farm related activities located along Main Street and Highway 264 to the north. It should be noted that the ferry terminal which serves Ocracoke Island is also located within this area.

Map 19 provides an overview of land use and the following table provides a summary of land use acreage within the community core study area of Swan Quarter.

Table 61. Swan Quarter Existing Land Use

Land Use	Acres	% of Total
Commercial	12.0	0.3%
Transportation	108.9	2.4%
Office and Institutional	48.4	1.0%
Recreational	0.0	0.0%
Industrial	75.6	1.6%
Residential	383.6	8.3%
Utility	1.7	<1.0%
Vacant	3,996.5	86.4%
Total	4,626.7	100.0%

Source: Holland Consulting Planners, Inc.

MAP 19 - SWAN QUARTER EXISTING LAND USE

iv. Community Issues

For each of the community core study areas, a list of assets and liabilities was established. These key concerns and issues will be utilized in conjunction with the existing land use map to formulate the future land use map, as well as the policy statements later in this document. The following provides a summary of key assets and liabilities for the Swan Quarter community:

Assets: Swan Quarter Sanitary District
Revenue for new county seat facilities
Productive farm lands
County seat

Liabilities: Frequent salt water intrusion (unfinished dike)
Downtown needs facelift
County seat facilities destroyed by hurricane (not yet rebuilt)

4. Land Use as Related to Water Quality by Subbasin

This section will serve to take a closer look at how land use in Hyde County relates to water quality. This section has been compiled with information provided by the North Carolina Division of Water Quality (DWQ). Under the Basinwide Management Program, the DWQ completes Basinwide Water Quality Plans.

Basinwide water quality planning is a non-regulatory, watershed-based approach to restoring and protecting the quality of North Carolina's surface waters. Preparation of a basinwide water quality plan is a five-year process, which is broken down into three phases. While these plans are prepared by the DWQ, their implementation and the protection of water quality entails the coordinated efforts of many agencies, local governments, and stakeholder groups in the state. The first cycle of plans was completed in 1998, but each plan is updated at five-year intervals.

It should be noted that the results of the monitoring efforts are not intended to provide precise conclusions about pollutant budgets for specific watersheds. Since the assessment methodology is geared toward general conclusions, it is important not to manipulate the data to support policy decisions beyond the accuracy of the data.

Two primary methods of water quality testing were performed in Hyde County. The details of this methodology are described below so that the information on the results of this testing can be better understood. The methods utilized were Benthic Macroinvertebrate Monitoring and the Ambient Monitoring System. DWQ also observes water bodies for the existence of algal blooms, which are an indication of poor water quality.

Benthic macroinvertebrates are organisms, primarily aquatic insect larvae, which live in and on the bottoms of rivers and streams. The use of macroinvertebrate data has proven to be a reliable water quality monitoring tool because most macroinvertebrates are immobile and sensitive to subtle changes in water quality. Benthic communities also respond to, and show the effects of, a wide array of potential pollutant mixtures.

The Ambient Monitoring System (AMS) is a network of stream, lake, and estuarine (saltwater) water quality monitoring stations (about 420 statewide) strategically located for the collection of physical and chemical water quality data (or parameters). Water quality parameters are arranged by freshwater or saltwater water body classification and corresponding water quality standards. Under this arrangement, Class C waters (refer to pages 86-88 for a description of water quality classifications) are assigned minimum monthly parameters with additional parameters assigned to waters with classifications such as trout waters and water supplies.

Prolific growths of phytoplankton, often due to high concentrations of nutrients, sometimes result in “blooms” in which one or more species of alga may discolor the water or form visible mats on the water's surface. Blooms may be unsightly and deleterious to water quality causing fish kills, anoxia, and taste and odor problems.

Water quality monitoring is conducted and reported at the subbasin level. Hyde County falls within two major river basins, and within these two basins four separate subbasins. The subbasins that fall within Hyde County are the Tar-Pamlico River Basin (subbasins 03-03-07 and 03-03-08) and the Pasquotank River Basin (subbasins 03-01-51 and 03-01-53). The following provides a summary of water quality issues within each of the subbasins, as well as how land use in these areas impact the overall water quality ratings.

a. Tar-Pamlico River Basin (Subbasin 03-03-07)

This subbasin falls primarily along the eastern portion of the Tar-Pamlico River Basin. In addition to Hyde County, the area encompassed by the subbasin takes in portions of Beaufort, Craven, Pamlico, Tyrrell, and Washington counties, and the following municipalities: Washington, Belhaven, Bath, and Aurora. Overall, there has been little population growth in the subbasin, and this pace is expected to continue. There are currently 20 NPDES wastewater discharge permits in the subbasin. None of the largest recorded dischargers are located within Hyde County. The Tar-Pamlico River Basin was designated as Nutrient Sensitive Waters. This designation required a strategy to improve water quality by decreasing nutrient levels. More information about this designation can be found in the Water Quality section on page 103.

The following table provides a summary of the use support ratings for ambient monitoring stations located within Hyde County. The table provides the 1998 and 2004 ratings. The table also provides an overview of the predominant land uses surrounding

these monitoring sites, as well as an indicator of how rapidly development is occurring in these areas. Map 20 delineates the locations of these ambient monitoring stations.

Detailed information regarding all four subbasins is provided in the environmental conditions/water quality section of the plan. This section begins on page 94. Discussions within this section include recommendations for improving water quality within the subbasin. It should be noted that there are currently no impaired water within this area.

Table 62. Ambient Monitoring Stations and Predominant Adjacent Land Use - Hyde County

Site #	Waterbody	DWQ Classification	Use Support Rating 1998*	Use Support Rating 2004*	Adjacent Land Use	Development Intensity
A-32	Pungo River	SC; NSW	ST	NR	Rural-Single Family Residential/Agriculture/Open Space	Low
A-33 - A-39	Pungo River	SB; NSW	ST	S	Rural-Single Family Residential/Agriculture/Open Space	Low
A-40 - A-43	Pungo River	SA; NSW	ST	S	Rural-Single Family Residential/Agriculture/Open Space	Low
A-44 - A-45	Pamlico River	SA; NSW	ST	S	Rural-Single Family Residential/Agriculture/Open Space	Low

*S - supporting; ST - supporting but threatened; NR - not rated.
Source: NC Division of Water Quality.

b. Tar-Pamlico River Basin (Subbasin 03-03-08)

This subbasin covers the majority of Hyde County. Included in this subbasin are the Swan Quarter, Engelhard, Fairfield, and Ocracoke communities. This subbasin is one of the most rural on North Carolina's coast. Land use within this subbasin in Hyde County is predominantly forested/open space and includes Lake Mattamuskeet and the Swan Quarter National Wildlife Refuge with higher concentrations of development within the communities mentioned above. There are currently seven NPDES wastewater discharge permits in the subbasin. It should be noted that there are currently no impaired water within subbasin 03-03-08.

MAP 20 - AMBIENT MONITORING STATIONS

c. *Pasquotank River Basin (Subbasin 03-01-51)*

This subbasin is located primarily along the northern border of the county. There are no major Hyde County communities in this subbasin. This subbasin does include the Alligator River and its tributaries, Alligator (New) Lake, part of Albemarle Sound, Croatan Sound, Roanoke Island, and Roanoke Sound. The Alligator River upstream of US 64 and all of its natural tributaries (not canals, Alligator Lake or ICWW) are classified as Outstanding Resource Waters. Two tributaries to Shallowbag Bay are classified as High Quality Waters. Land use within this subbasin is agriculture and forested/open space. This subbasin has the lowest population density in the Pasquotank River Basin. There are currently six NPDES permitted dischargers in the subbasin. There are no impaired waters in the subbasin.

d. *Pasquotank River Basin (Subbasin 03-01-53)*

This subbasin covers a small portion of northeastern Hyde County. The Scuppernong River, which drains to the Albemarle Sound, is the largest river system in this subbasin. This subbasin contains many public lands and significant natural heritage areas. Land use within this area is forest/open space. There are currently seven permitted NPDES dischargers in the subbasin, all of which are minor permits. It should be noted that there are currently no impaired water within the subbasin.

The biggest concern related to water quality is the degradation of shellfishing waters. While waters in the subbasins mentioned above are not impaired, there are several areas that are closed to shellfishing. Those areas are listed below:

- Far Creek - All those waters upstream from a line drawn from the eastern point of Gibbs Point at 35°29'37" N - 75°57'42" W, across Far Creek to a point 35°31'21" N - 75°57'17" W.
- Pains Bay - All those waters upstream from a straight line drawn across the Bay beginning at a point on the east shore at 35°35'18" N - 75°48'45" W; thence to a point on the west shore at 35°35'26" N - 75°49'12" W.
- Otter Creek - All those waters in Otter Creek upstream from a straight line drawn from a point on the east shore at 35°33'10" N - 75°55'00" W; thence to a point on the west shore at 35°33'14" N - 75°55'14" W.
- Berrys Bay - All those waters upstream of a straight line beginning at a point on shore at 35°32'10" N - 75°56'24" W; thence in a westerly direction to a point at 35°32'03" N - 77°56'51" W.

- Middletown Creek - All those waters in Middletown Creek upstream of a straight line beginning at a point on the north shore at 35°28'27" N - 75°59'45" W; thence to a point on the south shore at 35°28'07" N - 75°59'47" W.
- White Plains Marina - All those waters within White Plains Marina and extending beyond the dockage facilities 275 feet.
- Long Shoal River - All those waters in Long Shoal River upstream of a straight line beginning at a point on the east shore at 35°37'24" N - 75°52'12" W; thence in a straight line to a point on the west shore at 35°37'26" N - 75°52'58" W.
- Muddy Creek - All those waters in Muddy Creek upstream of a straight line across the mouth.
- 5th Avenue Pump Canal - All those waters in the 5th Avenue Pump Canal and extending beyond the entrance to the canal following the shoreline 300 yards in a southerly direction to a point at 35°35'08" N - 75°53'06" W; thence in a straight line 300 yards to a point in Long Shoal River at 35°35'09" N - 75°52'58" W; thence in a northerly direction in a straight line to a point at 35°35'23"N - 75°53'06" W; thence in a straight line to a point on shore at 35°35'18" N - 75°53'16" W; thence following the shoreline back to the point of beginning.
- All those waters in Lone Tree Creek upstream of a line across the mouth.
- All those waters upstream of a straight line across the mouth of the canal 300 yards south of Middletown Creek.
- Swan Quarter Bay Area - All those waters bounded by a line beginning at a point on the north shore of the Ferry Basin and Canal at 35°23'28" N - 76°20'02" W; thence in a straight line to Channel Marker #8; thence in a northwesterly direction to a point on the shore at 35°24'24" N - 76°20'46" W.
- Rose Bay - All those waters in Rose Bay upstream of a straight line beginning at a point on the east shore at Watch Point at 35°26'35" N - 76°24'51" W; thence across the bay to a point on the west shore at 35°26'33" N - 76°25'22" W.
- Oyster Creek - All waters upstream from a straight line beginning at a point on the north shore at 35°23'08" N - 76°18'57" W; thence to the south shore at 35°23'00" N - 76°18'57" W.

- Germantown Bay Area - All those waters upstream of a line beginning at a point on the east shore at 35°24'46" N - 76°26'55" W; thence in a straight line through Flashing Beacon #7 to a point on the west shore at 35°24'51" N - 76°27'15" W.
- Swan Quarter Ferry Basin and Canal - All those waters in the Swan Quarter Ferry Basin and Canal.
- Wysocking Bay Area - All those waters in Wysocking Bay, upstream of a straight line drawn from a point on the northeast shore at 35°26'08" N - 76°03'10" W; thence across the Bay to a point on the southwest shore at 35°25'44" N - 76°03'27" W.
- Juniper Bay - All those waters in Juniper Bay upstream of a straight line beginning at a point on the east shore at 35°22'54" N - 76°15'00" W; thence to a point on the west shore at 35°22'56" N - 76°15'18" W.
- Outfall Canal - All those waters in the Outfall Canal near North Bluff Point.
- Jordan Creek - All those waters in Jordan Creek upstream of a straight line beginning at a point on the north shore at 35°27'25" N - 76°36'48" W; thence to a point on the south shore at 35°27'13" N - 76°36'48" W.
- Pungo River - All those waters in Pungo River upstream of a straight line beginning at Haystack Point at 35°31'44" N - 76°33'26" W; thence across the river to a point on the south shore at 35°30'30" N - 76°33'38" W.
- Pungo and Pantego Creeks - All those waters in Pungo Creek and Pantego Creek upstream of a line across the river beginning at a point on the north shore at 35°32'28" N - 76°35'18" W; thence to a point on the south shore at 35°30'20" N - 76°37'44" W.
- Slade Creek - All those waters in Slade Creek upstream of a straight line beginning at a point on the north shore at 35°27'53" N - 76°32'59" W; thence to a point on the south shore at 35°27'42" N - 76°32'47" W.
- Jordan Creek Marina - All those waters within 150 feet of Jordan Creek Marina.

5. Historic, Cultural, and Scenic Areas

The National Register listings for Hyde County include the Lake Landing Historic District, an unspoiled rural expanse of connected plantations that is the state's largest historic district in land area. Other National Register properties include districts at Fairfield and Ocracoke and seven individual listings as follows:

- George V. Credle Housing and Cemetery
- Hyde County Courthouse
- The Inkwell (Octagon House)
- Lake Mattamuskeet Pump Station
- 1823 Ocracoke Light Station
- Albin B. Swindell House and Store
- Wynne's Folly

The Historic Preservation Office has provided technical restoration assistance to Mattamuskeet Lodge, Ocracoke Lighthouse, the US Coast Guard Station - Ocracoke, the Williams House in Ocracoke, and several rural properties including the Octagon House. State grants of \$187,000 have assisted in restoration of the Octagon House and Mattamuskeet Lodge, archaeological work at Pomeiooc, and preparation of the Ocracoke Historic District National Register nomination. Federal grants of \$127,000 assisted the county architectural survey, preparation of National Register nominations, and restoration of the Octagon House and Ocracoke Light Station.

Ultimately, these grants helped provide for excavations which were conducted at the ancient prehistoric Pomeiooc Indian village in 1985-1987 as well as examination of twenty shipwrecks and fragments off Ocracoke Island by underwater archaeologists. In addition, the North Carolina State Historic Preservation office statewide inventory contains information on 50 prehistoric and historic archaeological sites in Hyde County.

J. Land Suitability Analysis

A thorough analysis of all impediments to development, as well as existing community facilities, has been completed in Sections 5(F) and 5(G) of this Plan. These same sections also analyzed factors that attract development, such as the presence of transportation, water and waste disposal capabilities. All of these variables factor into suitability for development for a specific piece of property. In order to assess what effect the various man-made and environmental constraints will have on development throughout Hyde County, an overlay analysis was performed. This overlay analysis is a GIS-based process geared toward evaluating the suitability of land for development. The procedure is very similar to the practice developed by Ian McHarg, the Scottish urban designer, in which geospatial data layers are referenced to each other in an effort to determine what portions of a land mass appear to be the most favorable sites for a specific land use.

The overall process utilized Arcview GIS software with the Spatial Analyst extension along with data layers provided by the North Carolina Center for Geographic Information and Analysis (NCCGIA). The analysis takes into consideration a number of factors, including natural systems constraints, compatibility with existing land uses and development patterns, existing land use policies, and the availability of community facilities. The end product of this analysis is a land suitability map that shows underutilized land that is suited or not suited for development (see Map 21). This map can be used as a foundation for the discussion and formation of county-wide land use policies and should be compared to the future land use map to be developed in Section 6 of this Plan. The major difference between the existing and future land suitability maps is that the future land suitability map reflects the impact of the water and sewer systems proposed to be constructed by Hyde County, as well as NCDOT roadways.

Land suitability analysis involves the application of criteria to the landscape to assess where land is most and least suitable for development of structures and infrastructure. A computer application is not essential for this analysis, but greatly simplifies the process. There are eight key steps to completing the overlay analysis:

- (1) Define criteria for the analysis
- (2) Define data needed
- (3) Determine what GIS analysis operations should be performed
- (4) Prepare the data
- (5) Create a model
- (6) Run the model
- (7) Analyze results
- (8) Refine model as needed

All of these steps have been completed, and as noted above, the end product is displayed on Map 21. There were no additions or adjustments to the default layer sets and weighting factors provided by the Division of Coastal Management to Hyde County for the existing land suitability analysis map. Prior to producing the map, data was compiled and each data layer in conjunction with criteria was assigned a weight. Hyde County was then divided into one-acre squares. Each of these one-acre squares of land was given a score based on how that respective piece of property related to each data layer. The score for each data layer was multiplied against that given layer's weight. The scores for each layer were added together to determine a suitability rating for that one-acre square of property. The suitability rating falls into four primary categories: least suitable, low suitability, medium suitability, and high suitability.

The following table summarizes all data layers used, including the criteria and weight assigned to each layer.

Table 63. Land Suitability Analysis Criteria

Layer Name		Criteria and Rating				Assigned Weight
		Least Suitable	Low Suitability	Medium Suitability	High Suitability	
		0	-2	1	+2	
Coastal Wetlands	Exclusion*	Inside	--	Outside	--	
Exceptional & Substantial Non-Coastal Wetlands	Exclusion*	Inside	--	Outside	--	
Estuarine Waters	Exclusion*	Inside	--	Outside	--	
Protected Lands	Exclusion*	Inside	--	Outside	--	
Storm Surge Areas	Weighted	--	Inside	--	Outside	2
Soils (Septic Limitations)	Weighted	--	Severe	Moderate	Slight	2
Flood Zones**	Weighted	--	Inside	--	Outside	2
HQW/ORW Watersheds	Weighted	--	Inside	--	Outside	1
Natural Heritage Areas	Weighted	--	< 500'	--	> 500'	1
Hazardous Substance Disposal Sites	Weighted	--	< 500'	--	> 500'	1
NPDES Sites	Weighted	--	< 500'	--	> 500'	1
Wastewater Treatment Plants	Weighted	--	< 500'	--	> 500'	1
Discharge Points	Weighted	--	< 500'	--	> 500'	1
Land Application Sites	Weighted	--	< 500'	--	> 500'	1
Developed Land	Weighted	--	> 1 mi	.5 - 1 mi	< .5 mi	1
Roads	Weighted	--	> 1 mi	.5 - 1 mi	< .5 mi	2
Water Pipes	Weighted	--	> .5 mi	.25 - .5 mi	< .25 mi	3
Sewer Pipes	Weighted	--	> .5 mi	.25 - .5 mi	< .25 mi	3

*Data layers that are slated as exclusion have a suitability of 0 or 1, meaning that if a specific one-acre piece of property falls within one of these areas, it is automatically considered least suitable for development.
Source: NCCGIA and CAMA.

Overall, land in Hyde County is predominantly unsuitable for development. Table 64 below provides a summary of land suitability acreage based on the results of the overlay analysis. The majority of the land within Hyde County determined to have a high suitability rating is located along major roadways, such as US Highway 264, and within and adjacent to the existing developed areas near Swan Quarter, Engelhard, Ponzer, Scranton, Fairfield, and Ocracoke Village.

Table 64. Land Suitability Analysis for Hyde County, 2005

	Acres	% from Total
Least	258,118	65.3%
Low	57,220	14.5%
Moderate	49,537	12.5%
High	30,509	7.7%
TOTAL	395,384	100.0%

Source: NCCGIA and Holland Consulting Planners, Inc.

Map 21 - Land Suitability Analysis

Section 6. Plan for the Future

A. *Hyde County Vision Statement*

1. Mainland Community Vision

The Hyde County Mainland will encourage sustainable economic growth and residential development that is consistent with preservation of its abundant natural resources, rural character, indigenous culture, and historic structures. The county will aggressively pursue new industrial and commercial development, continue to support programs that improve existing housing, encourage new residential development with an emphasis on affordability, expand county infrastructure, expand emphasis on tourism, and develop new human services to the extent that these initiatives are not inconsistent with the goal stated above.

2. Ocracoke Island Vision

The vision of Ocracoke Island in the 21st century is a community that ensures livability and economic viability by offering the discerning vacationer a preferable alternative to the over commercialized beach destinations while providing improved attention to Ocracoke residents.

The mission of county government should be to facilitate and support:

- Efforts to maintain the historic village assets.
- Efforts to preserve traditional native occupations and crafts including hunting and commercial fishing.
- Efforts to enhance the Island shopping opportunities with small locally owned shops and businesses.
- Efforts to provide affordable housing.
- Cooperative efforts with the community, NPS, and DOT to maintain access to the Island and provide necessary amenities. Ocracoke and Mainland should emphasize access.
- Support village craftsmen.

B. *Future Demands*

1. Introduction

One of the primary purposes of this land use plan is to project the demand for various types of land uses and infrastructure in the future, so that the County can provide a sufficient regulatory environment (e.g., zoning compatible with future land use needs) and sufficient infrastructure to accommodate future growth in a responsible and sustainable fashion. This section of the plan projects future demands for land use and infrastructure based on future

growth projections as well as predicted demographic and economic changes. This section must be reviewed and considered with the policies and implementing actions specified in Section 6(E), page 184.

2. Residential Land Use

Refer to policies P.7 to P.12 and implementing actions I.7 to I.14, as well as the conservation, stormwater management, and water quality policies/implementing actions.

Despite a modest increase in population, Hyde County has experienced relatively significant growth in residential development since the last CAMA Land Use Plan update in 1997. The County experienced an increase of 397 housing units between 1990 and 2000, despite a population increase of only 415 persons. This fact can be partially explained by the following nationwide phenomena:

- Homeowners are increasingly demanding more space for their homes and more land for their homes to sit on. According to the National Association of Home Builders, the average home size in the United States is now 2,200 square feet, up from 1,400 square feet in 1970.
- Consistently low interest rates for homes since 2001 have encouraged construction of secondary and investment properties. According to the National Association of Realtors, 36% of all homes purchased in the United States in 2004 were second or investment homes, an increase of 16.3% over 2003.
- Sixty-nine percent of households owned their homes in 2004, up from approximately 64% in 1970. For the first time ever, in 2004, a majority of minority households own their homes. The availability of mortgage products that lead to homeownership encourage home construction and purchase.
- Hyde County has been an active participant in state- and federally-funded low-income redevelopment programs during the past several years, and has been successful in securing a variety of disaster recovery funds following Hurricane Floyd in 1999 and Hurricane Isabel in 2003. The county has assisted twelve households with CDBG Scattered Site assistance (rehabilitation or replacement) since 2001, and participated in the Hurricane Floyd Crisis Housing Assistance Program and Hazard Mitigation Grant (HMGP) program following Hurricane Floyd. The county is also managing a CDBG Revitalization Strategies Project that has succeeded in the replacement or rehabilitation of ten homes in Engelhard since 2002. Currently, the county is involved in a CDBG Supplemental Assistance program involving the replacement of seven homes damaged by Hurricane Isabel, and two Hazard Mitigation Grant (HMGP) programs including the acquisition of approximately ten

homes and the elevation of an additional 37 homes throughout the county that were damaged during Hurricane Isabel.

In addition to these nationwide trends, the average household size on both the Mainland of Hyde County and (especially) on Ocracoke Island is falling as the population ages and more one or two person households are established.

Whereas the national and local housing trends described above are predicted to continue for the first 5 to 10 years of the planning period, the following trends regarding housing demand are suggested:

- Due to the anticipated wave of retirees and persons seeking second/ investment homes in the County, demand for medium-to-high density condominium/ townhome/patio home developments will increase, particularly on Ocracoke Island, but also in waterfront locations near Engelhard and Swan Quarter with access to public sewerage.

CAMA permitting requirements and the lack of available public water service connections (on Ocracoke Island) will serve as a limiting factor to the development of such properties. The availability of additional water service capacity and/or public sewerage on Ocracoke Island will very likely result in dramatically increased development quantity, density, and intensity. As such, the availability of any new, significant public water or sewer infrastructure should be preceded by careful consideration of the impact of such infrastructure on development quantity, density, and intensity as well as consideration of revision and/or expansion of the current Ocracoke Development Ordinance.

- As property values continue to escalate on the Outer Banks, eastern Tyrrell County, southern Camden and Currituck Counties, mainland Dare County, and northeastern Hyde County will become increasingly desirable as a location for workers commuting to the Outer Banks and their families and persons wanting relatively convenient and affordable access to the Outer Banks. Both moderately-priced and higher-end single-family residential development can be expected, especially in areas in and near Engelhard where public sewer is available and areas near the waterfront north and south of Engelhard.
- Demand for second homes/retirement homes is likely to increase on and near the waterfront in the Scranton/Makleyville area, due to the beautiful views of the Pungo River and Pamlico Sound, access to the Pungo River and the Atlantic Intracoastal Waterway (AIWW), and relative proximity to the commercial amenities available in Belhaven and Washington and to US Highway 17. The density and intensity of this development will be limited by the lack of public water and waste

disposal services in this area, and by CAMA restrictions related primarily to potential impacts on anadromous fish and water quality.

- Demand for both primary residences and second/retirement homes is likely to increase in the Fairfield area, on and near lakefront property or property with lakefront access, due to the amenity values of Lake Mattamuskeet. The quantity, density, and intensity of this development will be limited by lack of public water and waste disposal systems and poor soil conditions for private water and waste disposal systems.

Due to limitations in demand and/or infrastructure availability, significant changes in other areas of the County currently in residential use are not anticipated.

3. Commercial Land Use

NOTE: Refer to policies P.13 to P.18 and implementing actions I.15 to I.20.

Agricultural/seafood processing operations and related businesses (e.g., icehouses) are among the largest commercial enterprises in Hyde County, but will be addressed under the Industrial Land Use section, due to the intensity of activity associated with these businesses.

Retail and wholesale sales and office/institutional land uses are limited in Hyde County. A concentration of tourism-related commercial operations such as retail shops and restaurants can be found in the Village of Ocracoke. Office/institutional land uses are concentrated in Swan Quarter and Engelhard. Small retail/wholesale nodes exist in Scranton/Sladesville, Ponzer, Fairfield, Ocracoke Village, Swan Quarter, and Engelhard (see Maps 14 through 19).

Although the lack of large, regional concentrations of establishments engaged in retail and wholesale sales does limit the County's tax base, the County has largely avoided the linear strip commercialization of major roadways so prevalent elsewhere in North Carolina. Linear strip commercialization, also known as "urban sprawl," can result in conflicts between adjacent non-commercial developments, as commercial development encroaches on residential, agricultural, or industrial districts. This development pattern is also not cost-effective for local government, since it often requires the extension of services such as roadways, water and sewer pipes, and fire/police protection outside of areas currently well-served by these essential services. Finally, this type of development pattern contributes significantly to traffic congestion and is viewed by most as highly unsightly, detracting from the charm and character of the County.

On the other hand, a "nodal" development pattern focused in relatively concentrated areas near major intersections and existing public infrastructure and services, has the following advantages to the "linear" type of development:

- Concentrates the visual impact of commercial development.

- Maximizes the access to new development.
- Has the greatest potential market for pass-through traffic.
- Minimizes encroachments on residential neighborhoods and other incompatible land uses.

Hyde County should consider policies and programs that encourage the preservation of the current, nodal orientation of commercial development in or near the existing core communities within the County.

Retail and (to a lesser extent) wholesale commercial land uses generally follow residential populations. For this reason, it is likely that a small “neighborhood” commercial node could develop in the Scranton/Makleyville area during the 20-year planning period, or north of this area on or near US Highway 264. This node would be intended to provide for everyday, convenience shopping intended to serve residential neighborhoods, consistent with the environmental requirements of the area. Convenience shopping facilities are those which provide space for retail and service businesses serving the immediate neighborhood. Regulations should be considered that will ensure that any aspects of commercial land use possibly conflicting with residential development would be minimized.

4. Industrial Land Use

NOTE: Refer to policies P.19 to P.27 and implementing actions I.21 to I.28.

For the purposes of this Plan, the term “Industrial Land Use” is being used very broadly to include any land use that produces levels of noise, odor, or other potentially offensive characteristics that it may be considered objectionable by most adjacent land owners (except for agricultural operations).

Land uses in the County that would fall under this definition include seafood processing operations, agricultural processing operations, icehouses, animal operations, and the Hyde Correctional Institution. Maps 14 through 19 depict the location of such operations in and near the aforementioned core communities in Hyde County. All such uses are located on the Mainland portion of the County.

Seafood processing operations are primarily located along or near waterfront areas on the mainland of Hyde County, or in areas with access to the water. The seafood/ seafood processing industry is currently in a state of transition, with many operations in North Carolina closing and many more expanding to incorporate new technologies and new practices (e.g., aquaculture). The County should continue to carefully consider strategies for:

- Preserving existing seafood operations.
- Encouraging the use of new technologies and practices.

- Preventing conflicts between existing and future seafood operations and new residential/commercial development.
- Planning for reuse of land on and near failed and failing seafood operations.

Hyde County generally lacks the required access to transportation networks and labor force necessary to attract large-scale manufacturing and other large-scale industrial operations, and none are expected during the 20-year planning period, through 2030. As eastern North Carolina grows, however, several “industrial-type” or semi-industrial uses are likely to be attracted to the County during the planning period, including:

- Marinas, seeking access to the numerous waterways in the County, including the Atlantic Intracoastal Waterway.
- Large animal operations (such as Rose Acre Farms) and agricultural processing operations.
- Municipal solid waste landfills, demolition and construction debris recycling facilities (such as the proposed Port Pungo Marine Terminal/Alligator River Recycling facility), and other large and potentially intense “nuisance” uses often prohibited in more densely populated areas of the State.

All of the above-listed industrial or semi-industrial land uses provide benefits to the County in terms of job creation and economic development, and should be encouraged. However, because of the environmental sensitivity of much of Hyde County, reflected in CAMA permitting requirements, and the potential for conflict between these land uses and present/future recreational, commercial and residential uses, the County should consider developing specific site design and development criteria for such uses and should encourage siting of such uses in specified areas of the County, particularly those areas that have the following characteristics:

- ***Appropriate terrain.*** Reasonably well-drained and flat.
- ***Sufficiently large vacant land areas.*** A minimum of 50 acres is often needed for most industrial or semi-industrial uses.
- ***Availability of infrastructure and transportation.***
- ***Proximity to labor force.***
- ***Compatibility with surrounding uses.***
- ***Compatibility with the natural environment/permitting requirements.***

Ocracoke Island does not have any uses classified as industrial, does not have land suitable for such uses, has not experienced demand for such uses, and does not have any vacant or readily redevelopable land for such uses. Intense land uses that could generate noise or odors incompatible with residential uses - such as marinas/boat docks and gas stations - do exist in the Village, but do not present known negative impacts to adjacent or nearby residential or retail development. However, because the potential for such conflicts exists in the future, the County

should consider land use regulation on Ocracoke Island that ensures that land uses posing potential nuisance to existing landowners is carefully sited and regulated.

5. Transportation

NOTE: Refer to policies P.70 to P.78 and implementing actions I.76 to I.85.

As noted in Section 5(G) of this Plan, numerous bridges along US Highway 264, the primary east/west thoroughfare across the County, will be replaced during the initial five years of the planning period (i.e., before 2013 - see Map 11) with improved designs. These projects should help reduce flooding at these sites during times of high water and should be less subject to damage from such flooding than the current bridges.

Additionally, bridges along State Roads 1110 and 1340 will also be replaced. Traffic counts established by the NC Department of Transportation (NCDOT) do not support any expansion of US 264 to three or four lanes during the planning period.

The most significant anticipated changes to the transportation system in the County involve transportation to and within Ocracoke Island. As has been noted at numerous points in this Plan, effective ferry transport to Ocracoke Island is essential to the Island's economic vitality, as the only other way to reach the island is through air transport or private boat. The 2004-2010 Transportation Improvement Plan (TIP) of the NCDOT calls for the refurbishment of the Ocracoke Visitor's Center and the purchase of two, 180-foot double-ended ferries for service between Hatteras and Ocracoke and the purchase of a "fast ferry" between Cedar Island and Ocracoke. The planned "fast ferry" could cut the current 2 and ½ hour ferry crossing time by approximately 20%.

Although no commitments have been made by NCDOT regarding the specific use of these new ferries, any expansion of ferry operations will benefit Ocracoke's economy by ensuring that goods and services, residents and visitors can travel to-and-from the Island with reasonable speed and frequency.

Additionally, a new public trolley system operated by Hyde County Transit and the National Park Service (NPS), with assistance from NCDOT and local businesses, should be in place on the Island by the summer of 2006, with free or modest fares for users. This system will operate during the summer months and will help reduce potentially dangerous and common pedestrian/vehicle interactions on the Island. Efforts to subsidize and support this trolley system should be actively pursued, as it should help alleviate highly congested and dangerous traffic conditions on the Island.

Finally, a section of NC Highway 12 on NPS land on Ocracoke Island previously subject to overwash will be replaced in 2006, making this vital transportation link less subject to periodic damage and closures.

Cumulatively, these transportation improvements should significantly improve Ocracoke Island's accessibility and traffic flow. Efforts to ensure well-maintained, frequent and affordable ferry service and boating channels to Ocracoke Island and efforts to improve traffic flow and reduce pedestrian/vehicular conflicts should continue throughout the planning period, however, to ensure that the benefits of the aforementioned scheduled projects continue into the future.

6. Education

Refer to policy P.130 and implementing actions I.151 and I.160.

No significant modifications or improvements to the facilities or plant of the Hyde County School system are anticipated during the initial 10 years of the planning period, other than maintenance of existing facilities. Consolidation of all public schools on the Mainland at the Mattamuskeet site as well as recent improvements and expansion of facilities at that site are sufficient to meet all student and projected student growth needs through the planning period.

7. Recreation

NOTE: Refer to policies P.1 to P.6 and implementing actions I.1 to I.6.

Due to the abundant private, Federal, and State-provided recreation opportunities (see Section 5(G), pages 117-118 for more details) in the County, the County is unlikely to implement a Parks and Recreation Department or Program during the upcoming planning period.

The most significant role of the County during the upcoming 20-year planning period should be as follows:

- ***Ensure public waterfront access:*** Despite extensive waterfront in the County, and numerous Federal or State-provided waterfront access sites, the County lacks County-controlled public waterfront access sites. The County recently applied for a CAMA Waterfront Access Grant to develop an interpretive waterfront site and boardwalk in Swan Quarter, and appears likely to receive funding under this program. Such sites, particularly in the County's core waterfront communities, can provide a solid foundation around which private investment and development can occur on and near the County's waterfront and should be sought and supported.
- ***Promote and preserve existing private campgrounds and lodges:*** Tourism related to hunting, fishing, and camping provides an economic base for Hyde County, one that can expand significantly as recreational opportunities in other areas of North Carolina decrease. The County should ensure that its land use and other policies enhance, rather than diminish, private campgrounds, hunting lodges, and similar facilities.

- **Promote Machapungo Park (MPP) and similar projects:** As mentioned in Section 5(G) of this Plan, the 350-acre MPP site, currently in the planning stages, provides a glimpse of the extent to which tourism can serve as a source of clean, economic development that can flourish in Hyde County, due to its significant environmental, historical, and cultural resources. Projects that use the County's natural, historic, and cultural resources to promote tourism, such as MPP, should be supported by the County as long as they are well planned and conceived from a business perspective (i.e., likely to achieve their promised economic impact).
- Work with State and Federal agencies to improve recreational opportunities.

8. Water System

NOTE: Refer to policies P.56 to P.69 and implementing actions I.55 to I.75.

Both the Mainland Hyde County and Ocracoke Island potable water systems have expansion plans during the 20-year planning period. Current capacity limitations in both systems, especially the Ocracoke Sanitary District System, have served to restrict growth in the County.

On Mainland Hyde County, two significant factors are driving the need for water system capacity expansion. The first is the fact that the current water plants in the County are located in Fairfield and Ponzer in the eastern end of the County. Water must be pumped to the Engelhard area which is costly and inefficient. Additionally, seasonal water demands, primarily associated with the seafood and agricultural products processing industry, are stretching current system capacity, especially given the large demand for water generated by the Rose Acre Farms facility. Additionally, the NC Department of Environment and Natural Resources has required that the County improve the quality of the wastewater discharged from its water treatment facility.

A new 300 gallon per minute (according to the Hyde County Water Supply Plan) Reverse Osmosis Water Treatment Plant near Engelhard (completion expected by the end of 2008) will allow the County to more efficiently serve the Engelhard/Eastern Hyde area while freeing up capacity at the Ponzer Plant to serve the Rose Acre Farms facility and any new customers through the 20- year planning period. The County is currently in the process of studying and evaluating feasible alternatives to improve the wastewater discharged at the Ponzer Plant and will implement the most cost-effective solution during the planning period. These improvements will result in a total water system capacity of 1,452,000 gpd.

As noted earlier in this section, new or upgraded water service connections are not being released by the Ocracoke Sanitary District until this planned water treatment plant system upgrade is completed. An approximately \$2.2 million upgrade to the Island's water system which will effectively double water treatment capacity to 1.1 million gallons per day from the current 534,000 gpd is in the permitting stage and should be completed during the planning period. The

availability of approximately doubling the current water system capacity will encourage additional development on the Island and development restrictions beyond the Village's current Development Ordinance should be considered.

9. Sewer/Wastewater System

NOTE: Refer to policies P.56 to P.69 and implementing actions I.55 to I.75.

Both of the publicly-owned sewerage systems in Hyde County were implemented recently (Swan Quarter in 2003 and Engelhard in 2002) and no substantial modifications to those systems are anticipated during the planning period. The Sanitary District Boards for each system make decisions regarding expansion and improvements to the systems and will consider expanding their systems based on individual development proposals and system needs.

As noted in Section 5(G) of this Plan, there does not appear to be political support for a public sewerage system on Ocracoke Island and there is unlikely to be so during the planning period, so no centralized sewer system is anticipated.

The Hyde County Department of Health will continue to be responsible for septic tank permitting throughout the County and for facilitating the conversion of failing systems to more modern and effective systems when properties are sold or substantially redeveloped.

10. Stormwater Management/Drainage

NOTE: Refer to policies P.51 to P.55 and implementing actions I.43 to I.54; and policies P.88 to P.105 and implementing actions I.98 to I.108.

Hyde County is one of 17 counties that proportions of its land mass drains in the Tar-Pamlico River Basin. In the mid-1980s, the Tar-Pamlico River Basin was designated "Nutrient Sensitive Waters." A strategy to reduce nutrient inputs was called for by the NC Environmental Management Commission. The strategy called for a 30% reduction in nitrogen levels and no net increase in phosphorous levels according to 1991 levels.

The strategy was implemented in phases. Phase I dealt with point source discharges of water laden with nutrients. Hyde County had no "point source" discharges; however, the new Reverse Osmosis Water Treatment Plant will be a point source discharger. Phase II dealt with "nonpoint source" nutrient reduction in the waters of the Tar-Pamlico River Basin. Goals were set for the reduction of nutrients in the basin waters from aquaculture. At present, Hyde County has met those goals. A local advisory group has been appointed to develop and monitor a strategy to meet and maintain the goal reduction. Hyde County Soil and Water Conservation District (SWCD) has taken the lead in monitoring the reduction. It is recommended that SWCD continue to monitor the status of the agriculture rule.

There is a stormwater rule in Phase II which requires six municipalities and five counties to develop and implement a strategy to reduce nitrogen runoff by 30%. These areas are the more urbanized areas of the river basin. In this planning period, Hyde County will not become urbanized. However, there will be development occurring in the county. A local program should be implemented that would require developers to address stormwater management. An education program should be developed targeting developers, businesses, and homeowners about stormwater management.

Grant funds and assistance programs, such as the NC Agricultural Cost Share Program, the Clean Water Management Trust Fund, and the Wetland Restoration Program, are available to help fund Best Management Practices (BMPs) to maintain and meet the reduction goals of both the agriculture rules and the stormwater rule.

Drainage and Saltwater Intrusion. Drainage and saltwater intrusion have been identified as areas of concern in Hyde County. Agriculture is a major industry in Hyde County; drainage is imperative to production of crops. The drainage system of the Albemarle peninsula was designed in the 1800s. There has been very little improvement in the drainage systems in Hyde County since the 1960s. Flooding during Hurricanes Floyd and Alex drew even more attention to drainage as the flood waters were slow to recede because of poor drainage. A comprehensive study of the drainage system of Hyde County should be undertaken. A program should be implemented to address the concerns of the study. The county should work closely with Hyde County SWCD to take steps to correct drainage problems identified. Another issue of concern is the loss of farmland and developable land due to saltwater intrusion. Hyde County again should work with Hyde County SWCD to address this issue.

NOTE: Hyde County should develop a master drainage plan to protect current and future development as well as to protect water quality and salinity levels.

11. Solid Waste

NOTE: Refer to policies P.129 to P.143 and implementing actions I.143 and I.161.

The County's contracted solid waste and recycling services agreement with David's Trash Service of Bath, North Carolina, for the Mainland portion of the County is expected to remain in place throughout the planning period and sufficient capacity exists for waste disposal at the East Carolina Landfill in Bertie County during this period.

Hyde County should make every feasible effort to minimize the generation of waste, to recycle materials for which viable markets exist, and to use recycled products and materials in the development of this plan where suitable. Any waste generated by Hyde County that cannot be beneficially reused or recycled must be disposed of at a solid waste management facility permitted by the Division. The nearest facilities are the Dare County C&D Landfill, Permit #28-03, located

on NC 264 in Stumpy Point and East Carolina Landfill, Permit #08-03, located on NCSR 1225 in Aulander.

The County's contract with Dare County for provision of solid waste collection and disposal services on Ocracoke Island is also likely to remain in effect during the planning period.

12. Law Enforcement

NOTE: Refer to policy P.129 and implementing actions I.74, I.143, I.144, I.152, and I.153.

Numerous facility and equipment upgrades are needed and should occur during the planning period for the County's Sheriff and Emergency Management Departments. As mentioned in Section 5(G) of this Plan, effective communications across the Mainland of the County and Ocracoke Island is essential due to the lack of municipal law enforcement and the large size of the County. Such communication is particularly important during mass evacuations, such as those required during an approaching hurricane or other tropical storm.

During the planning period, a new Public Safety Center, co-located with the new Hyde County Government Center planned for Swan Quarter, will house Emergency Management and Sheriff's Department personnel and headquarters. Additionally, the County's Public Safety Communications Plan will be fully implemented to ensure seamless communication between Sheriffs' and Emergency Management Personnel and the County's E-911 system will be updated.

The size of the Sheriff's Department staff on Ocracoke Island during peak summer season should be carefully monitored to ensure that it is sufficient to meet increased public safety needs generated by peak seasonal crowds.

13. Fire/Rescue Services

NOTE: Refer to policy P.139 and implementing actions I.74 and I.143.

The Communications Equipment upgrades discussed in the previous subsection, such as improvements to the County's E-911 System and improved Emergency Communications Equipment will also benefit the County's Fire/EMS Departments, which will be able to coordinate more closely and effectively. See pages 111-112 for a discussion of fire protection services.

14. Natural Gas

NOTE: Refer to policy P.69 and implementing actions I.57 and I.60.

North Carolina Natural Gas was recently made available in the Swan Quarter area of Hyde County. The main coverage area is from the schools to the courthouse and Rose Acres Farms.

North Carolina Natural Gas wanted to extend lines to Engelhard, but funding would not support the extension. However, expansions are expected to occur but specific locations are not known at this point.

C. Land Use/Development Goals and Implementing Actions

This section of the plan is intended to guide the development and use of land in Hyde County. The future land use maps and policies are intended to support Hyde County's and CAMA's goals. Specifically, this section includes Hyde County's goals, land use development policies, and the future land use maps for the county and the six individual study areas. The future land use maps and the specified development goals are based on the Hyde County community concerns (identified on pages 13-15 of this plan) and the future needs/demands (identified in Section 6(B) of this plan). Additionally these policies should serve as a basis for carrying out the Land Use Plan Vision Statement, which can be found on page 169.

D. Policies/Implementing Actions

1. Introduction

It is intended that the policies included in this plan are consistent with the goals of CAMA. This plan will address the CRC management topics for land use plans and comply with all state and federal rules and regulations. The following will serve as a guideline to assist in assuring that this land use plan will guide the development and use of land in a manner that is consistent with the management goal(s), planning objective(s), and land use plan requirements of this plan. These policies/implementing actions will apply in the county as a whole and the individual study areas. All policies/implementing actions shall be used for consistency review by appropriate state and federal agencies.

Resource conservation and impact analysis issues are addressed throughout the policies and implementing actions included in this plan. However, the following conservation related policies and implementing actions are emphasized:

- Public Access, page 186.
- Conservation, page 192.
- Stormwater Control, page 196.
- Natural Hazard Areas, page 205.
- Water Quality, page 208.
- Cultural, Historical, and Scenic Areas, page 211.

At this time, Hyde County does not have any adopted zoning or land development code. It is anticipated that during the planning period (20 years), the county will need to address this issue due to increasing development pressure. As the county researches its options regarding the

establishment of a land development code and continuing policy implementation, the following should serve as guiding land use/planning principles:

- Consult the Land Use Plan during the consideration of all development projects, and
- Consider the following in deliberation of all small and large scale development requests:
 - Consider the policies and implementing actions of this plan and all applicable CAMA regulations in their decisions regarding land use and development (including 15A NCAC 7H).
 - Consider the language, policies, and districts outlined on the Future Land Use Map in all discussions regarding the potential establishment of zoning districts within the defined subareas, or the County overall.
 - The county will utilize this plan to ensure that land use conflicts throughout the County are kept to a minimum. The Future Land Use Map for Hyde County, as well as all defined subareas discussed within this section, should serve as a recommendation for future growth and development throughout the County.
 - Strip development should be discouraged throughout the County. Strip development is a melange of development, usually commercial, extending along both sides of a major street. Strip development is often a mixture of auto-oriented enterprises (e.g., gas stations, motels, and food stands), and truck-dependent wholesale and light industrial enterprises along with the once-rural homes and farms that await conversion to commercial use. Strip development may severely reduce traffic-carrying capacity of abutting streets by allowing for excessive and conflicting curb cuts.
 - The concept of uniformity should be supported in all land use and development deliberations. Uniformity is a basic premise of land use planning.
 - Areas designated for mixed zoning should be encouraged to promote more sustainable smart growth development.
 - Land development regulations should also be designed to protect the environment and natural resources, including water quality.

It is intended that this plan will serve as the basic tool to guide development/growth in Hyde County subject to the following:

- Hyde County Ordinances should be revised from time to time to be consistent, as reasonably possible, with the recommendations of this plan and the evolving nature of the county's growth and development policy.
- Land development regulations should be designed: to lessen congestion in the streets; to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; and to facilitate the adequate provision of transportation, water, sewerage, schools, parks, and other public requirements.
- Hyde County will coordinate all development proposals with appropriate State and/or Federal agencies.

2. Policies Regarding Land Use and Development in AECs

Hyde County accepts state and federal law regarding land uses and development in AECs (15A NCAC 7H). By reference, all applicable state and federal regulations are incorporated into this document.

All policies and implementing actions are to be utilized by the State of North Carolina for consistency review. Note the following:

- No policy is subordinate to another.
- All management topics have equal status.
- The future land use map may show some areas in a developed category which may also include sensitive habitats or natural areas. The intent is that development should be designed/permitted to protect these areas through utilization of concepts such as cluster development. Development/project approval will be based on project design which avoids substantial loss of important habitat areas.
- The village plans are intended to be consistent with the county-wide future land use map.

E. *Land Use Plan Management Topics*

1. **Introduction**

The purposes of the Coastal Resources Commission (CRC) management topics are to ensure that CAMA Land Use Plans support the goals of CAMA, to define the CRC's expectations for the land use planning process, and to give the CRC a substantive basis for review and certification of CAMA Land Use Plans. Each of the following management topics (Public Access, Land Use Compatibility, Infrastructure Carrying Capacity, Transportation, Natural Hazard Areas, Water Quality, and Local Areas of Concern) include three components: a management goal, a statement of the CRC's planning objective, and requirements for the CAMA Land Use Plan. These policies apply to the entire county including the six future land use study areas which are identified on Maps 23 through 28 on pages 227 to 232. The local concerns which should be addressed in this plan are identified on pages 13-15. These concerns and issues were utilized to develop the goals and objectives which are included in this plan. Most of the policies and implementing actions are continuing activities. In most situations, specific timelines are not applicable. Refer to page 247 for a list of those policies/implementing actions which have a specific schedule. Please note: Policies and Implementing Actions are number consecutively throughout this document with the letter "P" denoting a policy and the letter "I" denoting an implementing action.

The policies and implementing actions frequently utilize the following words: should, continue, encourage, enhance, identify, implement, maintain, prevent, promote, protect, provide, strengthen, support, work. The intent of these words is defined below:

- Should: An officially adopted course or method of action intended to be followed to implement the community goals. Though not mandatory as "shall," it is still an obligatory course of action unless clear reasons can be identified that an exception is warranted. County staff and Planning Board involved at all levels from planning to implementation.
- Continue: Follow past and present procedures to maintain desired goal, usually with County staff involved at all levels from planning to implementation.
- Encourage: Foster the desired goal through County policies. Could involve County financial assistance.
- Enhance: Improve current goal to a desired state through the use of policies and County staff at all levels of planning. This could include financial support.
- Identify: Catalog and confirm resource or desired item(s) through the use of County staff and actions.

- Implement: Actions to guide the accomplishment of the Plan recommendations.
- Maintain: Keep in good condition the desired state of affairs through the use of County policies and staff. Financial assistance should be provided if needed.
- Prevent: Stop described event through the use of appropriate County policies, staff actions, Planning Board actions, and County finances, if needed.
- Promote: Advance the desired state through the use of County policies and Planning Boards and staff activity at all levels of planning. This may include financial support.
- Protect: Guard against a deterioration of the desired state through the use of County policies, staff, and, if needed, financial assistance.
- Provide: Take the lead role in supplying the needed financial and staff support to achieve the desired goal. The County is typically involved in all aspects from planning to implementation to maintenance.
- Strengthen: Improve and reinforce the desired goal through the use of County policies, staff, and, if necessary, financial assistance.
- Support: Supply the needed staff support, policies, and financial assistance at all levels to achieve the desired goal.
- Work: Cooperate and act in a manner through the use of County staff, actions, and policies to create the desired goal.

2. **Impact of CAMA Land Use Plan Policies on Management Topics**

The development of this land use plan has relied heavily on the CAMA-prescribed land suitability analysis which is included in Section 5(J) of this document. It is intended that this document is supportive of the CAMA regulations for protection of AECs (15A NCAC 7H).

This plan is intended to support the Hyde County vision statement which was developed based on the key issues identified on pages 13-15 of this document and the CAMA AEC regulations. No negative impacts are anticipated by the implementation of the goals, objectives, and policies which are included in this plan. Also refer to Tools for Managing Development, page 246.

Note: It is intended that all policies are consistent with (do not exceed) applicable State and Federal requirements when State and Federal requirements apply.

3. Public Access

a. Management Goal

Hyde County will maximize public access to the estuarine shorelines and public trust waters of the coastal region.

b. Planning Objective

Hyde County will develop comprehensive policies that provide beach and public trust water access opportunities for the public along the shorelines within the planning jurisdiction.

c. Land Use Plan Requirements

The following are Hyde County's policies/implementing actions for waterfront access and apply to both the Mainland and the Village of Ocracoke unless otherwise specified. All policies are continuing activities.

Policies:

- P.1 The county supports the Greater Hyde County Chamber of Commerce and tourism and recreational related developments that protect and preserve the natural environment while promoting the county as a tourist destination. It supports the private and public development of waterfront access through private funds and grant monies. It also supports the work of the Northeastern North Carolina Economic Development Commission.
- P.2 Hyde County supports providing shoreline access for persons with disabilities, including the CAMA shoreline access grant proposal for an interpretive waterfront site and boardwalk.
- P.3 Hyde County supports the frequency of shoreline access as defined by 15A NCAC 7M, Section .0300, Shorefront Access Policies. However, emphasis will be placed on providing access to the southern shorelines of Hyde County, especially along the Pamlico River and Sound shorelines.
- P.4 Hyde County supports state/federal funding of piers for crabbing and fishing.
- P.5 Hyde County supports the development of estuarine access areas to ensure adequate shoreline access within all areas of the county. Areas that have traditionally been used by the public will be given special attention.

P.6 Hyde County opposes the loss/abandonment of any facilities dedicated to public shoreline/water access.

Implementing Actions:

- I.1 Hyde County will prepare a shoreline access plan and request Division of Coastal Management funding for the preparation of the plan, including preservation of existing public access sites. *Schedule: Fiscal Year 2007-2008.*
- I.2 Hyde County will pursue funding under the North Carolina CAMA Shoreline Access funding program (15A NCAC 7M, Section .0300, Shorefront Access Policies). *Schedule: Continuing Activity.*
- I.3 Hyde County will pursue private sources of funding for the development of shoreline access facilities, including donation of land. *Schedule: Continuing Activity.*
- I.4 In areas adjacent to Lake Mattamuskeet, Hyde County will pursue funding from the Department of Archives and Natural History and the federal government for the provision of shoreline access sites. *Schedule: Continuing Activity.*
- I.5 The county will cooperate with state and federal agencies to secure estuarine access areas to ensure adequate shoreline access within all areas of the county. *Schedule: Continuing Activity.*
- I.6 Visual access to estuarine areas on Ocracoke Island is important and will be protected through the Ocracoke Village Development Ordinance. *Schedule: Continuing Activity.*

NOTE: Other than the north end of Ocracoke Island for ferry loop protection, there are no shoreline areas within Hyde County's jurisdiction targeted for shoreline/beach nourishment.

4. Land Use Compatibility

a. Management Goal

Hyde County will vigorously support residential, commercial, and industrial development which does not adversely affect the county's natural and cultural resources or existing land uses.

b. Planning Objectives

In all local government decisions affecting land use, Hyde County will utilize this Land Use Plan to provide direction for its planning process. NOTE: All planning decisions and land use related regulatory documents should consider/reflect the land use/planning principles which are identified in Section 6(D)(1), Policies/Implementing Actions Introduction.

c. Land Use Plan Requirements

Hyde County will utilize the following policies/implementing actions to accomplish land use compatibility. These policies/implementing actions will apply to both the Mainland and the Village of Ocracoke unless otherwise specified.

Policies - Residential:

- P.7 On the Mainland, Hyde County will support the expansion of both seasonal and year-round residential development as a top priority to stabilize its tax base.
- P.8 On the Mainland outside of the community study areas, Hyde County desires to avoid undue concentrations of residential development which are not adequately supported by infrastructure.
- P.9 Residential development should be consistent with the county's ability to provide services.
- P.10 Residential development should be sensitive to the preservation of environmentally sensitive areas including Mainland prime agricultural lands, and should take into account of and respect the preservation of historic structures and areas, aesthetic values, and the traditional way of life on Ocracoke Island.
- P.11 Hyde County will support redevelopment efforts to improve its housing inventory.
- P.12 Hyde County considers the preservation of its housing inventory essential to effective commercial and industrial development.

Implementing Actions - Residential:

- I.7 Until zoning and subdivision ordinances may be adopted/updated, Hyde County will continue to enforce the Ocracoke Village Development Ordinance. *Schedule: Continuing Activity.*

- I.8 Hyde County will update its county-wide subdivision ordinance to regulate development, including residential properties. This will include an emphasis on maintaining/improving water quality. *Schedule: Fiscal Year 2007-2008.*
- I.9 Hyde County will pursue adoption of county-wide zoning to regulate development, including residential properties. *Schedule: Fiscal Year 2008-2009.*
- I.10 Hyde County will pursue grants and/or technical assistance to prepare/update subdivision and zoning ordinances. *Schedule: Continuing Activity until completed.*
- I.11 The county will update its minimum housing code to ensure that all occupied residential structures are fit for human habitation. *Schedule: Fiscal Year 2008-2009.*
- I.12 Hyde County will pursue Community Development Block Grant, North Carolina Housing Finance Agency, and United States Department of Agriculture funds from state and federal sources for rehabilitation or redevelopment of substandard housing. *Schedule: Continuing Activity.*
- I.13 Hyde County supports providing adequate conservation/open space buffers between areas designated for residential development as indicated on the future land use map and any adjacent non-residential land use, except agricultural areas. This action will be supported by the zoning and subdivision ordinances when adopted/updated. *Schedule: Continuing Activity.*
- I.14 All residential development must comply with 15A NCAC 7H use standards and applicable ORW management plans in estuarine shoreline, estuarine water, and public trust areas. This action will be regulated by state, federal, and local guidelines. *Schedule: Continuing Activity.*

Policies - Commercial

- P.13 Hyde County supports an increase of its restaurants, lodging, and commercial establishments.
- P.14 Hyde County supports commercial development to aid in reversing out-migration and to provide jobs and services which support the desired population growth.
- P.15 Hyde County supports concentrating commercial development in the existing village areas of Engelhard, Fairfield, Swan Quarter, Scranton, Ponzer, and Ocracoke.

- P.16 Commercial development should be regulated by zoning and subdivision ordinances.
- P.17 Commercial development should not infringe on environmentally sensitive areas or established residential areas.
- P.18 Hyde County will pursue available funding opportunities for commercial projects to enhance economic development in the area.

Implementing Actions - Commercial

- I.15 Hyde County will update its county-wide subdivision ordinance to regulate development, including commercial properties. *Schedule: Fiscal Year 2007-2008.*
- I.16 Hyde County will pursue adoption of county-wide zoning to regulate development, including commercial properties. *Schedule: Fiscal Year 2008-2009.*
- I.17 Hyde County will pursue all available state and federal funding to support commercial development. *Schedule: Continuing Activity.*
- I.18 Hyde County will pursue state/federal funding for and support of eco-tourism. *Schedule: Continuing Activity.*
- I.19 Further commercial development on Ocracoke Island should follow existing patterns of small businesses locally owned and operated. Such real estate development – for motels, restaurants, shops, and other commercial enterprises – is in keeping with the traditional character of Ocracoke and would emphasize and preserve the community’s unique character. Tourism has become the most important element in Ocracoke’s economy. Visitors come, in numbers, from many places, including some at great distances. They are attracted by the unique character of Ocracoke. This needs to be safeguarded in the interests of the Island’s economy. *Schedule: Continuing Activity.*
- I.20 All commercial development must comply with 15A NCAC 7H use standards and applicable ORW management plans in estuarine shoreline, estuarine water, and public trust areas. This action will be regulated by state, federal, and local guidelines. *Schedule: Continuing Activity.*

Policies - Industrial

- P.19 Hyde County supports industrial development which complies with all local, state, and federal requirements, including 15A NCAC 7H.

- P.20 Hyde County supports properly permitted mining activities within its borders.
- P.21 Hyde County supports the recruitment and siting of environmentally compatible light industrial establishments within its borders in areas that are already similarly developed or in public or private industrial parks to minimize the sacrifice of prime agricultural lands for such development.
- P.22 Hyde County supports the Northeastern North Carolina Economic Development Commission in its efforts to promote economic development in the county. The county does not encourage the conversion of prime farmland to industrial use.
- P.23 Industries which are noxious by reason of the emission of smoke, dust, glare, noise, odor, and vibrations, and those which deal primarily in hazardous products such as explosives, should not be located in Hyde County.
- P.24 Industry should be located in conformance with the county's land use plan. This includes placing emphasis on light industrial development.
- P.25 Industrial development is crucial to economic growth in Hyde County.
- P.26 Hyde County supports infrastructure and service delivery capability to improve the options for industrial development.
- P.27 Hyde County supports subdivision and zoning controls to regulate and protect industrial development.

Implementing Actions - Industrial

- I.21 Hyde County will update its county-wide subdivision ordinance to regulate development, including industrial properties. *Schedule: Fiscal Year 2007-2008.*
- I.22 Hyde County will pursue adoption of county-wide zoning to regulate development, including industrial properties. *Schedule: Fiscal Year 2008-2009.*
- I.23 Hyde County opposes industrial development on Ocracoke Island except for businesses related to commercial fishing and traditional cottage industries. Until zoning may be adopted, this action will be implemented by the Ocracoke Village Development Ordinance. *Schedule: Continuing Activity.*

- I.24 Hyde County will not adopt any local regulations to prohibit development in Mainland 404 wetland areas. On Ocracoke Island, the Ocracoke Village Development Ordinance should be utilized to aid in the regulation of 404 wetlands. *Schedule: Continuing Activity.*
- I.25 Hyde County will communicate grievances to appropriate state and federal agencies, as necessary, concerning mining activities. *Schedule: Continuing Activity.*
- I.26 When economically feasible, Hyde County will support the extension/provision of infrastructure and county services for industrial park development and expansion. *Schedule: Continuing Activity.*
- I.27 Hyde County will apply for state and federal funding to support expansion and establishment of industries. *Schedule: Continuing Activity.*
- I.28 All industrial development must comply with 15A NCAC 7H use standards and applicable ORW management plans in estuarine shoreline, estuarine water, and public trust areas. This action will be regulated by state, federal, and local guidelines. *Schedule: Continuing Activity.*

Policies - Conservation

- P.28 Hyde County supports the maintenance of its rural atmosphere.
- P.29 Except as allowed by applicable State and Federal regulations and the policies contained in this plan, residential, commercial, and industrial development will not be allowed in coastal wetlands.
- P.30 Residential, commercial, and industrial development which meets 15A NCAC 7H use standards will be allowed in estuarine shoreline, estuarine water, and public trust areas. In all other areas, development will be allowed that is consistent with applicable local, state, and federal regulations.
- P.31 Hyde County supports the enforcement of local, state, and federal regulations and programs that minimize the threat to life and property from flooding.
- P.32 Hyde County reserves the right to object to amendments and/or changes to the guidelines of the Coastal Area Management Act (CAMA) and the efforts and programs of the North Carolina Department of Environment and Natural Resources, Division of Coastal Management and the Coastal Resources Commission to protect the ocean, coastal wetlands, estuarine waters, estuarine shorelines, and public trust waters of Hyde County.

- P.33 Hyde County supports the use of erosion control structures in estuarine shoreline areas.
- P.34 All development should be designed to protect Protected Lands and Significant Natural Heritage Areas (see Maps 6 and 7, pages 77 and 80).
- P.35 Hyde County reserves the right to object to amendments to the US Army Corps of Engineers' regulations and applicable guidelines of the Coastal Area Management Act.
- P.36 Hyde County objects to the use of any local land use ordinances to regulate development in freshwater swamps and marshes.
- P.37 Hyde County supports state and federal programs and regulations designed to protect maritime vegetation and forests.
- P.38 Hyde County acknowledges that it is subject to existing 404 wetland rules but supports enforcement, on the Mainland, only in areas adjacent to open water. Additionally, Hyde County opposes any 404 wetlands mitigation projects on the Mainland of the County undertaken to replace 404 wetlands outside of Hyde County. Hyde County acknowledges that this policy may not be enforceable.
- P.39 Hyde County supports reduction of the federal 404 wetlands regulations. Hyde County acknowledges that this policy may not be enforceable.
- P.40 Hyde County opposes the establishment of any state freshwater wetlands regulations.
- P.41 Hyde County acknowledges that it is subject to outstanding resource water restrictions but reserves the right to object to amendments and/or changes to the guidelines of the Coastal Area Management Act and the efforts and programs of the North Carolina Department of Environment and Natural Resources, Division of Coastal Management and the Coastal Resources Commission to protect outstanding resource waters of Hyde County.
- P.42 Hyde County does not oppose the use of off-road vehicles.
- P.43 Hyde County supports the construction of new marinas on the Mainland which comply with the policies of this plan and all other state/federal regulations. On Ocracoke Island, the Ocracoke Village Development Ordinance will regulate marina construction.

- P.44 Hyde County supports the efforts and programs of state and federal agencies with jurisdiction to regulate the upland excavation of land for marina basins but reserves the right to object to amendments and/or changes to regulations and/or programs.
- P.45 Hyde County opposes the use of floating homes on Ocracoke Island and discourages the use of floating homes on the Mainland portion of Hyde County.
- P.46 Hyde County supports construction of dry stack storage facilities on the Mainland and supports the regulation of such facilities on Ocracoke Island.
- P.47 Hyde County supports the construction of docks and piers if they are in compliance with applicable policies of this plan and state/federal regulations.
- P.48 Hyde County supports regulation by the Ocracoke Village Development Ordinance of the construction of docks and piers on Silver Lake.
- P.49 State and federal agencies are requested to comply with 15A NCAC 7H use standards for all ocean and inlet hazard areas under their jurisdiction.
- P.50 Hyde County generally supports the efforts of state and federal agencies with regulatory authority to monitor and regulate development in areas susceptible to sea level rise and wetland loss, but reserves the right to object to amendments and/or changes to regulations and/or programs.

Implementing Actions - Conservation

- I.29 Hyde County will coordinate all housing code enforcement/redevelopment project/public works projects with the NC Division of Archives and History to ensure the preservation and identification of significant historic structures and archaeological sites. Significant historic sites are identified on page 165. ***Schedule: Continuing Activity.***
- I.30 Hyde County will design/update any adopted subdivision and zoning ordinances to protect significant conservation areas, including AECs, historic sites, and to protect existing water quality and natural resources within those waters. ***Schedule: Fiscal Years 2007-2008 and 2008-2009.***
- I.31 In order to protect property and ensure public safety, Hyde County will implement the following:
- Continue to enforce its Flood Damage Prevention Ordinance.

- Implement its Storm Hazard Mitigation Plan, as necessary.
- Continue to coordinate development within special flood hazard areas with the County's Building Inspections Department, North Carolina Division of Coastal Management, Federal Emergency Management Agency, and the US Army Corps of Engineers.
- Continue to enforce the Ocracoke Village Development Ordinance.
- Participate in the Federal Flood Insurance Program. *Schedule: Continuing Activities.*

I.32 Hyde County will rely on the NC Department of Environment and Natural Resources, Division of Coastal Management to regulate development through the CAMA permitting process. Also, it will rely on the regulations of other state and federal agencies with regulatory authority, as well as existing local development regulations, to mitigate threats to AECs. *Schedule: Continuing Activity.*

I.33 Hyde County will rely on the US Army Corps of Engineers to monitor development proposals for compliance with Section 404 of the Clean Water Act and will continue to enforce local land use ordinances. *Schedule: Continuing Activity.*

I.34 Hyde County supports the use of erosion control structures when:

- A building or property is in immediate danger of being damaged by erosion;
- Relocation of the building would impose a severe hardship on its owner;
- Adjacent property will not be damaged by the erosion control structure;
- It protects property from the adverse effects of sea level rise; and
- Public trust rights will not be significantly violated.

This action will be supported by the Ocracoke Village Development Ordinance, adopted zoning and subdivision ordinances, and the CAMA permitting process. *Schedule: Continuing Activity.*

I.35 Hyde County will study and may develop and adopt a local ordinance designed to regulate the removal of natural vegetation. *Schedule: Fiscal Year 2008-2009.*

I.36 Hyde County will seek state technical assistance and funding to study and prepare a management plan for its remaining maritime forest. *Schedule: Fiscal year 2008-2009.*

I.37 Hyde County will develop and adopt a specific plan for the establishment of mooring fields. *Schedule: Fiscal Year 2008-2009.*

I.38 In order to monitor possible sea level rise, Hyde County will implement the following:

- Rely on the NC Department of Environment and Natural Resources, Division of Coastal Management to monitor and regulate development in areas susceptible to sea level rise and wetlands loss.
- Rely on state and federal agencies to monitor the effects of sea level rise and cooperate with local, state, and federal efforts to inform the public of the anticipated effects of sea level rise.
- Consider updates or amendments to its land use plan policies as necessary to protect the county's public and private properties from rising water levels.
- Support bulkheading on the Mainland to protect its shoreline areas from intruding water resulting from rising sea level.
- Consider establishing setback standards, density controls, bulkhead restrictions, buffer vegetation protection requirements, and building designs through the Ocracoke Village Development Ordinance and Hyde County Building Code which will facilitate the movement of structures.
Schedule: Continuing Activities.

I.39 Until county zoning regulations are adopted, Hyde County will rely on state and federal agencies with jurisdiction to regulate upland excavation for marina basins.
Schedule: Continuing Activity.

I.40 Hyde County will request assistance through the NC Department of Commerce to assist local marina operators in researching options available for upgrading and expanding marina facilities. *Schedule: Continuing Activity.*

I.41 Hyde County will rely on the Ocracoke Village Development Ordinance to regulate the construction of new marinas in the Village of Ocracoke. *Schedule: Continuing Activity.*

I.42 Any adopted Hyde County subdivision and zoning ordinances will regulate construction of marinas. *Schedule: Fiscal Years 2007-2008 and 2008-2009.*

Policies - Stormwater Control

P.51 Hyde County recognizes the value of water quality maintenance and supports the protection of fragile areas and the provision of clean water for recreational purposes.

- P.52 Hyde County supports the discharge of stormwater runoff into coastal wetlands if the associated construction and development does not damage coastal wetland areas, and is permitted under 15A NCAC 7H.
- P.53 Hyde County supports reducing soil erosion, runoff, and sedimentation to minimize the adverse effects on surface and subsurface water quality.
- P.54 Hyde County supports implementation of the Pasquotank and Tar-Pamlico River Basinwide Water Quality Plans (see Section 5(F)(3), page 94).
- P.55 Hyde County supports requiring developers to address stormwater management.

Implementing Actions - Stormwater Control

- I.43 Hyde County will rely on the Division of Land Resources of the Department of Environment and Natural Resources to enforce stormwater control on all sites one acre in size or greater. *Schedule: Continuing Activity.*
- I.44 Hyde County will support control of agricultural runoff through implementation of Natural Resources Conservation Service “Agricultural Best Management Practices” program (see Appendix VIII). *Schedule: Continuing Activity.*
- I.45 Hyde County will support control of forestry runoff through implementation of “Forestry Best Management Practices” as provided by the NC Division of Forest Resources (see Appendix IX). *Schedule: Continuing Activity.*
- I.46 Hyde County will consider adopting a landscaping ordinance to require that a buffer of trees/vegetation be left between rights-of-way and any clear cut areas, consistent with applicable state and federal regulations. *Schedule: Fiscal Year 2008-2009.*
- I.47 Hyde County will encourage local farm organizations to maintain ongoing educational programs and demonstrations that will keep farmers informed of best management practices and available assistance. *Schedule: Continuing Activity.*
- I.48 Hyde County will cooperate with the NC Department of Transportation, the NC Department of Environmental and Natural Resources, and other state agencies in mitigating the impact of stormwater runoff on all conservation classified areas. *Schedule: Continuing Activity.*

- I.49 Hyde County will seek funding and technical assistance to study the effect of mosquito and other man-made ditches on the estuarine system. See policy P.141, effective mosquito control is essential to the health and welfare of Hyde County. *Schedule: Continuing Activity.*
- I.50 Hyde County will seek funding and technical assistance to prepare a county-wide master drainage plan and develop a stormwater management plan and ordinance to aid in eliminating standing water, and to require that all development address stormwater management. This should include a water quality component. *Schedule: Fiscal Year 2008-2009.*
- I.51 Hyde County will coordinate all stormwater control actions with the Hyde County Soil and Water Conservation District. *Schedule: Continuing Activity.*
- I.52 Hyde County will identify locations currently discharging significant loads of nitrogen and phosphorus and implement retrofitting opportunities. *Schedule: Fiscal Year 2007-2008 and continuing.*
- I.53 Hyde County will implement a public education campaign regarding the impacts of stormwater runoff and methods of reducing stormwater runoff pollution, particularly among the County's farmers and animal operation managers. *Schedule: Fiscal Year 2007-2008.*
- I.54 In Swan Quarter, Hyde County will support a sustainable pump system and the pumping of stormwater on the landward side of the Swan Quarter dike system. *Schedule: Continuing Activity.*

NOTE: Hyde County (Mainland or Ocracoke) does not meet the threshold requirements for community-wide NPDES permits (see Section 5(G)(16), page 120).

5. Infrastructure Carrying Capacity

a. Management Goal

Hyde County will ensure that public infrastructure systems and community facilities are appropriately sized, located, and managed so that all service needs are met and quality/productivity of AECs/fragile areas are protected.

b. Planning Objectives

Hyde County will plan for infrastructure capacity to meet projections of population and land use needs.

c. *Land Use Plan Requirements*

Refer to Map 12 for delineation of the water and sewer service areas. The following are Hyde County's policies for infrastructure carrying capacity. All policies are continuing activities.

Policies:

- P.56 Hyde County supports the extension of central sewer service into all areas of the County Mainland including, when unavoidable, the construction of lines to and through conservation areas to serve development which meets all applicable state and federal regulations.
- P.57 Hyde County supports all efforts to secure available state and federal funding of the construction and/or expansion of public and private sewer systems.
- P.58 Development of a public sewer system is not appropriate for the Village of Ocracoke at this time.
- P.59 Hyde County supports the discharge of waste effluent into 404 (freshwater) wetlands areas on the Mainland but does not support the installation of package treatment plants and septic tanks that discharge waste in areas classified as coastal wetlands or 404 wetlands in the Village of Ocracoke.
- P.60 Hyde County supports wetlands "created" to aid in treating waste effluent.
- P.61 Hyde County supports the development and expansion of central sewer system(s) to serve the Engelhard, Fairfield, Swan Quarter, Ponzer, and Sladesville communities.
- P.62 The county supports the installation and use of properly permitted septic tank systems and the enforcement of District Health Department regulations and local development regulations regarding lot sizes and waste disposal system placement. The county will also encourage the NC Department of Environment and Natural Resources to investigate the feasibility of using alternative waste processing systems such as flushless toilets, incineration, and artificial wetlands in areas with severe soil limitations.
- P.63 The county supports the use of properly permitted and maintained package sewage treatment plants within its borders but outside of proposed sewer service areas. Package sewer treatment plants will only be allowed in developments which have been approved by the county. If any package treatment plants are approved,

the county supports requirement of a specific contingency plan specifying how ongoing private operation and maintenance of the plant will be provided, and detailing provisions for assumption of the plant into a public system should the private operation fail.

- P.64 Hyde County will support investigations by the District Health Department and North Carolina State University concerning the use of package treatment plants as a method of solving some of the severe sewage disposal problems.
- P.65 Hyde County supports providing water and sewer services to identified industrial areas when county resources are sufficient in order to encourage industrial development.
- P.66 Hyde County supports the provision of public recreational facilities and areas and will pursue grant funds for recreation facilities.
- P.67 Hyde County supports programs and efforts to provide an affordable, adequate, and dependable supply of electric power with reserve capacity and looping designs.
- P.68 Hyde County supports programs and efforts to provide affordable, adequate, and dependable cable television services.
- P.69 Hyde County supports the expansion of natural gas service within the county.

Implementing Actions:

- I.55 Malfunctioning septic tanks will be inspected by the Hyde County Health Department and corrective action recommended for implementation by the owner. *Schedule: Continuing Activity.*
- I.56 Hyde County will identify and contact state and federal agencies that provide typical and non-typical funding sources for assistance in providing central sewer to the Mainland. *Schedule: Continuing Activity.*
- I.57 Hyde County will request that the state establish an interagency task force to work directly with the Hyde County Board of Commissioners and Manager to identify solutions and sources of funding for infrastructure. *Schedule: Fiscal Year 2007-2008.*
- I.58 Hyde County will enforce current development regulations of the NC State Building Code and District Health Department relating to building construction and septic

tank installation/replacement in areas with soils restrictions (see Map 4). *Schedule: Continuing Activity.*

- I.59 Hyde County will amend the future land use map, when needed, to reflect the county's water and sewer extension projects as they are planned. *Schedule: Continuing Activity.*
- I.60 Hyde County will consult the future land use map when considering new public facilities and private development. *Schedule: Continuing Activity.*
- I.61 Hyde County will consider revising water and sewer extension policies to ensure that public/private cooperation in the provision of infrastructure to serve new development is encouraged. *Schedule: Fiscal Year 2006-2007.*
- I.62 Hyde County will rely on the Department of Environment and Natural Resources to oversee the operation and management of all package treatment plants in the county. *Schedule: Continuing Activity.*
- I.63 Hyde County will consider adopting an operating and capital financing plan for the development of water and sewer systems outside of the proposed water and sewer service areas. *Schedule: Fiscal Year 2008-2009.*
- I.64 Hyde County will coordinate development activity with appropriate County and state regulatory personnel, and in particular, with the Hyde County Sanitarian. *Schedule: Continuing Activity.*
- I.65 Hyde County will continue to work with the Ocracoke Sanitary District to supply safe drinking water to everyone in Ocracoke. *Schedule: Continuing Activity.*
- I.66 Hyde County will ensure that water systems are constructed with lines designed and sized for adequate fire protection and sufficient water pressure. *Schedule: Continuing Activity.*
- I.67 Hyde County will consider the adoption of a local ordinance requiring water-conserving plumbing fixtures in all new construction on Ocracoke Island. *Schedule: Fiscal Year 2008-2009.*
- I.68 Hyde County will not encourage the construction of large non-domestic water users on Ocracoke Island which rely on public water supply. *Schedule: Continuing Activity.*

- I.69 Hyde County will consider the adoption of a local ordinance designed to regulate water consumption. *Schedule: Fiscal Year 2008-2009.*
- I.70 Hyde County will encourage cable television service provider(s) to provide facilities and service to ensure affordable, adequate, and dependable cable television services to the citizens of Hyde County. *Schedule: Continuing Activity.*
- I.71 Hyde County will encourage electrical service provider(s) to provide facilities and services to ensure adequate supplies of uninterruptible electric power to the citizens of the County. *Schedule: Continuing Activity.*
- I.72 Hyde County will include provisions to allow for the dedication of public park property and/or open space in any subdivision ordinance updates. This may include a provision for payment in lieu of dedication if approved by the County. *Schedule: Fiscal Year 2007-2008.*
- I.73 Hyde County will consider establishing a land banking fund for public facility improvements into which the county may annually contribute funds. *Schedule: Fiscal Year 2008-2009.*
- I.74 Hyde County will provide sufficient emergency management personnel and facilities to adequately serve the projected population growth. *Schedule: Continuing Activity.*
- I.75 Hyde County will coordinate the development of recreational facilities with the school system, when feasible. *Schedule: Continuing Activity.*

6. Transportation

a. Management Goal

Hyde County will support a safe, efficient transportation system within the county.

b. Planning Objective

Hyde County will plan for development which supports its transportation systems.

c. Land Use Plan Requirements

The following are Hyde County's policies/implementing actions for transportation. All policies are continuing activities.

Policies:

- P.70 Hyde County supports participation in the North Carolina Department of Transportation (NCDOT) Adopt-A-Highway program.
- P.71 Hyde County reserves the right to oppose transportation-related controls which are deemed to limit economic development.
- P.72 Hyde County supports the preparation and implementation of a landscaping plan (which will include more parking) by the North Carolina Department of Transportation for the ferry terminal facilities at Swan Quarter.
- P.73 Hyde County supports establishment of a farmer's market on ferry terminal property.
- P.74 Hyde County supports the establishment of a high speed ferry or pedestrian ferry between Ocracoke Island and the Mainland.
- P.75 Hyde County will work with NCDOT to establish State right-of-way policies for roads within Ocracoke Village to protect the aesthetics of buildings and for consistency with the Ocracoke Village Development Ordinance.
- P.76 Hyde County supports the development of a transportation plan for Ocracoke Island.
- P.77 Hyde County supports state and federal funding for maintenance/dredging of the Intracoastal Waterway.
- P.78 Hyde County supports the provision, enhancement, and/or the prevention of loss of access for public fishing when bridges are replaced as part of the transportation system.

Implementing Actions:

- I.76 Hyde County will seek the aid of the North Carolina Department of Transportation to develop a comprehensive transportation plan. *Schedule: Fiscal Year 2008-2009.*
- I.77 Hyde County will seek grant monies and technical assistance to study ways to aggressively mitigate traffic congestion and parking problems on Ocracoke Island. *Schedule: Fiscal Year 2008-2009.* The study shall, at a minimum, address the following:
- provision of off-street parking;

- vehicular/pedestrian traffic conflicts;
- high-speed pedestrian ferry access to the Mainland;
- replacement of the Oregon Inlet bridge;
- preservation of Ocracoke’s residential streets;
- shuttle bus operation to beach areas and provision for parking and recreation park outside Ocracoke Village in the National Seashore Park Area;
- street improvements;
- protection of and improvements to NC 12; and
- continued operation and improvement of the Ocracoke Island Airport.

I.78 Hyde County will study the implementation of county-wide mapping, structure numbering, and emergency reporting telephone systems (E-911). *Schedule: Fiscal Year 2007-2008.*

I.79 Hyde County will request speed limit studies and adjustments as cases present themselves or as development patterns dictate. *Schedule: Continuing Activity.*

I.80 Hyde County will encourage NCDOT to utilize “annuals” which will add color to the site if a landscaping plan for the ferry terminal at Swan Quarter is developed. *Schedule: Continuing Activity.*

I.81 Hyde County supports visual improvement of the entrances to Swan Quarter. Three improvement areas exist: (1) the intersection of US 264 and NC 45; (2) the intersection of US 264 and SR 1129; and (3) the intersection of NC 45 and SR 1129. *Schedule: Continuing Activity.*

I.82 Hyde County will seek assistance from the NCDOT Division of Highways to design a planting/landscaping plan for selected intersections. *Schedule: Continuing Activity.*

I.83 Hyde County will solicit local civic organizations to commit to the beautification of selected areas which will require initial labor for construction/planting and long-term regular maintenance. *Schedule: Continuing Activity.*

I.84 Hyde County will request NCDOT Division of Highways to implement its wildflower research project and the Adopt-a-Highway program along US 264 from the Hyde County Airport west to the Hyde County line. *Schedule: Continuing Activity.*

I.85 Hyde County supports the following transportation system improvements:

- The improvements as identified in Appendix VI, Transportation Improvement Program 2006-2012 (see Map 11). *Schedule: Continuing Activity to 2012.*

- Replacement of the bridges along State Roads 1110 and 1340. *Schedule: Per NCDOT Schedule.*
- Establishment of the National Park Service Ocracoke Island trolley service. *Schedule: Per National Park Service Schedule.*
- Replacement of all portions of NC Highway 12 which are subject to overwash. *Schedule: Per NCDOT Schedule.*
- Replacement of Ocracoke Bridge, including all bridges providing access to the Island. *Schedule: Per NCDOT Schedule.*
- Improvements to the Leechville Bridge. *Schedule: Per NCDOT Schedule.*

7. Natural Hazard Areas

a. Management Goal

Hyde County will support preservation of valuable natural resources while pursuing economic and population growth.

b. Planning Objective

Hyde County's land use planning related decisions will be based on consideration of protection of its natural resources and minimizing threats to public safety.

c. Land Use Plan Requirements

The following are Hyde County's policies/implementing actions for natural hazard areas. All policies are continuing activities.

Policies:

- P.79 Hyde County recognizes the uncertainties associated with sea level rise. The rate of rise is difficult to predict. Thus, it is difficult to establish policies to deal with the effects of sea level rise. Hyde County supports cooperation with local, state, and federal efforts to inform the public of the anticipated effects of sea level rise.
- P.80 Hyde County supports hazard mitigation planning. Refer to the hazard mitigation plan section of this document on page 257.
- P.81 Hyde County supports relocation of structures endangered by erosion, if the relocated structure will be in compliance with all applicable policies and regulations.

- P.82 Hyde County supports the efforts of state and federal agencies with regulatory authority to monitor and regulate development in areas susceptible to sea level rise and wetland loss, but reserves the right to object to amendments and/or changes to regulations and/or programs.
- P.83 Hyde County generally supports the development of natural gas or petrochemical energy facilities or related improvements on the Mainland, but opposes such facilities on Ocracoke Island or its surrounding waters.
- P.84 Hyde County does not oppose – on the Mainland – drilling operations and onshore support facilities for which an Environmental Impact Statement has been prepared with a finding of no significant impact on the environment.
- P.85 On and around Ocracoke Island, Hyde County opposes the location of drilling operations and onshore support facilities.
- P.86 Hyde County will, at a minimum, support 15A NCAC 7H and other local, state, and federal policies to minimize threats to life, property, and natural resources resulting from erosion, high winds, storm surge, flooding, or sea level rise.
- P.87 Hyde County will make efforts to educate citizens and industries regarding the importance of properly storing and disposing of hazardous chemicals on a regular basis.

Implementing Actions:

- I.86 Hyde County will rely on the North Carolina Department of Environment and Natural Resources, Division of Coastal Management to monitor and regulate development in areas susceptible to sea level rise and wetlands loss. *Schedule: Continuing Activity.*
- I.87 Hyde County will rely on state and federal agencies to monitor the effects of sea level rise and cooperate with local, state, and federal efforts to inform the public of the anticipated effects of sea level rise. *Schedule: Continuing Activity.*
- I.88 Hyde County will consider updates or amendments to its land use plan policies as necessary to protect the county's public and private properties from rising water levels. *Schedule: Continuing Activity.*
- I.89 Hyde County will support bulkheading on the Mainland to protect its shoreline areas from intruding water resulting from rising sea level. *Schedule: Continuing Activity.*

- I.90 Hyde County will not oppose allowing migrating shorelines in Ocracoke Village coastal wetlands areas in order to preserve coastal wetlands. *Schedule: Continuing Activity.*
- I.91 Hyde County will consider establishing setback standards, density controls, bulkhead restrictions, buffer vegetation protection requirements, and building designs through the Ocracoke Village Development Ordinance and Hyde County Building Code which will facilitate the movement of structures. *Schedule: Fiscal Year 2007-2008.*
- I.92 Hyde County will press state and federal agencies with regulatory authority, and will use local development regulations, to monitor and regulate outer continental shelf exploration. *Schedule: Continuing Activity.*
- I.93 Hyde County will press the state to rigorously review drilling or exploration proposals and support State efforts to mitigate any adverse effects such activities may cause. *Schedule: Continuing Activity.*
- I.94 Hyde County will enforce the density controls in a zoning ordinance (if established) and the subdivision ordinance in redevelopment areas to control growth intensity. *Schedule: Continuing Activity.*
- I.95 In response to possible sea level rise, Hyde County will review all local building and land use related ordinances and consider establishing setback standards, density controls, bulkhead restrictions, buffer vegetation protection requirements, and building designs which will facilitate the movement of structures. *Schedule: Continuing Activity.*
- I.96 Hyde County will utilize the future land use maps to control development. These maps are coordinated with the land suitability maps and proposed infrastructure maps. *Schedule: Continuing Activity.*
- I.97 As a part of the hazard mitigation planning process, Hyde County will support educating its citizens and businesses on the importance of properly storing hazardous materials. *Schedule: Continuing Activity.*

8. Water Quality

a. Management Goal

Hyde County will protect its surficial and surface water quality including enhancing water quality in all coastal wetlands, rivers, streams, and estuaries.

b. Planning Objective

On a case-by-case basis, Hyde County will adopt policies to help ensure that water quality is maintained if not impaired, and improved if impaired.

c. Land Use Plan Requirements

The following provides Hyde County's policies/implementing actions on water quality. All policies are continuing activities.

Policies (see also policies P.56, P.57, P.61, and P.62):

- P.88 At a minimum, Hyde County will rely on 15A NCAC 7H to protect water quality.
- P.89 Hyde County supports protection of its surficial waters and potable water supply.
- P.90 Hyde County recognizes the value of water quality maintenance to the protection of fragile areas and to the provision of clean water.
- P.91 Hyde County will not encourage the construction of storm drains, drainage ditches, or mosquito ditches in the Village of Ocracoke which discharge directly into estuarine waters.
- P.92 Hyde County supports the enforcement of local, state, and federal regulations and programs that protect water quality.
- P.93 Hyde County supports wetlands "created" to aid in treating waste effluent.
- P.94 Hyde County supports conserving its surficial groundwater resources.
- P.95 The county supports commercial and recreational fishing in its waters and will cooperate with other local governments and state and federal agencies to control pollution of these waters to improve conditions so that commercial and recreational fishing will increase.
- P.96 Hyde County opposes the disposal of any toxic wastes, as defined in the US Environmental Protection Agency's Listing of Hazardous Substances and Priority Pollutants (developed pursuant to the Clean Water Act of 1977), within its planning jurisdiction.
- P.97 Hyde County recognizes the value of water quality maintenance to the protection of fragile areas and to the provision of clean water for recreational purposes and

supports the control of stormwater runoff to aid in the preservation of water quality. The county will support existing state regulations relating to stormwater runoff resulting from development (Stormwater Disposal Policy 15 NCAC 2H.001-.1003)

P.98 Hyde County supports regulation of underground storage tanks in order to protect its groundwater resources.

P.99 Hyde County supports the policy that all State of North Carolina projects should be designed to limit to the extent possible stormwater runoff into coastal waters.

P.100 Hyde County supports implementation of the Pasquotank and the Tar-Pamlico River Basin Water Quality Management Plans.

P.101 The county supports protection of those waters known to be of the highest quality or supporting biological communities of special importance.

P.102 Hyde County opposes the installation of package treatment plants and septic tanks or discharge of waste in any areas classified as coastal wetlands, freshwater wetlands (404), or natural heritage areas. This policy does not apply to constructed wetlands.

P.103 Hyde County supports the following actions by the General Assembly and the Governor:

- Sufficient state funding should be appropriated to initiate a program of incentives grants to address pollution of our rivers from both point sources and nonpoint sources.
- An ongoing source of state funding should be developed to provide continuous support for an incentives grant program.
- The decision-making process for the award of incentives grants should involve river basin organizations representing local governments and other interest groups in the review of all applications for state funding.

P.104 Hyde County supports all aquaculture activities which meet applicable federal, state, and local policies and permit requirements. However, Hyde County reserves the right to comment on all aquaculture activities which require Division of Water Quality permitting.

P.105 Hyde County supports the development and maintenance of ordinances and regulations that protect water quality.

Implementing Actions:

- I.98 Hyde County will enforce development regulations of the North Carolina State Building Code and District Health Department relating to building construction and septic tank installation and replacement. *Schedule: Continuing Activity.*
- I.99 Hyde County will coordinate development activity with state regulatory personnel and the Hyde County Sanitarian. *Schedule: Continuing Activity.*
- I.100 Hyde County will enforce the Ocracoke Village Development Ordinance. *Schedule: Continuing Activity.*
- I.101 Hyde County will implement the following actions through local ordinances to improve water quality:
- Use watershed-based land use planning
 - Protect sensitive natural areas, including coastal wetlands
 - Establish buffer network
 - Minimize impervious cover in site design
 - Limit erosion during construction
 - Maintain coastal growth measures
 - Restoration of impaired waters
 - Management of the cause and sources of pollution to ensure the protection of those waters currently supporting their uses allowing for reasonable economic growth.
 - Reduction of nutrients in Hyde County waters. *Schedule: Review local ordinances annually.*
- I.102 Hyde County will rely on the technical requirements and state program approval for underground storage tanks (40 CFR, Parts 280 and 281), and any subsequent state regulations concerning underground storage tanks adopted during the planning period. *Schedule: Continuing Activity.*
- I.103 Hyde County will continuously enforce, through the development and zoning permit process, all current regulations of the NC State Building Code and North Carolina Division of Health Services relating to building construction and septic tank installation/replacement in areas with soils restrictions. *Schedule: Continuing Activity.*
- I.104 Hyde County supports regulation of well fields and land uses near such fields by the North Carolina Department of Health and Natural Resources. *Schedule: Continuing Activity.*

- I.105 Hyde County will update its land use control related ordinances to control non-point source discharges. *Schedule: Fiscal Year 2008-2009.*
- I.106 Hyde County will comply with CAMA and the NC Department of Environment and Natural Resources stormwater runoff regulations, and by coordinating local development activities involving chemical storage or underground storage tank installation/abandonment with Hyde County Emergency Management personnel and the Groundwater Section of the NC Department of Environment and Natural Resources. The county will plan for an adequate long-range water supply. In the planning process, Hyde County will cooperate with adjacent counties to protect water resources. *Schedule: Continuing Activity.*
- I.107 Hyde County will review the subdivision ordinance to ensure water quality protection regulations have been addressed. The county will make revisions as necessary, and seek grant funding for necessary review and revision. *Schedule: Fiscal Year 2007-2008.*
- I.108 Hyde County supports shoreline development, including public access, which will protect water quality through the use of riparian buffer zones as required in the Tar-Pamlico NSW strategy. *Schedule: Continuing Activity.*

9. Local Areas of Concern

a. Management Goal

Hyde County will adopt policies which are consistent with CAMA's overall goals.

b. Planning Objective

Hyde County will address local concerns including cultural and historic areas, scenic areas, economic development, or general health and human service needs.

c. Land Use Plan Requirements

The following identifies Hyde County's policies/implementing actions on local areas of concern. All policies are continuing activities.

Policies - Cultural, Historic, and Scenic Areas:

- P.106 Hyde County supports the preservation of important cultural resources and supports local, state, and federal efforts to protect historic properties within its borders and to perpetuate its cultural heritage (see page 165).

P.107 Hyde County supports preservation of its scenic areas.

P.108 Hyde County will protect historic and potentially historic properties and perpetuate its cultural heritage.

Implementing Action - Cultural, Historic, and Scenic Areas:

I.109 Hyde County supports preservation of historically significant sites within the county to include the following:

- All properties listed in the Fairfield Historic District (National Register)
- All properties listed in the Ocracoke Historic District (National Register)
- All properties listed in the Lake Landing Historic District (National Register)
- George V. Credle House and Cemetery (National Register)
- Hyde County Courthouse (National Register)
- Mattamuskeet Lodge (National Register)
- 1823 Ocracoke Light Station (National Register)
- St. John's Episcopal Church
- Albin B. Swindell House and Store (National Register)
- Wynne's Folly (National Register)
- Ocracoke United Methodist Church
- The Barksdale and Rondthaler Houses
- The Hurricane House
- The Kugler and Serendipity Cottages
- The House at Community Square
- Ocracoke Preservation Society Museum

I.110 Hyde County will encourage a county-wide survey of historical sites by local volunteers or state and federal agencies and will seek grant monies for the complete inventory of historically significant structures and sites. ***Schedule: Fiscal Year 2008-2009.***

I.111 Hyde County will coordinate housing code enforcement/redevelopment projects with the NC Division of Archives and History to ensure that any significant architectural details or buildings are identified and preserved. ***Schedule: Continuing Activity.***

I.112 Hyde County will coordinate public works projects with the NC Division of Archives and History to ensure the identification and preservation of significant archaeological sites. ***Schedule: Continuing Activity.***

I.113 Hyde County will support local historic preservation districts and commissions in the county and will seek financial and technical assistance to study the development of zoning regulations which would include historical areas. ***Schedule: FY2008-2009 and continuing.***

- I.114 Hyde County may revise the Ocracoke Village Development Ordinance to require coordination of redevelopment in Ocracoke Village with the NC Division of Archives and History to ensure that any significant architectural details or buildings are identified and preserved. *Schedule: Fiscal Year 2008-2009.*
- I.115 Hyde County may study the development of a local historic district ordinance or historic preservation regulations to be incorporated into the Ocracoke Village Development Ordinance. It will request that a representative of the Division of Archives and History be assigned to work with Hyde County in the development of controls. Historic preservation controls should comply with North Carolina General Statutes. *Schedule: Fiscal Year 2008-2009.*
- I.116 Hyde County will, until such time as a historic commission may be established, notify (through its Building Inspector) the North Carolina Department of Archives and History of any proposals to demolish buildings. *Schedule: Continuing Activity.*
- I.117 Hyde County will encourage efforts to maintain and repair historic structures in Ocracoke Village. *Schedule: Continuing Activity.*
- I.118 Hyde County will update local regulations to require that redevelopment efforts be consistent with the historic preservation policies contained in this plan update. *Schedule: Fiscal Year 2007-2008.*
- I.119 Hyde County will develop a plan that will identify specific scenic sites on the Mainland and Ocracoke Island and identify implementing actions to protect/preserve those sites. *Schedule: Fiscal Year 2009-2010.*

Policies - Economic Development:

- P.109 Hyde County supports the recruitment and siting of environmentally compatible industry and commercial establishments on the Mainland in areas that are already similarly developed or in public or private industrial parks to minimize the sacrifice of prime agricultural land for such development and protection of commercial fisheries.
- P.110 Hyde County supports local, state, and federal efforts to minimize the adverse impact of man-made hazards within its borders.
- P.111 Hyde County opposes the bulk storage of man-made hazardous materials as defined by the US Environmental Protection Agency in Ocracoke Village, with the exception of bulk fuel storage tanks used for retail and wholesale sales, public power generation, and individual heating fuel storage tanks.

P.112 Hyde County opposes the disposal of any toxic wastes, as defined by the US Environmental Protection Agency's Listing of Hazardous Substances and Priority Pollutants, within its jurisdiction.

P.113 Hyde County supports land use practices and regulations that:

- support industrial and commercial development;
- promote the health and general welfare of its citizens;
- provide adequate light and air;
- prevent the overcrowding of land;
- avoid undue population concentrations; and
- facilitate the adequate provision of transportation, water, sewer, educational and public facilities, recreation, and other public requirements.

P.114 Hyde County supports properly placed and tastefully designed signs within its borders.

P.115 Hyde County generally supports the development of natural gas or petrochemical energy facilities or related improvements on the Mainland, but opposes such facilities on Ocracoke Island or its surrounding waters.

P.116 Hyde County considers eco-tourism to be a strong asset for economic and commercial development.

P.117 Hyde County generally supports the efforts of the NC Department of Transportation to improve access to the county.

P.118 Hyde County generally supports projects that will increase public access to shoreline areas.

P.119 Hyde County generally supports the activities of the NC Division of Travel and Tourism; specifically, the monitoring of tourism-related industry and efforts to promote tourism-related commercial activity and efforts to enhance and provide shoreline resources.

P.120 Hyde County supports development of the Engelhard, Swan Quarter, and Ocracoke Harbors as community focal points and tourist attractions.

P.121 Hyde County aggressively supports NC Department of Transportation projects to maintain access to Ocracoke Island, including Oregon Inlet bridge, the ferry and NC 12.

- P.122 Hyde County supports continuation of the present status and arrangement of the Ocracoke Lighthouse, with the Coast Guard and the National Park Service in charge of maintenance and preservation.
- P.123 Hyde County supports programs and efforts to provide an affordable, adequate, and dependable supply of electric power with reserve capacity and looping designs.
- P.124 Hyde County will encourage industrial and commercial development in areas with existing infrastructure that does not infringe on areas not having infrastructure.
- P.125 Hyde County supports the Strategic Plan for the Engelhard Community, September 2004.
- P.126 Hyde County will support preservation of its commercial fishing industry.
- P.127 Hyde County will pursue available funding opportunities for commercial projects to enhance economic development in the area.

Implementing Actions - Economic Development:

- I.120 Hyde County will continue to rely on state technical requirements and programs to regulate underground storage tanks. *Schedule: Continuing Activity.*
- I.121 Hyde County will utilize its development controls and will rely on state and federal agencies with jurisdiction to minimize the impact of man-made hazards. *Schedule: Continuing Activity.*
- I.122 In order to support eco-tourism and provide a solid foundation for overall economic development, Hyde County will:
- Encourage the appropriate state and/or federal agencies to take a lead role in the effort to establish a State program for regular maintenance and dredging of the Far Creek Channel and the Swan Quarter Channel.
 - Seek the assistance of the United States Coast Guard in marking channels.
 - Request assistance from the United States Coast Guard to remove abandoned or sunken vessels.
 - Request that the United States Soil Conservation Service take the lead role in providing technical assistance to accomplish “snagging” and general cleanup.
 - Request that cleanup programs be coordinated among local, state, and federal agencies as appropriate.

- Consider providing part of the cost of a general cleanup with the remaining portion coming from the state.
- Request that local, state, and federal agencies work together to develop a plan of action to deal with abandoned or sunken vessels.
- Request that all sand and dredge spoil materials be stockpiled.

Schedule: All work items listed above are Continuing Activities.

I.123 Hyde County will review proposals for development of electric generating plants on a case-by-case basis, judging the need for the facility (whether for the Mainland or Ocracoke Island) against identified possible adverse impacts. ***Schedule: Continuing Activity.***

I.124 Hyde County will rely on state and federal agencies with regulatory authority, as well as existing local development regulations, to monitor and regulate energy facility siting and development. ***Schedule: Continuing Activity.***

I.125 Hyde County will consider and seek assistance for the establishment of a tourist/visitors center to be located at the intersection of US 264 and NC 45. This location will serve traffic traveling through the county and traffic traveling to and from the Ocracoke-Swan Quarter ferry. Hyde County will seek technical assistance from the state (Division of Travel and Tourism) to develop plans and guidelines for the center and to identify sources of funding. In addition, the county will consider the need and seek assistance for the establishment of a second center on US 264 at the Octagon House. ***Schedule: Continuing Activity.***

I.126 Hyde County will consider and seek assistance for improvements to visual and pedestrian access to the Swan Quarter and Engelhard harbors. ***Schedule: Continuing Activity.***

I.127 Hyde County will consider the development of plans to address public and private improvements to make Engelhard and Swan Quarter more attractive to tourists and visitors. ***Schedule: Fiscal Year 2008-2009.*** The key elements of such a plan may include but are not limited to:

- Removal of dilapidated buildings adjacent to the harbor;
- Removal of all abandoned or sunken vessels;
- Establishment of a local and maritime history museum;
- Development of a public parking lot;
- Development of shoreline access sites;
- Development of a landscaping plan for public right-of-way surrounding the intersection of US 264 and Engelhard Harbor; and
- Development of picnic/park facilities adjacent to the harbor areas.

- I.128 Hyde County will investigate strategies such as providing self-guided tour materials or promoting and cooperating with the functions and committees of the Chamber of Commerce to increase tourist activity at local historic sites. *Schedule: Continuing Activity.*
- I.129 Hyde County will seek grant monies and/or technical assistance to update the subdivision regulations for the Mainland and Ocracoke Island. *Schedule: Continuing Activity.*
- I.130 Hyde County will seek grant monies and/or technical assistance to study the development of zoning regulations for the Mainland and Ocracoke Island. *Schedule: Fiscal Year 2007-2008.*
- I.131 Hyde County will seek grant monies and/or technical assistance to study the development of a signage ordinance for the Mainland and Ocracoke Island. *Schedule: Fiscal Year 2007-2008.*
- I.132 Hyde County will enforce the Ocracoke Village Development Ordinance. *Schedule: Continuing Activity.*
- I.133 Hyde County will continue to support the activities of the NC Division of Travel and Tourism; specifically, the monitoring of tourism-related industry, efforts to promote tourism-related commercial activity, and efforts to enhance and provide shoreline resources. *Schedule: Continuing Activity.*
- I.134 Hyde County will solicit private investors to open and/or operate facilities and services on the Mainland including:
- Restaurants;
 - Motels;
 - Marina facilities;
 - Pamlico Sound fishing charters;
 - Bed/breakfast facilities;
 - Mainland and sound nature tours (including Lake Mattamuskeet); and
 - Other tourism-related facilities and services. *Schedule: Continuing Activity.*
- I.135 Hyde County will request assistance to conduct a survey of the incomes of business and property owners to determine owner eligibility for possible grant-funded commercial rehabilitation. *Schedule: Continuing Activity.*
- I.136 Hyde County will request assistance from the state to prepare competitive applications for funds. *Schedule: Continuing Activity.*

- I.137 Hyde County will coordinate economic development plans and activities with the Chamber of Commerce. *Schedule: Continuing Activity.*
- I.138 Hyde County will encourage and work with the Chamber of Commerce on programs to promote Hyde County. *Schedule: Continuing Activity.*
- I.139 Hyde County will encourage/support community events such as:
- Craft shows, bake sales, and bazaars;
 - Engelhard Seafood Fest;
 - Fairfield Heritage Bass Tournament;
 - Mattamuskeet Fun Ride;
 - Hyde Ride; and
 - Ocracoke Festival. *Schedule: Continuing Activities.*
- I.140 Hyde County will consider applications for Small Business Community Development economic development funds on a case-by-case basis. *Schedule: Continuing Activity.*
- I.141 Hyde County will encourage all aquaculture activities which meet applicable local, state, and federal policies and permit requirements. However, Hyde County reserves the right to comment on all aquaculture activities that require Department of Environment and Natural Resources permitting. *Schedule: Continuing Activity.*
- I.142 Hyde County will develop a specific plan of action to preserve its commercial fishing industry to include but not be limited to the following:
- Preserving existing seafood operations.
 - Encouraging the use of new technologies and practices.
 - Preventing conflicts between existing and future seafood operations and new residential/commercial development.
 - Planning for reuse of land on and near failed and failing seafood operations. *Schedule: Fiscal Year 2008-2009.*
- I.143 Hyde County will support implementation of the 2007 Hyde County Economic Development Strategic Plan. *Schedule: Continuing Activity.*

Policies - General Health and Human Services Needs

- P.128 Hyde County supports the provision of governmental services to its citizens and the extension of water services from existing systems and encourages the use of central systems for new developments – whether residential, commercial, or industrial in nature.

- P.129 Hyde County supports the continued provision of solid waste disposal, law enforcement, and educational services to all citizens of the county.
- P.130 Hyde County supports the provision of elementary and secondary education to all Hyde County citizens.
- P.131 Hyde County supports the formation of a Community Appearance Committee to be appointed by the Board of Commissioners.
- P.132 Hyde County opposes the establishment of military outlying land fields (OLFs). Hyde County acknowledges that this policy may not be enforceable.
- P.133 Hyde County supports efforts and initiatives to provide or construct safe and accessible facilities for senior citizens.
- P.134 Hyde County supports regulated dredging activities by governmental entities but does not support the expenditure of county funds for such activities.
- P.135 Hyde County supports, subject to available funds, a comprehensive recreational program to provide a broad range of recreational facilities for its citizens.
- P.136 Hyde County supports improved pedestrian and vehicular access to Lake Mattamuskeet and its shoreline.
- P.137 Hyde County generally supports efforts, initiatives, and programs – both public and private – that provide new buildings and facilities, or serve to make existing buildings and facilities accessible and available to physically challenged persons.
- P.138 Hyde County supports efforts and initiatives to provide quality, affordable health care to its citizens including support of the construction of a hospital or primary care facility in or near the county, and the continued effective operation of the Hyde County Health Department.
- P.139 Hyde County supports improvement and expansion of fire protection and emergency management services including fire/rescue services.
- P.140 Hyde County generally supports efforts, programs, laws, and regulations that create a safe, crime free environment for its citizens and visitors.
- P.141 Hyde County supports state and federal efforts and initiatives to control mosquitos.

P.142 Hyde County supports efforts and measures to efficiently and economically collect and dispose of solid waste, and supports recycling and the establishment and maintenance of recycling centers.

P.143 Hyde County supports North Carolina Division of Waste Management regulation of underground storage tanks.

Implementing Actions - General Health and Human Services Needs:

I.144 Hyde County will continue to provide governmental services including solid waste disposal, law enforcement, educational services, and fire/rescue services to all areas of the county at current service levels. *Schedule: Continuing Activity.*

I.145 Hyde County will study the implementation of county-wide mapping, structure numbering, and emergency reporting telephone systems (E-911). *Schedule: Continuing Activity.*

I.146 Hyde County will appoint a Community Appearance Committee with a charge to establish guidelines and procedures for community appearance awards and to conduct studies and make recommendations addressing problems of litter on beaches and along roads. *Schedule: Fiscal Year 2007-2008 and continuing.* Activities will include the following:

- Promote “Adopt-a-Beach” and/or “Adopt-a-Highway” programs and educate the public through local media concerning community appearance needs.
- Consider locating recycling containers at beach accesses, if developed, and the installation of roadside litter receptacles.
- Use prison labor to clean up and remove debris from road rights-of-way.
- Select recipients of Community Appearance awards and advise the Board on methods by which the community’s appearance might be improved including studies and recommendations as may be necessary to address the problem of litter on beaches and along roads.

I.147 Hyde County will rely on the NC Department of Environment and Natural Resources, Division of Coastal Management and other state and federal agencies with regulatory authority to regulate and monitor dredging activities. *Schedule: Continuing Activity.*

I.148 Hyde County will seek grant monies and/or technical assistance to study the development of a recreational facilities plan. *Schedule: Fiscal Year 2008-2009.*

- I.149 Hyde County will seek grant monies and/or technical assistance to study the development of a capital improvement plan. *Schedule: Fiscal Year 2009-2010.*
- I.150 Hyde County will request that the National Park Service not issue any commercial leases or permits for retail sales and food concessions on National Park Service property. *Schedule: Fiscal Year 2007-2008 and continuing.*
- I.151 Hyde County will ask and encourage the US Fish and Wildlife Service to maintain its facilities in usable condition. *Schedule: Continuing Activity.*
- I.152 Hyde County will continue to support and fund its public school system. *Schedule: Continuing Activity.*
- I.153 Hyde County will continue to support and fund the Hyde County Sheriff's Department. *Schedule: Continuing Activity.*
- I.154 Hyde County will rely on state and federal law enforcement agencies and personnel for crime prevention and crime investigation services. *Schedule: Continuing Activity.*
- I.155 Hyde County will seek state and federal assistance to initiate progress to control mosquitos. *Schedule: Continuing Activity.*
- I.156 Hyde County will enforce the solid waste ordinance which addresses illegal dumping and abandoned/inoperable vehicles. *Schedule: Continuing Activity.*
- I.157 Hyde County will rely on the NC Department of Environment and Natural Resources, Division of Coastal Management and other state and federal agencies with regulatory authority to regulate, monitor, and limit the use of coastal airspaces. *Schedule: Continuing Activity.*
- I.158 Hyde County will lobby state legislators and officials for consideration when area-wide health services plans are discussed for inclusion as a candidate for a hospital or primary care facility. *Schedule: Continuing Activity.*
- I.159 Hyde County will seek state and federal technical and financial assistance to provide facilities for physically challenged persons. *Schedule: Continuing Activity.*
- I.160 Hyde County will investigate, with the Institute of Government, the use of impact fees as a way of making new development pay for the services demanded. *Schedule: Fiscal Year 2007-2008.*

I.161 Hyde County will seek educational grants to subsidize in-county continuing education by nearby colleges and universities and support community education programs. *Schedule: Continuing Activity.*

I.162 Hyde County will implement the following concerning potential releases from home heating oil underground storage tanks:

- Removal of any abandoned or out-of-use underground storage tanks as recommended by the NCDENR Washington Regional Office Underground Storage Tank (UST) Section.
- Installation and maintenance of above-ground fuel tanks in accordance with applicable local, state, and federal regulations.
- Contain and properly restore areas impacted by any chemical or petroleum spills. Ensure that spills of significant quantity are reported to the NC Department of Environment and Natural Resources, Division of Water Quality (Washington Regional Office).
- Report immediately to the local Fire Marshall any soils excavated during demolition or construction that show evidence of chemical or petroleum contamination to determine whether explosion or inhalation hazards exist. *Schedule: Continuing Activities.*

Policies - Redevelopment:

P.144 Hyde County supports repair and reconstruction of privately-owned dwelling units through private funds and/or grants. It supports the enforcement of existing regulations of the District Health Department regarding sanitary conditions.

P.145 Hyde County will not displace families or unreasonably require building demolition.

P.146 Hyde County will support redevelopment as specified in the county's Hazard Mitigation Plan.

Implementing Actions - Redevelopment:

I.163 Hyde County will study regulations to require that redevelopment efforts be consistent with the historic preservation policies contained in this plan update. *Schedule: Fiscal Year 2007-2008.*

- I.164 Hyde County may revise the Ocracoke Village Development Ordinance to require coordination of redevelopment in Ocracoke Village with the NC Division of Archives and History, to ensure that any significant architectural details or buildings are identified and preserved. *Schedule: Fiscal Year 2007-2008.*
- I.165 Hyde County will seek state and federal financial and technical assistance for community improvements. The county may apply for Community Development Block Grants for the rehabilitation of areas of substandard housing by identifying same. *Schedule: Continuing Activity.*
- I.166 Hyde County will consider updating its minimum housing code. *Schedule: Fiscal Year 2009-2010.*
- I.167 Hyde County will allow the reconstruction of any structures demolished by natural disaster which will comply with all applicable local and state regulations. *Schedule: Continuing Activity.*
- I.168 Hyde County will accept donations of unbuildable lots. *Schedule: Continuing Activity.*
- I.169 Hyde County will consider the need to purchase unbuildable lots on a case-by-case basis. *Schedule: Continuing Activity.*
- I.170 Hyde County will cooperate with owners who may have to move threatened structures to safer locations and will expedite local permit approvals. *Schedule: Continuing Activity.*
- I.171 Hyde County will support reconstruction at densities as specified by the Ocracoke Village Development Ordinance, but will allow that an existing home destroyed by a natural disaster may be replaced in kind. *Schedule: Continuing Activity.*
- I.172 Hyde County will coordinate redevelopment efforts with the Hyde County Building Inspections Department. *Schedule: Continuing Activity.*

Implementing Actions - Funding Options:

- I.173 Hyde County will continue to support state and federal programs that are deemed necessary, cost-effective, and within the administrative and fiscal capabilities of Hyde County. *Schedule: Continuing Activity.* These include:
- Community Development Block Grant Program
 - Area Agency on Aging

- Emergency Medical Services
- JTPA Work Program
- Coastal Area Management Act, including shoreline access funds
- Small Business Association
- Economic Development Administration Funds
- Farmer's Home Administration – Federal Grant Program
- Federal Emergency Management Program
- Aid to Families with Dependent Children
- MEDICAID
- Day Care
- Crisis Intervention

I.174 Hyde County will selectively support state and federal programs related to Hyde County. The county, through its boards, commissions, and committees, will monitor state and federal programs and regulations. It will use opportunities as they are presented to voice support for or to disagree with programs and regulations that are proposed by state and federal agencies. *Schedule: Continuing Activity.*

I.175 Hyde County officials will continue to work with the US Army Corps of Engineers and any other state and federal agencies to ensure continued dredging and maintenance of channels and rivers as needed to keep these facilities open to navigation. These efforts shall comply with applicable state and federal regulations. Providing borrow or spoil areas and provision of easements for work will be determined on case-by-case basis. The county would encourage spoil material being placed in those areas where easements for such use already exist. Channel maintenance has major economic significance and is worthy of state and federal funding. *Schedule: Continuing Activity.*

F. *Future Land Use (Hyde County and Village Areas)*

1. **Introduction**

The future land use maps (Maps 22-28) depict application of the policies for growth and development and the desired future patterns of land use and land development for the county as a whole and the village areas. **The areas indicated as low suitability are not intended to prohibit development but are intended to indicate areas where careful review of proposed development should be undertaken.** In the absence of county zoning, this review will focus on enforcement of the county Subdivision Ordinance. The future land use map must include the following:

- Areas and locations planned for conservation or open space and a description of compatible land uses and activities.
- Areas and locations planned for future growth and development with descriptions of the following characteristics:
 - Predominant and supporting land uses that are encouraged in each area;
 - Overall density and development intensity planned for each area; and
 - Infrastructure required to support planned development in each area.
- Land use which reflects existing and planned infrastructure.
- Reflect the information depicted on the Composite Map of Environmental Conditions (Map 9) and Map of Land Suitability Analysis (Map 21).

It should be understood that the forecast of future land use and associated density/acres is extremely difficult due to the following:

- There are no available base maps which depict individual land parcels.
- There is no zoning within the county.
- Existing water and sewer systems are not expected to undergo any significant expansions during the planning period.
- Septic tanks and package treatment plants will continue to provide sewer treatment throughout most of the county, resulting in low-density development in all areas except the village areas.
- Outside of the village areas, growth and development is expected to be widely scattered.

The future land use maps are intended to depict where the various types of land uses will be acceptable. NOTE: 15A NCAC 7B guidelines require that the future land use map not exceed the projected need plus 50%. Hyde County qualifies for an exception because it is a slow-growth Tier I county, which allows for greater flexibility to provide for growth and economic development.

Map 22 - Hyde County Future land use

Map 23 - Engelhard FLU

Map 24 - Fairfield FLU

Map 25 - Ocracoke FLU

Map 26 - Ponzer FLU

Map 27 - Scranton FLU

Map 28 - Swan Quarter FLU

2. Future Land Use Acreages

Tables 65 and 66 summarize the acreages for the future land uses depicted on Maps 22-28 through 2025. These acreages summarize the total area of the depicted future land uses throughout Hyde County, however, these maps are not intended to indicate total “build-out”. As stated earlier in this plan, most future development within Hyde County is expected to be comprised of low-medium to low density housing units. Moderate density housing may be expected in the village areas of the Mainland where existing and proposed central water and sewer service areas exist.

Higher density developments will not be promoted within the county. This position has been established in response to the lack of adequate sewer capacity to support multi family developments. If high density developments are constructed within areas of the county where sewer service is not available, these property owners will be forced to rely on package treatments plants for wastewater treatment. Such higher density developments (parcels smaller than 10,000 square feet in size, average density) may necessitate revisions to this plan. The one exception to this rule, is within the Village area of Ocracoke. This portion of the county may see a more rapid increase in multi unit housing complexes. It is likely that multi family housing may become a more attractive option to property owner in Ocracoke, primarily in response to the escalating price of vacant land on the island.

All land use category uses are categorized as preferred/not preferred or permitted/not permitted. In order to assist the County with such determinations, Hyde County is considering the establishment of a Planning Board and adoption of zoning. The Planning Board, in particular, will be instrumental in the implementation of this plan and interpretation of consistency with applicable land use categories.

All future land use acreages are based on the suitability of land for development and not forecast market demand for future acreages. The land use categories and estimated average densities/parcels are indicated by the following definitions. **The following identified uses are those which are to be encouraged by any future adopted zoning.**

Commercial. This land use category involves any facility which provides an occupation, employment, or enterprise that is carried on for profit by the owner, lessee, or licensee. The desired density is a minimum of 10,000 square feet for parcels with central water and sewer service (including approved package treatment plants) or a minimum of 20,000 square feet without central water and sewer service. A majority, if not all, commercial growth is expected to take place within one of the defined study areas.

Allowable density	4.3 units per acre (with central sewer)
	2.2 units per acre (without central sewer)
Maximum building height	100 feet

Preferred uses	Multi-family housing, entertainment complexes, restaurants, commercial, retail and wholesale establishments
Uses not preferred	All uses unrelated to providing county residents and visitors with needed services and access to retail needs

Unbuildable Land. This category includes all AECs as defined by 15A NCAC 7H (see Section 5(F)(g)). There should be no development or development limited to 15A NCAC 7H use standards. Hyde County is home to a substantial number of environmentally sensitive areas. The county feels very strongly about protecting these areas. This land use district includes all CAMA defined Areas of Environmental Concern. These areas are defined and discussed on pages 66 through 90 of the plan. Development within these areas should be limited to low density housing. Non-residential development in the form of commercial or industrial operations should not be permitted.

Allowable density	1 unit per acre (residential)
Maximum building height	35 feet
Permitted uses	Single-family residential homes (assumes soils suitable for development are available)
Uses not permitted	All non-residential uses including commercial and industrial operations

Open Space/Vacant. This category includes both public and private open space and forest lands. This is an area(s) of very low density large acreage parcels which are nearly all more than one acre in size. However, some scattered single-family homes and very limited commercial uses will exist. Portions of Hyde County falling within this land use category have limited access to infrastructure. Portions of the county within the Open Space/Vacant land use category that are adjacent to major thoroughfares have access to water service (see future land use map). Development within these areas will be limited, however, due to the lack of sewer service and suitable soils throughout rural portions of the County. Land uses within this district will be limited to convenience retail establishments and low/moderate density residential development (see residential density for the Mainland), both with and without central water and sewer service.

Allowable density	Density within this district will be dictated by the availability of services and permitting related to wastewater treatment facilities
Maximum building height	40 feet
Preferred uses	Convenience retail establishments, service oriented businesses, low/moderate density residential developments (see residential density for the Mainland).
Uses not preferred	Industrial operations. Determinations will be based on a case-by-case assessment. The county will rely on state and county permitting authorities to ensure that industrial uses will not adversely impact environmental conditions.

Industrial. No major future industrial land uses are anticipated. Industrial land uses are those which engage in basic processing and manufacturing of raw materials, manufacturing or storage of materials, production of finished products, packaging, sales and distribution of products, and production of all agricultural products. Uses shall also include the Hyde County Regional Airport, the Hyde County Correctional facility, the Rose Acres Farm Site, and large scale agricultural warehousing. The minimum lot size should be two acres or larger in size, and have adequate means to dispose of all solid and industrial waste.

Allowable density	1 industrial operation per two acre site
Maximum building height	40 feet
Permitted uses	Industrial operations which will not adversely impact environmental conditions, agriculture oriented operations, warehousing facilities, livestock operations, commercial fishing operations, county airport facilities
Uses not permitted	Industrial operations that pose a significant threat to environmental quality

Office and Institutional. This category accounts for all properties whose use is dedicated to governmental facilities, churches, office space, and organizational facilities. A majority of the office and institutional land use within Hyde County is comprised of either churches or governmental facilities. The governmental facilities will serve both the county, as well as several state and federal agencies including the North Carolina Department of Transportation and the Forestry Service. As with a majority of the development within Hyde County, these facilities and structures are scattered throughout the county. Offices maintained for business/for profit enterprises are included in the commercial land use category. Minimum lot sizes/density will be dictated by the availability of water and sewer service. Lot size will be governed by state and local waste treatment and water supply requirements. However, most development is expected at parcels 20,000 square feet or larger in area.

Allowable density	2.2 units per acre
Maximum building height	80 feet
Preferred uses	Public and private office and institutional uses, churches, meeting facilities, governmental facilities
Uses not preferred	Residential uses, commercial operations, for profit service and office uses, uses that will have adverse impacts on adjacent residential areas

Utility. This land use category is intended to identify properties occupied by utility and/or infrastructure facilities. Examples of these facilities include: elevated storage tanks, treatment plants, and pump stations. No land use densities or minimum lot sizes are established.

Allowable density	N/A
Maximum building height	N/A

Preferred uses	All facilities and structures related to the provision of county infrastructure and/or utility operations
Uses not preferred	Construction of stick-built residential and non-residential structures unrelated to the provision of outdoor recreational uses

Agricultural/Low Density Residential. This land use category is comprised of properties whose use is related to both agricultural activities, as well as single-family residential housing. There are a substantial number of properties within the county that accommodate both subsistence and small farming operations and private residences. Generally these properties do not have access to county infrastructure services. These properties are much larger in size, and generally exceed a minimum lot size of five acres or greater.

Allowable density	Five acres or greater
Maximum building height	40 feet
Preferred uses	Low density residential housing, private agricultural operations, private livestock operations
Uses not preferred	High/moderate density housing developments, commercial farming operations

Residential. This land use category comprises all moderate to high density housing developments throughout the county, including all areas located within one of the Village study areas. The density and respective minimum lot size for these properties will be determined by what types of services are available on a particular site. In portions of the county where central sewer service is available, higher densities will be permitted. As has been discussed, development of single- and multi-family housing throughout the county will continue to be dictated by the availability of public services. Additionally, the county does not currently have any land use ordinances to define what are considered to be allowable densities. Based on these factors the following general guidelines have been established. These guidelines will be considered when the county decides to establish a comprehensive land development code. It should be noted that within the county high density housing developments will be discouraged. Within Ocracoke higher densities will be required due to market demand. These developments will be dictated by the issuance of permits for adequate wastewater treatment facilities coupled with the available of adequate water service capacity.

Allowable density	Hyde County Mainland Residential (see Map 22) – Moderate Density 4 units per acre (with central sewer service) – Low Density 2 units per acre (without central sewer service) Study Areas (see Maps 23, 24, 26, 27 and 28) – Residential-Moderate Density 4 units per acre (with central sewer service) – Low Density Residential - Low Density 2 units per acre (without central sewer service)
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Ocracoke Island (see Map 25)

- Residential - Moderate Density 8 units per acre (as permitted)
- Low Density Residential - Low Density 2 units per acre (as permitted)

NOTE: On the Mainland, cluster development may allow these densities to be exceeded on a portion of a parcel being developed.

Maximum building height	35 feet
Preferred uses	Single- and multi-family housing developments and small concentrations of support services
Uses not preferred	All non-residential uses which adversely affect stable residential land use

Recreational. This future land use category is intended to include all properties to be utilized for public and private recreational opportunities. This is intended to provide for both local and regional parks, as well as public access points. A majority of the recreational tracts on the future land use maps are comprised of public recreational spaces. The county has decided not to set minimum development criteria for this land use category. The primary reason for this is that recreational spaces can range from a public access easement to a 100-acre regional park. Additionally, many outdoor park facilities do not rely on public utilities for day-to-day operation.

Allowable density	N/A
Maximum building height	35 feet
Preferred uses	Recreational development including: public parks, public/private campgrounds, public access facilities, canoe/kayak trails
Uses not preferred	Uses not related to the provision of outdoor recreational opportunities

Mixed Use. This future land use district is intended to support a range of uses including retail, office space, and residential development. Mixed use nodes have been strategically placed throughout the county at major intersections. Additionally, mixed use buffers have been established between defined study areas, and adjacent rural portions of the county. It is anticipated that these areas will be developed without a focus on land use conflicts. Due to the rural nature of the county, commercial and service based development generally occurs at major intersections, as depicted on the Future Land Use Map.

Allowable density	Non-Residential -4.3 units per acre (with central sewer) -2.2 units per acre (without central sewer)
	Residential - 4 units per acre (with central sewer service) - 2 units per acre (without central sewer service) - 6 units per acre (on Ocracoke as permitted)
Maximum building height	50 feet

Preferred uses	Multi-family and single-family housing, entertainment complexes, restaurants, retail establishments, office space, churches, parks and open space, light industry
Uses not preferred	All uses unrelated to providing county residents and visitors with needed services, access to retail needs, or provision of housing
Not permitted	Heavy industry.

Table 65: Hyde County Future Land Use Acreages

LAND USE	Hyde County	
	Acres	Percentage
Agricultural/Low Density Residential	82,475.2	18.8%
Open Space/Vacant	163,098.9	37.2%
Industrial	579.7	0.1%
Mixed Use	6,217.0	1.4%
Office & Institutional	23.2	0.0%
Recreational	55.5	0.0%
Residential	5,250.7	1.2%
Study Areas	8,863.8	2.0%
Unbuildable	172,377.3	39.3%
Utility	2.2	0.0%
TOTAL	438,943.5	100.0%

Source: Holland Consulting Planners, Inc.

Table 66: Village (Study) Areas Future Land Use Acreages

Land Use	Ocracoke					Swan Quarter	Total - Study Areas
	Engelhard	Fairfield	Island	Ponzer	Scranton		
Commercial	42.4	60.3	42.3	0.0	0.0	36.3	181.3
Office & Institutional*	33.3	17.2	69.0	0.0	1.0	155.2	275.7
Industrial	11.2	5.3	0.0	0.0	0.0	49.5	66.0
Mixed Use	43.9	0.0	0.0	0.0	0.0	26.1	70.0
Utility	2.0	0.0	0.0	0.4	0.0	1.7	4.1
Recreational**	7.4	0.0	42.3	0.2	0.0	0.0	49.9
Residential	263.9	473.1	345.8	43.8	144.7	752.1	2,023.4
Agricultural/Low Density Residential	920.7	925.2	205.8	51.6	483.7	3,606.4	6,193.4
Total	1,324.8	1,481.1	705.2	96.0	629.4	4,627.3	8,863.8

*The Office & Institutional category includes the ferry terminals on Ocracoke Island and in Swan Quarter.

**The Recreational category for Ocracoke Island includes 40.2 acres of National Seashore land.

NOTE: This table does not include Hyde County's acreage that is outside the study areas.

Source: Holland Consulting Planners, Inc.

3. Future Land Demand Acreages

The following tables forecast the shift in land use within Hyde County and the six study areas. These land demand forecasts serve as a density and intensity analysis required to satisfy requirements outlined in NCAC 7B. These forecasts take into account recent trends in development within these areas. If it is determined that the population exceeds 10% of the forecast in any of the areas, the County will revisit the land demand forecasts for that area and monitor the unanticipated increases. It should be noted that these forecasts do not include the Areas of Potential Growth that is shown on the Future Land Use Map. Those areas will accommodate industrial, commercial, residential, etc., uses. The County assumes that development will occur in these areas, however, at this time there is no way to tell what development will happen in which locations. NOTE: 15A NCAC 7B guidelines require that the future land use map not exceed the projected need plus 50%. Hyde County qualifies for an exception because it is a slow-growth Tier I county, which allows for greater flexibility to provide for growth and economic development.

Table 67. Hyde County Land Demand Forecast

Land Use (Growth Rate)	Existing Land Use	Future Land Demand Forecast				% Growth 05-25	Additional Hsg. Units (2025)	Avg. Units Per Acre*
		2010	2015	2020	2025			
Forest/Open Space/Vacant	165,921	165,792	165,661	165,529	165,393	-0.3%	N/A	N/A
Recreational (1%)	55	56	57	57	58	5.5%	N/A	N/A
Industrial (2%)	580	591	603	615	627	8.1%	N/A	N/A
Residential (2%)	5,757	5,873	5,990	6,110	6,232	8.3%	949	2.0
Agriculture (0%)	84,038	84,038	84,038	84,038	84,038	0.0%	N/A	N/A
Utility (1%)	2	2	2	2	2	0.0%	N/A	N/A
Office and Institutional (1%)	54	55	56	56	57	5.6%	N/A	N/A
Study Areas (0%)	8,864	8,864	8,864	8,864	8,864	0.0%	N/A	N/A
Unbuildable Areas (0%)	173,672	173,672	173,672	173,672	173,672	0.0%	N/A	N/A
Total	438,943	438,943	438,943	438,943	438,943			

*For the purposes of these forecasts, categories reflected on the existing land use map have been redefined based on densities. These densities are defined in the future land use discussion of the plan.

Notes: 1) This table does not reflect build-out in every land use classification as indicated on the Future Land Use Map.

2) The land demand forecast outlined above will result in a population increase of 2,240 through 2025. This assumes an average household size of 2.36 as established by the 2000 US Census.

3) Additional housing units are not required for all land classifications. The figure for additional housing units (2025) for the residential land use classification is the product of the increase in acreage and the average units per acre.

Source: Holland Consulting Planners, Inc.

Table 68. Engelhard Land Demand Forecast

Land Use (Growth Rate)	Existing Land Use	Future Land Demand Forecast				% Growth 05-25	Additional Hsg. Units (2025)	Avg. Units Per Acre*
		2010	2015	2020	2025			
Vacant/Agricultural/LDR**	1,089	1,073	1,056	1,038	1,018	-6.5%	N/A	N/A
Commercial (5%)	32	34	36	37	39	21.9%	N/A	N/A
Industrial (3%)	11	12	12	12	13	18.2%	N/A	N/A
Residential (8%***)	159	172	185	200	216	35.8%	229	4.0
Recreational (2%)	5	5	5	5	5	0.0%	N/A	N/A
Utility (1%)	2	2	2	2	2	0.0%	N/A	N/A
Office and Institutional (1%)	26	27	28	30	31	19.2%	N/A	N/A
Total	1,324	1,324	1,324	1,324	1,324			

*For the purposes of these forecasts, categories reflected on the existing land use map have been redefined based on densities. These densities are defined in the future land use discussion of the plan.

**This category is shown as two separate land use categories on the Future Land Use Map.

***It should be noted that all residential land use has been combined into an individual category for the purposes of this forecast, except for scattered Low Density Residential in agricultural areas.

Notes: 1) This table does not reflect build-out in every land use classification as indicated on the Future Land Use Map.

2) The land demand forecast outlined above will result in a population increase of 540 through 2025. This assumes an average household size of 2.36 as established by the 2000 US Census.

3) Additional housing units are not required for all land classifications. The figure for additional housing units (2025) for the residential land use classification is the product of the increase in acreage and the average units per acre.

Source: Holland Consulting Planners, Inc.

Table 69. Fairfield Land Demand Forecast

Land Use (Growth Rate)	Existing Land Use	Future Land Demand Forecast				% Growth 05-25	Additional Hsg. Units (2025)	Avg. Units Per Acre*
		2010	2015	2020	2025			
Vacant/Agricultural/LDR**	1,168	1,159	1,150	1,142	1,130	-3.3%	N/A	N/A
Commercial (2%)	27	27	28	28	29	7.4%	N/A	N/A
Industrial (1%)	5	5	5	5	6	20.0%	N/A	N/A
Residential (3%***)	264	272	280	288	297	12.5%	66	2.0
Office and Institutional (2%)	17	18	18	18	19	11.8%	N/A	N/A
Total	1,481	1,481	1,481	1,481	1,481			

*For the purposes of these forecasts, categories reflected on the existing land use map have been redefined based on densities. These densities are defined in the future land use discussion of the plan.

**This category is shown as two separate land use categories on the Future Land Use Map.

***It should be noted that all residential land use has been combined into an individual category for the purposes of this forecast, except for scattered Low Density Residential in agricultural areas.

Notes: 1) This table does not reflect build-out in every land use classification as indicated on the Future Land Use Map.

2) The land demand forecast outlined above will result in a population increase of 156 through 2025. This assumes an average household size of 2.36 as established by the 2000 US Census.

3) Additional housing units are not required for all land classifications. The figure for additional housing units (2025) for the residential land use classification is the product of the increase in acreage and the average units per acre.

Source: Holland Consulting Planners, Inc.

Table 70. Ponzer Land Demand Forecast

Land Use (Growth Rate)	Existing Land Use	Future Land Demand Forecast				% Growth 05-25	Additional Hsg. Units (2025)	Avg. Units Per Acre*
		2010	2015	2020	2025			
Vacant/Agricultural/LDR**	66	64	63	62	61	-7.6%	N/A	N/A
Residential (3%)***	30	31	32	33	34	13.3%	7	2.0
Utility (0%)	1	1	1	1	1	0.0%	N/A	N/A
Total	96	96	96	96	96			

*For the purposes of these forecasts, categories reflected on the existing land use map have been redefined based on densities. These densities are defined in the future land use discussion of the plan.

**This category is shown as two separate land use categories on the Future Land Use Map.

***It should be noted that all residential land use has been combined into an individual category for the purposes of this forecast, except for scattered Low Density Residential in agricultural areas.

Notes: 1) This table does not reflect build-out in every land use classification as indicated on the Future Land Use Map.

2) The land demand forecast outlined above will result in a population increase of 16.5 through 2025. This assumes an average household size of 2.36 as established by the 2000 US Census.

3) Additional housing units are not required for all land classifications. The figure for additional housing units (2025) for the residential land use classification is the product of the increase in acreage and the average units per acre.

Source: Holland Consulting Planners, Inc.

Table 71. Ocracoke Island Land Demand Forecast

Land Use (Growth Rate)	Existing Land Use	Future Land Demand Forecast				% Growth 05-25	Additional Hsg. Units (2025)	Avg. Units Per Acre*
		2010	2015	2020	2025			
Vacant/Agricultural/LDR**	274	256	237	217	196	-28.5%	N/A	N/A
Commercial (5%)	36	36	37	38	39	8.3%	N/A	N/A
Residential (5%)***	350	368	386	405	425	21.4%	453	6.0
Transportation (0%)	13	13	13	13	13	0.0%	N/A	N/A
Office and Institutional (0%)	32	32	32	32	32	0.0%	N/A	N/A
Total	705	705	705	705	705			

*For the purposes of these forecasts, categories reflected on the existing land use map have been redefined based on densities. These densities are defined in the future land use discussion of the plan.

**This category is shown as two separate land use categories on the Future Land Use Map.

***It should be noted that all residential land use has been combined into an individual category for the purposes of this forecast, except for scattered Low Density Residential in agricultural areas.

Notes: 1) This table does not reflect build-out in every land use classification as indicated on the Future Land Use Map.

2) The land demand forecast outlined above will result in a population increase of 1,069 through 2025. This assumes an average household size of 2.36 as established by the 2000 US Census.

3) Additional housing units are not required for all land classifications. The figure for additional housing units (2025) for the residential land use classification is the product of the increase in acreage and the average units per acre.

Source: Holland Consulting Planners, Inc.

Table 72. Scranton Land Demand Forecast

Land Use (Growth Rate)	Existing Land Use	Future Land Demand Forecast				% Growth 05-25	Additional Hsg. Units (2025)	Avg. Units Per Acre*
		2010	2015	2020	2025			
Vacant/Agricultural/LDR**	563	562	560	559	558	-0.9%	N/A	N/A
Residential (2%)***	65	66	68	69	70	7.7%	11	2.0
Office and Institutional (0%)	1	1	1	1	1	0.0%	N/A	N/A
Total	629	629	629	629	629			

*For the purposes of these forecasts, categories reflected on the existing land use map have been redefined based on densities. These densities are defined in the future land use discussion of the plan.

**This category is shown as two separate land use categories on the Future Land Use Map.

***It should be noted that all residential land use has been combined into an individual category for the purposes of this forecast, except for scattered Low Density Residential in agricultural areas.

Notes: 1) This table does not reflect build-out in every land use classification as indicated on the Future Land Use Map.

2) The land demand forecast outlined above will result in a population increase of 26 through 2025. This assumes an average household size of 2.36 as established by the 2000 US Census.

3) Additional housing units are not required for all land classifications. The figure for additional housing units (2025) for the residential land use classification is the product of the increase in acreage and the average units per acre.

Source: Holland Consulting Planners, Inc.

Table 73. Swan Quarter Land Demand Forecast

Land Use (Growth Rate)	Existing Land Use	Future Land Demand Forecast				% Growth 05-25	Additional Hsg. Units (2025)	Avg. Units Per Acre*
		2010	2015	2020	2025			
Vacant/Agricultural/LDR**	3,996	3,976	3,956	3,935	3,912	-2.1%	N/A	N/A
Commercial (0%)	12	12	12	12	12	0.0%	N/A	N/A
Industrial (0%)	76	76	76	76	76	0.0%	N/A	N/A
Residential (5%)***	384	403	423	444	466	21.4%	331	4.0
Transportation (0%)	109	109	109	109	109	0.0%	N/A	N/A
Utility (0%)	2	2	2	2	2	0.0%	N/A	N/A
Office and Institutional (1%)	48	49	49	49	50	4.2%	N/A	N/A
Total	4,627	4,627	4,627	4,627	4,627			

*For the purposes of these forecasts, categories reflected on the existing land use map have been redefined based on densities. These densities are defined in the future land use discussion of the plan.

**This category is shown as two separate land use categories on the Future Land Use Map.

***It should be noted that all residential land use has been combined into an individual category for the purposes of this forecast, except for scattered Low Density Residential in agricultural areas.

Notes: 1) This table does not reflect build-out in every land use classification as indicated on the Future Land Use Map.

2) The land demand forecast outlined above will result in a population increase of 781 through 2025. This assumes an average household size of 2.36 as established by the 2000 US Census.

3) Additional housing units are not required for all land classifications. The figure for additional housing units (2025) for the residential land use classification is the product of the increase in acreage and the average units per acre.

Source: Holland Consulting Planners, Inc.

4. Infrastructure Carrying Capacity

The previous section outlines anticipated land use acreages through the year 2025 throughout rural Hyde County, as well as the defined study areas. The acreages have been based on historical and anticipated land development trends and serve simply as estimates of what can be anticipated with respect to development under each defined land use category. This section expands on these estimates to make a determination on what impact this increased growth will have on the county's existing water and sewer infrastructure systems.

a. *Water System*

As discussed earlier in the plan, Hyde County does not have an extensive infrastructure system. The county's water systems provide service to all developed portions of the county; however, water lines throughout the county predominantly follow major transportation thoroughfares. In summary, if a paved state road runs through a portion of the county, then county water should be available in the area (see Map 12). For development purposes, water availability should be determined on a site-by-site basis.

Currently the county operates three reverse osmosis water treatment plants. These plants are located in Ponzer (432,000 GPD), Fairfield (720,000 GPD), and Ocracoke (534,000 GPD). Within mainland Hyde County, the Ponzer and Fairfield plants provide water to all customers totaling approximately 2,000. The county currently maintains approximately 380 miles of lines that are tied to this system. The county is nearing completion of a third mainland water treatment facility (300,000 GPD) in Engelhard that will provide additional capacity. This additional capacity will not only help address future development, but will reduce the burden on the other two plants, which are operating at or near capacity. For the purposes of the infrastructure demand forecast, it will be assumed that this plant is already online. The county anticipates completion of the plant in early 2007.

In addition to the Engelhard plant, the county is also preparing to upgrade Ocracoke's water treatment plant. This system will be upgraded to twice its current capacity, resulting in a plant capable of producing 1.1 million GPD. It should be noted; however, that this plant is still in the planning stages, and has not yet been funded.

The following summarizes the county's existing water system capacity vs. utilization and provides estimates of increased demand based on the future land demand forecast summarized on pages 239-242. These forecast are based on average daily water usage rates established by the American Water Works Association (AWWA). In addition, the anticipated water demand is identified in Tables 74 and 75.

Average Daily Water Usage Rates (GPD):

Residential - 170
Commercial - 100
Industrial - 100
Office & Institutional - 100

Mainland Hyde County Current Water Capacity/Utilization:

Water System Capacity - 1,452,000 GPD
Capacity to be Utilized 2010 - 1,036,800 GPD (Based on local water supply plan, see Table 74)
Percent of System Utilized - 71.4%

Ocracoke Island Current Water Capacity/Utilization:

Water System Capacity - 534,000 GPD
Capacity to be Utilized 2010 - 393,960 GPD (see Table 75)
Percent of System Utilized - 70%

b. Sewer System

Hyde County currently has two sewer districts within Engelhard and Swan Quarter. These two sewer districts are not owned or administered by the county, but operate under the jurisdiction of their respective sewer district Board of Directors. The two systems are intended to serve residents within the immediate vicinity of these two study areas. Combined these two sewer plants serve a total of approximately 550 customers. At this time there is not any plans for expansion of these systems. Discussion of sewer system expansion has faced a substantial amount of public criticism over the years. The existing plants were established primarily in response to environmental concerns tied to illegal sewer discharges in waterfront portions of the county (Swan Quarter and Engelhard). At this time the county and its residents do not feel that development trends can support county-wide or regional sewer. The county will continue to review its options with regard to wastewater treatment; however, at this time there are no plans for expansion of existing systems, or establishment of new plants.

It should also be noted that the Village of Ocracoke does not intend to establish central sewer service. The island currently relies on private septic systems and package treatment plants, and will continue to do so. As with the mainland, the issue of central sewer service has met stiff public criticism. This outlook is not expected to change during the planning period. It should be noted that based on American Water Works Association guidelines, sewer treatment demand should be 75% of the water demand (refer to Tables 74 and 75).

Table 74. Hyde County Mainland Water System Carrying Capacity

	2010			2015			2020			2025		
	Additional Units	Increased Demand GPD	Total Demand GPD	Additional Units	Increased Demand GPD	Total Demand GPD	Additional Units	Increased Demand GPD	Total Demand GPD	Additional Units	Increased Demand GPD	Total Demand GPD
Industrial	1	500		0	0		2	1,000		1	500	
Residential	79	13,430		81	13,770		84	14,280		86	14,620	
Commercial	8	800		6	600		6	600		8	800	
Office and Institutional	4	400		3	300		4	400		6	600	
Total	92	15,130	1,036,800	90	14,670	1,051,470	96	16,280	1,067,750	101	16,520	1,084,270

NOTE: Total expected system capacity is 1.1 million gallons per day, see page 244. As of 2025, the County will have approximately 367,700 gpd water capacity in excess of demand.

Table 75. Ocracoke Island Water System Carrying Capacity

	2010			2015			2020			2025		
	Additional Units	Increased Demand GPD	Total Demand GPD	Additional Units	Increased Demand GPD	Total Demand GPD	Additional Units	Increased Demand GPD	Total Demand GPD	Additional Units	Increased Demand GPD	Total Demand GPD
Residential	108	18,360		100	17,000		114	19,380		120	20,400	
Commercial	4	400		2	200		3	300		2	200	
Office and Institutional	2	200		2	200		4	400		3	300	
Total	114	18,960	393,960	104	17,400	411,360	120	20,080	431,440	125	20,900	452,340

NOTE: Total expected system capacity is 534,000 gallons per day, see page 244. As of 2025, the County will have approximately 81,600 gpd water capacity in excess of demand.

Section 7. Tools for Managing Development

A. *Guide for Land Use Decision Making*

It is intended that this document be an integral part of the Hyde County decision making process concerning future land use. This statement is especially important concerning the possible development of a zoning ordinance for Hyde County. This document should be consulted prior to any decision being made by Hyde County concerning land use and development, including the review and approval of subdivision plats.

B. *Existing Development Program*

The existing management program includes the following ordinances: Hyde County Subdivision Ordinance, North Carolina Building Code, National Flood Insurance Program, the 1997 Hyde County Land Use Plan, and the Hyde County Hazard Mitigation Plan (see Section 5(H), Current Plans, Policies, and Regulations, page 125).

C. *Additional Tools*

Hyde County will utilize the following additional tools to implement this plan:

- Rely on the policies and implementing actions included in this plan and summarized in Table 76.
- Revise this plan as water and wastewater treatment systems are expanded.
- Conduct annual training sessions for the Hyde County Planning Board and Board of Commissioners.
- At a minimum, update the Land Use Plan and implementation process every six to seven years.
- Revise the county's subdivision ordinance to support the policies and implementing actions contained in this plan.
- Prepare a Hyde County zoning ordinance.
- Prepare a capital improvements plan/program to address the following community facilities/needs: water, sewer, stormwater, and transportation.

D. *Action Plan/Schedule*

1. Citizen Participation

For the preparation of this plan, the Hyde County Board of Commissioners adopted a citizen participation plan on September 7, 2004. A copy of that plan is included as Appendix I. In addition to the implementation of this plan, Hyde County will implement the following to ensure adequate citizen participation:

- The county will annually revise and update its land use citizen participation plan.
- The county will encourage public participation in land use decisions and encourage citizen input via its boards and commissions.
- The county will ensure that the membership of all planning related and ad hoc advisory committees has a cross section of Hyde County's citizenry.

2. Action Plan/Schedule

The following describes the priority actions that will be taken by Hyde County to implement this CAMA Core Land Use Plan and the fiscal year(s) in which each action is anticipated to begin and end. This action plan will be used to prepare the implementation status report for the CAMA Land Use Plan.

Policy References	Implementing Actions	Schedule	
		Begin	End
P.1 - P.6	Hyde County will prepare a shoreline access plan and request Division of Coastal Management funding for the preparation of the plan, including preservation of existing public access sites.	FY2007	FY2008
P.7 - P.12 P.13 - P.18 P.19 - P.27 P.28 - P.50 P.56 - P.69 P.88 - P.105	Hyde County will update its county-wide subdivision ordinance to aid in implementation of the policies contain in this Land Use Plan.	FY2007	FY2008
P.7 - P.12 P.13 - P.18 P.19 - P.27 P.28 - P.50 P.109 - P.127	Hyde County will pursue adoption of county-wide zoning to aid in implementation of the policies contained in this Land Use Plan.	FY2008	FY2009
P.7 - P.12 P.144 - P.146	The county will update its minimum housing code to ensure that all occupied residential structures are fit for human habitation.	FY2008	FY2010
P.28 - P.50	Hyde County will study and may develop and adopt a local ordinance designed to regulate the removal of natural vegetation	FY2008	FY2009
P.28 - P.50	Hyde County will seek state technical assistance and funding to study and prepare a management plan for its remaining maritime forest.	FY2008	FY2009

Policy References	Implementing Actions	Schedule	
		Begin	End
P.28 - P.50	Hyde County will develop and adopt a specific plan for the establishment of mooring fields.	FY2008	FY2009
P.51 - P.55	Hyde County will consider adopting a landscaping ordinance to require that a buffer of trees/vegetation be left between rights-of-way and any clear cut areas, consistent with applicable state and federal regulations.	FY2008	FY2009
P.51 - P.55	Hyde County will seek funding and technical assistance to prepare a county-wide master drainage plan and develop a stormwater management plan and ordinance to aid in eliminating standing water, and to require that all development address stormwater management.	FY2008	FY2009
P.51 - P.55	Hyde County will identify locations currently discharging significant loads of nitrogen and phosphorus and implement retrofitting opportunities	FY2007	FY2008
P.51 - P.55	Hyde County will implement a public education campaign regarding the impacts of stormwater runoff and methods of reducing stormwater runoff pollution, particularly among the county's farmers and animal operation managers.	FY2007	FY2008
P.56 - P.69	Hyde County will request that the state establish an interagency task force to work directly with the Hyde County Board of Commissioners and Manager to identify solutions and sources of funding for infrastructure.	FY2007	FY2008
P.56 - P.69	Hyde County will consider revising water and sewer extension policies to ensure that public/private cooperation in the provision of infrastructure to serve new development is encouraged.	FY2006	FY2007
P.56 - P.69	Hyde County will consider adopting an operating and capital financing plan for the development of water and sewer systems outside of the proposed water and sewer service areas.	FY2008	FY2009
P.56 - P.69	Hyde County will consider the adoption of a local ordinance requiring water-conserving plumbing fixtures in all new construction on Ocracoke Island.	FY2008	FY2009
P56 - P.69	Hyde County will consider adoption of a local ordinance designed to regulate water consumption.	FY2008	FY2009
P.56 - P.69	Hyde County will consider establishing a land banking fund for public facility improvements into which the county may annually contribute funds.	FY2008	FY2009
P.70 - P.78	Hyde County will seek the aid of the NCDOT to develop a comprehensive transportation plan.	FY2008	FY2009
P.70 - P.78	Hyde County will seek grant monies and technical assistance to study ways to aggressively mitigate traffic congestion and parking problems on Ocracoke Island.	FY2008	FY2009
P.70 - P.78	Hyde County will study the implementation of county-wide mapping, structure numbering, and emergency reporting telephone systems.	FY2007	FY2008
P.79 - P.87	Hyde County will consider establishing setback standards, density controls, bulkhead restrictions, buffer vegetation protection requirements, and building designs through the <u>Ocracoke Village Development Ordinance</u> and Hyde County Building Code which will facilitate the movement of structures.	FY2007	FY2008
P.88 - P.105	Hyde County will update its land use control related ordinances to control non-point source discharges.	FY2008	FY2009

Policy References	Implementing Actions	Schedule	
		Begin	End
P.106 - P.108	Hyde County will encourage a county-wide survey of historical sites by local volunteers or state and federal agencies and will seek grant monies for the complete inventory of historically significant structures and sites.	FY2008	FY2009
P.106 - P.108	Hyde County will support local historic preservation districts and commissions in the county and will seek financial and technical assistance to study the development of zoning regulations which would include historical areas.	FY2008	FY2012
P.106 - P.108 P.144 - P.146	Hyde County may revise the <u>Ocracoke Village Development Ordinance</u> to require coordination of redevelopment in Ocracoke Village with the NC Division of Archives and History to ensure that any significant architectural details or buildings are identified and preserved.	FY2008	FY2009
P.106 - P.108	Hyde County may study the development of a local historic district ordinance or historic preservation regulations to be incorporated into the <u>Ocracoke Village Development Ordinance</u> .	FY2008	FY2009
P.106 - P.108 P.144 - P.146	Hyde County will update local regulations to require that redevelopment efforts be consistent with the historic preservation policies contained in this plan update.	FY2007	FY2008
P.106 - P.108	Hyde County will develop a plan that will identify specific scenic sites on the Mainland and Ocracoke Island and identify implementing actions to protect/preserve those sites.	FY2009	FY2010
P.109 - P.127	Hyde County will consider the development of plans to address public and private improvements to make Engelhard and Swan Quarter more attractive to tourists and visitors.	FY2008	FY2009
P.109 - P.127	Hyde County will seek grant monies and/or technical assistance to study the development of a signage ordinance.	FY2007	FY2008
P.109 - P.127	Hyde County will develop a specific plan of action to preserve its commercial fishing industry.	FY2008	FY2009
P.128 - P.143	Hyde County will appoint a Community Appearance Committee with a charge to establish guidelines and procedures for community appearance awards and to conduct studies and make recommendations addressing problems of litter on beaches and along roads.	FY2007	FY2008
P.128 - P.143	Hyde County will seek grant monies and/or technical assistance to study the development of a recreational facilities plan.	FY2008	FY2009
P.128 - P.143	Hyde County will seek grant monies and/or technical assistance to study the development of a capital improvements plan.	FY2009	FY2010
P.128 - P.143	Hyde County will request that the National Park Service not issue any commercial leases or permits for retail sales and food concessions on National Park Service property.	FY2007	FY2012
P.128 - P.143	Hyde County will investigate, with the Institute of Government, the use of impact fees as a way of making new development pay for the services demanded.	FY2007	FY2008

E. *Resource Conservation Management Action Plan/
Positive and Negative Impacts of Land Use Plan Policies*

Hyde County believes that the policies, management goals, planning objectives, and land use plan requirements contained in this document will have positive impacts for the county. However, such classification is extremely difficult. Any manmade/created action is potentially negative or, at least, may have some adverse effects. It should be noted that some policies and implementing actions rely partially or solely on state and federal rules. The following could have some negative impacts:

- Some possible degradation of water quality within and adjacent to Hyde County's jurisdiction.
- Infrastructure improvements which may extend through sensitive environmental areas.
- Increased development in some floodplain areas.
- Increased density in the village areas.
- Increased stormwater runoff.

The management objectives, policies, and implementing actions address the issues associated with these possible negative impacts. Specific mitigating policies and implementing actions are identified in the Notes to the Policy Analysis Matrix.

Table 76 provides an analysis matrix which summarizes this plan's policies and identifies them as beneficial, neutral, or detrimental. The following provides a definition of these terms:

Beneficial. A policy or implementing action which is considered to improve the quality of life and minimize or eliminate adverse environmental impacts.

Detrimental. A policy or implementing action which may have adverse cultural or environmental impacts.

Neutral. No policies or implementing actions are considered neutral.

NOTE: References to P.# refer to the appropriate policy number and is not a page number reference.

Table 76. Hyde County Policy Analysis Matrix - Land Use Plan Management Topics

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
Land Use and Development Policies	<ul style="list-style-type: none"> • more planned access locations • upgrades to existing access locations • increase pedestrian access • comply with state access standards to enhance opportunities for state funding 	<ul style="list-style-type: none"> • reduction in habitat loss and fragmentation related to impacts of land use and development • reduction of water resource and water quality degradation • balance growth demands with protection of the environment 	<ul style="list-style-type: none"> • water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns • during construction of infrastructure systems, AECs and other fragile areas should be protected • transportation improvements should support the efficiency of traffic flow and pedestrian safety 	<ul style="list-style-type: none"> • land uses and development patterns that reduce vulnerability to natural hazards • land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure • minimize development in floodplains, AECs, wetlands, and other fragile areas 	<ul style="list-style-type: none"> • land use and development criteria and measures that abate impacts that degrade water quality • coordinate water quality efforts with Hyde County 	<ul style="list-style-type: none"> • preservation of cultural, historic, and scenic areas • support of economic development • development of human resources • preservation of the County's rural character • decrease residential density within County
Public Access: Policies P.1 to P.6 are considered beneficial (B), see pages 186 to 187. Also refer to land use compatibility policies P.29 (B), P.43 (B), P.46 (B), P.47 (B), and P.48 (B); transportation policy P.78 (B); local areas of concern policies P.118 (B), P.119 (B), and P.136 (13).		Supported by proposed revisions to land use regulatory ordinances. See policies P.29 (B), P.43 (B), P.46 (B), P.47 (B), and P.42 (B)	Generally, the infrastructure carrying capacity policies are intended to improve water quality and support access to public. See policies P.56 (B) to P.66 (B)	Coordinate with all natural hazards policies P.79 (B) to P.87 (B)	Improved water quality will enhance public access. See policies P.88 (B) to P.105 (B)	See policies P.107 (B), P.113 (B), P.116 (B), P.118 (B), P.135 (B) to P.137 (B)
Land Use Compatibility: Policies P.7 to P.55 address land use compatibility. See pages 188 to 198. All policies are intended to be compatible with applicable state and federal regulations and are intended to be beneficial (B). (NOTE: Any land disturbance or development may require mitigative action)	NOTE: ALL POLICIES CONTAINED IN THIS PLAN HAVE LAND USE COMPATIBILITY IMPLICATIONS.					

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
Land Use and Development Policies	<ul style="list-style-type: none"> • more planned access locations • upgrades to existing access locations • increase pedestrian access • comply with state access standards to enhance opportunities for state funding 	<ul style="list-style-type: none"> • reduction in habitat loss and fragmentation related to impacts of land use and development • reduction of water resource and water quality degradation • balance growth demands with protection of the environment 	<ul style="list-style-type: none"> • water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns • during construction of infrastructure systems, AECs and other fragile areas should be protected • transportation improvements should support the efficiency of traffic flow and pedestrian safety 	<ul style="list-style-type: none"> • land uses and development patterns that reduce vulnerability to natural hazards • land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure • minimize development in floodplains, AECs, wetlands, and other fragile areas 	<ul style="list-style-type: none"> • land use and development criteria and measures that abate impacts that degrade water quality • coordinate water quality efforts with Hyde County 	<ul style="list-style-type: none"> • preservation of cultural, historic, and scenic areas • support of economic development • development of human resources • preservation of the County's rural character • decrease residential density within County
Infrastructure Carrying Capacity (Includes Transportation): Policies P.56 to P.78 address infrastructure carrying capacity, see pages 199-203. All policies are considered beneficial except the following: Policies P.56 and P.57 are potentially detrimental because the construction of infrastructure through environmentally sensitive areas may result in adverse impacts that will require mitigation.	Infrastructure carrying capacity policies support services to public access sites.	All infrastructure carrying capacity policies have the potential to both stimulate and support growth. Potential impacts on natural resources could be negative. Mitigative action may be required.		Infrastructure must be coordinated with natural hazards. In particular, the following policies will impact infrastructure: P.79 (B), P.81 (B), P.82 (B), and P.86 (B).	Infrastructure carrying capacity policies support responsible growth. The policies on water quality, P.89 (B), P.93 (B) and P.102 (B), relate directly to infrastructure carrying capacity.	Refer to policies P.113 (B), P.125 (B), and P.138 (B).

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
Land Use and Development Policies	<ul style="list-style-type: none"> • more planned access locations • upgrades to existing access locations • increase pedestrian access • comply with state access standards to enhance opportunities for state funding 	<ul style="list-style-type: none"> • reduction in habitat loss and fragmentation related to impacts of land use and development • reduction of water resource and water quality degradation • balance growth demands with protection of the environment 	<ul style="list-style-type: none"> • water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns • during construction of infrastructure systems, AECs and other fragile areas should be protected • transportation improvements should support the efficiency of traffic flow and pedestrian safety 	<ul style="list-style-type: none"> • land uses and development patterns that reduce vulnerability to natural hazards • land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure • minimize development in floodplains, AECs, wetlands, and other fragile areas 	<ul style="list-style-type: none"> • land use and development criteria and measures that abate impacts that degrade water quality • coordinate water quality efforts with Hyde County 	<ul style="list-style-type: none"> • preservation of cultural, historic, and scenic areas • support of economic development • development of human resources • preservation of the County's rural character • decrease residential density within County
Natural Hazards: Policies P.79 to P.87 address natural hazards, see pages 205 and 206. All of these policies are considered beneficial (B). All land use compatibility policies, pages 188 to 198, should be referred to, especially the conservation policies, P.29 (B), P.32 (B) and P.33 (B).	Public access design must incorporate consideration of natural hazard areas.	Revisions proposed for local land use control ordinances must reflect protection of natural hazards.	Infrastructure design must incorporate consideration of natural hazard areas.		Failure to support the natural hazard policies will adversely affect water quality.	Implementation of the local concern policies must reflect the natural hazard policies.
Water Quality: Policies P.88 (B) to P.105 (B) address water quality, see pages 208 to 209. All policies are considered beneficial. Land use compatibility policies, P.28 (B) to P.50 (B) (conservation), pages 192 to 194, should be referenced.	NOTE: ALL POLICIES AND IMPLEMENTING ACTIONS MAY POTENTIALLY HAVE A DETRIMENTAL IMPACT ON WATER QUALITY. ALL GROWTH/LAND USE DECISIONS MUST CONSIDER WATER QUALITY IMPLICATIONS AND APPROPRIATE MITIGATIVE ACTION TAKEN. MITIGATIVE POLICIES AND IMPLEMENTING ACTIONS ARE IDENTIFIED IN THE NOTES TO THIS TABLE.					

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
Land Use and Development Policies	<ul style="list-style-type: none"> • more planned access locations • upgrades to existing access locations • increase pedestrian access • comply with state access standards to enhance opportunities for state funding 	<ul style="list-style-type: none"> • reduction in habitat loss and fragmentation related to impacts of land use and development • reduction of water resource and water quality degradation • balance growth demands with protection of the environment 	<ul style="list-style-type: none"> • water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns • during construction of infrastructure systems, AECs and other fragile areas should be protected • transportation improvements should support the efficiency of traffic flow and pedestrian safety 	<ul style="list-style-type: none"> • land uses and development patterns that reduce vulnerability to natural hazards • land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure • minimize development in floodplains, AECs, wetlands, and other fragile areas 	<ul style="list-style-type: none"> • land use and development criteria and measures that abate impacts that degrade water quality • coordinate water quality efforts with Hyde County 	<ul style="list-style-type: none"> • preservation of cultural, historic, and scenic areas • support of economic development • development of human resources • preservation of the County's rural character • decrease residential density within County
Local Concerns: Policies P.106- to P.146 address areas of local concern, see pages 211 to 222. All of these are considered beneficial. Implementation of the local concern policies will be based on the effective implementation of the other policies contained in this plan.	<p>NOTE: THE LOCAL CONCERN POLICIES ARE INTENDED TO SUPPORT AND SHOULD BE COORDINATED WITH POLICIES P.1 (B) TO P.105 (B) MITIGATIVE POLICIES AND IMPLEMENTING ACTIONS ARE IDENTIFIED IN THE NOTES TO THIS TABLE.</p>					

Notes to Policy Analysis Matrix:

<u>DISCUSSION LOCATION</u>	<u>MITIGATIVE POLICIES AND IMPLEMENTING ACTIONS</u>
<u>Public Access</u> Please refer to: Section 5(G)(10), page 117 Section 5(H)(7) and (10), page 128 & 129 Section 6(B)(7), page 176	
<u>Land Use Compatibility</u> Please refer to: Section 5(F), pages 49 to 103 Section 5(I), pages 131 to 158 Section 6(B), pages 169 to 180	<u>Residential</u> P.8, P.9, P.10 (page 188) I.8, I.9, I.13, I.14 (page 189) <u>Commercial</u> P.17 (page 190) I.15, I.16, I.20 (page 190) <u>Industrial</u> P.27 (page 191) I.21, I.22, I.28 (page 191) <u>Conservation</u> P.29 (page 192) P. 33, P.34 (page 193) I.30, I.31 (pages 194-195) <u>Stormwater Control</u> P.55 (page 197) I.44, I.45 (page 197) I.50, I.53 (page 198)
<u>Infrastructure Carrying Capacity</u> Please refer to: Section 5(J), pages 165 to 168 Section 6(F), pages 225 to 245 Section 5(G)(1)-(15), pages 104 to 119 Section 6(F)(4), pages 243 to 245	I.55 (page 200) I.67 (page 201) I.69 (page 202)
<u>Natural Hazards</u> Please refer to: Section 5(F)(1)(c), pages 52 to 56 Section 5(F)(1)(g), pages 66 to 79 Section 5(F)(2), pages 91 to 94 Section 5(J), pages 165 to 168	P.87 (page 206) I.88 (page 206) I.94 (page 207)

Water Quality

Please refer to:

Section 5(F)(3), pages 94 to 103

Section 5(I)(3), pages 158 to 164

Section 5(G)(16), pages 120 to 124

P.91 (page 208)

P.97 (pages 208-209)

P.102, P.105 (page 209)

I.101 (page 210)

I.107, I.108 (page 211)

Local Concerns

Please refer to:

Section 5(G), pages 104 to 124

Section 6(B), pages 169 to 180

Economic Development

P.109 (page 213)

P.113 (page 214)

I.130 (page 217)

General Health & Human Services Needs

P.132 (page 219)

P.142 (page 220)

I.160 (page 221)

I.162 (page 222)

NOTE: Local concern issues are dispersed throughout this plan. Issues of primary local concern are identified on pages 13 through 15.

Policies/implementing actions are discussed on page 184-224. It is clearly the County's intent that all land use decisions be coordinated with the policies and implementing actions included in this plan. This will directly affect the day-to-day implementation of the Ocracoke Village Development Ordinance, and the Hyde County Subdivision Ordinance. At the time of plan preparation, Hyde County was considering the establishment of a Hyde County Planning Board.

Residents should reference the policies contained in this plan when requesting actions by the County.

The Board of Commissioners should take into account and weigh policy interpretations and priorities specified in this document when making decisions related to land use and other long-range planning decisions.

Section 8. Hazard Mitigation Plan

Hyde County prepared a final draft of their Multi-Hazard Mitigation Plan on April 21, 2002, which was approved by the Federal Emergency Management Agency. The plan in its entirety is available for public review at the Hyde County Planning Department, and is incorporated herein by reference. The plan's mitigation strategies and policies are provided in Appendix X.