



Town of Nags Head 2010 Land Use Plan



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Town of Nags Head 2010 Land Use Plan

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NOTE: The terms, definitions and applicability of this Land Use Plan may relate to technical or legal issues beyond the scope of this Land Use Plan and/or may require specialized technical or legal analysis beyond the scope of this Land Use Plan.

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Introduction

The Town of Nags Head is a unique and attractive resort community on the Outer Banks of North Carolina in Dare County. A number of characteristics make it an attractive place to live or vacation. Among them are its proximity to water and beaches, its abundance of open spaces, its generally low density of development, and the overall quality of its natural environment. Nags Head is primarily an ocean and sound oriented community. The Town is fortunate to have significant natural resources, including the ocean and its beaches, the sound, a complex natural area called Nags Head Woods (consisting of stable, productive marshlands, fresh water ponds, and steep migrating and stabilized dunes), and unique geological features like Jockey's Ridge. Nags Head is a recreational wonderland, closely tied to its natural environment. From its early beginnings in the 1800s, Nags Head has consisted predominantly of single-family cottages and a few hotels. Family operated businesses and cottage courts made up the commercial sector of Nags Head. These factors contributed to a certain charm and a slow, relaxed pace of life. The Town has been and still is an annual vacation spot for a countless number of families who make repeat visits from their home Towns. For many visitors and residents, Nags Head is a "family beach."

Nags Head has been slow to develop when compared to other resort and vacation areas along the east coast, such as Myrtle Beach, South Carolina and Ocean City, Maryland. This slow growth has partly been a result of the remoteness of the Town. However, like all of the Dare County beach communities, Nags Head, especially during the mid- to late 1980s, experienced tremendous growth and development pressures. As an indication, the permanent population increased 80 % from 1980 to 1990. The most significant growth pressures in the Town are, and will continue to be, generated by seasonal resort development. The task the Town of Nags Head is now facing is how to balance the needs of residents, visitors, and the tourist industry, and not destroy those natural and cultural features that have made Nags Head an attractive place to live and visit. As of March 11, 2005 the Town had approximately 5,524 single-family dwelling units. As more redevelopment and renovation occur, the Town will need to seek measures to maintain the character of the existing housing stock. To accomplish this, the Town must seek measures (retrofitting techniques and careful monitoring of our existing housing during periods of renovation) to ensure that the existing pattern and character of Nags Head will be enhanced.

The Town exercises authority to regulate activities not only on land but also in adjacent waters. The General Statutes of the State of North Carolina allows municipalities to extend zoning and planning jurisdiction into un-zoned county areas up to one mile beyond their municipal boundaries. Nags Head has established extraterritorial jurisdiction one mile out into the Atlantic Ocean, one mile west of the Town's estuarine shoreline, one mile south of US 64-264 on the Causeway, and one mile west of the Town boundary line in South Nags Head. With the exception of land within the Cape Hatteras National Seashore and some islands in the sound, the remainder of the ETJ area is water.

The 1990 Land Use Plan Survey set of residents and property owners found that most were in agreement that Nags Head should remain a family-oriented beach. This belief was again confirmed in the 1996 and 2006 Land Use Plan Survey. The results from both surveys highlighted the level of importance that residents and non-resident property owners place on the quality of the natural environment, including such things as access to beaches and the protection of open space. Yet the

growth pressures Nags Head is currently experiencing indicate that the Town has been "discovered," and that this discovery puts in jeopardy many of the features and characteristics that make Nags Head such an attractive place in which to live and vacation.

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Community Concerns and Aspirations

To develop a comprehensive list of existing and emerging issues, a public involvement strategy was developed that included the formulation of a Land Use Planning Committee (the Lead Planning Group) as well as a public outreach effort. The Lead Planning Group (LPG) included a diverse group of individuals and community representatives that served as a steering committee to guide the Planning Team's efforts and advise the Board of Commissioners throughout the process. A complete list of the LPG organizations can be found in Appendix A.

The LPG had several meetings to discuss existing and emerging issues. Two public meetings to gather additional input from the entire community. To support the public outreach effort, several participation tools were employed. A detailed description of the public participation process can be found in Appendix A of this Plan.

A list of existing and emerging conditions resulted from extensive coordination and public outreach throughout the development of the Plan. Coordination of input from the Lead Planning Group and the public began with the first meetings held with each group in October 2005. The Lead Planning Group kicked off their first meeting with a brainstorming session to develop a list of "concerns" about Nags Head. The results of this list were revisited during later public meetings to add additional concerns. The study team used input from both the LPG and the public to refine the initial list of key issues. Subsequent LPG meetings in January helped to refine the list of key issues.

Development of the public survey also helped to gather input on the key issues. The survey, which was mailed in April 2006 to all resident and non-resident property owners in Nags Head, was organized by topic areas. These areas were used to group questions and analyze results. In some topic areas, the survey results enabled comparisons to the 2000 survey. These topics were identified from public input and LPG input over a span of several months. In May and June 2006, the citizen survey results were tabulated and shared with the LPG and the public. These results further helped to refine the issues the residents and property owners felt were important. The results of the survey can be found in Appendix B.

The list of key concerns/emerging issues was also used to help define management topics that would be the focus of policy analysis during development of the Land Use Plan.

The community characteristics ranked most important during the 2006 Land Use Plan survey process were beaches, landscape, water quality and single family homes. Most respondents are concerned about preserving the community character of the Town (Q5-Q12). Other responses highlighted concern for bicycle and pedestrian improvements (Q1, Q34) as well as beach nourishment and beach access amenities (Q1, Q24, Q34).

The dominant growth related conditions which influence land use and water quality are tourism and the construction of single family homes for vacation rental. The Town hopes to provide a diverse supply of accommodations, including single-family homes, hotels, and multi-family dwelling units which attract and are accessible to visitors from a wide range of economic and social strata.

- Key Issues

Following the public outreach effort, key concerns and emerging issues were refined by reviewing existing Town management tools and regulatory procedures, revised CAMA planning guidance, and other new policies.

The following table represents a summary of key issues and concerns:

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Key Issues

Table 1 Key Issues and Concerns from Phase I

Public Access	<p>Need to enhance public accesses</p> <p>Improve amenities at public accesses</p>
Land Use Compatibility	<p>Large vacation rental homes dominating new development</p> <p>Need to coordinate land use and transportation</p>
Infrastructure carrying capacity	<p>Need for non-automobile transportation options</p> <p>US 158 (Bypass) congestion and delays in summer months</p>
Natural Hazard Areas	<p>Need to acquire and preserve open spaces</p> <p>Effects of threatened structures along Beach</p>
Water Quality	<p>Storm water management improvements</p> <p>Need to protect water quality for both beach and sound</p> <p>Increasing redevelopment pressures</p>
Local Areas of Concern	<p>Need to protect "Nags Head" coastal architecture</p> <p>How to accommodate visitors: hotels, rental homes, cottage courts</p> <p>Recreation needs for Town residents of all ages</p> <p>Beach nourishment and protection</p> <p>Loss of commercial business along Beach Road</p> <p>Limited options for "workforce housing"</p> <p>Loss of small, locally-owned businesses / proliferation of chain businesses</p> <p>Losing middle income permanent population</p> <p>Providing public safety for residents and visitors</p>

The key issues and concerns cited in the above table provided the framework for the Land Use Plan.

- The Vision Statement

Based upon the specific input from the citizen survey, the LPG developed a series of suggested revisions to the Town Vision Statement. These revisions were distributed to the LPG members twice via email in July and August 2006. One joint public workshop and LPG meeting in July provided preliminary review of the revisions. An August 2006 LPG meeting resulted in the final suggested wording of the Vision Statement. This wording was submitted to the Board of Commissioners for consideration and action at the September 2006 meeting. The Board held a work session with the LPG on October 18, 2006 to discuss final changes to the Vision Statement. Following is the revised Vision Statement which was adopted by the Board of Commissioners on November 1, 2006.

The Town of Nags Head is working to build a community populated by diverse groups whose common bond is a love of the Outer Banks. We recognize that the Town must be a good place to live before it can be a good place to visit. We recognize that those who have lived on this land before us have forged our path and that we must learn from them and respect their memory. We recognize that our natural environment is an integral part of our community and must be considered in all decisions. We recognize that in order to secure this future we must work together, treating all with respect and fairness and focusing on our common goals.

The Town of Nags Head is working to build a community with an economy based on family vacation tourism. The base of that economy is a high quality beach experience. Important elements in developing and maintaining this economy are:

- * A relaxed-paced beach community comprised primarily of low-density development and open spaces
- * A diverse supply of accommodations, including single-family homes, hotels, and multi-family dwelling units, that attract and are accessible to visitors from a wide range of economic and social strata
- * A natural environment typified by clean water and a landscape of sand dunes and non-invasive, salt tolerant vegetation
- * A healthy, well-maintained oceanfront beach that is accessible and usable; not blocked by large structures
- * A carefully managed sound front that preserves the natural and beneficial functions of the estuarine environment while balancing respect for private property rights and the need to provide public access.
- * A built environment that reflects the heritage of "Old Nags Head"
- * A well-organized pattern of land uses that, when combined with a transportation system that accommodates a variety of travel modes, promotes an active and accessible community

- * Commercial services provided by locally owned and operated businesses that share in the building of our community
- * Recreational amenities and attractions, both commercial and non-commercial that are wholesome and appeal to a broad spectrum of family members, age groups and interests.

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Analysis of Existing and Emerging Conditions

Population, Housing and Economy

This chapter begins by looking at statistics concerning the growth of the permanent population of the Town. It goes on to analyze demographic trends including housing and the local economy. The remainder of this section discusses the availability of land for future development, current development and building trends, and projects peak levels of development and population growth under total permissible build-out.

- Population

Like most of the North Carolina beach Towns, the Town of Nags Head has experienced strong increases in population. Census data shows that since 1970, Nags Head's population has increased at least 45% every ten years. Population estimates for 2005 indicate there is already greater than a 15% increase in population since the last decennial census. The largest increase was between 1990 and 2000, where the population went from 1,838 to 2,700 — an increase of 862 persons. Since then, population has increased, but at a slower, yet significant, rate as shown in the following table.

Table 2
Population Growth of Nags Head and Dare County

Year	Dare County	Percent Change	Nags Head	Percent Change
1960	5,935			
1970	6,995	17.9 %	414	
1980	13,377	91.2 %	1,020	146.4 %
1990	22,746	70 %	1,838	80.2 %
2000	29,967	13.1 %	2,700	46.9 %
2005	34,790	16.1 %	3,125	15.7 %

Source: US Census Data, NC Office of State Budget and Management: Fall 2005

In 2005, the Town of Nags Head was home to 3,125 persons. According to the U.S. Department of Commerce, Bureau of the Census, the population in 2000 was 2,700. The municipality grew at an annual rate of 3 percent between 2000 and 2005. Dare County as a whole also grew at a rate of 3 percent for this same time period.

Table 3
Dare County Municipal & Dare County Population, 1990, 2000 & 2005

Jurisdiction	2005 Estimated Population ²	2000 Population	1990 Population	Percent Change 1990 to 2000	Percent Change 2000 to 2005
Nags Head	3,125	2,700	1,838	46.9%	15.7%
Kill Devil Hills	6,760	5,897	4,238	41%	12.1%
Southern Shores	2,612	2,201	1,447	52%	18.6%
Duck	521	448	N/A		16.3%
Kitty Hawk	3,474	2,991	1,937	57%	13.6%
Manteo	1,130	1,052	991	8%	6.7%
Dare County	34,790	29,967	22,746	33%	13.1%
Source: US Census Bureau,					
² Source: NC Office of State Budget and Management: Fall 2005					

The Division of Coastal Management (DCM) guidelines require input from all groups of potentially affected residents and members of the public. For coastal communities such as Nags Head, the seasonal population is very important to the development of the Land Use Plan.

- Seasonal Population

Making assumptions about the number of individuals residing in each dwelling unit and hotel/motel room in the Town allows us to estimate the potential seasonal peak population. Table 4 presents the methodology and calculations for this procedure. The results indicate that under existing development, peak daily summer population can approach 37,000 people, this number includes permanent plus seasonal population. This is in stark contrast to the 3,100+ permanent residents in the Town. In addition, the number of visitors during the spring and fall months (the "shoulder season") has increased substantially in the last few years, indicating that during more than half of the year, the Town's potential population exceeds or greatly exceeds the estimated 3,100+ permanent residents. Table 5 shows an estimate of the actual and projected permanent population by the North Carolina State Data Center.

Table 4
Estimate of Potential Peak Seasonal Population, 2005

Property Type	Total Properties	Total #Rooms / Bedrooms	% of Total Bedrooms	Intensity	Occupancy
				Persons per Unit/Bedroom	(# Bedrooms x Intensity)
Hotel	19	807	4.6%	3.5	2,825
Cottage Court	15	213	1.2%	3.5	746
Subtotal	34	1,020	5.8%		
Multi-Family	505	1,404	8.0%	2	2,808
Single Family					
1-2 bedrooms	268	522	3.0%	2	1,044
3-5 bedrooms	3,394	12,418	70.4%	2	24,836
6-7 bedrooms	187	1,186	6.7%	2	2,372
8 bedrooms or greater	150	1,098	6.2%	2	2,196
SF Subtotal	3,999	15,224	86.3%		
Total	4,538	17,648			36,826

* Hotel and Cottage Court information was derived from current Nags Head privilege license information and Dare County tax data

**Multi-Family includes the following property uses: townhouse, condo, timeshare, and parcels with multiple uses containing residential units

*^Single-Family dwelling information was derived using a combination of Dare County tax data and the Nags Head permitting database. This also includes residential units under construction.

Table 5
Estimate of Actual and Projected Population

Year	Population
1990	1,838
1995	2,029
2000	2,700
2005	3,125
2010 (projected)	3,305
2015 (projected)	3,592
2020 (projected)	3,869
Source: Census and projection data: NC State Data Center.	

- Age of the population

According to Census 2000, the median age of the residents of the Town of Nags Head is about 43 years. This value has been increasing. Ten years earlier, the median age of Nags Head residents was about 38 years. Statistically the Nags Head resident is older than the average Dare County citizen, who is around age 40; and older than residents in neighboring Kill Devil Hills (37 years of age) and Kitty Hawk (41 years old). However, the median age in Nags Head is less than that for most other NC coastal communities. Compared to other beach communities, the Nags Head citizen is among the youngest. Over half of the other coastal communities have a median age over 50. The community with the oldest median age is Pine Knoll Shores (almost 62 years of age). The youngest communities are Kill Devil Hills, Wrightsville Beach (37), Kitty Hawk, and Manteo.

Table 6
Age Characteristics of Nags Head Residents & Dare County Comparison

Age Group	Nags Head Pop. 2000	% of Total	Nags Head Pop. 1990	% of Total	Change from 1990 to 2000	% Change	Dare County Pop. 2000	% of Total	Dare County Pop. 1990	% of Total
Under 5	121	4%	105	6%	16	15%	1,547	5%	1,580	7%
5-19	438	16%	234	13%	204	87%	5,441	18%	3,995	18%
20-24	97	4%	97	5%	0	0%	1,321	4%	1,395	6%
25-44	830	31%	688	37%	142	21%	9,219	31%	8,232	36%
45-64	755	28%	449	24%	306	68%	8,315	28%	4,714	21%
65+	459	17%	265	14%	194	73%	4,124	14%	2,830	12%
	2,700		1,838				29,967		22,746	

Source: NC State Data Center

Looking at specific age groups, two cohorts are of significance. The school age group (5-19) is growing rapidly with an 87 percent increase from 1990 to 2000 (Table 6). There also appears to be a significant increase in persons at or approaching retirement age. The 45 to 64 age group saw an increase of 306 persons (68 percent) and the 65+ age group saw an increase of 194 persons (73%). For Dare County, the most significant population increases occurred at the same age ranges with the 45 to 64 age group increasing the most at 76 percent.

- Racial Composition

Both the Town of Nags Head and Dare County are very homogenous compared to the State of North Carolina. The racial composition is illustrated below.

Table 7
Hispanic Origin by Race, 2000

	Total persons	White, not Hispanic		Black, not Hispanic		Hispanic, all races	
		persons	percent	persons	percent	persons	percent
North Carolina			70.2%		21.6%		4.7%
Dare County	22,746	21,626	95.1%	807	3.5%	199	0.9%
Kill Devil Hills	4,238	4,124	97.3%	21	0.5%	51	1.2%
Kitty Hawk	1,937	1,891	97.6%	2	0.1%	30	1.5%
Manteo Town	991	863	87.1%	112	11.3%	15	1.5%
Nags Head	1838	1766	96.1%	48	2.6%	10	0.5%
Source: NC State Data Center							

- Housing stock

Housing stock for Nags Head, along with Dare County and other coastal communities have experienced a significant increase since 2000. Nags Head has experienced an increase of housing units from 4,149 in 2000 to 5,524 as of March 2005—an increase of 33 percent.

Table 8
Dare County Municipal & Dare County Housing Units, 1990 & 2000

Jurisdiction	Housing Units			Seasonal Housing Units		
	1990	2000	Percent Change	1990	2000	Percent Change
Kill Devil Hills	4,809	5,302	10%	2,220	2,610	18%
Kitty Hawk	2,105	2,618	24%	1,049	1,282	22%
Manteo	693	924	33%	94	308	228%
Nags Head	3,117	4,149	33%	946	2,952	212%
Dare County	21,567	26,671	24%	6,592	13,355	103%
Source: NC State Data Center						

The Town of Nags Head is primarily made of single-family residences. According to a 2005 housing survey, of the roughly 4,000 single-family properties, 8 percent contain at least six bedrooms. The majority of those six-plus bedroom houses are rental properties. Since 2001 (fiscal year), 175 permits for "large homes" have been granted. (Table 9). The increase of larger homes with more bedrooms reflects the increased potential for large seasonal populations. As of 2005, with the current housing, hotel, and cottage court properties, the Town could potentially have a seasonal population of almost 37,000. The Town has developed an incentive program designed to help ensure that replacement housing will be in keeping with the "Nags Head image" or vernacular. The Town has created architectural requirements for large homes and commercial businesses. This encourages all new development to follow a vernacular style evoking the Nags Head image. The requirements are based on a residential design manual. Since this program has been initiated, Staff has noted an increase in homes that pattern this style - even those that are not regulated. Town Staff is currently evaluating the effectiveness of the commercial portion of this program. The Town also recognizes that the shortage of affordable "workforce housing" represents a problem in drawing qualified applicants for Town positions. The Town plans to continue to work with public and private community organizations and partnerships to develop solutions to the shortage of affordable "workforce" housing.

Table 9
Residential Building Permits Issued FY 2001-2005

Residential Permits	FY 01-02	FY 02-03	FY 03-04	FY 04-05
Single family	140	104	83	65
Single family-large (6 bedrooms or greater)	39	66	35	27
Total	179	170	118	92
Source: Town of Nags Head				

Local Economy

- Tourism

Tourism is the major industry on the Outer Banks. In a study made by the North Carolina Division of Travel and Tourism and the Outer Banks Chamber of Commerce (1990) it was estimated that over six million (6,628,881) people visited the Outer Banks in 1989. While there is no exact measurement of visitors, the Outer Banks Chambers of Commerce annually updates these projections and estimates for 2005 that there were 7 million visitors to the area.

In 2004, gross retail sales for Dare County were \$1,390,590,200 and gross receipts from occupancy and food/beverage sales were \$259,606,340 and \$166,047,308. The direct contribution to the area's economy from travel and tourism for 2003 was \$597.79 million, resulting in 11,060 jobs with a payroll of \$153 million dollars (Outer Banks Chamber of Commerce).

Table 10
Travel and Visitor Indicators

Year	1986	1996	% Change	2005	% Change
Aycock Brown Welcome Center	166,650	198,535	19%	349,253	76%
Jockey's Ridge State Park	329,026	801,889	144%	962,251	20%

While the Outer Banks Chamber of Commerce estimated that there were 7 million visitors in 2005 to the Outer Banks, this says little about the growth in visitation that we have seen in Nags Head over the years. Table 10 provides an example of the increase in Outer Banks visitation since 1986 by using visitor counts provided at the Aycock Brown Welcome Center and Jockey's Ridge State Park. The most dramatic increase is the attendance at Jockey's Ridge between 1986 and 1996 where visitation increased by 144%. This is consistent with rapid development that occurred during this time frame. Visitation after this period continues to increase but at a much more moderate rate.

The tables below include a breakdown of employment categories by industry and by occupation for Nags Head and Dare County. As evidenced in these tables, a large portion of the labor force is employed in construction trades, real estate, finance, retail, or other service related industries, which are all heavily tied to tourism.

Table 11
Nags Head and Dare County Employment by Occupation

Occupation	Nags Head	Percent Total	Dare County	Percent Total
Management, Professional, & related Service	549	38.1%	4,680	29.7%
Sales and Office	170	11.8%	2,668	17.0%
Farming, Fishing, and Forestry	425	29.5%	4,062	25.9%
Construction, Extraction, and maintenance	32	2.2%	543	3.5%
Production, Transportation, and material moving	204	14.1%	2,554	16.3%
Total Employed Persons 16+	62	4.3%	1,189	7.6%
	1,442	100.0%	15,696	100.0%
Source: NC State Data Center.				

Table 12
Nags Head and Dare County Employment by Industry

Industry	Nags Head	Percent Total	Dare County	Percent Total
Agriculture Forestry fishing hunting and mining	25	1.7%	538	3.4%
Construction	175	12.1%	2,147	13.7%
Manufacturing	56	3.9%	762	4.9%
Wholesale Trade	49	3.4%	424	2.7%
Retail Trade	250	17.3%	2,285	14.6%
Transportation, Warehousing and Utilities	22	1.5%	517	3.3%
Information	63	4.4%	396	2.5%
Finance, Real Estate, Rental and Leasing	180	12.5%	1,478	9.4%
Professional scientific, management, administrative, and waste management services	98	6.8%	1,123	7.1%
Educational Health and Social Services	159	11.0%	1,910	12.2%
Arts, Entertainment, Recreation, Accommodation and Food Services	180	12.5%	2,231	14.2%
Other Services (Except Public Administration)	62	4.3%	768	4.9%
Public Administration	123	8.5%	1,117	7.1%
Total Employed Persons 16+	1,442	100.0%	15,696	100.0%
Source: NC State Data Center.				

Directly related to the local tourist industry, the construction and real estate/financial industries contribute greatly to the economic well-being of the Town and the County. In 2004, according to the Outer Banks Chamber of Commerce, 6.5 percent of the employees in the County were in the construction field. The real estate industry accounted for 12.4 percent of employed individuals in the County. In 2004, the value of new construction county-wide by building permit was \$342,152,578, with a land transfer value of \$14,527,133. For Nags Head the value of new construction by building permit for 2004 was \$13,629,700. Over the last 20 years the Town has seen most of it's commercial businesses, once numerous along Virginia Dare Trail, move to US 158 or go out of business due to chain restaurants and "big box" retailers building along US 158. The Town plans to investigate the use of incentives to attract and retain locally owned businesses throughout the Town. The Town also created the Commercial Outdoor Recreational Use Overlay Zoning district to accommodate the ever-growing commercial recreational development requests made to the Town. The Town intends to periodically review the adequacy of these regulations and make the necessary modifications when public health, safety and welfare issues arise.

- Occupancy Tax

Occupancy tax is collected by Dare County from all establishments that rent accommodations. This tax is collected on rental rooms, lodging, or similar accommodations subject to sales tax. Distribution is prorated to the amount of ad valorem taxes levied by each Town for the proceeding year. As Table 13 points out, occupancy tax receipts (the total occupancy amount that is taxed) have increased a total of 25 percent during the period from 2001 to 2005 but did experience a slight decline in 2004.

Table 13
Nags Head Occupancy Receipts

Year	Dollar Amount
2001	57,569,879
2002	63,775,941
2003	67,726,558
2004	67,397,465
2005	71,861,810

- Accommodations

The importance of the tourist industry to the local economy can not be overstated. To accommodate the numerous visitors several types of accommodations have been developed throughout Town. Below is a breakdown of dwelling units in the Town of Nags Head as of March, 2005. For a short period of time in 2003, the Town of Nags Head collected a rental privilege license fee for all single-family rental units. Using this data, the percentage of rental units was extrapolated as shown in the table below (Table 14). For example, in the single family category of 3-5 bedroom houses, 49 percent (1,666) were rental units. Typically the greater number of bedrooms, the more likely the unit is a rental. Cottage courts and hotels were considered 100 percent rental since they are required to be rentals by definition. This data does not indicate what units may be year round rentals and what units are seasonal rentals. Even so, it is not difficult to realize the significant economic impact tourist accommodations have within the community given the great percentage of dwelling units that are devoted to rental use.

Table 14
2005 Estimated Rental (Visitor) Accommodations

Property Type	# of Rentals	% of total	Total # of Units	Total # of Rooms/Bedrooms	% of Total Bedrooms
Hotel*	19	100%	19	807	4.6%
Cottage Court*	15	100%	15	213	1.2%
<i>Subtotal</i>	<i>34</i>	<i>100%</i>	<i>34</i>	<i>1,020</i>	<i>5.8%</i>
Multi-Family**	366	72%	505	1,404	8.0%
SF*^					
1-2 bedrooms	103	38%	268	522	3.0%
3-5 bedrooms	1,666	49%	3,394	12,418	70.4%
6-7 bedrooms	158	84%	187	1,186	6.7%
8+ bedrooms	141	94%	150	1,098	6.2%
<i>SF Subtotal</i>	<i>2,068</i>	<i>52%</i>	<i>3,999</i>	<i>15,224</i>	<i>86.3%</i>
<u>Total</u>	<u>2,468</u>	<u>54%</u>	<u>4,538</u>	<u>17,648</u>	

* Hotel and Cottage Court information was derived from current Nags Head privilege license information and Dare County tax data

**Multi-Family includes the following property uses: townhouse, condo, timeshare, and parcels with multiple uses containing residential units

*^Single-Family dwelling information was derived using a combination of Dare County tax data and the Nags Head permitting database. This also includes residential units under construction.

Single-family rental houses have become increasingly popular in recent years. The trend has been to construct larger single-family rental units which can have eight bedrooms or greater and can accommodate multiple families. A number of factors have contributed to this trend, including local zoning regulations and the building code. The market has reflected the popularity of this trend as property values have rapidly increased from 2001 to 2005. Based on the Dare County Tax Assessment which is re-evaluated every five years and was recently updated on January 1, 2005, property values in Nags Head have increased anywhere from 50 to 500 percent over the last five years. Typically the value of oceanfront property, which has a higher percentage of large houses and a greater number of rentals, has seen the highest increase. Because the demand for single-family rental units has been high, numerous hotels and cottage courts have been demolished and single-family and duplex structures have been built in their place. The most recent hotel built in Nags Head was constructed in 2006, the Oasis, and there has been a significant decline in the number of hotel units. As shown in the Table 15, demolition permits were issued for thirteen hotels from 2000-2006 totaling 566 rooms.

Table 15
Hotel Demolitions 2000-2006

ISSUEDATE	NAME	UNITS
6/12/2000	VACATIONER MOTEL	-28
4/6/2001	CAROLINIAN HOTEL	-96
11/21/2001	PEBBLE BEACH MOTEL	-104
2/14/2002	SAND PEBBLE	-10
12/14/2001	OLDE LONDON INN	-90
2/8/2000	VIVIANNA MOTEL	-14
6/17/2002	SILVER SANDS/ECONO LODGE	-26
2/25/2002	OCEAN VERANDA	-32
3/10/2003	SANDBAR MOTEL	-9
9/18/2003	WHALEBONE HOTEL	-5
6/2/2003	CABANA EAST	-38
6/28/05	SEA OATEL	-80
12/5/06	SEA SPRAY	-24

Although the Town's vision statement places emphasis on single-family dwelling units as the primary form of accommodation, the Town has been actively working to balance the diversity of accommodations. In March of 2004, the Town relaxed Zoning Ordinance standards for new hotel development and created a hotel overlay zoning district, which extends from the southern boundary of the Village at Nags Head south to Whalebone Junction and the Nags Head Causeway. Several additional amendments have been made to assist hotel development in the Village of Nags Head and in the northern part of Town. As of the summer of 2006, one small hotel (17 rooms) was under construction on the causeway and approval had been received for a 90-room hotel within the Village of Nags Head on the west side of NC 12; however, a building permit had not been issued for this project.

Cottage courts, which can be characterized as multiple single-family and duplex dwelling units located on a single lot, were once a popular form of accommodation for visitors. In an attempt to assist cottage court owners the Town has adopted zoning regulations which will aid in their repair and replacement thus preserving some of the earlier character of Nags Head.

- Commercial Development

Most of the existing retail and service commercial development is located along or just off South Croatan Highway. The majority of businesses in the Town are small in nature and serve primarily residents and visitors to Nags Head. One major exception would be the Tanger Outlet Stores. The

Outlet Stores are 84,000 square feet in area and serve as a regional shopping hub. The Outer Banks Mall, while larger (136,800 square feet) does not appear to have the regional draw of the Tanger Outlet Stores.

In recent years the Town has witnessed a number of commercial establishments locating in the Town. Table 16 depicts the various types of development, and their square footage which has occurred from 1997 through January, 2006. The Town has experienced a significant increase in commercial development during this time period. Most businesses are relatively small scale in nature with floor areas well under 10,000 square feet. The Outer Banks Hospital and the Nags Head Elementary School are included in the table below which accounts for over 200,000 square feet of the total floor area.

Table 16
Recent Commercial Development

ISSUE DATE	FLOOR AREA	NAME
11/1/2000	82070	OUTER BANKS HOSPITAL
3/9/2001	33796	OUTER BANKS HOSPITAL – MEDICAL OFFICES
5/9/2000	32964	FOOD LION – OUTER BANKS MALL
3/14/2001	27500	YMCA
10/3/2000	14577	OBX WOMENS CENTER
3/9/1999	11813	WHITE, STAN OFFICE BLDG
10/26/2001	10092	NORTH BANKS PROF. OFFICES
11/8/2000	9946	BEACH MART – WINGS
10/5/2001	9744	REEF/SUBWAY RESTAURANT
10/26/1998	7251	VILLAGE REALTY
4/2/1997	4983	BASNIGHT APPLIANCES
3/13/1998	4660	FORBES CANDIES & GIFT SHOP
7/7/1997	4236	OUTER BANKS EYE CARE
8/11/1999	3929	OUTER BANKS STEAK HOUSE
2/16/2000	3095	SALLY HUSS GALLERY
7/24/2000	2850	WALKER OFFICE BLDG
1/8/2000	2210	LOGAN'S ICE CREAM COTTAGE
10/18/1999	2000	BEN & CHRIS OFFICE BUILDING
3/1/1997	1283	LITTLE BRIDGE ACCESS SITE & BATHHOUSE
12/4/2000	1200	MUTINY BAY
5/6/1997	500	CHRISTIAN SCIENCE SOCIETY
1/26/2001	6000	NAGS HEAD HAMMOCKS
2/5/2002	2145	OUTER BANKS ASSN. OF REALTORS INC
2/20/2002	1795	HARRELL & ASSOCIATES
2/14/2002	1600	OUTER BANKS BIRDWATCHERS
7/1/2002	953	QUALITY OIL GAS STATION
12/10/2002	6163	OUTBACK STEAKHOUSE
10/30/2002	11819	SUNSATIONS
11/19/2002	9975	QUAIL RUN BUSINESS CENTER
11/22/2002	6576	REEF BUILDING/SUBWAY

Table 16
Recent Commercial Development (Cont.)

ISSUE DATE	FLOOR AREA	NAME
2/3/2003	6318	OUTER BANKS URGENT CARE
12/20/2002	1212	YMCA BATHHOUSE
12/19/2002	1600	YMCA MEMBER SERVICES BUILDING
6/6/2003	4000	OUTER BANKS CANCER CENTER
2/26/2003	2888	COLDWELL BANKER REAL ESTATE BLDG.
3/13/2003	7676	PRUDENTIAL BUILDING
3/21/2003	2037	SONIC RESTAURANT
4/28/2005	4473	ATLANTIC WINDS RETAIL CENTER
6/28/2004	109873	NAGS HEAD ELEMENTARY SCHOOL
7/15/2005	12368	WOODHILL PROFESSIONAL CENTER
9/30/2005	5120	STILL WATERS BAPTIST CHURCH
1/21/2005	2988	THE FRENCH DOOR (GREENLEE BLDG)
1/27/2005	5351	APPLEBEE'S RESTAURANT
6/3/2005	3855	BB&T BANK
3/23/2005	4577	SOUTH NAGS HEAD FIRE STATION

Commercial growth, however, is not without its costs. It creates traffic congestion; aesthetic and visual clutter, crime, and may create serious conflicts with surrounding residential uses, e.g., traffic and noise at late hours. Large buildings and shopping centers, while contributing to the local economy, also have an impact on Town infrastructure and service. The most common impacts are increased traffic and traffic accidents, fire and police assistance, accumulation and collection of solid wastes, consumption of water and potential impacts on the environment. Environmental impacts can include an increase in stormwater runoff, excessive noise, and glaring lights. Most of these concerns are minimized with the smaller, local businesses. The Town plans to consider incentives and regulations to ensure the amount of land zoned commercial does not increase.

- Commercial Fishing

While commercial fishing within Nags Head and our Extraterritorial Jurisdiction (ETJ) waters does not represent a significant industry in Nags Head, efforts should be made to ensure that opportunities remain for the commercial fishing activity to continue. For the last two hundred years, commercial fishing has been part of the culture of the area. There is one crab meat processing plant at the foot of the Washington Baum Bridge.

- Income

The economy of coastal communities such as Nags Head reflects the change of the demographics of the area. Median family income is over \$61,000, an increase of 35 percent from 1990, and \$12,000 more than that of Dare County. Median household income increased 54 percent to over \$53,000 (about \$11,000 more than Dare County); and per capita income has the most dramatic increase of 74 percent to about \$30,200 (about \$6,500 more than that of Dare County). Nags Head residents' incomes have increased more rapidly and they have higher incomes than other areas in Dare County. Dare County, according to Census 2000, has increased 41 percent in median family income, 45 percent in median household income, and 56 percent in per capita income.

Compared to other North Carolina coastal communities, the highest incomes come from Bald Head Island (#1 in per capita income), Ocean Isle Island (#1 in median household income), Caswell Beach, and Wrightsville Beach (#1 in median family income). Nags Head has the highest increase in per capita income beating the second highest Town (Southern Shores at 62%) by 12 percent. The neighboring communities of Kill Devil Hills and Kitty Hawk are in eight (54 percent) and ninth (47 percent), respectively. Nags Head has the median of the median family income with Surf City the highest (53 percent). Topsail Beach has the highest increase in median family income (82 percent) with Nags Head the fourth highest. Kill Devil Hills is the fifth highest at 51 percent.

Table 17
Dare County Municipal & Dare County Income Comparison, 1990 & 2000

Jurisdiction	Median Family Income			Median Household Income			Per Capita Income		
	1990	2000	Percent Change	1990	2000	Percent Change	1990	2000	Percent Change
Kill Devil Hills	\$30,325	\$44,681	147%	\$26,379	\$39,712	151%	\$13,457	\$20,679	154%
Kitty Hawk	\$36,167	\$48,676	135%	\$30,521	\$42,813	140%	\$15,574	\$22,960	147%
Manteo	\$30,326	\$40,139	132%	\$23,403	\$29,803	127%	\$13,068	\$20,222	155%
Nags Head	\$45,265	\$61,302	135%	\$34,375	\$53,095	154%	\$17,295	\$30,157	174%
Dare County	\$34,891	\$49,302	141%	\$29,322	\$42,411	145%	\$15,107	\$23,614	156%

Source: NC State Data Center.

- Projections

The projections in the table below were developed by the North Carolina State Data Center for Dare County through the year 2030. In 2000, Dare County’s total population was 29,967. Nine percent, or 2,700 individuals of the County’s population, can be attributed to residents of Nags Head. The State anticipated growth rate for Dare County from 2000 to 2010 is 22 percent, from 2010 to 2020, 17 percent, and the anticipated growth rate from 2020 to 2025, 15 percent. This projection assumes that Nags Head’s growth will continue to be 9 percent of the Dare County population. The State Data Center projects the 2025 Nags Head population at 4,117 residents.

Table 18
Summary of Actual and Projected Population

Year	Population
1990	1,838
1995	2,029
2000	2,700
2005	3,125
2010 (projected)	3,305
2015 (projected)	3,592
2020 (projected)	3,869
2025 (projected)	4,117
2030 (projected)	4,353
Census and projection data: NC State Data Center.	

Permanent population does not, however, capture the real growth pressures that currently and will continue to be placed on the Town of Nags Head. Rather, Nags Head is a resort community, which experiences dramatic increases in seasonal population during the summer months. The problems of growth which the Town must address in the future are generated by this seasonal component of the population along with the residential and commercial development produced to accommodate it.

The State Data Center does not establish projections for seasonal population. Information from The Outerbanks Visitors Bureau shows a slight increase in seasonal population in the last few years. Unfortunately, the information acquired from the Tourist Bureau does not include information on attractions in Nags Head. Dare County is currently using the seasonal population provided by the Outerbank’s Visitors Bureau to establish projections. The County compared the seasonal population to the County’s permanent population and found the seasonal population represents a 6.5 to 1 ratio over the permanent population. The Town of Nags Heads seasonal population has been projected by using a 6.5 to 1 ratio.

Table 19
Summary of Projected Seasonal Population

Year	Population	Seasonal Population
1990	1,838	11,947
1995	2,029	13,188
2000	2,700	17,550
2005	3,125	20,312
2010	3,305	21,482
2015	3,592	23,348
2020	3,869	25,148
2025	4,117	26,760
2030	4,353	28,294
Census and projection data: NC State Data Center.		

Note: This Plan states different numbers for Seasonal population. In some places seasonal population was calculated with US Census Bureau Data in others data from the NC state Data Center.

As Nags Head continues to grow and develop, the size of its peak population will grow as well. The analysis of land availability, permissible development, and building trends, allows us to estimate the extent of future peak population, and in turn demands placed upon the natural and man-made environments. Table 20 represents the likely peak population that would result from the maximum build-out (between 10 and 20 years), with the current composition of land uses.

Table 20
Approximate Number of Dwelling Units at or Near Build-Out

Potential DUs in 8 Years					
	DUs	Proj. DUs	Total DUs	Person/DU	Total # *
SF/Duplex pre-1996	2,917		2,917	8	23,336
SF/Duplex 1996-2004	848		848	10/20	8,480/16,960
SF/Duplex post-2004		924	924	10/20	9,240/18,480
Multi-family	424	96	520	6	3,120
Hotel/Motel/Cttg Court	653	80	733	3.5	2,565
Total	5,746	1,100	5,942		46,741/64,461
SF/Duplex=109 du/yr	M/F =12 units/yr		Hotel =10 units/yr		
*To illustrate maximum occupancy potential, occupancy for single-family and duplex post-1996 is calculated using both 10 person and 20 person occupancy					

Natural Systems Analysis and Mapping

Mapping and Analysis of Natural Features

The vitality of the Town of Nags Head as a resort destination depends heavily on our natural environment. It is the Town's ocean and sound shorelines, along with our water resources, that bring people to the community and provide the basic recreational and aesthetic amenities fundamental to Nags Head's existence. As growth continues in the Town, the pressures placed on the use and development of the natural environment will increase as the few remaining parcels are developed. The Town believes it must take an active role in managing and protecting the Town's natural resources.

Barrier islands such as the Outer Banks act as a natural barrier protecting the estuaries and mainland from the direct effects of wind and waves. Once a barrier island is formed—a process that may take thousands of years—it often begins a natural process of migration. As sea level rises, the action of wind and waves will push barrier islands towards the mainland. At times, the process of migration can happen quickly, such as during hurricanes or other major storms, but more often this migration is a slow process measured in inches or a few feet per year. In this natural system sand is transported by wind and waves (and in some cases by inlets) from the ocean side of the barrier island across the island and deposited along the estuarine shoreline, providing sand for construction of new marshes. As the oceanfront loses ground, additional land area is forming on the estuarine side of the island, thus the island migrates. When development, artificial dunes, and man-made structures block this natural movement of sand, erosion of both the estuarine and ocean shoreline often results, which influence and determine the extent of man's encroachment into this unique fragile, yet resistant and dynamic environment.

On a barrier island, the evolutionary process of migration coupled with man's strong desire to develop the coast provides a challenge to communities such as Nags Head. The challenge is how best to develop our coast while at the same time recognizing that these natural forces may also destroy what man has built. This chapter includes a description of the natural environment within and adjacent to Nags Head, the natural and manmade hazards that have a significant role in shaping the way this community plans and develops, and the regulatory and administrative programs that exist to protect important natural resources. It also includes a discussion of land suitability whereby existing environmental conditions are analyzed to determine the capabilities and limitations for development.

Maps of the features were developed, using the 14-digit hydrological units delineated by the Natural Resources Conservation Service, as the basic unit of analysis. The Town is located within USGS 14-digit hydrological unit 03010205230020 and 03010205240060 as indicated in the Pasquotank River Basin wide Water Quality Plan, September 2007

- Environmental Composite Map

The Environmental Composite Map was developed using the default model provided by the Division of Coastal Management. The purpose of the model is to identify areas less suitable for development based on limitations imposed by environmental and natural features. The

environmental composite map contained in Appendix C shows the location of the following three categories of land:

- *Class I:* Land containing only minimal hazards and limitations that may be addressed by commonly accepted land planning and development practices Soils with slight limitations for septic tanks
- Soils with slight erosion hazards
- Non-wetland area or wetland rated beneficial and not high potential risk (NC-CREWS)
- Land located outside 100-year flood hazard area
- Land located outside storm surge area (slow moving storm)
- Land located outside designated historic districts or more than 500 feet from a historic or archaeological site
- *Class II:* Land containing development hazards and limitations that may be addressed by methods such as restrictions on types of land Uses; special site planning; or the provision of public services
- Estuarine shoreline
- Ocean erodible area
- High hazard flood area
- Inlet hazard area
- Land located outside designated historic districts or more than 500 feet from a historic or archaeological site
- Soils with moderate to severe limitations for septic tanks
- Soils with moderate to severe erosion hazards
- Non-coastal wetlands rated as beneficial and high potential risk or substantial significance (NC-CREWS)
- Land located within a 100-year flood hazard area
- Land located within a storm surge area (slow moving storm)
- HQW/ORW watersheds
- Water supply watersheds
- Wellhead protection areas
- *Class III:* Land containing serious hazards for development or lands where the impact of development may cause serious damage to functions of natural systems.
- Coastal wetland
- Estuarine waters
- Public trust areas
- Unvegetated beach area
- Non-coastal wetlands rated as substantial significance with high potential risk or exceptional significance with or without high potential risk (NC-CREWS)

There are virtually no Class I lands located within the Town limits. Much of the developed land area contained within the corporate limits of the Town of Nags Head is Class II. Class III lands constitute many of the AECs, wetlands, or protected areas such as Nags Head Woods or Jockey's Ridge State Park. Maps of natural features not included in this plan are available to

the public in the Town of Nags Head's Planning and Development Department. There are no new areas expected to experience development during the next five (5) years. Any infill will take place on already developed Class II land contained within the corporate limits of the Town.

- Water Quality

The Town is using the final Pasquotank River Basinwide Water Quality Plan September 2007 available at the North Carolina Division of Water Quality website. The Division of Water Quality has concluded that its current coastal stormwater rules have not adequately addressed water quality impacts to Public Trust waters. Additionally, DWQ's review of scientific studies has resulted in a determination that local governments who simply defer to state and federal rules to address water quality issues result in impaired water quality 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 of impervious surface increases beyond 10%-15%
- Stream stability is 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%

(Added per request by Charlan Owens DCM NE District Planner from a presentation by Tom Reeder, DWQ, to the CRC at January 2006 meeting. The Coastal Stormwater Rules have since been modified and updated by the State legislature.)

The Town has also taken additional measures to address water quality issues. At the end of 2001, the Town instituted the Septic Health Initiative which provides incentives and education to homeowners to have their septic systems inspected and pumped on a regular basis. In 2006, the Town completed an extensive on site stormwater retention area adjacent to the Roanoke Sound. The Harvey estuarine access site consists of a rain garden to capture rainwater and runoff and cisterns which capture rain water which is then used for irrigation. There are also approximately 850 acres of land preserved throughout the Town, through local private and federal ownership.

As the Town continues to grow more and more of the ground's surface area will be covered with buildings, parking lots and roads. When development is in close proximity to the shoreline which contains a large portion of its area in impervious surfaces (e.g., parking lot pavement, roadways), the potential for runoff into estuarine waters is increased. As the Town approaches build-out, the quantity of stormwater runoff will increase and, if not retained or detained, this increase in impervious surfaces could have an adverse impact on estuarine water quality.

The Town borders two large bodies of water, Roanoke Sound to the west and the Atlantic Ocean on the east. The Roanoke Sound is a large, relatively shallow body of low saline water. The sources of water for the Sound are primarily from inland rivers and tributaries. Some limited exchange of ocean saline water occurs at the inlets, primarily Oregon Inlet, Hatteras Inlet, and Ocracoke Inlet. The water quality of the Sound can be degraded depending upon the types and quantities of pollutants. Freshwater runoff itself can be considered a pollutant in that the runoff may change the salinity of the sound. Any pollutants, i.e., oils, heavy metals, pesticides, etc., carried by this runoff can further affect the water quality of the Sound. The Town does have

stormwater outfalls into the ocean. Although there are signs warning of possible toxin hazards, which remain up year around, there is no historical data to show toxin releases in the area of the outfalls. The shellfish harvesting map in Appendix C shows areas closed to shell fishing. The area at Nags Head Woods is closed due to lack of oxygen in the water due to the shallow depth. The area at Villa dunes was closed due to a wastewater discharge pipe. The discharge pipe has now been closed off. The area off of the Nags Head Cove neighborhood is possibly being affected by lawn chemical runoff as well as oil and gas from the many boats located there. The area around the causeway is closed due to a lack of oxygen in the water because of the shallow depth.

- Pasquotank River Basinwide Water Quality Plan

In September 2007, the North Carolina Division of Water Quality (DWQ) adopted a basinwide water quality plan for the Pasquotank River basin which includes the Town of Nags Head. The Town is in sub basin 03-01-56 which encompasses the Outer Banks from northern Dare County south to Oregon Inlet. The goal of the basin wide plan is to identify water quality problems in impaired waters and restore them to full use as well as protect unimpaired waters. The Basinwide plan states 40.3 acres of Pond Island are impaired for shellfish harvesting and will remain on the States 303(d) list. Pond Island is also located in 03-01-51 which encompasses the Alligator River and several tributaries. Seven areas of the Roanoke Sound are also considered impaired and will remain on the States 303(d) list as well. The surface waters discussed above are not impaired. However, water quality concerns were documented for these waters during DWQ's assessment. According to the Sanitary Survey of Roanoke Sound, Area H1 (October 2002 and August 2006), little changes in water quality were detected and an additional 10 acres of shell fishing waters were closed at the canals of Old Nags Head Cove. According to the Sanitary Survey of Eastern Albemarle Sound, Area I-2 (June 2005), water quality has improved with a few exceptions. A map of shellfish growing areas is included in the Appendix. The Environmental Management Commission (EMC) water quality classification systems is as follows:

- C & SC Aquatic life propagation/protection and secondary recreation. (ie. Boating, wading)
- B & SB Primary recreation and Class C uses. (i.e. swimming)
- SA Waters classified for commercial shellfish harvesting.
- WS Water Supply classifications are assigned to watersheds based on land use of the area and have a set of protective management strategies.
- WS-I provides the highest level of protection and
- WS-V provides for lower protection. A Critical Area is also listed for watershed areas within 1/2 mile and draining to the intake.

- Ocean and Estuarine Outfalls

Within the Town there are five ocean outfalls operated and maintained by NCDOT. The northern outfalls, Carolinian, Curlew, old Casino (Kitty Hawk Kites), and Conch Street generally drain some of the land areas between NC 12 and US 158. Direct runoff from portions of US 158 is eventually channeled through several of these outfalls. The outfall in South Nags Head drains much of the ditch alongside NC 1243. With the exception of the South Nags Head outfall, the other outfalls primarily function during storm events.

On the sound side, there are several drainage channels or outfalls extending from US 158 to the Sound. Going from north to south, these are: Soundside Road, Danube Street and Blue Fin

Canal in Old Nags Head Cove, The Village at Nags Head outfall near Forrest Street, and outfalls at Finch, Grouse, Glidden, Gull, and one at Whalebone Junction. In addition, there are at least three outfalls (ditches) in South Nags Head leading to the sound.

The outfalls were installed to drain areas of NCDOT concern, areas of Town concern, and areas of private concern. The outfalls are fed by a network of connecting ditches and culverts, some of which are NCDOT facilities, some of which are Town facilities and some of which are private. Maintenance of the outfalls is NCDOT responsibility and generally consists of routine cleaning. For ditches which are under direct Town control there is a routine maintenance program performed by the Town's Public Works Department. Due to the complex nature of outfalls and permitting requirements there is a strong possibility that there will be no new outfalls constructed in the future. One of the most critical components of a functioning outfall is routine maintenance.

At this time, a major study is underway to profile the characteristics of the drainage areas served by these outfalls (types and concentrations of development), develop groundwater contours of the drainage basins at various times of the year, sample and characterize the stormwater exiting the outfalls, and develop proposed pilot treatment systems to improve the quality of the stormwater when it is discharged. This is a multi-year study that is being conducted under contract with NC-DENR.

The Village at Nags Head Wastewater Treatment Plant was constructed in 1988 and has a permitted capacity of 500,000 gpd. It is owned by Carolina Water Service, Inc. of NC. In July 2009 it experienced a peak daily flow of 406,000 gallons. The plant is of modular construction, designed with five parallel Aero-Mod units, each with a rated capacity of 100,000 gpd. However, the fifth unit has never had the Aero-Mod equipment installed. It is currently used as an emergency overflow tank. Therefore the plant's true capacity is only 400,000 gpd. The treated effluent flows to one of two 125,000 gpd spray beds, or to the infiltration pond, rated at 334,889 gpd. For a number of years, the plant has emitted highly objectionable odor to the surrounding residential and commercial development. A detailed engineering report, completed in September 2009, noted numerous deficiencies. The plant is currently going through the Special Order by consent (SOC) process with NCDENR-DWQ.

The recommendations made by the engineering consultant included installing a filter at the plant influent to provide primary treatment, converting the fifth module to a reactor basin (as was originally intended), and removing clogged surface material from the spray irrigation beds and replacing it with properly graded sand.

- Groundwater and Ocean Over wash

As with any low lying coastal community, surface groundwater and ocean over wash are areas of concern. The Halloween storm of 1991, which was a northeaster following a late season hurricane, caused an erosive wave pattern which eroded significant dune areas and caused significant ocean over wash. Subsequent storms in the winter of 1992/1993, and the summer of 1994 resulted in some over wash due to the dunes that were weakened in the Halloween storm of 1991. Some of the areas affected by the over wash drained relatively quickly, while standing water affected some areas for a week or so. The flooding is currently sporadic, and while immediate resolution is not needed it should be noted that the ocean over wash flooding cannot

be prevented by the Town acting alone, but might be mitigated or reduced by a community-wide beach nourishment program.

The 1990 Stormwater Management Plan and Ordinance addresses ocean over wash however, the 2006 plan does not. Development plans in areas identified as in the Over wash Drainage District, by the 1990 Stormwater Management Plan; indicate how ocean over wash flooding will be managed. Swales, culverts, and other features will be necessary to allow drainage from ocean over wash. In addition, proposed development will not create obstructions or interfere with existing over wash patterns, rates or volumes except where alternative management facilities are provided and approved by the Town.

- Water Quality Monitoring

The N.C. Recreational Water Quality Program began testing coastal waters in 1997. Their mission is to protect the public health by monitoring the quality of North Carolina's coastal recreational waters and notifying the public when bacteriological standards for safe bodily contact are exceeded. The coastal waters monitored include the ocean beaches, sounds, bays and estuarine rivers.

Primary tests are conducted for enterococcus bacteria, an indicator organism found in the intestines of warm-blooded animals. While it will not cause illness itself, its presence is correlated with that of organisms that can cause illness.

The program currently (2006) tests in Nags Head. Swimming season runs from April 1 to September 30 - all ocean beaches and high-use sound-side beaches are tested weekly. Lower-use beaches are tested twice a month. All sites are tested twice a month in October and monthly from November through March. The results for all sampling are posted on the following website - www.deh.enr.state.nc.us/shellfish.

The Recreational Water Quality program is implemented in full compliance with the Beaches Environmental Assessment and Coastal Health Act of 2000.

The indicator organism used to test is called enterococcus, and when levels are exceeded based on the tiers below, a swimming advisory or alert is issued.

Tier 1 - These beaches are used on a daily basis. All ocean beaches are considered Tier 1- single sample maximum 104 enterococci per 100 ml water or a running monthly average (geometric mean) of 35 enterococci per 100 ml water. There are 92 Tier 1 sites.

Tier 2 - These beaches are used an average of three times per week. The single sample maximum is 276 enterococci per 100 ml water. There are 104 Tier 2 sites.

Tier 3 - These beaches are used an average of four times per month, or used less frequently but intensively for special events such as triathlons. Single sample maximum for these sites is 500 enterococci per 100 ml of water. There are 44 Tier 3 sites.

Since 2000, the Town of Nags Head has both funded and operated the Septic Health Initiative. The program targets property owners with gravity on-site waste systems and offers them incentives to inspect and pump (if needed) their septic systems. In addition, low-interest loans

are available to owners with systems in need of repair or replacement. Water Quality Monitoring is a very important aspect of the Septic Health Initiative. The goal is to determine if the use of on-site waste disposal is affecting water quality in the Town of Nags Head. The Town monitors surface and ground water for enterococcus, fecal coliforms, nitrates, and other parameters. The Jockeys Ridge Soundside Access has been under advisories based on testing by the NC Recreational Water Quality Program since 1996. The water depth in the area is very shallow and does not experience wave action to oxygenate the water.

The North Carolina Department of Environment and Natural Resources-Division of Water Quality (DWQ) and Shellfish Sanitation Branch classify saltwater areas in regard to the quality and safety of the water for human and aquatic use. With the exception of three areas, all of the soundside areas in Nags Head are rated by DWQ as SA, the highest quality for recreational uses and aquatic organisms. The three areas in the sound which are closed to shell fishing, are: (1) an area off Nags Head Woods near the Town's northern municipal boundary and just downstream from the former Ocean Acres sewage treatment plant in Kill Devil Hills, (2) areas along both sides of the Manteo-Nags Head Causeway and (3) an area in the sound off the Villas Condominiums where the wastewater discharge pipe is located, (this pipe no longer discharges and all sewage disposal for the Villas is by land application. The only sewer treatment discharge, in Nags Head, has been eliminated.) The Town through the Septic Health program, monitors water quality through twenty-six (26) sampling sites consisting of wells and ditches.

Salt marshes and estuaries along the North Carolina coast serve as nursery grounds for 90 percent of fish species. North Carolina was the first state to protect these fragile ecosystems. The nursery system in North Carolina contains 3 categories:

- Primary nursery areas;
- Secondary nursery areas; and,
- Special secondary nursery areas.

The estuary adjacent to Nags Head does not contain any of the above nursery system categories.

- Natural Hazards

Nags Head is positioned as a barrier island community along the mid-Atlantic coast of the United States located between the Atlantic Ocean and the Roanoke Sound. Hurricanes and tropical storms generated in the Atlantic and Gulf of Mexico continually threaten the Outer Banks of North Carolina. Low pressure systems moving from west to east across the United States commonly move offshore into the Atlantic and intensify, creating coastal storms or 'Nor'easters' which produce high winds, wave action and flooding along the eastern seaboard. Hurricanes, tropical storms and coastal storms represent the primary hazards that threaten life and property within Nags Head. These events occur more frequently than any other hazard and historically have presented the greatest potential for damage.

Sources of flooding can come from three events: (1) ocean wave action, storm surge and over wash, (2) soundside (estuarine) wave action, storm surge and over wash, and (3) severe rainfall events that can accompany a hurricane or storm. These events create unique concerns in each area of Town and may require a multitude of preparation actions. While the following

discussion focuses on hurricanes, extratropical storms, and northeasters; the Town does on rare occasion experience winter ice and snowstorms, waterspouts, and less frequently; tornadoes and wildland, brush, and forest fires. Other hazards discussed include terrorist threats, chemical spills, drought, and erosion. A very slight possibility exists that Nags Head could experience indirect impacts from volcanic activity, earthquakes, and tsunamis. These are discussed briefly.

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Table 21
Hazard Profile Matrix

Hazard	Frequency of Occurrence	Severity Level	Magnitude / Distribution	Comment
<i>Hurricanes/Tropical Storms</i>	<i>Likely</i>	<i>Limited to Critical</i>	<i>Moderate</i>	Negligible injuries due to predictability of storm; negligible to catastrophic property damage depending on intensity and duration of storm
<i>Nor'easters</i>	<i>Highly</i>	<i>Negligible to Critical</i>	<i>Mild to Severe</i>	Similar to hurricanes; depends on intensity and duration of storm
<i>Flood</i>	<i>Likely</i>	<i>Limited to Critical</i>	<i>Moderate</i>	Can result from coastal storms or intense rainfall events; depends on intensity and duration of storm
<i>Coastal Erosion</i>	<i>Highly</i>	<i>Negligible</i>	<i>Mild to Moderate</i>	This is normal erosion (not erosion impacts from severe storms); normal erosion occurs every year but impacts are gradual and predictable
<i>Tornadoes/ Straight Line Winds/ Spouts</i>	<i>Likely</i>	<i>Limited</i>	<i>Moderate</i>	These hazards have occurred during hurricanes or thunderstorms but little documentation exists to analyze frequency or impacts
<i>Terrorism</i>	Possible	Catastrophic	Severe	Nags Head is less than 75 miles from a primary terrorist target (Port of Hampton Roads and NOB (Naval Operations Base) – Norfolk); main threat would be chemical or biological attack spread by blowing winds; no history to base an accurate analysis.
<i>Ice Storms</i>	<i>Possible</i>	<i>Negligible to Limited</i>	<i>Mild - Moderate</i>	Last ice storm in 1996 with limited impacts
<i>Chemical Spills</i>	<i>Likely</i>	<i>Limited</i>	<i>Mild to Moderate</i>	These could include propane tanks rupturing, gasoline and fuel oil spills, and hazardous chemicals stored in flood prone areas
<i>Wildland. Brush and Forest Fires</i>	<i>Possible</i>	<i>Negligible</i>	<i>Moderate</i>	Homes are isolated from areas of heavy brush / Homes are accessible to firefighting equipment; some areas of woods are not
<i>Protection of Water Supply</i>	<i>Possible</i>	<i>Negligible</i>	<i>Mild</i>	Drought can affect contaminant levels; other water sources could mitigate impacts
<i>Package Treatment Plants</i>	<i>Possible</i>	<i>Negligible to Limited</i>	<i>Mild</i>	Possible impacts to environment from facility shutdown

Source: Town of Nags Head Hazard Mitigation Plan originally adopted August 4, 2004. Updated in 2009 and adopted again on November 3, 2010

Since 2000 the Town has received over \$7 million dollars in public assistance for damage to public property from State and federal government.

- Hurricane Floyd and Dennis in September 1999 - \$356,136 in public assistance received for damage to public property
- Isabel in Sept 2003 - \$7,162,033 in public assistance received for damage to public property
- Ophelia in September 2005 - \$5,646 in public assistance received for damage to public property

The Town has not retained records of damage dollar amounts for private property but will do so in the future.

- Hurricanes and Tropical Storms

Hurricanes and tropical storms are formed from tropical low-pressure systems that intensify and produce high winds, waves, rain, and flooding. These low pressure systems become tropical storms when their sustained winds reach 39 mph. They become hurricanes when their sustained winds reach 74 mph. Hurricanes and severe Tropical storms represent serious threats to life and property on the North Carolina coast. North Carolina is second only to Florida in the number of hurricanes striking its mainland. According to the National Hurricane Center, between 1900 and the present North Carolina experienced 28 hurricanes or an average of approximately one hurricane every four years.

Collective response to hurricanes and severe storms can be conceptualized in terms of four primary phases: (1) pre-storm mitigation, (2) warning and preparedness, (3) response, and (4) recovery and reconstruction.

There have been a number of storms since 1950 that have affected North Carolina, Dare County and Nags Head. Recent notable hurricanes have included Gloria, 1985; Charlie, 1986; Bob, 1991; Emily, 1993; Arthur and Fran, 1996; Bonnie 1998; Dennis and Floyd, 1999; and Isabel in 2003. Many of the above named storms resulted in both wind and flood damage. Floyd and Dennis on the other hand resulted in flood damage and very little wind damage. While there have been other storms that have affected the area, the above are the most noteworthy.

Hurricanes can create a storm surge not only in the Atlantic Ocean but also in estuarine waters causing flooding along the sound shoreline. Much of land along the estuarine shoreline is low in elevation and can and does flood frequently. In reviewing several recent storms and other rain events, the Town has identified the following areas as particularly troublesome. Additional Town resources (personnel and equipment) are needed and allocated to these areas before, during, and after a storm event.

Areas that have been frequently inundated by stormwater during recent hurricanes include the southern part of South Nags Head, the South Nags Head drainage ditch, the area around the Outer Banks Pier, and Juncos Street. Two areas on the Nags Head/Manteo Causeway (South Virginia Dare Trail/US RT 64) which have a history of flood waters over the road include the area in the vicinity of the estuarine access site and near the east bound and west bound approaches of the "Little Bridge" although recent improvements by NCDOT have lessened the flooding. Houses on Pond Island frequently flood due to their low elevation and their proximity

to estuarine waters, which increases potential for wave action. The area around Lakeside Street near the Roanoke Sound also frequently floods, especially during storms which travel inland and up the coast. Other troublesome areas include the estuarine area on the north and west side of Whalebone Junction including Sugar Creek Restaurant, Gray Eagle Street, and the Windmill Point Restaurant. Sound over wash floods the western portions of Danube Street and Hesperides Drive during severe storms and hurricanes. An area that typically floods and where floodwaters can remain over an extended period of time is Soundside Road. Floodwaters have been observed covering the road from Roanoke Sound halfway to US 158. At times, the entire western portion of the road, which runs along the estuarine shoreline, can be under water.

Along NC 12 (the Beach Road) areas that frequently flood are Forrest Street, the Old Post Office site, Kitty Hawk Kites/Sports (Casino Outfall), the Ocean Rescue Station at Jockey's Ridge, Small Street, and in the vicinity of Wrightsville Avenue from Admiral Street to Driftwood Street. The eastern portions of the Municipal Complex site have flooded in the past with up to 18 inches of ocean over wash surrounding the "Board Room."

It was noted that in the past the "flapper valve" on at least one of the five ocean outfalls failed to close and thus seawater flowed into the drainage system. These ocean outfalls are installed and maintained by NCDOT to convey and distribute stormwater collected in the swales of DOT maintained roads. The Town has continually requested that NCDOT perform maintenance on these valves to prevent this from happening in the future.

- Nor'easters and Extratropical storms

In addition to hurricanes, Nags Head is subject extratropical storms and nor'easters. Low pressure systems moving across the United States often strengthen once offshore, creating intense winds and rainfall and the potential for flooding. This strengthening occurs more often in wintertime when there is a temperature gradient between air over a cold landmass and the warm waters of the Gulf Stream. Perhaps the most notable event of this type was the Ash Wednesday Storm in March of 1962. This storm, while not a hurricane, caused millions of dollars in damage not only to Nags Head but to much of the eastern seaboard. Another notable storm was an extratropical storm, the "storm of century", which occurred in March of 1993. This storm originated in Florida, traveled inland through North Carolina, and produced a storm surge that flooded estuarine areas of the Town with up to eight feet of water. Very little wind damage was associated with this storm. These storms can often cause substantial beach erosion and oceanfront property damage.

- Rain/Stormwater - Areas of Frequent Flooding

In addition to the storm events previously mentioned, less intense rainfall events have caused flooding in several areas of Town. Identified areas include:

- The northern portion of Vista Colony subdivision.
- A small section in North Ridge near Buccaneer Drive.
- An area around Northport Lane and Lookout Road.

- An area near the Latter Day Saints Church also in the North Ridge Subdivision.
- The southeast corner of the Nags Head Acres subdivision.
- Wrightsville Avenue between Driftwood Street and Bonnett Street.
- Subdivisions including Old Nags Head Place, Dolphin Run, and Seven Sisters.
- Several locations along NC 12 and NC 1243. These two roads have seen an increase in flooding in the last few years due to development growth and the increasing practice of residential lot filling, which tends to displace water onto Town roadways during storm events.

- Coastal Erosion

Coastal erosion is a common occurrence on the Nags Head beaches. According to the Coastal Area Management Authority, Nags Head beaches are eroding, or losing sand, at a rate of between two feet and seven feet per year. This erosion rate can vary from year to year. The rate is based on the historic average measured sand loss in any given area. Erosion can occur suddenly during coastal storms or gradually due to the normal forces of waves, winds, and tides (CAMA, 12/2001). Erosion has a direct effect on the vulnerability of properties to flooding and storm surge. Loss of the beach profile and dunes reduces the barrier between properties and the ocean. Additionally, the westward migration of the beach and dunes affects the ability to redevelop property. Homes that are damaged from severe storms are often not repairable due to state regulations that control oceanfront development and the allowable setbacks between the dune line and oceanfront structures. Nags Head experienced significant erosion from Hurricane Isabel. Several portions of Town were left with minimal or no dune line and other areas saw escarpments cut into the existing dunes. The vulnerability to storm surge, ocean over wash and flooding increases exponentially with each severe storm as the dune barrier is further reduced. There are no critical facilities threatened due to coastal erosion. Two areas in south Nags Head continue to experience significant shoreline erosion, Sea Gull Drive and Surfside Drive. As of July 2007 178 structures were damaged or threatened by erosion.

- Tornadoes, Straight Line Winds, and Waterspouts

Tornadoes and waterspouts are rare events but they do occur. These events typically produce wind and debris damage. A tornado is defined by the National Weather Service as a violently rotating column of air in contact with the ground and extending from the base of a thunderstorm. Typically this is characterized by a condensation funnel or a debris cloud. A waterspout is generally a tornado over water. These are often weaker than land-based tornadoes.

The waterspouts that come ashore from either the Roanoke Sound or the Atlantic Ocean are generally less severe than tornadoes. Tornadoes and waterspouts are usually associated with storm fronts that pass through the area. However, they can also be generated by hurricanes. A tornado passed over South Nags Head in 2000 causing minimal damage. Straight line winds are very strong damaging winds that show a lack of a rotational pattern. Straight line winds are

common with the gust front of a thunderstorm and often originate as a downburst from a thunderstorm. The roof of a home on the west side of US 158 in Nags Head Cove was damaged from a storm related downburst in 2003.

- Wildland, Brush, and Forest Fires

Wildland fires are any non-structure fires, other than prescribed fires, that occur in a wildland or area where development is virtually non-existent.

Nags Head contains a 1,000-acre maritime forest which can be considered a wildland area. This forest is comprised of typical coastal species of grasses, shrubs, and trees. The Town and the Nature Conservancy own approximately 73 percent of the land in Nags Head Woods. Within the woods there is an extensive system of hiking trails as well as one gravel road that transverses the forest. A major electrical transmission line also runs through a portion of the woods. There is probability of fire starting within the woods by electrical storms, careless hikers, or downed electrical transmission lines. Also, residential areas in South Nags Head west of SR 1243 from Gulfstream Street to the southern Town limits are susceptible to wildland interface brush fires. This is due to their proximity to the Cape Hatteras National Seashore. The National Park Service maintains a fire break along the eastern boundary of the National Seashore in South Nags Head to limit fire susceptibility.

- Protection of Water Supply

Drought, or periods of substantially diminished precipitation duration and/or intensity, can have an impact on the quality of water in the Fresh Pond. This can increase concentration of arsenic, magnesium and other contaminants. The Dare county NRO plant has recently completed an expansion and the county water system can now supply flow for peak demand without the Fresh pond water treatment plant. The Town and Dare County have entered into conversations regarding the future of the plant. At this time, the Town has no intentions of removing the Fresh Pond AEC designation. Since September 11, 2001, Nags Head has installed fencing around the Nags Head portion of the Fresh Pond. The Kill Devil Hills portion of Fresh Pond remains unsecured.

- Sewage Treatment Plants and Septic Systems

The Town relies primarily on on-site septic systems; however, within the Town there are several sewage treatment plants and numerous low-pressure septic systems. During recovery after a severe storm, monitoring of on-site septic systems and treatment plants is critical to ensure that environmental damage does not occur.

- Sea Level Rise

The oceanfront shoreline represents an irreplaceable resource that is essential for the Town's economic health and continued prominence as a coastal resort community. For this reason, sea level rise is of great concern to the Town. While the Town is conscious that sea level rise is a natural process, steps have been taken to mitigate the effects.

The Intergovernmental Panel on Climate Change (IPCC) estimates that changes in the earth's climate could raise global sea levels by one to more than two feet over the next 25 to 75 years. According to current research, sea levels globally are expected to rise significantly during the next century. So far, the rise in sea level is because warmer water takes up more room than colder water, which makes sea levels go up, a process known as thermal expansion. If sea level rise accelerates as climate change scenarios project, the losses of property will be great and extensive losses of coastal wetlands and beaches are likely.

Currently, a North Carolina state panel is studying the potential impact of global warming but has not made substantial recommendations. The Coastal Resources Commission, which sets rules for shoreline development, is also re-evaluating how close to the shore developers may build houses.

Natural Resources

- Oceanfront Shoreline and Beach Area

Within the Town there are approximately 11.29 miles of oceanfront shoreline stretching from Eighth Street on the north to the southern municipal boundary adjacent to the Cape Hatteras National Seashore. For the purposes of this discussion, the land areas east of NC 12 and NC 1243 will be considered. These areas are closest to the ocean and are the areas most heavily utilized by tourists, visitors, and residents, and the primary area on which our future depends.

The surf zone and near-shore waters (waters up to thirty feet deep) provide a habitat for a variety of ocean fish and are important not only recreationally for swimming and surfing but also for commercial and recreational fishermen.

Typically in the surf zone, numerous migratory fish including spot, weakfish, red drum, striped bass, bluefish, kingfish, flounder and various trout species can be found. During the summer and fall it is not uncommon to see hundreds of surf fishermen on the beach. Also during the summer and fall many of these fish species are sought after by commercial beach fisherman.

The ocean floor in the surf zone serves as habitat for invertebrates, including crustaceans, worms, and shellfish. Common species include mole crabs, coquina clams, barnacles, and horseshoe crabs. These species are not commercially important; however, they provide an important food source for fish and shore birds.

Just beyond the surf zone in the near shore waters, typical fish species include Spanish mackerel, king mackerel, cobia and black sea bass. While beyond the range of the shore bound fisherman, these fish are often sought after by commercial fishermen as well as the charter and recreational fishing fleet.

- The Beach

As mentioned in the introduction, Nags Head has over 11 miles of oceanfront shoreline. The land area between the ocean and NC 12 or NC 1243 is composed of several distinct natural habitats. The land area from the mean low water mark to the mean high tide line (wet sand beach) is sometimes called the "public beach" where the public has a legal right to use that portion of the beach. The area between the high tide line to the base of the dune is often referred to as the "dry sand beach." While this area in many instances may be in private ownership with property boundary lines extending landward to the mean high water line, the courts have generally held that the public has the right to travel across this "dry sand beach" area. The "dry sand beach" areas will not be developed.

Depending upon the time of year and the occurrence of recent storms and hurricanes, the beach (both wet and dry) ranges from 100 feet wide to several hundred feet wide. In areas where there has been extensive sandbagging, the sandy beach area can be non-existent during high tide.

During the spring and summer various species of sea turtles are found swimming in the area with some coming ashore to deposit their eggs in the sand near the toe of the frontal dunes. Turtle species known to be in the area include: Loggerhead sea turtle, Kemp's Ridley sea turtle, Green sea turtle, Hawksbill sea turtle and the Leatherneck sea turtle. Currently the turtle nesting period runs from May 1 to November 15. During this time period certain beach development or protection activities such as sand bagging and beach bulldozing are prohibited by the US Corps of Engineers and CAMA to avoid destroying the buried eggs.

- Dunes

Generally at the western most extension of the beach is a frontal dune. The height of his frontal dune can range from several feet above the beach to over twenty feet high. Usually there is a crossover to assist travel to the beach. In some locations the Town has established pedestrian crossover points and in other areas vehicular.

According to the North Carolina Division of Coastal Management there are two classes of dunes: "frontal" and "primary." A frontal dune is defined as the first mound of sand located landward of the ocean beach having sufficient vegetation, height, and configuration to offer protection from ocean storms. A primary dune is defined as the first mound of sand located landward of the ocean beaches having an elevation equal to the mean flood elevation plus six feet. In many cases there will only be a frontal dune and not a primary dune.

Development along the ocean shoreline is regulated by rules adopted by the North Carolina Coastal Resources Commission. The location and setbacks for new development along the ocean shoreline are in part determined by the "average annual erosion rate." The annual erosion rate is an estimate of the number of feet of beach lost per year. The erosion rate is determined by the Division of Coastal Management using analysis of aerial photographs dating back to the 1930's. The erosion rates are adopted by the Coastal Resources Commission and updated periodically. For Nags Head there are a number of erosion rates for various sections of the beach ranging from two feet per year at Eighth Street to six and one half feet per year at the southern Town limits in South Nags Head. These erosion rates are based on long term erosion patterns and it should be noted that, for example, if a property has an erosion rate of

four feet per year, the property may not have four feet of erosion each and every year. In some years there may be no erosion while a single storm event could result in erosion several times the long term annual erosion rate.

- Dune Habitat

Typical dune vegetation includes American beach grass, sea oats, and bitter panicum grass. The area west of the frontal dune generally slopes towards the road with elevations generally ten to sixteen feet above sea level. Typical plant species in this area include most of the grasses mentioned above as well as some salt tolerant shrubs such as yaupon holly, wax myrtle, and bayberry. This vegetation is important in stabilizing the dune from wind erosion.

Common birds include various species of gulls, sandpipers, sanderlings, pelicans and terns. Many of the above species are migratory. A host of other bird species utilizes the beach for feeding during their yearly migration.

As the previous section points out, the beach zone and the surrounding water and land habitats and environments are sensitive to the effects of man as well as nature and natural processes such as erosion and storms. In developing the Town it is important to understand these various forces.

Legal Framework: Ownership

- Private Property

Depending on how the property was subdivided, private property rights either terminate at the mean high water line or a line westward of the mean high water line. There are a few lots within the Town where the private property line stops short of the mean high water line. As erosion continues to move westward, those lots where the property line is the mean high water line, that property line also moves westward thus reducing the size of the lot.

- Public Property and Public Trust

On the ocean beach there is a generally "wet sand" area and a "dry sand" area. While subject to legal debate, the interface between the wet sand and dry sand is the mean high water line. The mean high water line (MHW) is expressed as an elevation above the 1988 baseline for mean sea level. While this 1929 surveyed MHW line represents an average of long term data, it does not fully reflect the influence of non-tidal factors such as sea level rise. The land area waterward of the MHW line, as well as the navigable waters to the east, is in trust for public use. "On many oceanfront properties, the easternmost private property line is the mean high water line, a line which can change over time to reflect the shift in the mean high water." There are a number of state statutes (and cases from other states) that indicate that the dry sand beach up to the vegetation line is also public area (David Owens, Beach Liability Report, 1988). Local governments commonly exercise day-to-day control over beaches within their jurisdiction. Local governments typically exercise police power over the public trust areas and provide services such as police, fire, rescue and garbage collection. Under North Carolina law, local

governments, such as Nags Head, are authorized to regulate (with special legislation) certain water activities such as swimming, surfing and personal water craft.

Regulatory Environment

There are several federal programs which regulate or have an impact on development and utilization of the oceanfront.

- Coastal Zone Management Program

The Coastal Zone Management Act (CZMA) of 1972 is the primary federal statute for protecting the nation's coastal areas from pollution and development pressures. Other federal statutes specifically designed to protect the coasts include the Coastal Barrier Resources Act, and the Estuarine Areas Act of 1968, the latter of which requires federal agencies to consider the value of estuaries in their planning. In addition, the Clean Water Act's permitting and other requirements apply to discharges in coastal waters. EPA also monitors and assesses the impact of hazardous air pollutants on coastal areas. State statutes, land-use programs, and the state judicial application of the public trust doctrine may also offer particularly important protection for coastal areas.

The National Coastal Zone Management (CZM) Program is a voluntary partnership between the Federal government and US coastal states and territories authorized by Coastal Zone Management Act of 1972 to:

Preserve, protect, develop, and where possible, restore and enhance the resources of the Nation's coastal zone for this and succeeding generations;

Encourage and assist the states to exercise effectively their responsibilities in the coastal zone to achieve wise use of land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and aesthetic values as well as the needs for compatible economic development;

Encourage the preparation of special area management plans to provide increased specificity in protecting significant natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas and improved predictability in governmental decision-making;

Encourage the participation, cooperation, and coordination of the public, Federal, state, local, interstate and regional agencies, and governments affecting the coastal zone.

The CZMA can assign the primary authority to the states to regulate land-use on and near the coasts, including tidelands. The CZMA offers federal funding to the states for developing and implementing coastal zone management programs that meet certain federal requirements. The CZMA also requires all federal agencies and programs to be consistent with approved state programs. North Carolina has been a participant in this program since 1976. In North Carolina, the Division of Coastal Management administers the program and makes available planning and management grants as well as beach access grants to coastal communities. Regulatory provisions adopted by the North Carolina Coastal Area Management Act (CAMA) are consistent with federal CZMA regulations and requirements.

- National Flood Insurance Program

In addition to CAMA regulations, the Town is a participant in the National Flood Insurance Program. As a participating community, in exchange for administering minimal development standards for new construction in floodplains, properties in Nags Head are able to obtain flood insurance. In Nags Head there are four flood zones, two of which are on the oceanfront. Each flood zone will have its own development requirements for new construction as well as requirements for additions and improvements to existing structures.

VE-Zone/Special Flood Hazard Area. This zone delineates areas of the Town which will be subject to substantial wave action during a 100-year storm event (technically, areas of the coast which could be subjected to waves three feet high on top of the already high rising flood water). Due to a FIRM map revision that became effective on September 20, 2006, the V-Zone now constitutes a large portion of the land east of NC 12 and SR 1243 from the southern to the northern borders of the Town.

AE-Zone/100-year Flood/Special Flood Hazard Area. This zone delineates those areas in the community which have an annual probability of one percent of being flooded in any given year, i.e., areas which will be inundated by the 100-year flood.

X-Zone/Areas of Minimal Flooding. These are areas where flooding is unlikely and are outside the 500-year floodplain. There are no X-zones on the oceanfront.

CBRA Coastal Barrier Resources Act. The Coastal Barriers Resources Act of 1982 designated certain portions of the Gulf and East Coast as undeveloped coastal barriers. A portion of Nags Head Woods which is owned by the Town and/or the Nature Conservancy is in a CBRA zone. There are no portions of the oceanfront which are in a CBRA zone.

Table 22
Flood Insurance Policies
As of 11/30/2006

Number of Policies Insurance in Force		
Nags Head	3,595	\$ 859,726,400
North Carolina	128,954	\$ 26,260,132,200

US Fish and Wildlife Service

The US Fish and Wildlife Service is an Agency within the US Department of the Interior. One of the primary responsibilities of the Fish and Wildlife Service is to protect marine mammals as well as threatened, endangered and migratory birds and mammals. Typical animals which fall under their protection include migratory birds, whales, porpoises and sea turtles.

- US Army Corps of Engineers

The US Army Corps of Engineers (COE) has authority for projects which affect navigation. In addition, the COE also administers a permit program for beach bulldozing and the placement of sandbags. The COE permits stipulate construction standards and the time of year bulldozing or sandbagging is allowed. Because many species of sea turtles qualify as a threatened or endangered there is considerable federal protection given to them. The COE generally does not allow any beach bulldozing or sandbagging between April 1 and November 15.

State Regulatory Programs

- Coastal Area Management Act

The Coastal Area Management Act (CAMA) program was established in 1976 as a response to the federal government's Coastal Zone Management Act (CZMA) as discussed above. Part of this regulatory program is the establishment of Areas of Environmental Concern (AECs) for ocean and estuarine areas. Within these AEC land areas, special development regulations and rules apply to development which occurs in one these areas. AECs are established to protect the natural resource from uncontrolled development. Along with the regulatory powers of CAMA, the CAMA program funds planning and management grants, land use planning grants as well as grants for public access to the ocean beaches and estuarine areas.

- Ocean Hazard Areas of Environmental Concern (AEC's)

The ocean hazard AEC is the land area closest to the Atlantic Ocean as defined by CAMA. The Ocean Hazard AEC is comprised of: (1) ocean erodible areas (beaches), which extend from the mean low water line landward 60 times the long-term erosion rate, plus 25 feet; and (2) high hazard flood areas which represent land that is subject to flooding, wave action, and high velocity water currents. This area is identified as the V-zone on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps and requires special construction methods for structures built in this V-zone. In addition to special construction standards, structures in the V-zone will have the highest insurance premiums due to the hazardous nature of this area.

The placement of new structures in this ocean hazard area requires that the structures be placed westward of the first line of vegetation. The distance of setback west from the first line of natural, stable vegetation is based on regulations in place at the time of permit application. . Annual erosion rates in Nags Head range from two feet near the northern Town limits to six feet in South Nags Head.

- The North Carolina Division of Marine Fisheries

The North Carolina Division of Marine Fisheries (DMF) is responsible for the stewardship of some of the state's marine and estuarine resources. The DMF's jurisdiction encompasses all coastal waters and extends to three miles offshore. Agency policies are established by the nine-member Marine Fisheries Commission and the Secretary of the Department of Environment and Natural Resources.

DMF's mission is to maintain, preserve, protect and develop all of North Carolina's marine and estuarine resources. To meet this mission, the DMF is organized into eight sections. The Planning and Analysis Section conducts analyses required for operational and fishery management decisions. This unit also oversees the DMF's habitat alteration permit review program and the Public Trust/Submerged Lands Program.

The Statistics and Information Management Section is responsible for the collection and processing of all commercial and recreational fisheries catch statistics and the management of biological, license, law enforcement and operational data. Marine Patrol Section has officers that work in three law enforcement districts along the coast. It is their job to protect state fisheries' resources and to inspect seafood houses, fish dealers, and restaurants that buy or sell North Carolina seafood. This mission is accomplished with boats, fixed-wing aircraft, helicopters, and patrol vehicles.

Of importance to Nags Head is NC Marine Fisheries Rule 15A NCAC 3R.011 (a) which prohibits the taking of menhaden by purse seine in the Atlantic Ocean within 1.5 nautical miles of the beach in specified portions of Dare County and Nags Head from May 1 through September 30, and within 0.5 nautical mile of the beach in specified portions of Dare County from October 1 through December 31. In addition, several sections of the beach in Nags Head have been closed during a short time period in the fall to protect recreational fishing interests.

Local Authority

The Town has been granted by the State certain powers to regulate activities within our corporate and extraterritorial jurisdiction (ETJ) areas. In general there are three regulatory authorities given to the Town: (1) general police powers, (2) special legislation from the legislature to regulate certain activities, and (3) zoning.

- Town Code Regulations

Under general police power authority, the Town can regulate numerous activities and uses along the oceanfront and throughout the Town. For example, by local regulation the Town prohibits surfing within 300 feet of fishing piers, regulates driving on the beach and riding horses on the beach. The Town can also prohibit swimming during dangerous beach and weather conditions when the ocean conditions are unsafe for swimming.

In an attempt to keep the beaches free of debris, the Town can declare structures which are storm damaged and in danger of collapsing a public nuisance. In addition, any structure which is located in whole or part in the public trust area can be declared a public nuisance and abatement procedures can be initiated by the Town.

- Land Based Zoning

The land-based zoning legislation (General Statutes Chapter 160A, Article 19, Planning and Regulation of Development) allows cities and Towns to establish zoning districts and zoning regulations to regulate land-based activity. The Town regulates location, parking, height of structures, lot coverage, density, size of yards and a host of other conditions for permitted uses along the oceanfront and throughout the Town. Along the oceanfront the Town has established

four zoning districts. Each zoning district has its own purpose and intent and has developed with individual character and uniqueness.

Extraterritorial Zoning (ETJ)

State Statute allows municipalities to extend planning jurisdiction up to one mile from their corporate limits. In 1987, the Town extended its zoning jurisdiction into portions of Roanoke Sound, an area south of the Causeway, and one mile into the Atlantic Ocean. In November 1997, the Town modified its Extraterritorial Jurisdiction (ETJ) to include areas west of the Town's southern corporate limits in South Nags Head.

At the same time ETJ was established, the Town established the Ocean and Sound Waters District Zoning District. The purpose of the district is to provide for the proper use of the ocean and sound waters to ensure the continued scenic, conservation and recreational value that these waters provide to the Town, its residents, visitors and the surrounding area.

- Water Based Zoning Regulations

Several years ago the Town requested special legislation to regulate personal watercraft (PWCs) as well as other uses within our ETJ areas. Codification of this special legislation resulted in modification of GS 160A-176.2 which allows Towns to "...adopt ordinances to regulate and control swimming, personal watercraft operation, surfing and littering in the Atlantic Ocean and other waterways adjacent to that portion of the city within its boundaries or within its extraterritorial jurisdiction; provided, however, nothing contained herein shall be construed to permit any city to prohibit altogether swimming or surfing or to make these activities unlawful." The Town has adopted regulations pursuant to this authority.

- Estuarine Waters and Shoreline

The Albemarle-Pamlico Estuary

To the east, the Town borders the Atlantic Ocean and to the west the Roanoke Sound. The Roanoke Sound is part of a larger body of water, the Albemarle-Pamlico estuary which contains some 30,000 square miles of watershed. The Albemarle-Pamlico is the second largest estuarine system in the United States and is composed of five major river basins and seven sounds, one of which is Roanoke Sound. Roanoke Sound is part of the Pasquotank River Basin which encompasses 3,697 square miles of low-lying land and vast open waters and includes all or portions of Camden, Currituck, Dare, Gates, Hyde, Pasquotank, Perquimans, Tyrrell, and Washington counties. A small portion of the basin extends up into Virginia.

An estuary is a body of water where the ocean's salty water meets freshwater from rivers and watersheds. The Albemarle-Pamlico region includes rivers, creeks and streams which flow into the sounds and marshes, as well as the fields, forests, cities, and Towns that surround them. An estuary provides a home for oysters, crabs, bay scallops, and clams as well as a spawning ground for many varieties of fish. The estuary is a valuable asset in providing economic opportunities to farmers, fishermen, loggers who harvest the forests and miners who unearth minerals. The area's

natural beauty attracts tourism and resort development. All are dependent on the estuarine system for their livelihood, and all play an important role in its continued health.

To the casual observer the Albemarle-Pamlico estuarine system appears to be in good shape. However, as the Albemarle-Pamlico Estuarine Study (APES) points out, there are signs of stress within the estuary: some streams are unfit for fish propagation and recreation, over 20,000 acres of prime shellfish habitat are closed because of pollution, in some areas unsafe levels of mercury and dioxin have been found in fish tissues, and disease epidemics in finfish, blue crabs, and oysters have been reported in some areas.

- Nags Head Shoreline

The estuarine shoreline and adjacent waters represent a valuable resource for the Town. While the estuarine areas share many of the same concerns and constraints as the oceanfront, the area is different in many respects. Within the Town municipal limits there are approximately 11 miles of estuarine shoreline. Within our extraterritorial jurisdiction there are another 7.5 miles of shoreline along the various islands in the sound, In 2003, the Town acquired approximately 11 acres of land adjacent to the Estuarine shoreline near Whalebone Junction in the area known as the 'Catfish Farm'.

- Estuarine Areas of Environmental Concern (AECs)

Development along, and adjacent to the estuarine shoreline is regulated by the Town, the Coastal Area Management Act through the Division of Coastal Management, and in some cases the US Army Corps of Engineers. Depending upon the location and proposed impacts from the development, approval by other addition state agencies may be required.

This AEC includes all shoreline 75 feet landward of the mean high water mark. Estuarine shorelines can be either dry land such as areas along Soundside Road and Old Nags Head Cove or can be represented by marsh grasses and coastal wetlands. Coastal wetlands and marsh areas are typically found along Nags Head Woods and south of The Village of Nags Head and along much of the Nags Head-Manteo Causeway. Quite often these marsh areas involve wetlands which are regulated not only by CAMA, but also the US Army Corps of Engineers.

Improper development along the estuarine shoreline can result in unregulated stormwater runoff which can pollute, destroy or degrade adjacent waters and wetlands. Bulkheads and rip-rap are commonly permitted to protect the shoreline from erosion. Most structures built along or near the shoreline must elevate those structures in accordance with FEMA regulations to protect them from flood waters.

There are two general areas within the Town where commercial uses can abut estuarine waters. One area extends south from of the Village at Nags Head to the Causeway. The other area which allows commercial uses is along portions on both sides of the Causeway.

- Flood Zones (National Flood Insurance Program)

As discussed previously, the Town is a participant in the National Flood Insurance Program. There are four major flood zone delineations in Nags Head, the AE zone, V zone, the X zone and the CBRA zone. VE, AE and CBRA zones are found along the estuarine shoreline.

- Local Authority

The Town has been granted by the State certain powers to regulate activities within our corporate and extraterritorial jurisdiction (ETJ) areas. In general there are three regulatory authorities given to the Town: (1) general police powers, (2) special legislation from the legislature to regulate certain activities, and (3) zoning.

- Town Code Regulations

Under general police power authority, the Town can regulate numerous activities and uses along the estuarine shoreline and throughout the Town. For example, by local regulation the Town regulates the use of personal watercraft in waterways adjacent to the Town.

In an attempt to keep the beaches free of debris, the Town can declare structures which are storm damaged and in danger of collapsing a public nuisance. In addition, any structure which is located in whole or part in the public trust area can be declared a public nuisance and abatement procedures can be initiated by the Town.

- Zoning Regulations

The estuarine shoreline spans across eight zoning districts and into areas in our extraterritorial zoning jurisdiction. Each zoning district has its own purpose and intent and has developed with individual character and uniqueness. As mentioned previously, the Town of Nags Head regulates zoning in its extraterritorial jurisdictions as well as in adjacent water bodies through an Ocean and Sound Waters Zoning District.

- Public Water Supply – Fresh Pond

Small surface water supply watersheds protect coastal drainage basins that contain a public water supply classified as WS I - WS V by the N.C. Environmental Management Commission. The Fresh Pond, located at the Nags Head and Kill Devil Hills border, is classified as a public water supply AEC. No sewers, septic tank fields or other sources of pollution may be built within 500 feet of the edge of the Fresh Pond in the Nags Head/Kill Devil Hills Fresh Pond watershed. Between 500 feet and 1,200 feet from the pond, septic systems are limited to one system serving a single-family home with no more than four bedrooms (or an equivalent volume of sewage) on a tract of land at least 40,000 square feet in size. The Dare county North Reverse Osmosis Plant (NRO) plant has recently completed an expansion and the county water system can now supply flow for peak demand without the Fresh pond water treatment plant. The Town and Dare County have entered into conversations regarding the future of the plant. At this time, the Town has no intentions of removing the Fresh Pond AEC designation.

- Soil Characteristics

Sandy beach deposits underlain by sandy and silty estuarine deposits dominate the soils of Nags Head. The sands and interbedded sands and silts comprise the surficial aquifer. Underneath the sands and silty sands lies a compact clay layer that represents the bottom of the surficial aquifer. The clay layer was likely deposited in an offshore environment or estuarine mud flat. In general, the predominant surface soil textures are sand and fine sand, with minor muck. As a result, average permeabilities are very rapid ranging from 12 to greater than 20 inches per hour. The permeabilities in the muck are typically less than 3 inches per hour, but this represents a small portion of the study area, west of Nags Head Woods.

The surficial soils are almost exclusively sands with some organic soils in the marshes on the sound side (Daniels et al., 1999). The beach-foredune unit is comprised of sands and follows the eastern coast of Bodie Island and the Nags Head study area. Toward the western side of the island and Roanoke Sound, Newhan fine sand, Newhan-Corolla complex, Duneland-Newhan complex, and Newhan-Urban Land complex soils become prevalent. All these soil types are well drained sands with the exception of the urban complex, which typically represents impermeable surfaces. Other soil types include the Duckson fine sand and the Corolla-Duckson complex, which are also well-drained sands. The marsh soils adjacent to Roanoke Sound are comprised of Carteret sands and Hobonny organic marsh soils. The Nags Head Woods are comprised primarily of Fripp fine sands. South of Nags Head Woods and north of the Whalebone, Duneland sands are also prominent (USDA, 1977).

All on site waste water treatment systems are regulated by the State of North Carolina. Limitations if Nags Head are usually due to the following factors:

1. soil- drain field disposal capacity usually falls within .5 to 1.2 gallons per square foot. The long term acceptance rate used in specifying the area of the bottom of drain field trenches is also a factor. This rate usually depends on water table measurements and soil type(s) which vary through the Town.
2. the lot size limit will limit the allowable flow design based on the level and type of treatment approval from the local health department.
3. setback requirements such as property lines, wells and structures

Analysis of Land Use and Development

- Existing Land Use Map

The Town's existing land uses consist of residential, commercial, visitor accommodations such as hotels and motels, governmental buildings and parks. The Town does not have any industrial or agricultural areas, forestry or animal feeding operations within its boundaries. The Existing Land Use Map can be found in Appendix C.

Table 23
Existing Land Use

Land Use category	Acreage
Single-family residential	1291
Multi-family	85
Hotel/Motel/Cottage Court	41
Commercial	305
Multiple-Use	26
Government	15
Institutional/Religious	51
Warehouse	3
Park/Open space public	1052
Park/Open space private	340
Cemetery	1
Secondary improvements	17
Undeveloped	610
Washout	8

There are some areas in the Town where lot sizes do not meet the current zoning code requirements. These lots were platted before 1972 when the Zoning code was adopted and are considered non-conforming lots of record. These lots may still be developed if lot coverage and setback requirements from the current zoning code are met. The Town encourages and will continue to encourage property owners to combine lots, if possible, to meet the square footage regulations of the Zoning district they are located in.

The Single-family residential and multi-family categories consist of low to high density single family development as described below:

Single Family Residential

The single family residential district contains low to moderate-density residential neighborhoods with a mix of permanent and shortterm seasonal residents. It serves as a transition zone between the moderate-density area and more intensely developed areas. A minimum lot area of 20,000 square feet is required for single-family dwellings and 30,000 square feet is required for duplexes. The density is 2 single-family dwelling units per acre or one duplex per acre. Lots using individual wells and septic tanks are required to be 20,000 square feet per dwelling unit and 40,000 square feet for a duplex. The minimum lot width required is 70 feet. The front setback requirement is 30 feet while the rear yard setback requirement is 20% of the lot, not to exceed 30 feet and the sideyards are 10 feet. The maximum height allowed for the structure is 35 feet although the height of a structure meeting the minimum roof pitch meeting other minimum roof pitch requirements shall be allowed a maximum total height of 42. Permitted uses in this designation are detached single family dwellings, duplexes, bulkheads and large

residential dwellings. Lot coverage shall not exceed 33%. Some permitted uses in this designation are detached single family dwellings, municipally owned public facilities, swimming pools, and large residential structures.

Multi-Family Residential

The multi-family residential district is an area in which the principal use of the land is for high-density single-family and duplex residential development. This district also provides for the development of less intensive residential uses as well as compatible supporting use. Some uses allowed in this district are detached single family dwellings, duplexes and municipally owned facilities. A minimum lot area of 15,000 square feet is required for single-family dwellings. The density is roughly 3 single-family dwelling units per acre and 2 duplexes per acre. A minimum lot area of 22,500 square feet is required for duplexes. Lots using individual wells and septic tanks are required to be 20,000 square feet per dwelling unit. The minimum lot width required is 60 feet. The front setback requirement is 30 feet. The rear yard setback requirement is 20% of the lot, not to exceed 30 feet and the sideyards are 8 feet. The maximum height allowed for the structure is 35 feet although the height of a structure meeting other minimum roof pitch requirements shall be allowed a maximum total height of 42. Lot coverage shall not exceed 33%.

The commercial, government, multiple-use and warehouse designations consist of land for recreational purposes, commercial facilities, and commercial services as described in the below:

This area will be used for intensive recreational purposes and for those types of development which need to be located in close proximity to the Town's beach area. This area will also provide for the grouping and development of commercial facilities to serve the entire community as well as for the less intensive residential and compatible supporting uses. A minimum lot area of 15,000 square feet is required for commercial development and single-family dwellings. The density of development is roughly 3 single-family dwelling units or 3 commercial developments per acre. The maximum height allowed for the structure is 35 feet although the height of a structure meeting other minimum roof pitch requirements shall be allowed a maximum total height of 42. A minimum lot area of 22,500 square feet is required for duplexes. Lots using individual wells and septic tanks must be 20,000 square feet per dwelling unit. The minimum lot width required is 60 feet. The minimum depth of the front yard for single-family and duplexes must be 30 feet. The minimum depth of the front yard for commercial development must be 15 feet. The minimum width of the side yards shall be eight feet for single-family, duplex and commercial development. In the case of a corner lot the minimum width of the side yard adjacent to the right-of-way must be no less than 15 feet. The minimum depth of the rear yard must be 20 percent of the lot depth for single-family and duplex, but need not exceed 30 feet. The minimum depth of the rear yard for a commercial development must be 25 feet. Lot coverage shall not exceed 55%. Permitted uses in this designation are detached single family dwellings, duplexes, banks, drug stores, post office and large residential dwellings. Conditional uses allowed are fishing piers, automobile service stations, and retail shopping centers.

Hotel, Motel and Cottage Court

The hotel/motel/ and cottage court land classification allows for the location of larger-scale hotels in where the increase in height does not significantly affect the view shed from Jockey's Ridge and does not diminish the low density character of the historic district and other neighborhoods. The Maximum height of structures is 60 feet. Hotels are allowed a maximum total lot coverage of 65 percent. For hotels buildings higher than 35 feet, the side yard setback has to be ten feet plus an additional one foot for each foot over 35 feet. A minimum of 50 percent of the required side yard setbacks must remain undeveloped as open space. The density of hotel units will not exceed 16 hotel units or hotel efficiency units for the first acre and 20 hotel units or hotel efficiency units for each additional acre.

The undeveloped classifications are areas that are not currently developed with structures. These areas will be grouped into the surrounding land classification once development begins i.e. an undeveloped lot within the single-family land classification will be given a land classification of single-family.

The park/open space public classification is National Park service land and Town parks.

The recreation private classification is land set aside, by the Village Property Owners Association, during the subdivision process. This land is used for stormwater retention as well as a private golf course.

The cemetery, secondary improvement and washout classifications are described below:

The underlying use of the cemetery area is for a cemetery. The washout areas are land that has been washed out by the ocean and is now unable to be built on. The secondary improvement areas are indicated for utility company substations.

The institutional/religious classification areas are where churches, synagogues etc. are located.

- Land Use Analysis

The following table delineates the number of dwelling units in the Town as of January 1, 1997 (from the previous Land Use Plan) and March 11, 2005. The number of single-family dwelling units continues to increase but the number of total units is somewhat offset by the loss of hotel and cottage court units. There are no areas, in Nags Head, which have land use or land use/water quality conflicts.

Table 24
Dwelling Unit Comparison

Property Type	1997 Total Units	% of Total	2005 Total Units	% of total
Single-Family	3,129	62%	3,999*^	72%
Multi-Family	319	6%	505**	9%
Cottage Court	324	6%	213*	4%
Hotel	1,308	26%	807*	15%
<u>Total</u>	5,080	100%	5,524	100%

* Hotel and Cottage Court information was derived from current Nags Head privilege license information and Dare County tax data

**Multi-Family includes the following property uses: townhouse, condo, timeshare, and parcels with multiple uses containing residential units

*^Single-Family dwelling information was derived using a combination of Dare County tax data and the permitting database maintained by Nags Head Planning and Development. This also includes residential units currently under construction.

Prepared on March 11, 2005

- Commercial and Non-Residential Development

In recent years the Town has witnessed a number of commercial establishments locating in the Town. Table 16 on pages 19 and 20 depicts the various types of development, and their square footage which has occurred from 1997 through January 2006. The Town has experienced a significant increase in commercial development during this time period. Most businesses are relatively small scale in nature with floor areas well under 10,000 square feet. The Outer Banks Hospital and the Nags Head Elementary School are included in the table below which accounts for over 200,000 square feet of the total floor area.

- Commercial Residential

Imbedded in the tradition of Nags Head is the combination of commercial and residential uses. Many of the early merchants lived above or behind their commercial establishments. Several commercial properties continue this feature of the community's character. An area called Gallery Row (the C-4 District) is attempting to revive the idea of combined uses. Artists have constructed galleries and studios in combination with their residences. The Town set aside this area by designating a new zoning district and adopting regulations that encourage a village-type setting of residential and commercial properties. The District is composed of 14 lots, of which all but four are developed. The residential/commercial development is an integral part of Nags Head's history and represents a part of the Town's character. The Town in early 2006 adopted new ordinances related to commercial/residential mixed development to encourage this type of use in the C-2 General Commercial zoning district.

- Historic, Cultural and Scenic areas

The Town of Nags Head does not have a historic district. However in 1977, the US Department of Interior established the Nags Head Beach Cottage Row Historic District. The limits of the district are shown on the Existing Land Uses map. A particularly important question for this historic oceanfront area is whether future development and growth, not only on the oceanfront, but on the commercially zoned land to the west will jeopardize the existing historic and architectural significance of these structures in the Town.

- Jockey's Ridge AEC

The largest portion of this district contains Jockey's Ridge State Park which has been designated by the North Carolina Coastal Resources Commission as a unique coastal geologic formation area of environmental concern and as a National Natural Landmark by the United States Department of the Interior. The area of environmental concern is shown in Appendix C and is 417 acres in size. This area includes the entire rights of way of US 158 Bypass, SR 1221 (Sound Side Road), Virginia Dare Trail, and Conch Street where these roads bound this area. Jockey's Ridge is the tallest active sand dune along the Atlantic Coast of the United States. Located within the Town of Nags Head in Dare County, between US 158 and Roanoke Sound, the Ridge represents the southern extremity of a back barrier dune system which extends north along Currituck Spit into Virginia. Jockey's Ridge is an excellent example of a medano, a large isolated hill of sand, asymmetrical in shape and lacking vegetation. Jockey's Ridge is the largest medano in North Carolina. Regulations in this area govern sand removal and consistency of proposed projects with the intent of this special AEC.

- Nags Head Woods

The Nags Head Woods is an irreplaceable maritime forest occupying the northwest portion of Nags Head and is located in the SED-80 zoning district. The Woods includes the Fresh Pond (water supply), large stable marshlands, large vegetated and unvegetated sand dunes, and a forest with ponds and wetlands. The Woods was the home of the first settlers. Its ecological significance has been amply documented in terms of rare species and natural communities. The Woods is one of a few remaining maritime forests in North Carolina and consists of ecologically important marshlands, pine hummocks, bay forest, the ridge, hardwood and pine forests, ponds and dunes. Each part of the system is important to the whole, although the least adverse environmental impacts would result from development in the bay and hardwood forests away from the ponds and ridges. The Woods is also environmentally significant because of its natural role in the integrity of the coastal region.

To protect the Fresh Pond as a source of potable water, the Town in the 1960's acquired 318 acres of land area primarily west of the pond. Conditions of the acquisition were that the area remain as a watershed and that the area would not be subject to development, thus protecting the water quality in the Pond.

To further protect the woods, in 1987 the Town revised its Zoning Ordinance and adopted a comprehensive set of zoning regulations for the protection of Nags Head Woods. These ordinances

permit primarily single-family housing and include regulations to ensure that the function and character of the maritime forest will be preserved.

In 1992, the Town, in cooperation with The Nature Conservancy (TNC), purchased 386 acres in Nags Head Woods. This tract was commonly referred to as the RTC tract, the Great Atlantic Savings Tract or the Tillett Tract. The property was acquired by the Town and The Nature Conservancy to be managed as a natural area and nature preserve. When the property was acquired, the federal government designated the tract as part of the Coastal Barrier Resources Act, and in doing so; federal flood insurance will not be available for any development which may occur in this tract. In 1997, the Town offered Articles of Dedication to the State of North Carolina for most Town owned property in Nags Head Woods. The offer was accepted, and this area is now dedicated in perpetuity as a nature preserve.

The SED 80-District is 1,052 acres in area. Of this acreage, 303 acres are owned by the Town, 386 jointly owned jointly by the Town and TNC, and 27.5 acres is owned by TNC, thus approximately 73 percent of the land in Nags Head Woods (SED-80) is owned by the Town and TNC. Most of the land owned by the Town and the hiking trails are managed through a cooperative agreement with the Nature Conservancy.

The existing land uses in the Woods are limited to nine residences and one former farm site. The remainder is in its natural state. The current management system is designed to protect environmentally sensitive features, the water supply, and visitors from natural hazards. The marshes may fall under protection by the Coastal Resources Commission through an AEC permit and/or by the Corps of Engineers permitting process. Town zoning and land use regulations are designed to prevent the filling of wetlands in certain areas. Development near the Fresh Pond which forms the public water source is also limited by the Zoning Ordinance and AEC regulations which restrict septic systems to one per acre within 1,200 feet of the edge of the Pond and prohibits their use within 500 feet of the edge of the Pond.

Due to the remoteness of the area, the fact that any new subdivision of land would require the construction of a paved road from an existing street in Nags Head and the fact that Town water would need to be brought in, any future subdivision of the land into 80,000 square foot lots is unlikely. However, there are two parcels which could meet the State subdivision exemption for lots greater than 10 acres. This State exemption would result in a net increase of three lots. In total there are 28 lots which meet the Town's current standards (for land area or conforming lot of record status) for single-family houses. Currently there are nine single-family dwellings in SED-80. Access is either provided by private agreement through an access driveway near the Villas Condominiums or by the only public road—Nags Head Woods Road from Kill Devil Hills.

Nags Head Woods represents a significant, limited and irreplaceable area where management is needed to protect the natural, cultural, recreational and scenic features. The presence of the Woods in Nags Head makes the region a desirable place in which to live, work and visit. The Town does not have any land use or land use/water quality conflicts throughout the Town.

Projection of Future Land Needs

- Land Availability

The Town of Nags Head contains approximately 4,300 acres (Table 23). Of those 4,300 acres, approximately 500 acres represent rights-of-ways (ROW) and are not available for development. As of March 11, 2005, there were approximately 5,524 dwelling units in the Town, with the majority in low-density residential uses. In considering potential for development it is important to look at both developed acreage and the acres of un-subdivided land which can become lots which can accommodate single-family housing. The table below depicts the acreage of improved and unimproved parcels by zoning district as of March 2005.

Table 25
Acreage of Improved and Unimproved Parcels by Zoning District

Zoning District	Developed	Un-improved	Percent Developed	Grand Total
C2	378	94	80.1%	471
C3	23	7	76.5%	29
C4	4	2	61.4%	6
CR	251	22	92.0%	273
R1	80	62	56.3%	143
R2	689	154	79.3%	868
R3	91	20	81.9%	111
SED-80	873	179	83.0%	1,052
SPD-20	480	43	91.8%	522
SPD-C	342	27	92.6%	369
Grand Total	3,209	610	83.5%	3,845

As shown above there are 610 acres in the Town of Nags Head which are undeveloped, privately owned and subject to development. Table 25 also points out that 3,209 acres have been developed, thus, excluding rights of ways, as of March 2005 the Town was 83.5 percent developed.

Table 26 provides an indication of the number of new lots that could potentially be created based on zoning district standards and land availability.

Table 26
Potential for New Building Lots

District	Undeveloped Parcels	Platted Lots	Potential New Lots	Lots Available for Development	Notes
R-1	10	10		10	
R-2	648	666	128	794	
R-3	67	72	98	170	
CR	33	34		34	
C-2	247	436	54	490	See Table-C-2
C-3	2	9		9	See Note 1.
SPD-20	90	90		90	
SED-80	28	28	3	28	See Note 2.
SPD-C	231	231	101	333	See Table-Village
Totals	1360	1582	384	1964	See Note 3.
NOTES: Undeveloped=Lots > 5,000 sq ft, can meet CAMA regulations					
Potential lots=Large parcels (area x 75% /lot area=number of lots)					
Platted lots. Some parcels are composed of more than one platted lot.					
Note 1. Single-family development not allowed in this district.					
Note 2. Tillett Subdivision resulted in three non-conforming lots.					
Note 3. This assumes:(1) no changes in dimensional requirements,					
(2) no subdivision of C-2 into residential lots, and					
(3) no recombination of existing lots.					

Due to development on lots, which were platted in accordance with earlier Zoning Ordinances or before the incorporation of the Town, the density that has occurred in Nags Head before 1980 has been higher than the density permitted by the current Zoning Ordinance. The typical minimum residential lot size has gradually increased from 7,500 square feet in 1962, to either 15,000 or 20,000 square feet today. Much of the current development is located on these smaller lots. Over 3,000 developed lots, or 68 percent of the total developed lots in the Town, are less than 15,000 square feet in area. The average lot size for single-family development from 1985 to 1996 is 12,000 square feet. The average lot size for single-family development from 1997 to 2005 is 15,500 square feet. As more of the older, smaller legal lots of record are used up the average lot size will be increasing. As lots have increased in size so has the average house size.

Table 27
Actual Developed Lot Sizes Per Zoning District

Zoning District	Size Category (sq. ft.)					Grand Total
	>10,000	10,000-14,999	15,000-19,999	20,000-43,560	> 1 acre	
C2	290	129	53	87	69	628
C3				2	10	12
C4		6	1	3		10
CR	25	6	54	255	34	374
R1	40	10	13	43	19	125
R2	1,086	423	162	314	71	2,056
R3	358	44	42	3	2	449
SED-80	2	1			15	18
SPD-20	27	76	46	30	5	184
SPD-C	448	62	6	79	31	626
Total	2,276	757	377	816	256	4,482

Tables 26 and 27 provide an overall breakdown of the acreage of existing land uses by zoning district and percentage of total land devoted to each use as of March 2005.

As mentioned above, the Town of Nags Head is approaching build out. The Town prides itself in being slow growing and at this time intends to maintain existing density and intensity thresholds. Unless there is a significant change in the zoning code allowing higher-density development, the Town will not have the same rate of growth as in the past. The Town will continue to grow but the rate of growth will continue to lessen over the next few years. After a certain point (between 10 and 20 years) the population will not grow in any significant way assuming the zoning codes remain the same. Currently, zoning permits redevelopment, and thus smaller homes on small lots are being demolished to make room for larger houses with more bedrooms. Such homes are built primarily for leasing purposes (vacation properties in particular). The Future Land Use Map can be found in Appendix C.

Future Residential Land Use Needs

The Town has chosen the persons per household unit method to project future land use needs. The summary of projected seasonal population (Table 19) was used. The average lot single family lot size in the Town is approximately .46 acres and 1 person per single family dwelling unit was used. The five year increment population estimates were then subtracted from each other and divided by two (.46 acres per person) to get the gross acres required annually to support increased population.

Table 28
 Future Land Needs for Residential Development During the Period 2010-2030

year	Avg. acre per single family dwelling	# of persons per single family dwelling	Population	Population difference from prior 5 year period	Gross acre required annually
2005	.46	1	3125		
2010	.46	1	3305	180	90
2015	.46	1	3592	287	144
2020	.46	1	3869	277	139
2025	.46	1	4117	248	124
2030	.46	1	4353	236	118
Total acreage needed by 2030					615

- Non-Residential Land Use Needs for 2010-2030

The data from the residential land use needs was used to estimate future non-residential land use needs. The reason these estimates were used is that in any area, there tends to be a consistent proportion of the total developed land area in various land use categories. For the purposes of this plan the land use percentages for 2005 were used. (Table 23) The Town assumes the percentages for 2005 will remain roughly constant over the 20 year planning period. Table 29 below takes the residential land use needs calculated in Table 28 and projects non-residential land use needs based on these percentages.

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Table 29
Projected Land Use in Development 2010-2030

Land Use category	% of developed land 2005	Acres 2005	Acres 2010	Acres 2015	Acres 2020	Acres 2025	Acres 2030
Single-family residential	42%	1601	1691	1835	1974	2098	2216
Multi-family	2.2%	85	87	90.16	93.21	95.91	98.5
Hotel/Motel/Cottage Court	1.07%	41	42	43.5	44.98	46.3	47.56
Commercial	8%	305	312	323.5	334.5	344.4	353.84
Multiple-Use	.7%	26	26.6	27.6	28.57	29.43	30.25
Government	.4%	15	15.4	30.4	30.96	31.45	31.92
Institutional/Religious	1.3%	51	52.2	54.07	55.87	57.48	59.01
Warehouse	.08%	3	3.07	3.35	3.46	3.55	3.64
Park/Open space public	27%	1052	1052	1052	1052	1052	1052
Park/Open space private	8.8%	340	340	340	340	340	340
Cemetery	.03%	1	1.02	1.06	1.07	1.10	1.13
Secondary improvements	.40%	17	17.36	17.93	18.48	18.97	19.44
Undeveloped	8%	610	205.33	26.38	-132.17	-273.68	-408.41
Washout	.02%	8	.018	.048	.075	.099	.122
Total	100%	3845	3845	3845	3845	3845	3845

As of March 2005, the Town had 610 acres of undeveloped land. If the percentage rate of growth, depicted in Table 23, continues the Town will be at build out by 2015.

The State Data Center does not establish projections for seasonal population. Information from The Outerbanks Visitors Bureau shows a slight increase in seasonal population in the last few years. Unfortunately, the information acquired from the Tourist Bureau does not include information on attractions in Nags Head. Dare County is currently using the seasonal population indicated by the Outerbanks Visitors Bureau to establish projections. The County compared the seasonal population to the County's permanent population and found the seasonal population represents a 6.5 to 1 ratio over the permanent population. The Town of Nags Heads seasonal population has been projected by using a 6.5 to 1 ratio. Based on Table 19, in 2030 the projected seasonal population to permanent population will be 5:1. These projections, however, do not take into account that the Town intends to maintain existing density and intensity thresholds.

- Community Facilities
- Public and Private Water Supply Systems

Nags Head is served by the Dare County Regional Water System. There are about a dozen private residences located in Nags Head Woods, on Pond Island and in South Nags Head served by private wells. There are no private water supply systems located in the Town, only individual wells. The remainder of the Town is on public water. The Town operates a “purchased” water system, in which water is purchased in bulk from Dare County and retailed to the businesses, institutions and residences within the Town. Nags Head Public Works Department’s Water Distribution division maintains over 75 miles of water distribution lines, ranging from 2 inches to 14 inches in diameter.

Dare County operate two, and the Town of Nags Head one, Water Treatment Plants (WTP’s) which provide the water that is sold to Town customers. These plants include the Skyco WTP - a groundwater (well) cation/anion exchange plant on Roanoke Island, the North Reverse Osmosis WTP, located in Kill Devil Hills, which treats groundwater, and the Nags Head Fresh Pond (conventional) surface WTP. The Dare County NRO plant has recently completed an expansion and the county water system can now supply flow for peak demand without the Fresh pond water treatment plant. The Town and Dare County have entered into conversations regarding the future of the plant. At this time, the Town has no intentions of removing the Fresh Pond AEC designation. The Town is served by two 500,000 gallon pedesphere (elevated) water storage tanks – one just north of MP 20, on land leased from the US National Park Service at the end of Westside Court, and a new tank at the north end of Town behind the Public Works Complex on Lark Avenue. This tank is at MP 10. The Town also operates two 500,000-gallon concrete ground storage tanks. One is located at the Eighth Street Water Plant (adjacent to the Fresh Pond) and the second is at the Gull Street Pump Station, near MP 16, across the Bypass from Tanger Outlet Mall. Two pump stations, one at each of the ground storage tank locations, take water from the Dare County Regional System and pump it into the Nags Head distribution system. Average pressure in the Town’s system is approximately 50 p.s.i.

The Town periodically updates its Water System Master Plan using the outside engineering consultant performing water study and design work at the time. The last two updates occurred in 2000 and 2004. The most recent update focused on the recent development in the northern end of Town, an event which had already led to the plans for the recently completed elevated storage tank at MP 10.

The water supply system, both production and distribution is in very good to excellent condition. The Town recently convened a study committee to look at deficiencies in the distribution system and identify waterline projects that would improve domestic water flow and quality, and increase fire flows as well. The Board of Commissioners is in the second year of implementing this water distribution system upgrade Capital Improvement Plan. The Town hopes to have the upgrades complete by 2015.

The first major project, completed in FY 2005-06, connected three neighborhoods at the north end of Town – Nags Head Pond, NH Acres and Vista Colony – through a 12-inch waterline,

4,700 feet long down Wellfield Road on the east edge of Nags Head Woods. This line feeds directly from the new 500,000-gallon elevated water tower at the north end of Town.

A number of waterline projects have been identified, but not to serve projected new development. These will eliminate dead-end lines and improve fire flows to existing development. Fill in development will take place where there is existing water infrastructure to provide service. A developer is required to construct waterline extensions to serve new subdivisions, or new sections of existing subdivisions.

- Public and Private Waste Water Systems

As population and development continue to grow in Nags Head, the need for increased sewage disposal capacity will increase as well. Currently the predominant method of sewage treatment for low-density development in Nags Head is the use of septic tanks. For some higher density projects in the Town, several package treatment plants have been built to accommodate this need. It is likely that the Town will continue to rely on on-site septic systems as the primary means of treatment, along with package plants for higher density uses. Based on several EPA studies, in the 1980's, the Town presently does not view the installation of a public sewage system as either economically sound or consistent with desired levels of density. No expansion of the existing central wastewater systems is expected. A few lots remain in the Village WWTP service area, but they are located on portions of the already constructed collection system.

There are generally two categories of sources of pollution: "point" source and "non-point" source. Point source pollution is that pollution where there is a defined source, such as a pipe or ditch which empties into a body of water. With non-point sources of pollution the actual source can not be verified, such as a pollutant that travels through the soils or groundwater to a surface water body. Septic systems, when not properly sited or maintained, have often been suspected as being non-point sources of pollution. Currently in the Town there are no wastewater treatment plants which discharge treated effluent into Roanoke Sound.

- Septic Systems

A septic tank is basically a detention tank in which some of the solids settle out of the wastewater and undergo anaerobic digestion in the tank. The wastewater moves by gravity out of the tank to a system of tiles or pipes in subsurface trenches, (the drainfield) where treatment by bacteria in the soil is followed by absorption of the wastewater into the soil.

A properly functioning system relies upon the soil to absorb and adequately treat all wastewater generated from a site. All soils, however, are not suitable for septic tanks as they may not allow wastewater to drain through the soil or they may allow wastewater to pass to the groundwater too quickly, hence, without adequate treatment.

The advantages of disposal by septic systems are the uses of natural aeration and filtration to treat wastewater. They are close to the source of the wastewater, and are cost-effective. The disadvantages and limitations of the use of septic systems are that, if they are not properly

maintained, are used incorrectly, or placed too close to the Roanoke Sound it may lead to degradation of water quality.

As of March 11, 2005 there were 5,524 dwelling units in the Town. Of that number, 4,975 or 90 percent of the existing dwelling units in the Town of Nags Head are using septic tanks. The potential contamination of water is a function of several factors, including soil suitability, depth to the water table, and proximity to surface waters. Soils on the Outer Banks are generally unsuitable for septic systems. Under Soil Conservation Service (SCS) criteria most soil in Nags Head is classified as having severe or very severe limitations to septic tank use. Evaluations of soils following to State Health Department criteria differ substantially from the SCS criteria, and generally indicate that soils are not as unsuitable for septic tank usage as the SCS criteria would indicate. This discrepancy results from the fact that State regulations do not address soil permeability as a factor in soil suitability for septic tank use. State regulations allow on-site wastewater disposal in extremely porous soil where depth to water table is greater than 12 inches. State regulations govern the installation, location and use of septic tanks. (GS 103A-335). Current regulations require a repair and replacement area of equal size to the septic system on any lot recorded after January 1, 1983.

Tertiary treatment utilizing package plants or through a public sewage treatment system can reduce adverse impacts resulting from improperly maintained or sited septic tanks. These alternatives could indirectly lead to higher densities of development and are inconsistent with the desires of Nags Head to develop at relatively low densities. Many residents may wish to see the benefits of a public sewer system but are unwilling to accept the higher development densities and costs that could accompany it.

Currently within the Town there are four package sewer treatment plants which provide services to 720 hotel and dwelling units. The Nags Head Village Service Company system currently treats 395 dwelling units in The Village at Nags Head and all uses in the Outer Banks Mall. The Villas system treats 120 units, the Nags Head Inn hotel system treats 100 units, and the Comfort Inn facility treats 105 units. (see water and sewer map in Appendix C) The primary authority to regulate these systems is the Dare County Department of Environmental Health and the State Division of Environmental Management. The Town does not have any mapping or information regarding the condition, location of lines, overflows, bypasses, of these package sewer treatment plants as they are private. Information regarding Nags Head Village Service Company system can be found on page 28 of this Plan.

- Septic Health Program

Since 2000, the Town of Nags Head has both funded and operated the Septic Health Initiative. The program targets property owners with gravity on-site waste systems and offers them incentives to inspect and pump (if needed) their septic systems. In addition the program lends out monies to owners with systems that need additional repairs or replacements. Water quality monitoring is a very important aspect of the Initiative. Its measurements show water quality impacts, if any, of on-site waste disposal in the Town of Nags Head. The Town monitors surface and ground waters for enterococcus, fecal coliforms, nitrates, among other parameters.

The Septic Health Initiative in Nags Head originated from a Septic Health Committee consisting of property owners and Town officials who were concerned that improperly maintained septic

systems might be contributing to the degradation of area waters. The Town's goal is to continue the use of on-site wastewater disposal systems as the primary means of wastewater treatment in a manner that "maintains or improves the quality of the Town's surface waters and groundwater, and maintains low density development."

The Town of Nags Head supports the state Non-Point Source Management Program Action Plan Goals listed under the specific areas of on-site wastewater management, education, and water quality monitoring.

The Septic Health Initiative is managed by a coordinator in the Planning and Development Department and is funded by the Town of Nags Head. The following is a detailed description of the four programs included in the Septic Health initiative:

- The Septic Tank Inspection and Pumping Program offers incentives to all qualifying property and business owners in Nags Head, whom are not on a state-regulated system. One incentive comprises of a full price refund to have a system inspected by a Town-approved contractor. If the property owner wishes to have their system pumped the Town will place a \$30.00 water credit on the property water bill account. The completed inspection reports are then put into a Town database to track failures, types of use, age, size, location, and many other items. The Town of Nags Head established competitive prices for the detailed inspection and pumping. To assist property owners with failing systems the Town developed and offers a low interest loan program, payable over three years without a credit check to get systems repaired or replaced as needed. The maximum amount allowed to be financed is \$3000. The overall goal of the inspection and pumping is to have all septic systems in Nags Head inspected and pumped within 4-5 years.
- The Water Quality Monitoring Program was created to track the flow of possible septic system pollutants in ground water and their influence, if any, on nearby surface water constituents. The monitoring consists of testing certain parameters like fecal coliforms, ammonia and nitrates, phosphates, dissolved oxygen, pH, and other factors such as weather (rain, wind direction) and tidal influences. This program currently has 31 different sites being sampled on a weekly basis. The results are being compiled into a database for the analysis of trends. The results will be used to develop a Decentralized Wastewater Master Plan.
- The third part of the initiative is the Education Program and is the means in which The Town of Nags Head is teaching both young and old the proper use and maintenance of septic systems. The Town of Nags Head believes that proper maintenance and upkeep of these systems will eliminate costly repairs or replacements. Currently this program is made up of brochures, door hangers, and stickers that have a septic logo that speak on the proper uses of septic systems. This information is included in rental packets with area realtors. The Town of Nags Head, in the past, has worked closely with the local N.C. Cooperative Extension Service on programs with county schools to explore the subject of septic systems and waste disposal in a clear and concise manner that will be easily understood by elementary students. We also have a septic tank maintenance video that airs on the local government access channel.
- The fourth and final part of the initiative was the development of a Decentralized Wastewater Master Plan.

- Transportation Systems

Introduction

As the permanent and seasonal populations of Nags Head expand, and the commercial areas which serve them increase in size, traffic and congestion on Town streets will become an increasingly important concern. In addition to local traffic, as the Dare beach communities grow, Nags Head will receive substantial increases in through-traffic. Two specific traffic problems can be identified: the capacity of the Town's road and bridge system to accommodate evacuation in the event of a hurricane or a severe coastal storm, and the ability of South Croatan Highway (US 158) and US 64/264, and to a lesser extent South Virginia Dare Trail (NC 12), to move traffic efficiently and safely from the Whalebone Junction area to either the Kitty Hawk area or Roanoke Island.

The existing transportation system consists of two primary roads running parallel with the Atlantic Ocean. These two roads have several names. NC 12, which is closest to the ocean, is also known as South Virginia Dare Trail and as the "Beach Road." US 158, generally runs down the center of Town is also known as South Croatan Highway and formerly as the "Bypass." In addition to these two state maintained roads, there are numerous Town roads which run in an east-west configuration connecting these two major roads. In South Nags Head, south of Whalebone junction, NC 1243 (South Old Oregon Inlet Road) is a state road and is the only major road within Nags Head serving this area.

- Transportation Improvements

The NC Department of Transportation has completed a Thoroughfare Plan for the Outer Banks. The plan suggests improvements to US 158 and offers other suggestions for improving traffic flow in Nags Head and the Outer Banks. On April 15, 1998, the Nags Head Board of Commissioners adopted a resolution accepting the Thoroughfare Plan. Some of the major recommendations of that study are:

- Widening of US 158 to include additional travel lanes. The recommended proposed road cross sections could be a combination of: (1) seven lanes, (2) six lanes divided with possible grassed medians, or (3) a combination of the two.
- Improve NC 12 with by an additional three feet of pavement on both sides of NC 12.
- Where there is a currently a third turn lane on NC 12, the interconnecting road to US 158 should be widened to three lanes.
- Gull Street and Lakeside Street should be three lanes from NC 12 to US 158. A signal should be placed at Gull Street to address access to the Tanger Outlet.
- A three-lane configuration for Mall Drive (completed), Danube Street, Deering Street, Hollowell Street, and an extension of Villa Dunes Drive* from US 158 to NC 12. Three lanes are also recommended for Bladen Street, Barnes Street, an extension of West Satterfield Landing Road* to NC 12, and Eighth Street between US 158 and NC 12.
- A "flyover" at Whalebone Junction.

* Some of the three-lane sections mentioned above will require the acquisition of private property for rights of ways.

The Outer Banks Thoroughfare Plan bases most of the future traffic projections on the assumption that the mid-county bridge in Currituck, connecting the mainland to Corolla, will be built by the end of the planning period (2010).

Improvements to US 158 and NC 12 since 1985 include the widening of US 158 to four lanes, and repaving and adding a paved area alongside the drive lanes on NC 12. Additional local improvements over the last ten years have included the replacement of the Washington Baum Bridge, the "Little Bridge", and completion of a parallel Wright Memorial Bridge in Kitty Hawk and Southern Shores, and relocation of US 64-264 around Manteo with a new bridge connecting Roanoke Island to the Dare mainland at the intersection of US 64-264 and SR 345. Anticipated projects for the Outer Banks include a mid Currituck County Bridge and the improvement of US 64-264 outside of Nags Head to a four-lane road. While many of the problems getting to the Outer Banks especially from Virginia have been reduced by the improvement projects to US 158 and US 168 in Currituck County summer traffic is still very much a concern.

- Hurricane Evacuation

Coordinated evacuation planning efforts between municipalities, counties, and state and federal officials will facilitate an evacuation process. The Town is a participant in the Dare County Hurricane Evacuation Plan. The decision to evacuate is made by a Control Group comprised of members of each municipality, the National Park Service, various state agencies and the county. The control group utilizes various computer models to determine when an evacuation is needed. The computer models are useful tools in attempting to determine when to evacuate and the evacuation "clearance time." Evacuation clearance time is the time required to clear the roadways of all evacuating vehicles prior to the arrival of sustained 34-knot winds. Clearance time needed for evacuation is based on: (1) the hurricane category; (2) the expected evacuee response rate; (3) the tourist occupancy rate; (4) the evacuation routes available; and (5) the estimated time required along the routes. As Dare and Currituck County areas continue to grow, hurricane evacuation should be constantly addressed.

- Traffic Congestion

Compounding evacuation problems and creating congestion and traffic demands generally, are development patterns along South Croatan Highway (US 158). Although the Department of Transportation has widened South Croatan Highway (US 158) to four lanes, its ability to accommodate traffic in an expeditious manner is threatened by the existence of strip commercial development, and numerous and frequent access points and traffic lights.

During the development of the Outer Banks Thoroughfare Plan, traffic counts were made on selected roadways. The annual average (2005) daily traffic volume on US 158 north of the Whalebone Junction intersection was reported to be 23,000 vehicles per day. According to NCDOT the practical capacity for this section of US 158 to carry traffic is 28,000 vehicles a day. DOT estimates that by the year 2010, the average daily traffic will be 48,000. 2005 average annual daily traffic was 18,000 vehicles a day on the Causeway (US 64-264) and 35,000 on US 158 near Ocean Bay Boulevard in Kill Devil Hills. The practical capacity on this section in Kill Devil Hills is 28,000 vehicles per day. The count on NC 12, at Ocean Bay Boulevard was 7,400 vehicles per day with a practical capacity of 10,500.

Sidewalks, Multi-Use Pedestrian Paths, and Bike Paths

In an attempt to facilitate other than vehicular access to the beach, the Town over the last ten years has constructed sidewalks along Eight Street, Barnes, Bonnett and Bladen Streets and a sand-clay path that connects Old Nags Head Cove to the Enterprise Street Access. Shorter sidewalks exist at Mall Drive, Seachase and Baymeadow Drive. Several years ago the Town constructed a multi-use pedestrian path (roughly 11 miles) parallel to NC 1243 from 8th Street to the southern Town boundary. In addition, the Town, in late 1997, completed a sidewalk along Danube Street stretching from Roanoke Sound to the Small Street Beach Access site. In early 2008, the Town began construction of a section of the multi-use path on the Westside of US158 with the assistance of the North Carolina Department of Transportation. The section is now complete and stretches from 8th Street to Carolinian Circle. The Town goal is for the multi-use path to extend to Hollowell Street (Jockeys Ridge).

In the NC-DOT Thoroughfare Plan, one of the major recommendations is to widen NC 12 with three feet of pavement on each side of the roadway. Respondents to the 2006 Land Use Plan Survey were asked about the need for more bikeways and sidewalks throughout the Town. Opinion was, 73 percent indicating a need for more bikeways and sidewalks throughout the Town and 50 percent willing to pay higher taxes to finance such improvements.

- Alternate Forms of Transportation

As the Town and the entire Outer Banks continue to grow, the need for other forms of transportation such as public transportation to mainland Dare as well as other counties may materialize. Several years ago a trial of a "beach bus" was conducted and was discontinued due to lack of funding. Currently there are few forms of public transportation other than private taxis. During the tourist season many workers travel from the outlying communities to the Outer Banks. It is not uncommon for people to travel daily from as far as Elizabeth City to the Outer Banks for employment. Public transportation may help to alleviate transportation concerns for the work force that do not live in the Town or Dare County.

- Alternate Energy Sources

The Town recognizes that there are alternative energy sources to using fossil fuels. While these energy sources reduce carbon dioxide emissions, visual and aesthetic considerations should be addressed.

- Wind Energy

The Town recognizes that wind energy is plentiful, renewable, widely distributed, clean, and reduces greenhouse gas emissions when it displaces fossil-fuel-derived electricity. There is currently one wind turbine located within the Town Limits. It is located in Jockeys Ridge State Park and is used to power a restroom facility.

Small wind turbines may be as small as a four hundred watt generator for residential use. Small scale turbines for residential-scale use are available that are approximately 7 feet to 25 feet in diameter and produce electricity at a rate of 900 watts to 10,000 watts at their tested

wind speed. A small wind turbine can be installed on a roof. Installation issues then included the strength of the roof, vibration and the turbulence caused by the roof ledge. Aesthetic and safety issues such as a fall zone around the turbine are a concern as well.

- Solar Energy

Solar energy technologies harness the sun's energy to provide heating, lighting, and electricity. While the Town encourages the use of solar power there are currently no zoning restrictions on them unless they are a separate structure in which case a zoning permit would be required.

- Wave Energy

Wave power refers to the energy of ocean surface waves and the capture of that energy to generate electricity and pump water (into reservoirs). Wave power is determined by wave height, wave speed, wave length, and water density. Some challenges with wave generation are constructing devices that can survive storm damage and saltwater corrosion and efficiently converting wave motion into electricity.

- Stormwater Systems

Effective stormwater management requires proactive planning to prioritize the Town's needs. In 2006 the Town contracted with WK Dickson to develop a Stormwater Management Plan that would include an inventory of significant drainage structures, a capital improvement plan with projects to mitigate flooding and improve water quality, and a review of the Town's existing stormwater ordinances.

The existing stormwater drainage system for the Town relies heavily on five (5) ocean outfalls maintained by the North Carolina Department of Transportation (NCDOT). These outfalls were installed, by the DOT, after the Ash Wednesday storm in 1963 to facilitate drainage of ocean over wash in the Town. Four of the outfalls are located within Town limits and the fifth is located immediately south of the Town boundary. The outfalls were originally constructed to provide drainage for ocean over wash events when the storm surge from the ocean overtops the dunes. As development occurred throughout the 20th century, additional stormwater drainage systems were connected to the outfalls. The outfall pipes were designed to convey DOT drainage but some now convey Town and non DOT drainage. In addition to the NCDOT outfalls, twelve (12) outfalls were identified along the western portion of the Town drainage either to the Roanoke Sound or to the marsh areas west of South Nags Head.

The existing outfall system is designed primarily to provide flood relief for roadways and private property. However providing flood relief by draining runoff towards the surrounding water bodies can degrade the water quality of the receiving waters as pollutants from impervious surfaces and drain fields are possibly included in the stormwater runoff. Preserving the water quality is critical to the Town of Nags Head as the Town strives to be good stewards of the environment. Water quality is an important component of providing a healthy environment for residents and tourists since recreational water use is so prevalent. To maintain or improve the

water quality of the surrounding waters stormwater runoff will need to be reduced and/or treated prior to discharge into the receiving waters.

The 2006 Stormwater Management Plan suggests nineteen (19) flood control projects which will concentrate stormwater within the conveyance system thereby increasing stormwater flows and potentially increasing pollutant loads in the conveyance system. Several of the flood control projects include recommended extended detention wetlands to help provide water quality treatment before discharging into the sound or ocean. There are also seven (7) projects suggested with the intent of improving Water Quality in existing stormwater pathways, primarily to reduce the impact of discharges to the Roanoke Sound.

Following are the areas experiencing drainage problems and are designated as proposed flood control projects in the 2006 Stormwater Management Plan: Gallery Row, Nags Head Pond, Nags Head Acres, Vista Colony, North Ridge, Soundside Road, South Ridge, Old Nags Head Cove, Village at Nags head, Whalebone Junction, South Old Oregon Inlet Road (MP 19), South Old Oregon Inlet Road (MP 18), Hargrove Street, Gull Street, Finch Street, Curlew Street/Linda Lane, and Croatan Highway Wetland. The Water Quality projects include the Racetrack Wet Pond, Glidden Street Wetland, Dune Street infiltration basin, Outer Banks Mall Sand Filters, Finch Street pocket wetland, Grouse Street wetland and Whalebone Junction pocket wetland. A map of the proposed sites can be found in the Town of Nags Head, North Carolina Stormwater Management Plan Volume I: Capital Improvement Plan located at the Department of Public Works. The North Carolina Department of Transportation has also started the M-0389 Pilot Program to develop new and innovative technologies and filtering systems to clean up discharges from NCDOT maintained outfalls and outlets. The Towns' Public Works Department uses the Division of Water Quality's new stormwater rules in the review of new commercial development projects.

Other Facilities

- Solid Waste Collection

The Town maintains its own collection system to pick up residential and commercial garbage within Town. After the Town trucks picks up the garbage, it is then deposited at a the transfer station at the Stumpy point landfill on the Dare County mainland. From there the Albemarle Regional Waste Authority transports the garbage and disposes of it in a landfill in Bertie County on the mainland. Several years ago the Town, in cooperation with the other Towns in the County, established contracts with Dare County for waste disposal. The County has contracted with the Albemarle Regional Waste Authority for the disposal of solid waste.

- Land Suitability Analysis

One of the DCM requirements (NCAC 15A 7B. 0702 (5)) for land use planning is to perform a land suitability analysis (LSA) using Geographic Information Systems (GIS) data disseminated by state agencies, the Town of Nags Head, Dare County, as well as other sources. The LSA is "a process for determining a planning area's supply of land that is suitable for development.

The analysis includes consideration of a number of factors, including natural system constraints, compatibility with existing land uses and development patterns, existing land use policies, and the availability of community facilities” (DCM, CGIA, 12/2005). The final product of this analysis is a land suitability map which can be used to help decision-makers understand community land use opportunities and constraints and which can also be used as a foundation for the future land use map. The analysis is intended to apply to undeveloped land that may experience future development or land that has the potential for redevelopment.

The LSA uses a GIS-based model to classify land based on its suitability for development. The computer model divides the planning jurisdiction into 1-acre grid cells. GIS layers are overlaid for the entire Town of Nags Head and a suitability rating is calculated for each cell by multiplying the value and weight of each layer contained in that cell. For instance, a cell might be located in several environmental hazard areas such as a flood zone or a storm surge inundation area however it could also be in close proximity to improved Town streets and water service. Negative values are assigned to the cell because of the two environmental hazards that are present, and positive values are assigned to the cell because the area has nearby community facilities available. The values are averaged to calculate the final suitability rating for that cell. The Town has the ability to weight certain layers based their level of importance to the community. For instance, if the Town has a strong desire to preserve beneficial non-coastal wetlands, a weight can be applied to the beneficial non-coastal wetlands layer to double or triple its value when calculating the final suitability rating. Communities can also add layers to the model to improve its accuracy or to consider other important factors not included in the original model.

Land suitability ratings from the model are classified on the LSA map as least suitable, low suitability, medium suitability, or high suitability. Least suitable areas are not suitable for development and can include coastal wetlands, protected areas, or estuarine waters. If least suitable layers are present in any cell, the cell is automatically classified as least suitable regardless of any other layer present in that cell. The September 2006 flood maps were used for this analysis.

Below is a table showing the layers included in the Nags Head model and the weights and values assigned to each layer. Staff and the LPG agreed upon several modifications to the original model after a number of model runs. Three additional layers were added to the model, the ‘ocean hazard area (v zone)’, the ‘fresh pond 500’ buffer’, and the ‘fresh pond buffer >500’, <1,200’. The ocean hazard area layer was added to reflect the results of the new flood maps and to provide a lower suitability rating for oceanfront development. In previous model runs, suitability for oceanfront and non-oceanfront development was essentially the same. The fresh pond layers were added to reflect regulations for the fresh pond AEC. A higher weight was assigned to ‘developed land’, and ‘water pipes’ was modified to have the same weight as ‘primary roads’. The ‘sewer pipes’ layer weight was changed from three to one since it was providing a higher suitability value to land that is in close proximity to the Kill Devils Hills sewer system. The LPG agreed that the proximity to the Kill Devil Hills system had no bearing on Nags Head development potential.

Table 30
Land Suitability Criteria and Ranking

Layer Name	Least Suitable	Low Suitability	Medium Suitability	High Suitability	Assigned Weight	Percent Weight	Multiplier
	0	-2	1	2			
Coastal Wetlands	Inside		Outside				
Exceptional and Substantial Non-coastal Wetlands	Inside		Outside				
Estuarine Waters	Inside		Outside				
Protected Lands	Inside		Outside				
Federal Lands	Inside		Outside				
State Lands	Inside		Outside				
Fresh Pond 500' Buffer	Inside		Outside				
Fresh Pond >500' , <1,200'		Inside		Outside	1	4.167	0.04167
Beneficial Non-coastal Wetlands		Inside		Outside	1	4.167	0.04167
High Quality Waters		Inside		Outside	1	4.167	0.04167
Storm Surge Areas		Inside		Outside	2	8.333	0.08333
Soils with septic limitations		Severe	Moderate	Slight	1	4.167	0.04167
Flood Zones		Inside		Outside	2	8.333	0.08333
Ocean Hazard Area (V Zone)		Inside		Outside	3	12.500	0.12500
Significant Natural Heritage Areas		< 500'		> 500'	2	8.333	0.08333
Hazardous Substance Disposal Sites		< 500'		> 500'	1	4.167	0.04167
NPDES Sites		< 500'		> 500'	1	4.167	0.04167
Wastewater Treatment Plants		< 500'		> 500'	1	4.167	0.04167
Municipal Sewer Discharge Points		< 500'		> 500'	1	4.167	0.04167
Developed Land		> 1 mi	.5 - 1 mi	< .5 mi	2	8.333	0.08333
Primary Roads		> 1 mi	.5 - 1 mi	< .5 mi	2	8.333	0.08333
Water Pipes		> .5 mi	.25 - .5 mi	< .25 mi	2	8.333	0.08333
Sewer Pipes		> .5 mi	.25 - .5 mi	< .25 mi	1	4.167	0.04167
Total					24	100.000	1.00000

Implications of the Land Suitability Analysis

DCM guidance provided with the LSA model describes an issue with the usability of the LSA model at the municipal level. DCM advises that the output of the model is best used “for evaluating sizable tracts of undeveloped land in larger municipalities or at the county level and problems will likely arise when the model is applied to long, thin barrier beach municipalities due to the scale and dynamic nature of the data used.” DCM has recommended that municipalities explore “whatever additional means or supplementary info to address the land suitability requirements.” As one can see on the LSA map, a large portion of the Town is considered least suitable for development. Much of this property is under State ownership (Jockey’s Ridge State Park) or in the Nags Head Woods maritime forest in areas owned by the Town and/or the Nature Conservancy that have been set aside for conservation. Several of the beach access areas are shown as least suitable because of certain grant funds that were used which place limitations on their future use. Areas of high suitability were generally outside of a flood hazard area or storm surge inundation area. Ocean hazard areas and estuarine AEC areas were assigned a low suitability ranking. Areas in flood zones (2006) or storm surge areas, which generally had no other limitations, were considered to have medium suitability.

Although much of Nags Head is already developed, the LSA will help guide future policies for infill development or redevelopment, specifically regarding regulations that control development density or intensity. If nothing else, the LSA map is an indication of the land development constraints and opportunities that exist and a recognition that a coastal barrier community such as Nags Head is certainly a fragile and sometimes hazardous environment, which must be managed carefully. The LSA map is located in the Appendix.

Review of Current CAMA Land Use Plan

The purpose of the review of the previous Land Use Plan is for the local governing body to review its successes in implementing the policies and programs adopted in the plan and to evaluate the effectiveness of the policies in achieving the goals of the plan.

Effectiveness of Policies from 2000 Land Use Plan

The 2000 Nags Head Land Use Plan did not suggest a dramatic change in land use or development patterns within Nags Head. The plan emphasized protecting and enhancing the quality of life for Nags Head residents and visitors. The same general direction is applicable to the LUP update; however there may even be a stronger sense of a need for preserving the character and charm of Nags Head. The Town of Nags Head wishes to remain what it is and has basically been throughout its history ... a relaxed family-oriented beach community. The policies in the 2000 Land Use Plan reflected this opinion. The use of existing local, state, and federal rules and regulations was seen as the means by which this overriding goal could be achieved. This is what that document presented in 2000 and it is what was approved.

Overall the Land Use Plan policies from 2000 have been successful in protecting the quality of life within Nags Head within the realistic budgetary and legal constraints the Town faces. It can therefore be said that the generalized policies from the previous Land Use Plan were effective and were successfully implemented by Town officials.

Conflicts between 2000 Land Use Plan Policy & Local Ordinances

There are no existing conflicts between 2000 Land Use Plan policies and current local land use ordinances.

2000 Land Use Plan Policies

The policies from the 2000 Land Use Plan (listed following) were reviewed with Town staff during Phase I. Discussion of each policy centered on the policy implementation status, implementation constraints, the application of the policy, and the policy effect on the Town.

1. The Town recognizes beach nourishment as our preferred alternative for addressing the impacts from barrier island migration and ocean erosion. However, the Town also supports a variety of methods to abate the impacts to ocean erosion, these include, but are not limited to acquisition of threatened structures, relocation of threatened structures and the establishment of innovative technology or designs which may be considered experimental, which can be evaluated by the CRC to determine consistency with 15A NCAC 7M .0200 and the other general and specific use standards with the CAMA rules. (Highest Priority)

Implementing actions

- A. The Town will sponsor studies designed to determine the financial contribution the beach makes to the Outer Banks and the region.

This is an ongoing activity regularly performed by the Outer Banks Visitors Bureau. The Town considered contracting to do a separate study but this did not receive majority support from the Board.

B. The Town will acquire oceanfront property when the opportunity arises.

The Town has acquired several washout properties such as Ehmann and Archibald. The Town assisted with the acquisition of Jeannette's Pier.

C. The Town will investigate mitigation programs and grants to assist the property owner in the relocation of threatened structures.

Town Staff is aware of these programs; however, these grants require a local match and the Town has not taken the position to support relocation with government financial assistance.

2. The Town supports beach nourishment projects for the Town beaches subject to commensurate funding appropriations from federal, state and local sources. The Town will support and encourage the establishment of a statewide beach management strategy and policy along with a dedicated funding program designed specifically for beach restoration and nourishment projects. (Highest Priority)

Implementing actions

A. The Town will actively lobby the State for a state policy and strategy on beach nourishment and beach renourishment.

There is an ongoing dialogue between Town Staff & elected officials, CAMA, and State representatives.

B. The Town will lobby the State to establish an annually state funded statewide nourishment program.

There is an ongoing dialogue between Town Staff & elected officials, CAMA, and State representatives.

C. The Town will seek funding from local and regional sources to assist with the local match for federally funded beach nourishment projects.

In 2005, Dare County voters repealed a sales tax increase for this purpose. The Town is pursuing a locally funded beach nourishment project which would involve an increase in ad valorem taxes. The Town has asked the County and the State to contribute to this locally funded project.

D. As an alternative to relying on private dredging contractors for beach nourishment and renourishment the Town will investigate or request the investigation of the feasibility of either a local or a state funded and operated dredge.

This has been evaluated but is not being pursued at this time.

3. The Town recognizes that the ocean beaches are our single greatest asset. Fundamental elements important to the Town include, clean beaches, ample recreational access opportunities, no commercialization, reasonable beach driving regulations and the prompt resolution of user conflicts as they arise. (Highest Priority)

Implementing actions

- A. The Town will not allow or permit any commercialization of the Town's ocean beaches.

Town regulations place limitations on this type of activity.

- B. When the opportunity arises, the Town will acquire oceanfront property for access and open space.

The Town has acquired several washout properties such as Ehmann and Archibald. The Town assisted with the acquisition of Jennette's Pier.

- C. The Town will make a financial commitment including additional personnel and equipment if needed to keep our ocean beaches clean of debris and litter.

The Town annually reviews the staffing needs of its public works and ocean safety crews. Additionally, the Town often requests inmate assistance to clean beaches.

- D. The Town shall seek financial assistance from the Outer Banks Visitors Bureau for funds to clean up the beach when the beach becomes impacted, for example: with debris from a storm; fish kills; whale stranding, and other events which impact the attractiveness of the beach.

The Town has not used funds from the Visitor's Bureau; however, the Town has used its own funds for these purposes.

4. The Commercial Outdoor Recreational Use Overlay Zoning district was established to accommodate the ever-growing commercial recreational development requests made to the Town. It shall be a policy of the Town to periodically review the adequacy of these regulations and make the necessary modifications when public health, safety and welfare issues arise. The Town shall not enlarge the Overlay district and shall consider reducing the District in size or amending the uses when conflicts develop.(Priority)

Implementing actions

- A. The Town shall consider reducing either the size of the Commercial Outdoor Recreational District, or the number of personal watercraft vendors when an existing rental operation ceases operation and is converted to another use.

The size of the Commercial Outdoor Recreational District has not been reduced; however the number of commercial outdoor businesses has declined.

- B. The Town shall not increase the number of rental PWC units allowed to be rented at each site and shall consider reducing the number of rental PWC units and vendors (currently two) on the south side of the Causeway when the opportunity arises.

Since this regulation was adopted, one of the businesses closed. The Town has not increased the number of PWC rental businesses.

5. Mitigation represents a proactive approach to reducing the vulnerability of risk to properties in the Town. The Town will investigate innovative programs and seek funds for mitigation measures such as relocation of threatened structures and more stringent building codes for high hazard areas that support the growth management policies of the Town. (High Priority)

Implementing actions

- A. The Town shall investigate the feasibility of becoming a FEMA "Project Impact" community.

This program no longer exists.

- B. The Town shall consider the applicability of requiring "V Zone" structural certification for structures in the 100-year (A) flood zone.

The Town has not considered use of V-Zone structural certification standards in the A flood zone. However, a majority of the land area east of NC 12 and NC 1243 has been classified by FEMA as a V zone on the 2006 flood maps.

- C. The Town will consider amendments to our Flood Ordinance which addresses freeboard and other flood mitigative measures recognized by FEMA and the CRS program to reduce flood losses.

The Town has adopted new flood mapping throughout the Town which has increased the number of flood policies and has extended more stringent regulations to a greater number of properties.

6. The Town shall consider higher flood regulatory standards for vehicle and equipment storage areas and structures or facilities that produce, use or store highly volatile, flammable, explosive, toxic and or water-reactive materials that may cause environmental problems if flooded or destroyed. (Highest Priority)

Implementing actions

- A. The Town shall develop a program to identify businesses and material storage areas where significant amounts of toxic or hazardous products are stored which would be subject to flooding.

The Town Public Safety Department is working to create a fire pre-plan database which would document the location of these materials.

- B. The Town shall develop regulations to require fuel tanks, including LP tanks to be adequately anchored to prevent flotation or submersion in the event of flooding.

The Town's Flood Ordinance requires new or substantially improved structures to be anchored to prevent flotation, collapse, or lateral movement of the structure.

7. The Town will work with and petition NCDOT for (1), the necessary road improvements in getting people to the Town, (2) finding ways to reduce the number of vehicles and reduce traffic congestion within the Town on US 158 and (3), increase efficiency on NC 12 and US 158. Such improvements including, but not limited to medians, a flyover at

Whalebone Junction, signal coordination, new signals or the removal of existing signals.
(High Priority)

Implementing actions

- A. The Town will annually review and forward to NCDOT through the TIP process transportation improvement projects, studies, and improvements desired by the Town.

The Town is represented on the Outer Banks Transportation Task Force through participation on several committees. The Town requested on April 11, 2007 through a resolution that NCDOT prepare a comprehensive transportation plan for Dare and surrounding counties.

- 8. Thoroughfare Plan. The Town conceptually accepts the Outer Banks Thoroughfare Plan dated March 1996 and Town supports improvements, such as adding grassed medians where appropriate on US 158 which are designed to enhance safety for citizens and visitors, however the Town does not favor improving those cross streets which have been identified by NCDOT in the connecting NC 12 and US 158 until a need has been demonstrated. (High Priority)

Implementing actions

- A. The Town will work with NCDOT to request changes to the Plan which reflect the current road and traffic conditions within the Town.

The Town is represented on the Outer Banks Transportation Task Force through participation on several committees. The Town requested on April 11, 2007 through a resolution that NCDOT prepare a comprehensive transportation plan for Dare and surrounding counties.

- B. The Town will work with NCDOT to adequately represent "paper streets" and will resist the withdrawal of existing unimproved streets unless it can be shown that such a withdrawal is in the public good.

The Town has withdrawn paper streets including Turnstone Avenue and Fresh Pond Avenue.

- 9. Town Streets. The Town will evaluate all future development for its impact on traffic congestion and manage this development so as to minimize its impact on traffic. More specifically, the Town encourages development to exit on side streets rather than South

Implementing actions

- A. The Town will develop regulations limiting access to US 158; NC 12, NC 1243 and US 64-264 when access can be obtained either through a side street or common drive aisle.

Subdivision regulations control the number of access points for new subdivisions. The Village of Nags Head Access Plan was implemented which addresses many of these goals within the Village at Nags Head. Existing lots adjacent to major thoroughfares are allowed access.

- B. The Town will consider developing regulations which addresses multiple curb cuts onto Town streets.

The Town has an element in the subdivision regulations that requires shared driveways or local access streets for new developments. Also, requirements exist that limit commercial curb cuts based on lot road frontage.

10. During the subdivision process the Town shall require wider rights-of-ways and greater construction standard to proposed Town streets when it can be demonstrated that the proposed street may be required to accept local traffic from other nearby streets which may be damaged or threatened or closed by natural events. (Low Priority)

Implementing actions

- A. The Town will develop regulations requiring a greater street standard (dimensional and construction) where it can be reasonable demonstrated that nearby streets may be destroyed by a storm or other natural event and the proposed street will be required to accept greater amounts of traffic due to the loss of near by streets.

This policy has not been implemented.

11. Sidewalks. The Town places a high value on and encourages the use of alternative means of transportation including sidewalks. The Town will lobby and work with NCDOT for construction of a detached multi use path along the east side NC 12. The Town will cooperate with NCDOT and other municipalities in developing a coordinate pedestrian multi-use path on the Outer Banks. (Highest Priority)

Implementing actions

- A. The Town will review and update the Nags Head Pedestrian Transportation System Plan adopted on November 6, 1996.

This policy has not been implemented.

- B. The Town will submit funding requests through the CIP and budget process for the implementation of the five and ten year plans and shall coordinate these plans with NCDOT when appropriate

Ongoing. The Town continues to coordinate with NCDOT to implement CIP projects that improve transportation alternatives within the Town.

- C. The Town shall consider incentives for commercial development which provide pedestrian and bicycle amenities (e.g., sidewalks, bike racks) to improve circulation within and to their site.

This policy has not been implemented.

12. The Town will continue to install sidewalks within Town right-of-ways to facilitate pedestrian traffic and movement to recreational sites and amenities and other areas which generate pedestrian traffic when the need is demonstrated. The Town will install these sidewalk improvements to correspond with existing and proposed NCDOT's signalization plan. (High Priority)

Implementing actions

- A. The Town will identify recreational sites where sidewalks would facilitate pedestrian traffic to these recreational facilities and will submit funding requests through the budget and CIP process.

Sidewalks exist to the Town Park and to some ocean access sites. A multi-use path has also been constructed along the east side of NC 12. Actual construction and future planning is underway for a multi-use path adjacent to the southbound lanes of US 158.

13. The Town shall consider requiring the installation sidewalks and other pedestrian facilities as part of the required infrastructure and improvements for new subdivisions. (Low Priority)

Implementing actions

- A. The Town will consider amendments to the subdivision ordinance requiring the installations of sidewalks in areas identified in the "Nags Head Pedestrian Transportation System Plan".

This policy has not been implemented. No changes (relative to sidewalks) have been included in the subdivision ordinance.

14. The preferred form of sewage treatment and disposal shall be the on-site septic systems. The Town realizes that proper maintenance of septic systems and strict enforcement of local and state rules are essential for their safe operation and through the Septic Health Initiative Committee. The Town shall develop a Management Plan as well as preventative and educational programs for distribution to residents and visitors designed to identify and correct failing septic systems. (Highest Priority)

Implementing actions

- A. The Town shall develop a management plan and educational program to implement the above actions.

This policy has been implemented. The Town has a Septic Health Program which includes an education and maintenance campaign directly targeted at improving septic system health. An on-site wastewater management plan has also been completed and adopted.

15. Proper placement and maintenance of septic systems located in close proximity to drainage ditches or located near the ocean or sound are essential for maintaining high water quality standards. When septic systems fail, effluent can enter these waters and lead to health concerns and closures. The Town does not consider a water classification of SB (Tidal salt waters protected for all SC uses in addition to primary recreation. Primary recreational activities include swimming, skin diving, water skiing, and similar uses involving human body contact with water where such activities take place in an organized manner or on a frequent basis.) or SC (All tidal salt waters protected for secondary recreation such as fishing, boating, and other activities involving minimal skin contact; fish and noncommercial shellfish consumption; aquatic life propagation and survival; and wildlife.) acceptable and will support research to determine the sources of pollution and consider or lobby for additional regulations or enforcement of existing regulations to prevent further degradation and shall seek measures to enhance water quality where needed. (High Priority)

Implementing actions

- A. The Town shall apply for grant funds for projects that are designed to improve or prevent further degradation of water quality of our ocean and sound system.

The Town has applied for Clean Water Management Trust Fund grants but has later withdrawn those applications.

- B. The Town will fund or assist in funding a water quality-testing program.

The Town has a Water Quality Monitoring Program. The program currently has 31 different sites being sampled on a weekly basis. The results are being compiled into a database for the analysis of trends. The results were used to develop a Decentralized Wastewater Master Plan.

- C. The Town shall seek funding and shall support water quality testing of the ocean and sound waters to determine the extent, if any of non-point sources of pollution

The Town has a Water Quality Monitoring Program as described above. NCDENR is also conducting a study of ocean outfalls to determine the sources of pollution and possible measures to reduce to impacts of stormwater runoff.

- D. The Town shall seek strict enforcement of existing laws and regulations and shall consider new regulations, if needed, to protect estuarine and ocean water quality.

This policy has been implemented, however through a review with the NC State Attorney General, it was determined that stricter enforcement of existing laws currently administered by the Health Department is not feasible.

- 16. The Town shall continually assess and evaluate the Stormwater Management Plan and update the plan when necessary and shall actively work to minimize the rate and amount of stormwater runoff into ocean and sound waters and the impact that stormwater has on those waters. (Low Priority)

Implementing actions

- A. The Town shall review the adequacy and amend as need the Stormwater Management Plan.

The Town adopted a new Stormwater Management Plan in 2006.

- 17. The Town recognizes that maintenance is essential for the proper functioning of the ocean and sound outfalls shall actively lobby NCDOT for continued maintenance. The Town will work to eliminate existing ocean and estuarine outfalls when economically viable alternatives exist for land disposal. (Priority)

Implementing actions

- A. The Town will investigate the feasibility of land disposal and storm water retention in lieu of outfalls and shall seek funds and grants or lobby NCDOT where the feasibility exists for land application of stormwater.

NCDENR is working on a specific project to identify sources of pollution to ocean outfalls maintained by the State. This project will include recommendations to reduce the impact of this stormwater. Recommendations may include land disposal of stormwater before it reaches the ocean outfall. The Town has made continued requests

to NCDOT for maintenance of the outfalls. NC Dot has set aside 15-16 million dollars for outfalls along the North Carolina coast.

18. The Town recognizes that when ocean beaches and estuarine areas and waters are closed for health reasons, proper public notification of the closures is essential for public safety. The Town will work with the respective regulatory agencies to develop a protocol and to ensure that public notification is released in a timely manner after careful monitoring has indicated that the agreed upon standards have been exceeded. (Priority)

Implementing actions

- A. The Town will initiate meetings with the County to develop and establish water quality and monitoring standards and to develop a protocol for public notification when beaches and waters are closed for health reasons.

The Town has worked with Shellfish and Sanitation to establish guidelines for public notification.

19. The Town shall continually assess the Town's water processing capacity, storage capacity and distribution system along with monitoring adequate pressure and fire supply and shall make the necessary system improvements when needed. The Town recognizes the importance of a dual or looped water supply system for pressure, service and fire supply and will continue to loop the system when opportunities and funding permits. (Low Priority)

Implementing actions

- A. The Town shall develop a five-year and 20 year improvement plan and request funding through either the budget or CIP process to implement that plan.

The Town periodically updates its Water System Master Plan. The last two updates occurred in 2000 and 2004. The most recent update focused on the recent development in the northern end of Town, a phenomenon which had already led to the plans for the recently completed elevated storage tank at MP 10. The Town recently convened a study committee to look at deficiencies in the distribution system and identify waterline projects that would improve domestic water flow and quality, and increase fire flows as well. The Board of Commissioners is in the second year of implementing this water distribution system upgrade Capital Improvement Plan.

20. The Town realizes that vacation rentals and seasonal rentals, and particularly, the rental of large oceanfront homes, while promoting the single-family tourist rental economy, can significantly impact Town municipal resources and infrastructure. The Town shall comprehensively review impacts that these large structures have on the resources, municipal services, and neighboring properties and amend zoning and Town regulation accordingly. (High Priority)

Implementing actions

- A. The Town will consider expanding the scope of the vacation rental impact committee to address impacts caused by the rental of high occupancy vacation and seasonal homes.

The committee assisted with the development of regulations for large structures. These regulations address parking, architecture, lot size, max. bedrooms and square footage, and vegetation preservation for large homes.

- B. The Town will not amend the zoning ordinance or any development regulation which would result in either increased density (units/acre) or increased intensity of these homes.

Ongoing. The Town has actually decreased the allowable density since the 2000 plan was adopted by developing size restrictions for single-family homes.

- 21. The Town will maintain its relative self-sufficiency by providing adequate services and amenities for residents and visitors and shall provide municipal services in a flexible, cost effective, customer friendly manner. The Town will continue to review and modify fees as needed, including the addition of new facilities fees to pay for new and continued development of Town infrastructure while requiring private development to fund the installation of infrastructure needed by the proposed development. (Priority)

Implementing actions

- A. The Town will review and update as needed land development fees in the adopted fee schedule and level of service provided by those fees.

Ongoing. The Town regularly reviews fee schedules (annually) as part of the CIP process.

- 22. As the existing housing stock ages, the Town shall consider incentives and regulations to help ensure that the replacement housing stock is in keeping with the "Nags Head image". (Low Priority)

Implementing actions

- A. The Town will develop an incentive program designed to help ensure that replacement housing will be in keeping with the "Nags Head image" or vernacular.

This policy is being implemented. The Town has created architectural requirements for large homes and commercial businesses. This encourages all new development to follow a vernacular style evoking the Nags Head image. The requirements are based on a residential design manual. Since this program has been initiated, Staff has noted an increase in homes that pattern this style - even those that are not regulated. Town Staff are currently evaluating the effectiveness of the commercial portion of this program.

- 23. Open space and green space are important elements in the Nags Head image. The Town will inventory open space, actively pursue grants and funding opportunities and develop and implement a plan to acquire and preserve open space throughout the Town. (Highest Priority)

Implementing actions

- A. The Town will identify important areas to be acquired as open space and shall request funds for acquisition of these areas through the budget, CIP, and grant process.

Since the last plan update the Town has acquired the Catfish Farm. The Town has a parks and recreation facility fee to assist with open space acquisition. Staff has identified other open space areas for acquisition.

- B. The Town will consider an incentive program rewarding those developers which set aside additional open space in perpetuity.

This policy has not been implemented, and no incentive programs have been developed. However, only new land subdivision requests would accommodate such open space designations, and few have been processed since 2000.

- 24. The historic district represents an irreplaceable part of the Nags Head image and past. The Town shall carefully consider any proposed land use change-not only within the district, but near by that would diminish the uniqueness of the homes in the district. The Town will promote the creation of a historic district to preserve the historic beach front cottages but will not establish such a district until a majority of the affected property owners support it. (Low Priority)

Implementing actions

- A. When requested and supported by a majority of the affected residents, the Town will establish an historic district.

Since 2000 no such district has been created because a majority of owners have not supported the creation of a historic district. The Town is contemplating ways to assist with the protection of the district.

- B. The Town will continue to amend the zoning ordinance by adopting provisions designed to protect the uniqueness of homes on the National Register of Historic Places.

The Town recently adopted an ordinance which provides more flexibility to maintain non-conforming "maids quarters" that are on the national register of historic places.

- 25. The Town shall continue to address community appearance concerns through the existing boards (Planning Board, Citizens Advisory Committee and Board of Commissioners). The Town shall work toward developing incentives designed to enhance, promote and protect the Town's architectural image and heritage and will consider the creation of an Appearance Commission and or a Corridor Commission to promote the general appearance of the Town. (High Priority)

Implementing actions

- A. The Town will investigate the feasibility for an architectural incentive program.

The Town has created a voluntary architectural awards program. Each year, awards are given to the most attractive new commercial and residential structures in the Town.

- 26. The Town views the preservation of dunes, vegetation and topography as an important component in the Nags Head image and shall strictly enforce the existing applicable rules and regulations and seek additional measures as needed to preserve these elements as much as possible. (High Priority)

Implementing actions

- A. The Town will consider applying similar rules and regulations that are applicable for residential districts in the commercial districts for the preservation of dunes, topography, and vegetation.

Regulations have been developed to preserve existing vegetation or require new vegetation on commercial sites and large residential dwelling sites. The Town has also participated in NCDOT beautification grant projects to plant roadside vegetation.

- 27. The Town recognizes that damaged homes and structures on the oceanfront represent a nuisance; eyesore and visual blight and the Town shall take appropriate measures to abate this nuisance and will seek changes in NFIP regulations to establish realistic regulations for declaration of destroyed structures. (Highest Priority)

Implementing actions

- A. The Town will take a more proactive approach to condemning these structures and taking prompt action including the issuance of civil citations to abate the nuisance.

The Town has proactively adjusted "damage assessment" procedures, resulting in shorter time to take action to condemn storm-damaged homes.

- B. The Town will petition FEMA through our state and regional NFIP representatives to consider adopting realistic regulations regarding the determination of destroyed structures.

Staff has made several inquiries with FEMA regarding the removal of damages structures in a timely manner. Staff is not aware of any changes that would further this objective.

- 28. The continued success of the Town as a tourist and vacation destination depends in part on the continued use and expansion of recreational uses and activities on the ocean shoreline and in the sound. The Town shall provide an adequate mix of recreational access sites for residents and visitors in order that they can enjoy the ocean and estuarine shoreline and water recreational opportunities. (High Priority)

Implementing actions

- A. The Town will continue to apply for grants for ocean and sound access sites.

Ongoing. The Town applies for new grants annually.

- B. The Town shall consider establishing larger, less traditional estuarine access sites that can function as access sites but also shore recreation areas and parks.

Ongoing. The Town has recently completed improvements to the Harvey Estuarine Access Site for non-motorized recreational activities, including windsurfing. In 2005, The Town and Dare County completed a recreational facility on Satterfield Landing road comprised of two (2) soccer fields and restrooms.

- 29. The Town shall actively plan and seek funds for the development of traditional recreation uses as the needs are identified and shall consider acquiring and developing small neighborhood recreation areas as funds become available. (High Priority)

Implementing actions

A. The Town shall through the recreation committee identify funding opportunities for expansion of recreation facilities including parks, play areas and large recreation areas.

This policy has not been implemented. The recreation committee is not currently active.

B. The Town shall address recreational needs through the budget and CIP process.

Ongoing. The Town identifies and addresses recreation facility needs through the annual budget and CIP process.

30. The Town shall pursue the designation of Nags Head Woods as an Area of Environmental Concern (AEC). (Low Priority)

Implementing actions

A. The Town will investigate the need for designation of the Woods as an AEC, and shall petition the Division of Coastal Management for AEC designation if desired.

This has not been implemented.

31. It is the policy of the Town to continually assess the police, fire and rescue needs of the Town and to make personnel and resource expenditures commensurate with the needs created by development and the changing nature of the social environment. (Priority)

Implementing actions

A. Public safety funding requests shall be handled through the budget and CIP process.

Ongoing. The CIP process is the primary means for funding major improvements related to public safety. Recent examples include the new fire station, police equipment such as the mobile command center, and the Town Hall generator.

B. The Town shall identify grant opportunities, as they become available.

Ongoing. The Town actively pursues public safety grant opportunities. COPS more grant (server purchase), NC Governor's Crime Commission Grant for Overtime & Equipment Grants, Video Magistrate System, Laptops & Software, NC Governor's Highway Safety Program for Equipment (radar, laser), NC League of Municipalities, Firewise Residential Fuel Removal, Plymouvent Smoke Removal System.

32. The Town shall consider the impact on public safety during the review of site plans and during consideration for proposed changes to the zoning ordinance and shall encourage the use of sprinkler systems, stand pipes and the provision for fire lanes as important fire prevention measures. (Priority)

Implementing actions

A. The Department of Public Safety shall recommend changes to the Town code as conditions warrant.

Ongoing. Recent amendments have included: requiring sprinklers in all new multi-family development, vision clearance at intersections and driveways, fire hydrant protection, and temporary fences around pool construction sites.

33. The Town shall provide the most effective and economical methods for the collection, disposal, and recycling of solid waste. (Priority)

Implementing actions

A. The Town shall periodically review existing practices to determine the most effective and economical methods for collecting and processing of solid waste.

Ongoing. The Town conducts an annual review of existing solid waste disposal and recycling practices.

34. The Town will assess the effectiveness of its communication efforts with residents and non-resident property owners. (Highest Priority)

Implementing actions

A. The Town will publish four newsletters a year.

Ongoing. The Town continues to publish four newsletters per year and distributes them to all residents of Nags Head.

B. The Town will continue to update the Town's web page and add additional components as needed.

Ongoing. The Town's website is continually updated. In 2000, the Town hired a Public Information Officer responsible for ensuring direct and timely communication with residents. Other activities include a regular email broadcast, webcast of BOC meetings, and increasing usage of government access TV broadcasts.

Plan for the Future

- Community Concerns and Aspirations

Vision Statement

The Town of Nags Head is working to build a community populated by diverse groups whose common bond is a love of the Outer Banks. We recognize that the Town must be a good place to live before it can be a good place to visit. We recognize that those who have lived on this land before us have forged our path and that we must learn from them and respect their memory. We recognize that our natural environment is an integral part of our community and must be considered in all decisions. We recognize that in order to secure this future we must work together, treating all with respect and fairness and focusing on our common goals. The Town's goals were derived from issues and concerns from the beginning of this plan.

The Town of Nags Head is working to build a community with an economy based on family vacation tourism. The base of that economy is a high quality beach experience. Important elements in developing and maintaining this economy are:

- * A relaxed-paced beach community comprised primarily of low-density development and open spaces
- * A diverse supply of accommodations, including single-family homes, hotels, and multi-family dwelling units, that attract and are accessible to visitors from a wide range of economic and social strata
- * A natural environment typified by clean water and a landscape of sand dunes and non-invasive, salt tolerant vegetation
- * A healthy, well-maintained oceanfront beach that is accessible and usable; not blocked by large structures

A carefully managed sound front that preserves the natural and beneficial functions of the estuarine environment while balancing respect for private property rights and the need to provide public access.

- * A built environment that reflects the heritage of "Old Nags Head"
- * A well-organized pattern of land uses that, when combined with a transportation system that accommodates a variety of travel modes, promotes an active and accessible community
- * Commercial services provided by locally owned and operated businesses that share in the building of our community
- * Recreational amenities and attractions, both commercial and non-commercial that are wholesome and appeal to a broad spectrum of family members, age groups and interests.

Table 31
Nags Head and CAMA Management Topics

Town of Nags Head goals/ CAMA Management Topics	Public access	Land Use Compatibility	Natural Hazard Areas	Infrastructure carrying capacity	Water Quality	Local areas of concern
Loss of small, locally-owned businesses / proliferation of chain businesses						X
Large vacation rental homes dominating new development				X		
Need to protect "Nags Head" coastal architecture		X				X
Increasing redevelopment pressures		X				
Loss of commercial business along Beach Road						X
Limited options for "workforce housing"		X				
Losing middle income perm. pop		X				
How to accommodate visitors: hotels, rental homes, cottage courts		X				
Stormwater management Improvements					X	
Need to protect water quality					X	
Beach nourishment and protection			X			
Effects of threatened structures along Beach			X			X
Need to acquire and preserve open spaces	X					
US 158 (Bypass) congestion and delays in summer months				X		
Need for non-automobile transportation options	X					
Need to coordinate land use and transportation				X		
Recreation for Town residents of all ages	X					
Providing public safety for residents and visitors						X
Need to enhance public accesses	X					
Improve amenities at public accesses	X					

- Needs and Opportunities

Nags Head has continued to experience significant growth and development activity since the adoption of the 2000 Land Use Plan. This growth can create many positive and negative impacts for the community and can also exacerbate on-going issues the community is already dealing with. The increasing number and concentration of large single-family vacation rental homes is one example of an emerging trend that has created both positive and negative impacts for the community. While these homes provide tourist accommodations and support local real estate, construction and other employment sectors, they can create parking, aesthetic, solid waste, wastewater, traffic congestion and density issues. Additionally, on-going problems related to shoreline erosion can be worsened as new growth along the oceanfront increases the potential for property damage resulting from erosion and extreme weather events. While the community feels compelled to preserve the beach and reduce erosion, the increasing number of developed properties along the ocean shoreline can create additional pressure in the community to find a solution to erosion problems. This plan will address these issues.

Policies

The Town considers the following CAMA guidelines regarding resource protection and management issues not applicable and relevant to Nags Head at this time and they will not be discussed in the plan:

1. Productive agricultural lands.
2. Existing and potential mineral productive areas, such as land-based commercial mining of sand.
3. Peat or phosphate mining and industrial impacts on any resource.
4. Pocosins.
5. Restrictions (above and beyond CAMA, Corps and FEMA regulations) of development within areas up to five feet above mean high water that might be susceptible to sea level rise and wetland loss.

As required by CAMA, following are policies which may already exceed, or will if implemented, State and Federal requirements:

1. Land Use Capability #4 c
2. Natural Hazard Areas #2
3. Local Areas of Concern #1 b

The essential purpose of this plan is to permit Town officials to make the most deliberate and informed decisions as possible about future growth. The plan attempts to comprehensively analyze the likely impacts of growth, identify Town goals with respect to these impacts, and present policies and actions to manage this growth consistent with these goals. This plan will be used and referenced in future land or water use decision-making, and in particular by several key sets of

local actors: the Board of Commissioners, Planning Board, Board of Adjustment, and the Town's Department of Planning and Development. In addition, the Board of Commissioners has appointed a Citizens' Advisory Committee to collect public opinion on planning, as well as other issues, and to act as liaison between the Board of Commissioners and citizens in the community.

While the plan represents the codification of Town policies at one point in time, the Town's Land Use Plan is dynamic and evolutionary. Numerous land and water use decisions are made each month. Hopefully, this plan provides the basis for understanding the implications of future land and water use decisions (including failing to take action), and will serve as an overall framework for guiding future decisions by the Town.

The Town of Nags Head is somewhat unusual in that the policies in the Land Use Plan serve as a five-year work plan. The adopted policies are prioritized, and time tables and goals are established for their implementation. While CAMA regulations require that the Town address development and land and water use issues, those same regulations do not require that Towns or counties follow through and implement the adopted policies.

In considering policy development, the Town carefully addresses each policy area. Not only are the positive aspects of a policy considered, but negative concerns are also recognized. Not all policies are implemented. Sometimes after thoughtful discussion with various boards and citizens, or after considerable research by staff, it is found that the implementation of a particular policy may not be practical for any number of reasons. The Town places great emphasis on the planning process, that is, a willingness to commit time, energy, and money to gather information, identify the problems, develop goals and objectives, identify and discuss alternative solutions, select a plan of action, and implement the plan. In Nags Head the process does not stop with implementation of a policy or goal. There is continuous monitoring and adjusting to fine-tune any plan or ordinance.

Significant ordinances, plans, and policies adopted since the 2000 Land Use Plan are: (1) Size limitations and regulations on large residential dwellings; (2) Residential and commercial architectural regulations; (3) Vegetation preservation requirements; (4) Revised hotel development standards and a new hotel overlay district; (5) Hazard Mitigation Plan in accordance with DMA2K; (6) Revised FEMA Flood Insurance Rate Maps and Flood Damage Prevention Ordinance; and (7) Nags Head Septic Health Program.

Several policies, which are rated less than High Priority, represent issues and concerns which: (1) may not demand considerable Staff time and resources; (2) are beyond the direct control of the Town; or (3) are on-going projects to which the Town is committed.

Following each implementation action for a policy (in parenthesis) is the priority for that implementation. These policies will be used to prepare Implementation Status Reports. The timing for completion of policies is based upon the priority assigned and are as follows: Highest Priority (2 years); High Priority (3 years), Priority (4 years), and Low Priority (5 years). Some goals and policies have been carried over from the 2000 Land & Water Use Plan as the Town feels they are still pertinent. The Town will hold Public Hearings when adopting new local ordinances in accordance with State Statutes. The Land Use Plan will be available on the Planning Department web page and citizens will be provided contact information for the Town Planner if they wish to comment on the plan.

The following are definitions used to indicate the Town's commitment to the policies outlined below:

Implement: following actions stated which will accomplish the plan recommendation

Consider: reflect on, take into account

Continue: a process going on without ending

Encourage: to give help

Identify: distinguish, determine

Maintain: keep in the existing or good condition

May: to be allowed or permitted to

Recognize: knows

Shall: required to do

Support: stands behind, sustains

Will: to indicate likelihood or certainty

Wish: desire

Work: to shape or forge

Land Use Plan Management Topics

Public Access

The Town of Nags Head wishes to maintain a viable beach and to provide substantial opportunity for public access to the beach. The Town considers both the wet sand beach and the dry sand beach east of the first line of vegetation to represent public land available for public and private access and the Town will actively oppose any action to restrict public access to and across the beach.

1. The Town recognizes that the ocean beaches are our single greatest asset. Fundamental elements important to the Town include, clean beaches, ample recreational access opportunities, no commercialization, reasonable beach driving regulations and the prompt resolution of user conflicts as they arise.

Planning Objective:

- A. The Town will not allow or permit any commercialization of the Town's ocean beaches (Highest Priority)
 - B. When the opportunity arises, the Town will acquire oceanfront property for access and open space. (Highest Priority)
 - C. The Town will make a financial commitment including additional personnel and equipment if needed to keep our ocean beaches clean of debris and litter. (Highest Priority)
 - D. The Town shall continue to require non-oceanfront hotels and motels to provide private oceanfront beach access facilities for their guests. (Highest Priority)
2. Multi use paths. The Town places a high value on and encourages the use of alternative means of transportation including multi use paths along NC 12 (Virginia Dare Trail), NC 1243 (South Old Oregon Inlet Road) and US 158 (Croatan Highway). The Town is currently working with NCDOT on the construction of a detached multi use path along the west side of Croatan Highway. The Town goal is for the multi use path to extend from 8th Street to Hollowell Street (Jockey's Ridge). The Town will cooperate with NCDOT and other municipalities in coordinating and developing additional pedestrian multi-use paths on the Outer Banks. (High Priority)

Planning Objective:

- A. The Town will review and update the Nags Head Pedestrian Transportation System Plan adopted on November 6, 1996. (High Priority)
 - B. The Town will submit funding requests through the CIP and budget process for the implementation of the five and ten year plans and shall coordinate these plans with NCDOT when appropriate. (High Priority)
3. The Town will continue to install sidewalks (primarily East-West) within Town right-of-ways to connect with the multi use paths on US 158 and NC 12 to facilitate pedestrian traffic and movement to recreational sites and other areas which generate pedestrian traffic when the need is demonstrated. The Town will install these sidewalk improvements to correspond with existing and proposed NCDOT's signalization plan.

Planning Objective:

- A. The Town will identify recreational sites where sidewalks would facilitate pedestrian traffic to these recreational facilities and will submit funding requests through the budget and CIP process. (High Priority)

4. The Town shall consider requiring the installation sidewalks and other pedestrian facilities as part of the required infrastructure and improvements for new subdivisions and site plans.

Planning Objective:

- A. The Town will consider amendments to the subdivision ordinance requiring the installation of sidewalks and/or multi use paths in areas identified in the "Nags Head Pedestrian Transportation System Plan". (Priority)

5. The Town shall consider incentives for commercial development which provide pedestrian and bicycle amenities (e.g., sidewalks, bike racks) to improve circulation within and to their site.

Planning Objective:

- A. The Town will investigate incentives such as excluding sidewalks from lot coverage calculations and reducing the required number of vehicular parking spaces when areas are provided for parking and storage for bicycles. (High Priority)

6. The continued success of the Town as a tourist and vacation destination depends in part on the continued use of recreational uses and activities on the ocean shoreline and in the sound. The Town shall provide an adequate mix of recreational access sites for residents and visitors in order that they can enjoy the ocean and estuarine shoreline and water recreational opportunities.

Planning Objective:

- A. The Town will continue to apply for grants for ocean and sound access sites. (High Priority)

- B. The Town shall consider establishing larger, less traditional estuarine access sites that can function as access sites but also shore recreation areas and parks. (High Priority)

7. The Town shall actively plan and seek funds for the development of traditional recreation uses, to meet the needs of Town residents of all ages, as the needs are identified and shall consider acquiring and developing small neighborhood recreation areas as funds become available.

Planning Objective:

- A. The Town shall through the recreation committee identify funding opportunities for expansion of recreation facilities including parks, play areas and large recreation areas. (High Priority)

- B. The Town shall address recreational needs through the budget and CIP process. (High Priority)

8. To the extent practical and allows the Town will fully comply with the handicapped code to install ADA compliant beach accesses.
9. If and when the Town's beach nourishment commences the following steps will be taken to provide access to beach areas targeted for nourishment.

Planning Objective:

- A. The Town will require access as required by the funding agencies. (High Priority)

10. It is the position of the Town that both the wet sand beach and the dry sand beach east of the first line of vegetation represents public land available for public access and the Town will actively oppose any action to restrict public access to and across the ocean beach.

Planning Objective:

- A. The Town will continue to apply for grants for ocean and sound access sites. (High Priority)
- B. The Town will not allow or permit any commercialization of the Town's ocean beaches (Highest Priority)
- C. The Town may acquire oceanfront property when the opportunity arises. (High priority)

Land Use Compatibility

The Town of Nags Head wishes to continue to grow primarily as a low density, single-family residential community, while also accommodating a mix of other housing types. The Town requires the construction and maintenance of high quality housing, and to minimize conflicts between residential uses and other uses both within and between zoning districts, protecting the residential nature of the Town.

The Town wishes to retain our natural environment, typified by open space, salt tolerant vegetation, sand dunes, and maritime forests, as well as our rich architectural heritage and to encourage the recreational use of our shorelines in ways compatible with adjoining land uses. The Town also wishes to provide a variety of opportunities for non-water based passive and active recreation.

1. The Town views the preservation of dunes, vegetation and topography as an important component in the Nags Head image and shall strictly enforce the existing applicable rules and regulations and seek additional measures as needed to preserve these elements as much as possible.

Planning Objective:

- A. The Town will consider applying rules and regulations in the commercial districts for the preservation of dunes, topography, and vegetation. (High Priority)

2. The Commercial Outdoor Recreational Use Overlay Zoning district was established to accommodate the ever-growing commercial recreational development requests made to the Town. It shall be a policy of the Town to periodically review the adequacy of these regulations and make the necessary modifications when public health, safety and welfare issues arise.

Planning Objective:

- A. The Town shall not increase the number of rental PWC units allowed to be rented at each site. (Priority)
- B. The Town will not permit or allow the land based commercial rental of personal watercraft for use in the Atlantic Ocean. (Priority)

3. As the existing housing stock ages, the Town shall consider incentives and regulations to help ensure that the replacement housing stock is in keeping with the "Nags Head image".

Planning Objective:

- A. The Town will develop an incentive program designed to help ensure that replacement housing will be in keeping with the "Nags Head image" or vernacular. The Town will continue to enforce and amend, as needed, Section 48-370 of the Zoning Ordinance. (Low Priority)
- B. The Town will continue to enforce section 48-370 of the Zoning Ordinance, Residential Design Standards, which sets forth "regulations designed to protect and promote the unique and historical elements of residential architecture." (Low Priority)
- C. The Town may not increase and may consider reducing the amount of land zoned commercial. (Low Priority)
- D. The Town's current development requirements allow for hotels and motels to be built on the oceanfront. The Town shall not approve any amendment which would allow for a greater density of units, greater height of buildings or allowing these structures in oceanfront districts where they are not allowed now. (R-1, R-2 and SPD-C). The development requirements for hotels and motels can be found under the hotel, motel and cottage court section of the Future Land Use map section of this plan. (Low Priority)

4. Open space and green space are important elements in the Nags Head image. The Town will inventory open space, actively pursue grants and funding opportunities and develop and implement a plan to acquire and preserve open space throughout the Town.

Planning Objective:

- A. The Town will identify important areas to be acquired as open space and shall request funds for acquisition of these areas through the budget, CIP, and grant process. (Highest Priority)
- B. The Town does not wish to become a regional industrial services area and will not increase the size of the Commercial designation area of the Future Land Use Map or create additional industrial parks or subdivisions. (Highest Priority)

C. The Town will not permit fossil and nuclear energy production facilities to be located in Nags Head. (Highest Priority)

5. The Town of Nags Head recognizes that the shortage of affordable "workforce housing" represents a problem in drawing qualified applicants for Town positions.

Planning Objective:

A. The Town will continue to work with public and private community organizations and partnerships to develop solutions to the shortage of affordable "workforce" housing. (High priority)

6. Alternative energy production. The Town is cognizant that many forms of energy production result in the release of carbon dioxide and potentially contribute to global warming. Some forms of alternative energy production do not result in the release of greenhouse gases most notably the use of wind turbines and electric generation by solar energy. While these forms of energy production do not contribute greenhouse gases, they can have a negative visual impact on the aesthetics of the Town.

Planning Objective:

A. The Town will consider, on an experimental basis, the use of wind turbines by government entities only after the Town carefully reviews the advantages and disadvantages of alternative energy production and their effect on the visual environment. (High priority)

7. The Town considers the following types of development as not desirable in Nags Head and they will not be permitted:

Dry-stack boat storage, floating homes, large (more than ten boats) commercial boat marinas, finger canals, upland excavation for boat marinas, forestry practices in Nags Head Woods (SED-80), mooring buoys to accommodate transient visitors.

Infrastructure Carrying Capacity

The Town of Nags Head wishes to provide an economic and environmentally sensitive means of sewage treatment and disposal which maintains or improves the quality of the Town's surface waters and groundwater, and maintain low density development. To ensure this, in 2001 the Town commenced the Septic Health Initiative which encourages, through education and incentives, homeowners to have their septic systems inspected and pumped on a regular basis. It is also our goal to provide sufficient levels of potable water to accommodate water demand at build-out through economical and efficient means and in an environmentally sensitive manner.

1. The Town shall provide effective and economical methods for the collection, disposal, and recycling of solid waste.

Planning Objective:

A. The Town shall periodically review existing practices to determine the most effective and economical methods for collecting and processing of solid waste. (Priority)

B. The Town will consider, on a case by case basis, the merits of non-government owned package treatment plants. The Town will not provide public sewage treatment. (Priority)

2. The Town will maintain its relative self-sufficiency by providing adequate services and amenities for residents and visitors and shall provide municipal services in a flexible, cost effective, customer friendly manner. The Town will continue to review and modify fees as needed, including the addition of new facilities fees to pay for new and continued development of Town infrastructure while requiring private development fund the installation of infrastructure needed by the proposed development.

Planning Objective:

A. The Town will review and update as needed land development fees in the adopted fee schedule and level of service provided by those fees. (Priority)

3. The Town realizes that vacation rentals and seasonal rentals, and particularly, the rental of large oceanfront homes, while promoting the single-family tourist rental economy, can significantly impact Town municipal resources and infrastructure. The Town shall comprehensively review impacts that these large structures have on the resources, municipal services, and neighboring properties and amend zoning and Town regulation accordingly.

Planning Objective:

A. The Town will not amend the zoning ordinance or any development regulation which would result in either increased density (units/acre) or increased intensity of these homes. See Future Land Use section of this plan for density allowed per land use designation. (High Priority)

4. The Town shall continually assess the Town's water processing capacity, storage capacity and distribution system along with monitoring adequate pressure and fire supply and shall make the necessary system improvements when needed. The Town recognizes the importance of a dual or looped water supply system for pressure, service and fire supply and will continue to loop the system when opportunities and funding permits.

Planning Objective:

A. The Town shall develop a five-year and 20 year improvement plan and request funding through either the budget or CIP process to implement that plan. (Low Priority)

5. The Town will evaluate all future development for its impact on traffic congestion and manage this development so as to minimize its impact on traffic. More specifically, the Town encourages development to exit on side streets rather than South Croatan Highway.

Planning Objective:

A. The Town will develop regulations limiting access to US 158; NC 12, NC 1243 and US 64-264 when access can be obtained either through a side street or common drive aisle. (Highest Priority)

B. The Town will consider developing regulations which addresses multiple curb cuts onto Town streets. (Highest Priority)

6. The Town conceptually accepts the Outer Banks Thoroughfare Plan dated March 1996 and Town supports improvements, such as adding grassed medians where appropriate on US 158 which are designed to enhance safety for citizens and visitors.

Planning Objective:

A. The Town will work with NCDOT to request changes to the Outer Banks Thoroughfare Plan which reflect the current road and traffic conditions within the Town. (High Priority)

B. The Town will resist the withdrawal of existing unimproved streets unless it can be shown that such a withdrawal is in the public good. (High Priority)

7. The Town will work with and petition NCDOT for (1), the necessary road improvements in getting people to the Town, (2) finding ways to reduce the number of vehicles and reduce traffic congestion within the Town on US 158 and (3), increase efficiency on NC 12 and US 158. Such improvements including, but not limited to medians, a flyover at Whalebone Junction, signal coordination, new signals or the removal of existing signals.

Planning Objective

A. The Town will annually review and forward to NCDOT through the TIP process transportation improvement projects, studies, and improvements desired by the Town. (High Priority)

B. The Town will encourage interconnectivity between adjacent commercial sites to avoid traffic on US 158 and NC 12. (High Priority)

Natural Hazard Areas

The Town of Nags Head wishes to reduce to the extent possible, damage to life and property from hurricanes and severe coastal storms. It is the Town's intent to reduce

these hazards in advance of such events and to require mitigation measures during reconstruction which reduce damages from future storms.

1. Mitigation represents a proactive approach to reducing the vulnerability of risk to properties in the Town. The Town will investigate innovative programs and seek funds for mitigation measures such as relocation of threatened structures and more stringent building codes for high hazard areas that support the growth management policies of the Town.

Planning Objective:

A. The Town shall investigate the feasibility of adopting more stringent flood requirements and seeking proactive measures for beach nourishment. (High Priority)

B. The Town will consider amendments to our Flood Ordinance which addresses freeboard and other flood mitigative measures recognized by FEMA and the CRS program to reduce flood losses. (High Priority)

C. The Town will seek funding from local and regional sources to assist with the local match for local, state and regionally funded beach nourishment projects. (High Priority)

2. The Town recognizes beach nourishment/renourishment as our preferred alternative for addressing the impacts from barrier island migration and ocean erosion. However, the Town also supports a variety of methods to abate the impacts to ocean erosion, these include, but are not limited to acquisition of threatened structures, relocation of threatened structures and the establishment of innovative technology or designs which may be considered experimental, which can be evaluated by the CRC to determine consistency with 15A NCAC 7M.0200 and the other general and specific use standards with the CAMA rules. The Town, however, is opposed to and will not permit hard structures such as sea walls and bulkheads on the oceanfront regardless of federal or state policies. The Town fully supports the protection of North Carolina's shorelines and the construction of terminal groin and jetty pilot projects along the entire coast of North Carolina as proposed in Senate Bill 599 Session 2007. The proposed bill is currently not consistent with State rules.

Planning Objective:

A. The Town encourages studies designed to determine the financial contribution the beach makes to the Outer Banks and the region. (High priority)

B. The Town may acquire oceanfront property when the opportunity arises. (High priority)

C. The Town will investigate mitigation programs and grants to assist the property owner in the relocation of threatened structures. (High priority)

3. The Town supports beach nourishment/renourishment projects for the Town beaches subject to commensurate funding from a combination of sources such as appropriations from federal, state and local sources. The Town will support and

encourage the establishment of a statewide beach management strategy and policy along with a dedicated funding program designed specifically for beach restoration and nourishment projects.

Planning Objective

- A. The Town shall actively lobby the State for a state policy and strategy on beach nourishment and beach renourishment. (Highest Priority)
- B. The Town shall lobby the State to establish an annually state funded statewide nourishment program. (Highest Priority)
- C. The Town shall lobby for Federal funding to remove/relocate threatened structures by supporting the reinstatement of the Upton-Jones amendment which modified the National Flood Insurance Program. The amendment did not require a homeowner to wait for destruction of their home by erosion but to submit claims and be recompensated if occurrence of damage was imminent. (Highest Priority) (Resolution adopted March 5, 2008)

Water Quality

The Town of Nags Head wishes to maintain and improve estuarine water quality and natural estuarine functions while providing water based recreational opportunities consistent with water quality goals. The Town wishes to manage stormwater in ways that reduce the risk of flooding while disposing of stormwater in an environmentally sensitive manner. The Town also participates in the improvement of water quality of the Albemarle Pamlico estuarine system.

1. The preferred form of sewage treatment and disposal shall be the on-site septic systems. The Town realizes that proper maintenance of septic systems and strict enforcement of local and state rules are essential for their safe operation and through the Septic Health Initiative Committee. The Town shall continue to implement the Management Plan as well as preventative and educational programs for distribution to residents and visitors designed to identify and correct failing septic systems.

Planning Objective:

- A. The Town shall continue to implement the Management Plan and educational program to implement the above actions. (Highest Priority)
2. Proper placement and maintenance of septic systems located in close proximity to drainage ditches or located near the ocean or sound are essential for maintaining high water quality standards. When septic systems fail, effluent can enter these waters and lead to health concerns and closures. If needed, the Town will support research to determine sources of pollution and consider or lobby for additional regulations or enforcement of existing regulations to prevent further degradation and shall seek measures to enhance water quality where needed.

Planning Objective:

A. The Town shall apply for grant funds for projects that are designed to improve or prevent further degradation of water quality of our ocean and sound system. (High Priority)

B. The Town will fund or assist in funding a water quality-testing program. (High Priority)

C. The Town shall seek funding and shall support water quality testing of the ocean and sound waters to determine the extent, if any of non-point sources of pollution. (High Priority)

D. The Town shall consider impervious surface limits, vegetated riparian buffers, natural areas and natural buffers in the event that non-point sources of pollution are discovered. (High Priority)

E. The Town shall seek strict enforcement of existing laws and regulations and shall consider new regulations, if needed, to protect estuarine and ocean water quality. (High Priority)

F. The Town shall monitor the implementation plan of the CHPP's program. One purpose of the Coastal Habitat Protection Plan (CHPP's) was to document the role of aquatic habitats, provide their status, describe threats, develop management needs and develop management's options for coastal habitats. (High Priority)

3. The Town shall continually assess and evaluate the Stormwater Management Plan and update the plan when necessary and shall actively work to minimize the rate and amount of stormwater runoff into ocean and sound waters and the impact that stormwater has on those waters.

Planning Objective:

A. The Town shall review the adequacy and amend as needed the 2006 Stormwater Management Plan. The Stormwater Management Plan has been implemented and individual projects will be initiated as funds are available. (Low Priority)

4. The Town recognizes that maintenance is essential for the proper functioning of the ocean and sound outfalls shall actively lobby NCDOT for continued maintenance.

Planning Objective:

A. The Town will investigate the feasibility of land disposal and storm water retention in lieu of outfalls and may seek funds and grants or lobby NCDOT where the feasibility exists for land application of stormwater. (Priority)

5. The Town will comply with State rules regarding stormwater control.

Planning Objective:

A. The Town shall continue to review our local policies to ensure compliance with State rules. (High Priority)

B. The Town will implement flood control projects discussed in the stormwater systems section of this plan as funds become available. (High Priority)

6. The Town will comply with State rules regarding protecting open shell fishing waters and restoring closed shell fishing waters.

Planning Objective:

A. The Town shall continue to review our local policies to ensure compliance with State rules. (High Priority)

B. The Town will implement flood control projects discussed in the stormwater systems section of this plan as funds become available. The use of detention wetlands and filtering systems will be utilized when feasible. (High Priority)

C. The Town will request enforcement of all State agencies rules regarding protection of waters in sub basin 03-01-56 (Pasquotank River basin) (High Priority)

7. The Town supports the use of Advanced Treatment Systems for government owned and operated sewage treatment plants that produce an NSF-40 quality effluent standard described in NCAC 18A.1970 under Laws and Rules for Sewage Treatment & Disposal Systems utilizing Reclaimed Water Facilities designed in accordance as set forth in Subchapter 2T-Waste Not Discharged to Surface Waters Section- 15A NCAC 02T.0906.

Planning Objective:

A. The Town will consider, on a case by case basis, the merits of non-government owned package treatment plants. The Town will not provide public sewage treatment. (Priority)

Local Areas of Concern

The Town of Nags Head wishes to provide a street and bridge system that allows efficient and safe movement of vehicles to and within the Town which also permits quick evacuation of all residents and visitors when necessary. The Town also encourages pedestrian and non-motorized transportation. The Town would like to develop and maintain an economy based on family vacation tourism. The Town plans to permit those uses which provide residents and visitors with adequate services and amenities necessary for the Town to maintain relative self sufficiency.

1. The Town shall consider higher flood regulatory standards for vehicle and equipment storage areas and structures or facilities that produce, use or store highly

volatile, flammable, explosive, toxic and or water-reactive materials that may cause environmental problems if flooded or destroyed.

Planning Objective:

A. The Town shall develop a program to identify businesses and material storage areas where significant amounts of toxic or hazardous products are stored which would be subject to flooding. (Highest Priority)

B. The Town may develop regulations to require fuel tanks, including LP tanks to be adequately anchored to prevent flotation in the event of flooding. (Highest Priority)

2. During the subdivision process the Town shall require wider rights-of-ways and greater construction standard to proposed Town streets when it can be demonstrated that the proposed street may be required to accept local traffic from other nearby streets which may be damaged or threatened or closed by natural events.

Planning Objective:

A. The Town may develop regulations requiring a greater street standard (dimensional and construction) where it can be reasonable demonstrated that near-by streets may be destroyed by a storm or other natural event and the proposed street will be required to accept greater amounts of traffic due to the loss of nearby streets. (Low Priority)

3. The Town recognizes that when ocean beaches and estuarine areas and waters are closed for health reasons, proper public notification of the closures is essential for public safety. The Town will work with the respective regulatory agencies to develop a protocol and to ensure that public notification is released in a timely manner after careful monitoring has indicated that the agreed upon standards have been exceeded.

Planning Objective:

A. The Town has initiated meetings with the County and other agencies to develop and establish water quality and monitoring standards and to develop a protocol for public notification when beaches and waters are closed for health reasons. (Priority)

4. The Town will communicate with residents and non-resident property owners.

Planning Objective:

A. The Town may publish four newsletters a year. (Highest Priority)

B. The Town may continue to update the Town's web page and add additional components as needed. (Highest Priority)

C. The Town shall assess the effectiveness of various forms of communication. (Highest Priority)

5. The Town shall consider the impact on public safety during the review of site plans and during consideration for proposed changes to the zoning ordinance and shall encourage the use of sprinkler systems, stand pipes and the provision for fire lanes as important fire prevention measures.

Planning Objective:

A. The Department of Public Safety shall recommend changes to the Town code as conditions warrant. (Priority)

6. It is the policy of the Town to continually assess the police, fire and rescue needs of the Town and to make personnel and resource expenditures commensurate with the needs created by the community.

Planning Objective:

A. Public safety funding requests shall be considered through the budget and CIP process. (Priority)

B. The Town shall identify grant opportunities, as they become available. (Priority)

7. The Town recognizes that damaged homes and structures on the oceanfront represent a nuisance eyesore and visual blight and the Town may take appropriate measures to abate this nuisance and will seek changes in NFIP regulations to establish regulations for declaration of destroyed structures.

Planning Objective:

A. The Town will take a more proactive approach to condemning these structures and taking prompt action including the issuance of civil citations to abate the nuisance. (Highest Priority)

B. The Town will petition FEMA through our state and regional FIP representatives to consider adopting regulations regarding the determination of destroyed structures. (Highest Priority)

8. The Town shall continue to address community appearance concerns through Boards such as the Planning Board, Citizens Advisory Committee and Board of Commissioners. The Town shall work toward developing incentives designed to enhance, promote and protect the Town's architectural image and heritage.

Planning Objective:

A. The Town will investigate the feasibility for an architectural incentive program. (High Priority)

B. The Town will consider an incentive program rewarding those developers which set aside additional open space in perpetuity. (High Priority)

9. The Historic District represents an irreplaceable part of the Nags Head image and past. The Town shall carefully consider any proposed land use change-not only within the district, but near by that would diminish the uniqueness of the homes in the district. The Town will promote the creation of a historic district to preserve the historic beachfront cottages. These limits are shown on the Future Land Use map in the appendix.

Planning Objective:

A. The Town will continue to work with residents within the historic district boundary on the Future Land Use Map to establish a historic district. (Low Priority)

B. The Town will continue to amend the zoning ordinance by adopting provisions designed to protect the uniqueness of homes on the National Register of Historic Places. (Low Priority)

10. Over the last 20 years the Town has seen most of it's commercial businesses, once numerous along Virginia Dare Trail, move to US 158 or go out of business due to chain restaurants and "big box" retailers building along US 158.

Planning Objective:

A. The Town will investigate the use of incentives to attract and retain locally owned businesses throughout the Town. (High priority)

Consistency between Goals and Management Topics and the Consistency between the Future Land Use Map and CAMA Land Use Plan Requirements

CAMA's planning guidelines require local governments to provide the following two types of analyses between its land use development policies and the future land use map. The required analyses represents a majority of the goals in the policy section of the plan are described below:

1. The Consistency between goals and the management topics

A. Public Access

Goal from the Land Use Plan Management topics section:

The goal of the Town of Nags Head is to maintain a viable beach and to provide substantial opportunity for public access to the beach. It is also the goal of the Town to provide an alternative means of transportation to facilitate pedestrian movement to recreational sites.

Analysis: The policies call for the Town to continue to apply for grants for ocean and sound access sites. The Town shall also consider establishing larger, less traditional estuarine access sites that can function as access sites but also ocean and estuarine recreation areas and parks. The Town will also review and update the Nags Head Pedestrian Transportation System Plan adopted on November 6, 1996.

B. Land Use Compatibility

Goal from the Land Use Plan Management topics section:

The goal of the Town of Nags Head is to continue to grow primarily as a low density, single-family residential community, while also accommodating a mix of other housing types. It is also a goal of the Town to preserve open space and green space and will inventory and develop a plan to acquire and preserve open space.

Analysis: The policies call for the Town to consider incentives and regulations to ensure that as existing housing stock ages the replacement housing stock is in keeping with the "Nags Head image". The Town may not increase and may consider reducing the amount of land zoned commercial. The Town will also identify important areas to be acquired as open space and shall request funds for acquisition of these areas through the budget, CIP, and grant process.

C. Infrastructure Carrying Capacity

Goal from the Land Use Plan Management topics section:

The goal of the Town of Nags Head is to provide an economic and environmentally sensitive means of sewage treatment and disposal, which maintains or improves the quality of the Town's surface waters and groundwater, and maintains low-density development. The Town also conceptually accepts the Outer Banks Thoroughfare Plan dated March 1996 and the Town supports improvements such as grassed medians where appropriate on US 158.

Analysis: The policies call for the Town to periodically review existing practices to determine the most effective and economical methods for collecting and processing of solid waste. The Town will also work with the NCDOT to request changes to the thoroughfare plan which reflect the current road and traffic conditions within the Town.

D. Natural Hazard Areas

Goal from the Land Use Plan Management topics section:

The goal of the Town of Nags Head is to reduce to the extent possible, damage to life and property from hurricanes and severe coastal storms. It is the Town's intent to reduce these hazards in advance of such events and to require mitigation measures during reconstruction, which reduce damages from future storms.

Analysis: The policies call for the Town to investigate the feasibility of adopting more stringent flood requirements and seeking proactive measures for beach nourishment. The Town will also seek funding from local and regional sources to assist with the local match for local, state and regionally funded beach nourishment projects. The Town

shall lobby for Federal funding to remove/relocate threatened structures by supporting the reinstatement of the Upton-Jones amendment which modified the NFIP program.

E. Water Quality

Goal from the Land Use Plan Management topics section:

The goal of the Town is to maintain and improve estuarine water quality and natural estuarine functions while providing water based recreational opportunities consistent with water quality goals. It is also the goal of the Town to manage stormwater in ways that reduce the risk of flooding while disposing of stormwater in an environmentally sensitive manner.

Analysis: The policies call for the Town to apply for grant funds for projects that are designed to improve or prevent further degradation of water quality of our ocean and sound system. The policies also state the Town will fund or assist in funding a water quality-testing program.

F. Local Areas of Concern

Goal from the Land Use Plan Management topics section:

The goal of the Town is to provide a street and bridge system that allows efficient and safe movement of vehicles to and within the Town, which also permits quick evacuation. The Town shall also continue to address community appearance concerns through Boards such as the Planning Board, Citizens Advisory Committee and the Board of Commissioners

Analysis: The Town may develop regulations requiring a greater street standard where it can be reasonably demonstrated that near-by streets may be destroyed by a storm or other natural event. The Town shall investigate the feasibility of an architectural incentive program as well as continue to work with residents within the Historic District to establish a Historic District.

2. Consistency between Future Land Use Map and CAMA Land Use Plan Requirements

The densities shown on the map for each major land classification are consistent with the natural systems capability of the Town. The densities of each district are described in the section titled Future Land Use Map.

Comparison of the Environmental Composite Map, Land Suitability Map, and Future Land Use Map

The Environmental Composite and Land Suitability Maps

These maps are consistent with each other. There are a few pockets of wetlands depicted on the environmental Composite Map, which are also depicted on the Land Suitability Map. Many of the areas are shown in developed areas or areas where wetland conditions may not exist. A brief analysis was used to develop the Environmental Composite Map. The map recognizes that accurate wetland determinations need to be completed on a site-by-site basis prior to any development. Along the oceanfront and sound the Town will continue to require structures to be elevated and enforce the flood plain ordinance and CAMA setbacks. The Town will maintain the AEC around the fresh pond. In the maritime forest, the Town will continue to enforce setback requirements as well as the Town's tree ordinance in the SED-80 zoning district (see Zoning Map in Appendix C) which was designed to preserve the natural features and functions of the area necessary for safe and compatible development on the entire outer banks. The Town will continue to enforce storm water controls and lot coverage restrictions as well.

The Land Suitability Map and Future Land Use Map

There are no significant differences in these maps. The areas designated as least suitable on the Land Suitability Map are shown as Park/Open space on the Future Land Use map. A few areas, on the West Side of NC 1243, in South Nags Head are considered least suitable on the Land Suitability Analysis although they are shown as residential on the Future Land Use Map. Along the oceanfront and sound the Town will continue to require structures to be elevated and enforce the flood plain ordinance and CAMA setbacks. The Town will maintain the AEC around the fresh pond. In the maritime forest, the Town will continue to enforce setback requirements as well as the Town's tree ordinance in the SED-80 zoning district (see Zoning Map in Appendix C) which was designed to preserve the natural features and functions of the area necessary for safe and compatible development on the entire outer banks. The Town will continue to enforce storm water controls and lot coverage restrictions as well.

The map recognizes that accurate land use determinations need to be completed on a site by site basis prior to development.

The Impacts of the Policies of the Town on Management Topics

The impacts of the Town's polices on the management topics will be discussed in this section. The word favorable means they were discussed in that section and the word Neutral means they were not discussed but may be discussed in other sections of the Plan.

Public Access Policies effects on:

Public Access: Do the public access policies provide for significant opportunities for public access to the beach? Do the policies provide for opportunities to facilitate pedestrian movement to recreational sites?

Beneficial

- The Town will acquire oceanfront property and open space when the opportunity arises.
- The Town will continue to apply for grants for ocean and sound access sites.
- The Town will review and update the Nags Head Pedestrian Transportation System Plan adopted on November 6, 1996.
- The Town will identify recreational sites where sidewalks would facilitate pedestrian traffic to these recreational facilities and will submit funding requests through the budget and CIP process.
- The Town shall consider establishing larger, less traditional estuarine access sites that can function as access sites but also shore recreation areas and parks.
- The Town shall continue to require non-oceanfront hotels and motels to provide private oceanfront beach access facilities for their guests.
- The Town will continue to apply for grants for ocean and sound access sites.
- The Town will not allow or permit any commercialization of the Town's ocean beaches

Land Use Compatibility: Do the public access policies provide for the Town to continue to grow primarily as a low density, single-family residential community? Do the public access policies provide the Town the ability to preserve open space and green space?

Beneficial

- The Town will not allow or permit any commercialization of the Town's ocean beaches.
- When the opportunity arises, the Town will acquire oceanfront property for access and open space.
- The Town will continue to apply for grants for ocean and sound access sites.
- The Town shall consider establishing larger, less traditional estuarine access sites that can function as access sites but also shore recreation areas and parks.
- The Town shall address recreational needs through the budget and CIP process.

Infrastructure carrying capacity: Do the Public Access policies provide and economic and environmentally sensitive means of sewage treatment and disposal, which maintains or improves the quality of the Towns' surface and groundwater? Do the Public Access policies provide for the Town's support of the Outer Banks Thoroughfare plan?

Neutral

- The Town will not allow or permit any commercialization of the Town's ocean beaches.
- The Town will review and update the Nags Head Pedestrian Transportation System Plan adopted on November 6, 1996.

- The Town will identify recreational sites where sidewalks would facilitate pedestrian traffic to these recreational facilities and will submit funding requests through the budget and CIP process.
- The Town will consider amendments to the subdivision ordinance requiring the installation of sidewalks and/or multi use paths in areas identified in the "Nags Head Pedestrian Transportation System Plan".

Natural Hazard Areas: Do Public Access policies reduce, to the extent possible, damage to life and property from hurricanes and severe coastal storms? Do the public access policies reduce these hazards in advance of such events?

Neutral

- The Town will not allow or permit any commercialization of the Town's ocean beaches.
- When the opportunity arises, the Town will acquire oceanfront property for access and open space.

Water Quality: Do the Public Access policies maintain and improve estuarine water quality and natural estuarine functions while providing water based recreational opportunities? Do the public access policies manage stormwater in ways that reduce the risk of flooding while disposing of stormwater in an environmentally sensitive way?

Beneficial

- The Town shall consider establishing larger, less traditional estuarine access sites that can function as access sites but also shore recreation areas and parks.
- The Town will make a financial commitment including additional personnel and equipment if needed to keep our ocean beaches clean of debris and litter.
- When the opportunity arises, the Town will acquire oceanfront property for access and open space.
- The Town will not allow or permit any commercialization of the Town's ocean beaches.
- The Town shall continue to review our local policies to ensure compliance with state rules.

Local Areas of Concern: Do the Public access policies provide for a street and bridge system that allows efficient and safe movement of vehicles to and within the Town, which also permits quick evacuation? Do the Public access policies address community appearance?

Neutral

- The Town will not allow or permit any commercialization of the Town's ocean beaches.

- The Town shall consider establishing larger, less traditional estuarine access site that can function as access sites but also shore recreation areas and parks.

Land Use Compatibility's policies on:

Public Access: Do the Land Use Capability policies provide for significant opportunities for public access to the beach? Do the policies provide for opportunities to facilitate pedestrian movement to recreational sites?

Beneficial

- The Town will identify important areas to be acquired as open space and shall request funds for acquisition of these areas through the budget, CIP, and grant process.
- The Town's current development requirements allow for hotels and motels to be built on the oceanfront. The Town shall not approve any amendment which would allow for a greater density of units, greater height of buildings or allowing these structures in oceanfront districts where they are not allowed now. (R-1, R-2 and SPD-C)

Land Use Compatibility: Do the Land Use Capability policies provide for the Town to continue to grow primarily as a low density, single-family residential community? Do the Land Use capability policies provide the Town the ability to preserve open space and green space?

Beneficial

- The Town's current development requirements allow for hotels and motels to be built on the oceanfront. The Town shall not approve any amendment, which would allow for a greater density of units, greater height of buildings or allowing these structures in oceanfront districts where they are not allowed now. (R-1, R-2 and SPD-C)
- The Town may not increase and may consider reducing the amount of land zoned commercial.
- The Town will identify important areas to be acquired as open space and shall request funds for acquisition of these areas through the budget, CIP, and grant process.
- The Town does not wish to become a regional industrial services area and will not increase the size of the Commercial Services District (C-3) or create additional industrial parks or subdivisions.
- The Town will not permit fossil and nuclear energy production facilities to be located in Nags Head.

Infrastructure carrying capacity: Do the Land Use Capability policies provide and economic and environmentally sensitive means of sewage treatment and disposal, which maintains or improves the quality of the Towns' surface and groundwater? Do the Land Use Capability policies provide for the Town's support of the Outer Banks Thoroughfare plan?

Neutral

Natural Hazard Areas: Do the Land Use Capability policies reduce, to the extent possible, damage to life and property from hurricanes and severe coastal storms? Do the Land Use Capability policies reduce these hazards in advance of such events?

Beneficial

- The Town will identify important areas to be acquired as open space and shall request funds for acquisition of these areas through the budget, CIP, and grant process.
- The Town's current development requirements allow for hotels and motels to be built on the oceanfront. The Town shall not approve any amendment which would allow for a greater density of units, greater height of buildings or allowing these structures in oceanfront districts where they are not allowed now. (R-1, R-2 and SPD-C)
- The Town will consider applying similar rules and regulations that are applicable for residential districts in the commercial districts for the preservation of dunes, topography, and vegetation.

Water Quality: Do the Land Use Capability policies maintain and improve estuarine water quality and natural estuarine functions while providing water based recreational opportunities? Do the Land Use Capability policies manage stormwater in ways that reduce the risk of flooding while disposing of stormwater in an environmentally sensitive way?

Beneficial

- The Town will consider applying similar rules and regulations that are applicable for residential districts in the commercial districts for the preservation of dunes, topography, and vegetation.
- The Town shall not increase the number of rental PWC units allowed to be rented at each site.
- The Town will not permit or allow the land based commercial rental of personal watercraft for use in the Atlantic Ocean

Local Areas of Concern: Do the Land Use Capability policies provide for a street and bridge system that allows efficient and safe movement of vehicles to and within the Town, which also permits quick evacuation? Do the Land Use Capability policies address community appearance?

Neutral

- The Town will develop an incentive program designed to help ensure that replacement housing will be in keeping with the "Nags Head image" or vernacular. The Town will continue to enforce and amend as needed, Section 48-370 of the Zoning Ordinance.
- The Town will continue to enforce section 48-370 of the Zoning Ordinance, Residential Design Standards, which sets forth "regulations designed to protect and promote the unique and historical elements of residential architecture."
- The Town may not increase and may consider reducing the amount of land zoned commercial.
- The Town's current development requirements allow for hotels and motels to be built on the oceanfront. The Town shall not approve any amendment, which would allow for a greater density of units, greater height of buildings or allowing these structures in oceanfront districts where they are not allowed now. (R-1, R-2 and SPD-C)
- The Town will identify important areas to be acquired as open space and shall request funds for acquisition of these areas through the budget, CIP, and grant process.
- The Town does not wish to become a regional industrial services area and will not increase the size of the Commercial Services District(C-3) or create additional industrial parks or subdivisions.
- The Town will not permit fossil and nuclear energy production facilities to be located in Nags Head.

Infrastructure Carrying Capacity's effect on:

Public Access: Do the Infrastructure Carrying Capacity's policies provide for significant opportunities for public access to the beach? Do the policies provide for opportunities to facilitate pedestrian movement to recreational sites?

Neutral

Land Use Compatibility: Do the Infrastructure Carrying Capacity's policies provide for the Town to continue to grow primarily as a low density, single-family residential community? Do the Infrastructure Carrying Capacity's policies provide the Town the ability to preserve open space and green space?

Beneficial

- The Town will not amend the zoning ordinance or any development regulation which would result in either increased density (units/acre) or increased intensity of these homes.
- The Town will consider developing regulations, which addresses multiple curb cuts onto Town streets.
- The Town will work with NCDOT to request changes to the Plan which reflect the current road and traffic conditions within the Town.

- The Town will encourage interconnectivity between adjacent commercial sites to avoid traffic on US 158 and NC 12.

Infrastructure carrying capacity: Do the Infrastructure Carrying Capacity's policies provide and economic and environmentally sensitive means of sewage treatment and disposal, which maintains or improves the quality of the Towns' surface and groundwater? Do the Infrastructure Carrying Capacity's policies provide for the Town's support of the Outer Banks Thoroughfare plan?

Neutral

- The Town will encourage interconnectivity between adjacent commercial sites to avoid traffic on US 158 and NC 12.
- The Town will annually review and forward to NCDOT through the TIP process transportation improvement projects, studies, and improvements desired by the Town.
- The Town will work with NCDOT to request changes to the Plan which reflect the current road and traffic conditions within the Town.
- The Town will develop regulations limiting access to US 158; NC 12, NC 1243 and US 64-264 when access can be obtained either through a side street or common drive aisle.
- The Town will encourage interconnectivity between adjacent commercial sites to avoid traffic on US 158 and NC 12.

Natural Hazard Areas: Do the Infrastructure Carrying Capacity's policies reduce, to the extent possible, damage to life and property from hurricanes and severe coastal storms? Do the Infrastructure Carrying Capacity's policies reduce these hazards in advance of such events?

Beneficial

- The Town will encourage interconnectivity between adjacent commercial sites to avoid traffic on US 158 and NC 12.
- The Town will annually review and forward to NCDOT through the TIP process transportation improvement projects, studies, and improvements desired by the Town.
- The Town will work with NCDOT to request changes to the Plan which reflect the current road and traffic conditions within the Town.
- The Town will develop regulations limiting access to US 158; NC 12, NC 1243 and US 64-264 when access can be obtained either through a side street or common drive aisle.
- The Town will encourage interconnectivity between adjacent commercial sites to avoid traffic on US 158 and NC 12.

Water Quality: Do the Infrastructure Carrying Capacity's policies maintain and improve estuarine water quality and natural estuarine functions while providing water based recreational opportunities? Do the Infrastructure Carrying Capacity's policies manage stormwater in ways that reduce the risk of flooding while disposing of stormwater in an environmentally sensitive way?

Neutral

- The Town shall periodically review existing practices to determine the most effective and economical methods for collecting and processing of solid waste.

Local Areas of Concern: Do the Infrastructure Carrying Capacity's policies provide for a street and bridge system that allows efficient and safe movement of vehicles to and within the Town, which also permits quick evacuation? Do the Infrastructure Carrying Capacity's policies address community appearance?

Beneficial

- The Town will encourage interconnectivity between adjacent commercial sites to avoid traffic on US 158 and NC 12.
- The Town will annually review and forward to NCDOT through the TIP process transportation improvement projects, studies, and improvements desired by the Town.
- The Town will work with NCDOT to request changes to the Plan which reflect the current road and traffic conditions within the Town.
- The Town will develop regulations limiting access to US 158; NC 12, NC 1243 and US 64-264 when access can be obtained either through a side street or common drive aisle.
- The Town will encourage interconnectivity between adjacent commercial sites to avoid traffic on US 158 and NC 12.
- The Town will not amend the zoning ordinance or any development regulation which would result in either increased density (units/acre) or increased intensity of these homes.

Natural Hazard Areas effect on:

Public Access: Do the Infrastructure Natural Hazard Areas policies provide for significant opportunities for public access to the beach? Do the policies provide for opportunities to facilitate pedestrian movement to recreational sites?

Beneficial

- The Town may acquire oceanfront property when the opportunity arises.
- The Town shall actively lobby the State for a state policy and strategy on beach nourishment and beach renourishment.

- The Town will seek funding from local and regional sources to assist with the local match for local, state and regionally funded beach nourishment projects.

The Town will consider amendments to our Flood Ordinance which addresses freeboard and other flood mitigative measures recognized by FEMA and the CRS program to reduce flood losses.

- The Town shall investigate the feasibility of adopting more stringent flood requirements and seeking proactive measures for beach nourishment.

Land Use Compatibility: Do the Natural Hazard Areas policies provide for the Town to continue to grow primarily as a low density, single-family residential community? Do the Natural Hazard Areas policies provide the Town the ability to preserve open space and green space?

Beneficial

- The Town may acquire oceanfront property when the opportunity arises.

Infrastructure carrying capacity: Do the Natural Hazard Areas policies provide and economic and environmentally sensitive means of sewage treatment and disposal, which maintains or improves the quality of the Towns' surface and groundwater? Do the Natural Hazard Areas policies provide for the Town's support of the Outer Banks Thoroughfare plan?

Neutral

Natural Hazard Areas: Do the Natural Hazard Areas reduce, to the extent possible, damage to life and property from hurricanes and severe coastal storms? Do the Natural Hazard Areas policies reduce these hazards in advance of such events?

Beneficial

- The Town may acquire oceanfront property when the opportunity arises.
- The Town shall actively lobby the State for a state policy and strategy on beach nourishment and beach renourishment.
- The Town will seek funding from local and regional sources to assist with the local match for local, state and regionally funded beach nourishment projects.

The Town will consider amendments to our Flood Ordinance which addresses freeboard and other flood mitigative measures recognized by FEMA and the CRS program to reduce flood losses.

- The Town shall investigate the feasibility of adopting more stringent flood requirements and seeking proactive measures for beach nourishment.
- The Town will consider amendments to our Flood Ordinance which addresses freeboard and other flood mitigative measures recognized by FEMA and the CRS program to reduce flood losses.

Water Quality: Do the Natural Hazard Areas policies maintain and improve estuarine water quality and natural estuarine functions while providing water based recreational opportunities? Do the Natural Hazard Areas policies manage stormwater in ways that reduce the risk of flooding while disposing of stormwater in an environmentally sensitive way?

Neutral

Local Areas of Concern: Do the Natural Hazard Areas policies provide for a street and bridge system that allows efficient and safe movement of vehicles to and within the Town, which also permits quick evacuation? Do the Natural Hazard Areas policies address community appearance?

Neutral

Water Quality effect on:

Public Access: Do the Water Quality policies provide for significant opportunities for public access to the beach? Do the policies provide for opportunities to facilitate pedestrian movement to recreational sites?

Neutral

Land Use Compatibility: Do the Water Quality policies provide for the Town to continue to grow primarily as a low density, single-family residential community? Do the Water Quality policies provide the Town the ability to preserve open space and green space?

Beneficial

- The Town shall monitor the implementation plan of the CHPP's program. One purpose of the Coastal Habitat Protection Plan (CHPP's) was to document the role of aquatic habitats, provide their status, describe threats, develop management needs and develop management's options for coastal habitats.

Infrastructure carrying capacity: Do the Water Quality policies provide an economic and environmentally sensitive means of sewage treatment and disposal, which maintains or improves the quality of the Towns' surface and groundwater? Do the Water Quality policies provide for the Town's support of the Outer Banks Thoroughfare plan?

Beneficial

- The Town shall apply for grant funds for projects that are designed to improve or prevent further degradation of water quality of our ocean and sound system.
- The Town will fund or assist in funding a water quality-testing program.
- The Town does not support the installation of new non-government owned package plants and/or public sewage treatment.

Natural Hazard Areas: Do the Infrastructure Water Quality reduce, to the extent possible, damage to life and property from hurricanes and severe coastal storms? Do the Water Quality policies reduce these hazards in advance of such events?

Beneficial

- The Town shall review the adequacy and amend, as needed the 2006 Stormwater Management Plan. The Stormwater Management Plan has been implemented and individual projects will be initiated, as funds are available.
- The Town will implement flood control projects discussed in the stormwater systems section of this plan as funds become available.

Water Quality: Do the Water Quality policies maintain and improve estuarine water quality and natural estuarine functions while providing water based recreational opportunities? Do the Water Quality policies manage stormwater in ways that reduce the risk of flooding while disposing of stormwater in an environmentally sensitive way?

Beneficial

- The Town shall review the adequacy and amend, as needed the 2006 Stormwater Management Plan. The Stormwater Management Plan has been implemented and individual projects will be initiated as funds are available.
- The Town shall apply for grant funds for projects that are designed to improve or prevent further degradation of water quality of our ocean and sound system.
- The Town will fund or assist in funding a water quality-testing program.
- The Town will investigate the feasibility of land disposal and storm water retention in lieu of outfalls and may seek funds and grants or lobby NCDOT where the feasibility exists for land application of stormwater.

Local Areas of Concern: Do the Water Quality policies provide for a street and bridge system that allows efficient and safe movement of vehicles to and within the Town, which also permits quick evacuation? Do the Water Quality policies address community appearance?

Neutral

Local Areas of Concern effect on:

Public Access: Do the Local Areas of Concern policies provide for significant opportunities for public access to the beach? Do the policies provide for opportunities to facilitate pedestrian movement to recreational sites?

Beneficial

- The Town has initiated meetings with the County and other agencies to develop and establish water quality and monitoring standards and to develop a protocol for public notification when beaches and waters are closed for health reasons.

Land Use Compatibility: Do the Local Areas of Concern policies provide for the Town to continue to grow primarily as a low density, single-family residential community? Do the Local Areas of Concern policies provide the Town the ability to preserve open space and green space?

Beneficial

- The Town will investigate the feasibility for an architectural incentive program.
- The Town will consider an incentive program rewarding those developers, which set aside additional open space in perpetuity.
- The Town will continue to work with residents within the district to establish a historic district.
- The Town will continue to amend the zoning ordinance by adopting provisions designed to protect the uniqueness of homes on the National Register of Historic Places.

Infrastructure carrying capacity: Do the Local Areas of Concern policies provide an economic and environmentally sensitive means of sewage treatment and disposal, which maintains or improves the quality of the Towns' surface and groundwater? Do the Local Areas of Concern policies provide for the Town's support of the Outer Banks Thoroughfare plan?

Neutral

Natural Hazard Areas: Do the Local Areas of Concern reduce, to the extent possible, damage to life and property from hurricanes and severe coastal storms? Do the Local Areas of Concern policies reduce these hazards in advance of such events?

Beneficial

- The Town shall develop a program to identify businesses and material storage areas where significant amounts of toxic or hazardous products are stored which would be subject to flooding.
- The Town may develop regulations to require fuel tanks, including LP tanks to be adequately anchored to prevent flotation in the event of flooding.

Water Quality: Do the Local Areas of Concern policies maintain and improve estuarine water quality and natural estuarine functions while providing water based recreational opportunities? Do the Local Areas of Concern policies manage stormwater in ways that reduce the risk of flooding while disposing of stormwater in an environmentally sensitive way?

Beneficial

- The Town shall develop a program to identify businesses and material storage areas where significant amounts of toxic or hazardous products are stored which would be subject to flooding.
- The Town may develop regulations to require fuel tanks, including LP tanks to be adequately anchored to prevent flotation in the event of flooding.
- The Town will comply with state rules regarding protecting open shell fishing waters and restoring closed shell fishing waters.

Local Areas of Concern: Do the Local Areas of Concern policies provide for a street and bridge system that allows efficient and safe movement of vehicles to and within the Town, which also permits quick evacuation? Do the Local Areas of Concern policies address community appearance?

Beneficial

- The Town will investigate the feasibility for an architectural incentive program.
- The Town will consider an incentive program rewarding those developers, which set aside additional open space in perpetuity.
- The Town will continue to work with residents within the district to establish a historic district.
- The Town will continue to amend the zoning ordinance by adopting provisions designed to protect the uniqueness of homes on the National Register of Historic Places.
- The Town may develop regulations requiring a greater street standard (dimensional and construction) where it can be reasonable demonstrated that near-by streets may be destroyed by a storm or other natural event and the proposed street will be required to accept greater amounts of traffic due to the loss of nearby streets.

Future Land Use Map

Although the Future Land Use is considered a policy, it is not a regulatory mechanism. The map should be used as a guide in implementing the adoption of Ordinances, reviewing rezoning and subdivision requests. The Maps proposed land designations are outlined below. Upon finding of sufficient facts the Board of Commissioners may change zoning districts from time to time which may affect the land designations on the Future Land Use Map. If a zoning district text amendment is brought forward to the Board of Commissioners and it requires a change to the Future Land Use Map, the Board of Commissioners shall hold a public hearing for local adoption. The Future Land Use Map change must also be certified by the Coastal Resources Commission prior to or parallel with the zoning district change. The future land use designations are tied directly to the Town's current Zoning ordinance requirements. The policies under the Land Use Plan Management Topics section of this plan were derived from the Town's zoning ordinance, storm water plan as well as from comments by the steering committee and various state agencies.

Table 32
Future Land Use

Land Use category	Acreage
Single-family residential	1800
Multi-family	85
Hotel/Motel/Cottage Court	41
Commercial	405
Multiple-Use	26
Government	15
Institutional/Religious	51
Warehouse	3
Park/Open space public	1052
Park/Open space -private	340
Cemetery	1
Secondary improvements	17
Undeveloped	1
Washout	8

Table 33
Future Land Use Acreage and Projected Land needs

Land Use category	% of developed land 2005	Acres 2005	Future Land Use Acreage	Acres 2010	Acres 2015	Acres 2020	Acres 2025	Acres 2030
Single-family residential	42%	1601	1800	1691	1835	1974	2098	2216
Multi-family	2.2%	85	85	87	90.16	93.21	95.91	98.5
Hotel/Motel/Cottage Court	1.07%	41	41	42	43.5	44.98	46.3	47.56
Commercial	8%	305	405	312	323.5	334.5	344.4	353.84
Multiple-Use	.7%	26	26	26.6	27.6	28.57	29.43	30.25
Government	.4%	15	15	15.4	30.4	30.96	31.45	31.92
Institutional/Religious	1.3%	51	51	52.2	54.07	55.87	57.48	59.01
Warehouse	.08%	3	3	3.07	3.35	3.46	3.55	3.64
Park/Open space public	27%	1052	1052	1052	1052	1052	1052	1052
Park/Open space private	8.8%	340	340	340	340	340	340	340
Cemetery	.03%	1	1	1.02	1.06	1.07	1.10	1.13
Secondary improvements	.40%	17	17	17.36	17.93	18.48	18.97	19.44
Undeveloped	8%	610	1	205.33	26.38	- 132.17	- 273.68	- 408.41
Washout	.02%	8	8	.018	.048	.075	.099	.122
Total	100%	3845	3845	3845	3845	3845	3845	3845

When comparing the Future Land Use Acreage from Table 32 to the projected land needs taken from Table 29 the Town would be built out by 2015. (Table 33)

Single Family Residential

The single family residential district contains low to moderate-density residential neighborhoods with a mix of permanent and shortterm seasonal residents. It serves as a transition zone between the moderate-density area and more intensely developed areas. A minimum lot area of 20,000 square feet is required for single-family dwellings and 30,000 square feet is required for duplexes. The density is 2 single-family dwelling units per acre or one duplex per acre. Lots using individual wells and septic tanks are required to be 20,000 square feet per dwelling unit and 40,000 square feet for a duplex. The minimum lot width required is 70 feet. The front setback requirement is 30 feet while the rear yard setback requirement is 20% of the lot, not to exceed 30 feet and the sideyards are 10 feet. The maximum height allowed for the structure is 35 feet although the height of a structure meeting the minimum roof pitch meeting other minimum roof pitch requirements shall be allowed a maximum total height of 42. Permitted uses in this designation are detached single family dwellings, duplexes, bulkheads and large residential dwellings. Lot coverage shall not exceed 33%. Some permitted uses in this designation are detached single family dwellings, municipally owned public facilities, swimming pools, and large residential structures. Conditional uses allowed are fire stations, docks, playgrounds and boarding houses.

Multi-Family Residential

The multi-family residential district is an area in which the principal use of the land is for high-density single-family and duplex residential development. This district also provides for the development of less intensive residential uses as well as compatible supporting use. Some uses allowed in this district are detached single family dwellings, duplexes and municipally owned facilities. A minimum lot area of 15,000 square feet is required for single-family dwellings. The density is roughly 3 single-family dwelling units per acre and 2 duplexes per acre. A minimum lot area of 22,500 square feet is required for duplexes. Lots using individual wells and septic tanks are required to be 20,000 square feet per dwelling unit. The minimum lot width required is 60 feet. The front setback requirement is 30 feet. The rear yard setback requirement is 20% of the lot, not to exceed 30 feet and the sideyards are 8 feet. The maximum height allowed for the structure is 35 feet although the height of a structure meeting other minimum roof pitch requirements shall be allowed a maximum total height of 42. Lot coverage shall not exceed 33%. Permitted uses in this designation are detached single family dwellings, duplexes, bulkheads and large residential dwellings. Conditional uses allowed in this designation are cemeteries, private parks and playgrounds, nursing homes, private clubs and boardinghouses. Incompatible uses such as retail shopping centers and gas stations are not permitted.

Commercial, Government, Multiple Use and Warehouse designations

The commercial, government, multiple-use and warehouse designations consist of land for recreational purposes, commercial facilities, and commercial services as described in the below:

This area will be used for intensive recreational purposes and for those types of development which need to be located in close proximity to the Town's beach area. This area will also provide for the grouping and development of commercial facilities to serve the entire community as well as for the less intensive residential and compatible supporting uses. A minimum lot area of 15,000 square feet is required for commercial development and single-family dwellings. The density of development is roughly 3 single-family dwelling units or 3 commercial developments per acre. The maximum height allowed for the structure is 35 feet although the height of a structure meeting other minimum roof pitch requirements shall be allowed a maximum total height of 42. A minimum lot area of 22,500 square feet is required for duplexes. Lots using individual wells and septic tanks must be 20,000 square feet per dwelling unit. The minimum lot width required is 60 feet. The minimum depth of the front yard for single-family and duplexes must be 30 feet. The minimum depth of the front yard for commercial development must be 15 feet. The minimum width of the side yards shall be eight feet for single-family, duplex and commercial development. In the case of a corner lot the minimum width of the side yard adjacent to the right-of-way must be no less than 15 feet. The minimum depth of the rear yard must be 20 percent of the lot depth for single-family and duplex, but need not exceed 30 feet. The minimum depth of the rear yard for a commercial development must be 25 feet. Lot coverage shall not exceed 55%. Permitted uses in this designation are detached single family dwellings, duplexes, banks, drug stores, post office and large residential dwellings. Conditional uses allowed are fishing piers, automobile service stations, and retail shopping centers. Although the fresh pond is designated as multiple-use in the future land use map the 1,200 foot watershed buffer will continue to be enforced.

Hotel, Motel and Cottage Court

The hotel/motel/ and cottage court land classification allows for the location of larger-scale hotels in where the increase in height does not significantly affect the view shed from Jockey's Ridge and does not diminish the low density character of the historic district and other neighborhoods. The Maximum height of structures is 60 feet. Hotels are allowed a maximum total lot coverage of 65 percent. For hotels buildings higher than 35 feet, the side yard setback has to be ten feet plus an additional one foot for each foot over 35 feet. A minimum of 50 percent of the required side yard setbacks must remain undeveloped as open space. The density of hotel units will not exceed 16 hotel units or hotel efficiency units for the first acre and 20 hotel units or hotel efficiency units for each additional acre. Permitted uses in this designation are hotels, motels, retail stores, single family dwellings, public utility facilities and indoor public facilities. Incompatible uses such as warehouses are not permitted.

Undeveloped

The undeveloped classifications are areas that are not currently developed with structures. These areas will be grouped into the surrounding land classification once development begins i.e. an undeveloped lot within the single-family land classification will be given a land classification of single-family.

Park/Open Space

The park/open space public classification is National Park service land and Town parks.

Recreation Private

The recreation private designation is land set aside, by the Village Property Owners Association, during the subdivision process. This land is used for stormwater retention as well as a private golf course.

Cemetery, Secondary Improvement and Washout

The underlying use of the cemetery area is for a cemetery. The washout areas are land that has been washed out by the ocean and is now unable to be built on. The secondary improvement areas are indicated for utility company substations. Incompatible uses such as single family dwellings will not be permitted.

Institutional and Religious

The institutional and religious designation areas are where churches, synagogues and other religious facilities are located. All structures within the religious complex must be separated by a minimum of 30 feet and can be located no closer than 25 feet to a common property line or 30 feet from and abutting street or right of way. Lot coverage may not exceed 30 percent but may be increased to 45% when on-site stormwater facilities are constructed. Minimum lot width must be 70 feet and the minimum front yard depth is 30 feet. The minimum width of the side yard is 10 feet. The maximum height allowed for the structure is 35 feet although the height of a structure meeting other minimum roof pitch requirements shall be allowed a maximum total height of 42. Permitted used in the Institutional and Religious designation are single family dwellings, duplexes, and municipally owned facilities. Incompatible uses such as warehouses are not permitted.

The only significant difference between the Existing Land Use map and the Future Land Use Map is the amount of land designated as commercial and single family residential. This change is due to the fact that the Existing Land Use Map classified some areas as undeveloped. The undeveloped lots may eventually be developed as commercial and single family residential.

Chart 1 in Appendix F shows 199 acres of undeveloped lots from the existing land use map will convert to Single family residential and 100 acres of undeveloped lots from the existing land use map will convert to commercial. 1 acre will remain in the undeveloped category. At this time, the Town has no major areas or new locations planned for future growth and development. Also, there are no areas targeted for infill, preservation, and redevelopment. The Town requires developers to install roads and waterlines in new subdivisions and the Town has no municipal sewer system. The Town recognizes the need for a dual or looped water supply system and will continue to loop the system as funding permits. At this time, the Town has no desire to redevelop at higher densities to support additional demand.

Tools for Managing Development

- Guide for Land Use decision making

The local planning requirements of the North Carolina Coastal Area Management Program (CAMA) provide the framework in which to analyze and project these future growth pressures, identify the problems and concerns they raise, and develop appropriate policies and actions for dealing with them. CAMA mandates that coastal localities update their Land Use Plans at least every five years, and what follows in this plan is the result of the updating process. Nags Head is truly at an important juncture and this plan update must provide essential direction and guidance for managing Nags Head's growth, both in the short and long terms. It is important to recognize that even if this planning effort was not required under CAMA provisions, the Town would still have undertaken it. The Town recognizes the Land Use Plan is used in the consistency review of CAMA Major permit applications and that inconsistency with Land Use Plan policies including the FLUPM and implementation can result in denial of State permits. Implementation of the policy statements in this plan are shown as objectives under the policy statements. Effective January 1, 2006, state statutes require that all city and county planning boards comment in writing on any proposed zoning map or text amendment. The comment must address whether the proposed amendment is consistent with any comprehensive plan that has been adopted and any other officially adopted plan that is applicable. When adopting or rejecting any proposed amendment, the city council or board of commissioners must also adopt a statement to address this issue (and also addressing why the board believes the action taken is reasonable and in the public interest) G.S. 160A-383; 153A-341. It is also important to note that other state statutes G.S. 160A-382 and 153A-342 specifically require that a statement be prepared analyzing the reasonableness of all CUP, conditional zoning, or other small scale rezonings. The statutes allow substantial flexibility as to how these statements are prepared. Many jurisdictions have a staff analysis on this issue, often including a draft statement, prepared for Planning board and governing Board consideration, amendment and adoption. As required, the Town follows state statutes as well as our local ordinances in the decision making process. As required by state statute, public hearings will continue to be held for zoning map and ordinance changes.

- Existing Development Program

Nags Head is growing and changing, and the primary purpose of this plan is to manage and guide these forces so that important values are protected and goals advanced. Past Land Use Plans have established the baseline assumptions concerning future growth and provided an initial starting point for identifying local growth-related problem areas, the magnitude of these problems, and the urgency with which they need to be addressed.

As Nags Head approaches build-out, management of existing development and redevelopment will be a paramount concern. As remaining land becomes more limited and as our housing stock ages, the Town must make sure that when the marginal land is developed and the existing housing stock improved, that it is developed or improved in a fashion consistent with the Town's desire to retain the "Nags Head" image. As we near build-out, our focus needs to address our existing natural and man-made environment and how best to manage this environment to meet the needs of our citizens and visitors. The 2006 CAMA Land Use Plan will be used in conjunction with the

Towns' Zoning Ordinance, Stormwater Management Plan and various Zoning and Town code amendments to accomplish the goals of this plan.

Following are three federal programs which will continue to be utilized to regulate development in the Town as well.

1. National Flood Insurance Program
2. U.S. Fish and Wildlife Service
3. US Army Corps of Engineers

The Town will continue to follow State Regulatory Programs as well. Some of these programs are:

1. Coastal Area Management Act
2. Ocean Hazard area of Environmental Concern (AEC's)
3. North Carolina Division of Marine Fisheries

The Town will continue to refer to the Land Use Plan policies when reviewing amendments to the Town Code to ensure any amendment to the Code does not conflict with the Land Use Plan policies. Discussion about the above regulatory programs can be found in the Natural Resources section of this plan.

- Additional Tools

The Town will review the Zoning Ordinance periodically to ensure it is compliant with new State and Federal regulations. Due to current state of the economy, the Town does not have any plans to acquire property in the near future but will acquire properties as funds become available. The Town will also complete projects in the Town's Capital Improvement Program as funds become available. The Town is currently pursuing a beach nourishment project and is in the process of seeking funds for the project.

- Action Plan Schedule

The action schedule for implementing the policies can be found under the Plan For the Future section of this plan. Following each implementation action for a policy (in parenthesis) is the priority for that implementation. The policies will be used to prepare Implementation Status Reports. The timing for completion of policies is based upon the priority assigned and are as follows: Highest Priority (2 years); High Priority (3 years), Priority (4 years), and Low Priority (5 years).

Appendix A - Citizen Participation Plan

Appendix B – 2006 Land Use Plan Survey Results

Appendix C – List of Maps

Existing Land Uses

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Composite Map of Environmental Conditions

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Appendix F- Charts

Chart 1 Distribution of acreages

Chart 2 Future Land Use Plan Compatibility Matrix

Chart 3 Future Land Use policies and zoning district compatibility matrix

Chart 4 Management Topics Matrix