

# TOWN OF NORTH TOPSAIL BEACH CAMA CORE LAND USE PLAN



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TOWN OF NORTH TOPSAIL BEACH  
CAMA CORE LAND USE PLAN

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Appendix II	Property Owners Survey Results
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## MATRIX OF REQUIRED ELEMENTS

CAMA CORE LAND USE ELEMENT	ELEMENT DISCUSSED
(a) Organization of the Plan	pages 1-2
(b) Community Concerns and Aspirations	
(1) Significant Existing and Emerging Conditions	pages 6-7
(2) Key Issues	pages 6-7
(3) A Community Vision	page 8
(c) Analysis of Existing and Emerging Conditions	pages 9-22
(1) Population, Housing, and Economy	
(A) Population:	
(i) Permanent population growth trends using data from the two most recent decennial Censuses;	page 9
(ii) Current permanent and seasonal population estimates;	page 10
(iii) Key population characteristics;	pages 10-13
(iv) Age; and	pages 11-12
(v) Income	pages 18-19
(B) Housing Stock:	
(i) Estimate of current housing stock, including permanent and seasonal units, tenure, and types of units (single-family, multi-family, and manufactured); and	pages 13-18
(ii) Building permits issued for single-family, multi-family, and manufactured homes since last plan update	page 15
(C) Local Economy	pages 18-22
(D) Projections	page 80
(2) Natural Systems Analysis	pages 23-58
(A) Mapping and Analysis of Natural Features	
(i) Areas of Environmental Concern (AECs);	pages 31-41
(ii) Soil characteristics, including limitations for septic tanks, erodibility, and other factors related to development;	pages 29-30
(iii) Environmental Management Commission water quality classifications and related use support designations, and Division of Environmental Health shellfish growing areas and water quality conditions;	pages 47-49
(iv) Flood and other natural hazard areas;	pages 24-26
(v) Storm surge areas;	pages 27-29
(vi) Non-coastal wetlands including forested wetlands, shrub-scrub wetlands, and freshwater marshes;	pages 41-44
(vii) Water supply watersheds or wellhead protection areas;	page 31
(viii) Primary nursery areas, where mapped;	
(ix) Environmentally fragile areas; and	
(x) Additional natural features or conditions identified by the local government.	pages 46-47

CAMA CORE LAND USE ELEMENT	ELEMENT DISCUSSED
(B) Composite Map of Environmental Conditions: <ul style="list-style-type: none"> <li>(i) Class I</li> <li>(ii) Class II</li> <li>(iii) Class III</li> </ul>	pages 49-51
(C) Environmental Conditions <ul style="list-style-type: none"> <li>(i) Water Quality:               <ul style="list-style-type: none"> <li>(I) Status and changes of surface water quality, including impaired streams from the most recent NC Division of water Quality Basinwide Water Quality Plans, 303(d) List and other comparable data;</li> <li>(II) Current situation and trends on permanent and temporary closures of shellfishing waters as determined by the Report of Sanitary Survey by the Shellfish Sanitation Section of the NC Division of Environmental Health;</li> <li>(III) Areas experiencing chronic wastewater treatment system malfunctions; and</li> <li>(IV) Areas with water quality or public health problems related to non-point source pollution</li> </ul> </li> <li>(ii) Natural Hazards:               <ul style="list-style-type: none"> <li>(I) Areas subject to storm hazards such as recurrent flooding, storm surges, and high winds;</li> <li>(II) Areas experiencing significant shoreline erosion as evidenced by the presence of threatened structures or public facilities; and</li> <li>(III) Where data is available, estimates of public and private damage resulting from floods and wind that has occurred since the last plan update</li> </ul> </li> <li>(iii) Natural Resources:               <ul style="list-style-type: none"> <li>(I) Environmentally fragile areas or areas where resource functions may be impacted as a result of development; and</li> <li>(II) Areas containing potentially valuable natural resources</li> </ul> </li> </ul>	pages 52-58
(3) Analysis of Land Use and Development	
(A) A map of land including the following: residential, commercial, industrial, institutional, public, dedicated open space, agriculture, forestry, confined animal feeding operations, and undeveloped;	page 66
(B) The land use analysis shall including the following: <ul style="list-style-type: none"> <li>(i) Table that shows estimates of the land area allocated to each land use;</li> <li>(ii) Description of any land use conflicts;</li> <li>(iii) Description of any land use-water quality conflicts;</li> <li>(iv) Description of development trends using indicators; and</li> <li>(v) Location of areas expected to experience development during the five years following plan certification by the CRC and a description of any potential conflicts with Class II or Class III land identified in the natural systems analysis</li> </ul>	pages 64-66 pages 67-70

CAMA CORE LAND USE ELEMENT	ELEMENT DISCUSSED
(C) Historic, cultural, and scenic areas designated by a state or federal agency or by local government	
(D) Projections of future land needs	page 121
(4) Analysis of Community Facilities	
(A) Public and Private Water Supply and Wastewater Systems	page 61
(B) Transportation Systems	page 58
(C) Stormwater Systems	pages 63-64
(D) Other Facilities	pages 58-62
(5) Land Suitability Analysis (A) Water quality; (B) Land Classes I, II, and III summary environmental analysis; (C) Proximity to existing developed areas and compatibility with existing land uses; (D) Potential impacts of development on areas and sites designated by local historic commission or the NC Department of Cultural Resources as historic, culturally significant, or scenic; (E) Land use and development requirements of local development regulations, CAMA Use Standards and other applicable state regulations, and applicable federal regulations; and (F) Availability of community facilities, including water, sewer, stormwater, and transportation	pages 71-73
(6) Review of Current CAMA Land Use Plan	pages 74-77, Appendix III
(A) Consistency of existing land use and development ordinances with current CAMA Land Use Plan policies;	
(B) Adoption of the land use plan's implementation measures by the governing body; and	
(C) Efficacy of current policies in creating desired land use patterns and protecting natural systems	
(d) Plan for the Future	
(1) Land Use and Development Goals:	
(A) Community concerns and aspirations identified at the beginning of the planning process;	pages 6-7
(B) Needs and opportunities identified in the analysis of existing and emerging conditions	pages 78-82

CAMA CORE LAND USE ELEMENT	ELEMENT DISCUSSED
<p>(2) Policies:</p> <p>(A) Shall be consistent with the goals of the CAMA, shall address the CRC management topics for land use plans, and comply with all state and federal rules;</p> <p>(B) Shall contain a description of the type and extent of analysis completed to determine the impact of CAMA Land Use Plan policies on the management topics, a description of both positive and negative impacts of the land use plan policies on the management topics, and a description of the policies, methods, programs, and processes to mitigate any negative impacts on applicable management topics;</p> <p>(C) Shall contain a clear statement that the governing body either accepts state and federal law regarding land uses and development in AECs or, that the local government's policies exceed the requirements of state and federal agencies.</p>	pages 82-86
<p>(3) Land Use Plan Management Topics.</p>	pages 86-109
<p>(A) Public Access</p>	pages 87-88
<p>(B) Land Use Compatibility</p>	pages 88-96
<p>(C) Infrastructure Carrying Capacity</p>	pages 96-100
<p>(D) Natural Hazard Areas</p>	pages 100-102
<p>(E) Water Quality</p>	pages 102-106
<p>(F) Local Areas of Concern</p>	pages 106-109
<p>(4) Future Land Use Map</p> <p>(A) 14-digit hydrological units encompassed by the planning area;</p> <p>(B) Areas and locations planned for conservation or open space and a description of compatible land use and activities;</p> <p>(C) Areas and locations planned for future growth and development with descriptions of the following characteristics:</p> <p>(i) Predominant and supporting land uses that are encouraged in each area;</p> <p>(ii) Overall density and development intensity planned for each area;</p> <p>(iii) Infrastructure required to support planned development in each area</p> <p>(D) Areas in existing developed areas for infill, preservation, and redevelopment;</p> <p>(E) Existing and planned infrastructure, including major roads, water, and sewer</p> <p>In addition, the plan shall include an estimate of the cost of any community facilities or services that shall be extended or developed. The amount of land allocated to various uses shall be calculated and compared to the projection of land needs. The amount of land area thus allocated to various uses may not exceed projected needs as delineated in Part (c)(3)(A)(iv) - Projection of Future Land Needs.</p>	<p>pages 110-119</p> <p>pages 78-82 and page 119</p>

CAMA CORE LAND USE ELEMENT	ELEMENT DISCUSSED
<ul style="list-style-type: none"> <li>(e) Tools for Managing Development               <ul style="list-style-type: none"> <li>(1) Guide for Land Use Decision-Making</li> <li>(2) Existing Development Program</li> <li>(3) Additional Tools.                   <ul style="list-style-type: none"> <li>(A) Ordinances:                       <ul style="list-style-type: none"> <li>(i) Amendments or adjustments in existing development codes required for consistency with the plan;</li> <li>(ii) New ordinances or codes to be developed</li> </ul> </li> <li>(B) Capital Improvements Program</li> <li>(C) Acquisition Program</li> <li>(D) Specific Projects to Reach Goals</li> </ul> </li> <li>(4) Action Plan/Schedule</li> </ul> </li> </ul>	<p>page 120 page 120 pages 120</p> <p>pages 121-130</p>

## SECTION I: HOW TO USE THE PLAN

This CAMA Core Land Use Plan is prepared in accordance with the requirements of the North Carolina Coastal Area Management Act (CAMA). Specifically, this document complies with and is organized to adhere to Subchapter 7B, "CAMA Land Use Planning Requirements," of the North Carolina Administrative Code, as amended, August 1, 2002. The matrix following the table of contents specifies how/where compliance with 15A NCAC 7B is accomplished. The reader should review Section VII: Tools for Managing Development which begins on page 120.

The 7B guidelines provide that each of the twenty coastal counties and municipalities within those counties prepare and adopt a Core CAMA Land Use Plan that meets the planning requirements adopted by the Coastal Resources Commission (CRC). If a county chooses not to prepare a plan, the guidelines specify that the CRC will prepare and adopt a CAMA Land Use Plan for that county and municipalities within the county which choose not to prepare their own plan. Municipalities not preparing their own plan will be included in the plan for the county in which the municipality is located. A Core Plan is defined as follows:

**Core Plan:** This plan addresses all of the plan elements in Rule .0702 of Section 7B (Elements of CAMA Core and Advanced Core Land Use Plans) in a complete and thorough manner. These are summarized as follows: (1) Organization of the Plan, (2) Community Concerns and Aspirations, (3) Analysis of Existing and Emerging Conditions within the jurisdiction, and (4) Plan for the Future. This type of plan is the standard CAMA Land Use Plan required for all 20 coastal counties.

At the beginning of the preparation of this document, the Town of North Topsail Beach adopted a Citizen Participation Plan which is intended to ensure that all interested citizens have an opportunity to participate in the development of this plan through both oral and written comments. A copy of the Citizen Participation Plan is included as Appendix I. The citizen input received during the development of this plan has greatly influenced the final contents of the plan and its policies.

The reader should not attempt to understand this plan by reading only several sections of the document. All sections of the plan are inter-related. However, significant sections of the plan include the following:

- ▶ Analysis of Existing and Emerging Conditions, page 9.
- ▶ Analysis of Land Use and Development, page 64.
- ▶ Land Suitability Analysis, page 71.
- ▶ Plan for the Future, page 78.
- ▶ Tools for Managing Development, page 120.

In addition to the CAMA requirements, there are other reasons to plan. North Topsail Beach has a great deal of influence on the way in which the town develops. The buildings, facilities, and improvements provided by North Topsail Beach affect the daily lives of its citizens, give form to the town, and stimulate or retard the development of privately-owned land. In addition, the workings of the real estate market

help determine the uses of private land, but these uses are regulated by North Topsail Beach. The town has an opportunity to coordinate the overall pattern of physical development.

North Topsail Beach is inescapably involved in questions of physical development. At almost every meeting of the Board of Aldermen, development decisions must be made concerning rezoning, street improvements, sites for public buildings, and so on. North Topsail Beach — and particularly the legislative body made up of lay citizens — needs some technical guidance in making these physical development decisions. North Topsail Beach needs an instrument that establishes long-range, general policies for the physical development of the community in a coordinated, unified manner, and which can be continually referred to in deciding upon the development issues that come up every week. The comprehensive plan is such an instrument.

Once this plan is adopted, the town must realize that the plan is not the end of the process. North Topsail Beach must continuously work at accomplishing plan implementation and establishing an effective planning program. **The town must view the preparation of this document as the first step in a continually evolving process.**

The policies and implementing actions section of this plan, pages 83 to 110 includes numerous recommendations for new regulatory ordinances and revisions to existing regulatory ordinances. These revisions are essential to the successful implementation of this document. No CAMA permits will be issued which are inconsistent with the policies included in this plan.

## SECTION II: HISTORY

Topsail Island shares a rich and varied history. Local folklore claims the name, Topsail (pronounced Topsul), originated during the 1700s when pirate ships roamed the coastal waters. Local folklore claims that marauding pirates hid their ships in the channel behind the island and waited for passing merchant ships loaded with goods. The pirates would pursue and attack the merchants, claiming the cargoes as their own. Eventually the merchants became aware of this infamous hiding place and began to watch for the tops of the pirates' sails showing over the rolling dunes - hence the name Topsail Island. Prior to World War II, the only access to Topsail Island was by boat.

Area residents frequently made the short boat trip and picnicked on the sandy shores of the Atlantic Ocean. Local farmers are said to have driven their pigs across the waterways to graze on wild grass. Treasure hunters searched for Blackbeard's infamous buried treasure throughout the maritime forests which covered the land.

During the war, the US Navy took over the island and began a joint venture with Johns Hopkins University known as Operation Bumblebee. The waterway was dredged, roads were built, and fresh water was piped onto the island. Operation Bumblebee was the beginning of the space program for the United States Government. An arsenal center for the assembly and storage of rockets was built on the sound side of the island, and launching pads were constructed on the oceanfront. Concrete observation towers were built throughout the island to monitor the experimental launchings. Over 200 rocket launchings took place on the island between 1946 and 1948. When the testing program was dismantled, the government sold the island to the public. Many of the original military structures are still standing today.

The Topsail Island community has experienced much growth since the days of pig farmers and military maneuvers. The Town of Surf City, in the center of the island, was incorporated in 1949. The Town of Topsail Beach was incorporated in 1963, and the Town of North Topsail Beach located on the northern half of the island was incorporated in 1990. The Town of North Topsail Beach derived its name from its location at the north end of Topsail Island. The area used to be known as West Onslow Beach and North Topsail Shores.

### SECTION III: REGIONAL LOCATION

North Topsail Beach is located at the north end of Topsail Island within Onslow County, which is situated within the southeastern portion of the North Carolina Coastal Plain. This island is part of North Carolina's coastal barrier island chain which stretches from the Virginia border in Currituck County, to the South Carolina Line in southern Brunswick County. Onslow County is bordered by Carteret, Duplin, Jones, and Pender Counties, as well as the Atlantic Ocean to the east. As stated, North Topsail Beach is a coastal barrier island and is linked to the mainland by a high rise bridge located along NC Highway 210. NC Highway 210 continues southward throughout the Town's corporate limits, eventually leading to Surf City and Pender County. Access to the north end of the island is provided via New River Inlet Road (SR 1568). The New River Inlet is situated at the northern extent of the Town's corporate limits.

North Topsail Beach exists primarily as a residential/resort community catering to both permanent and seasonal residents. Land use within the Town is almost entirely comprised of single- and multi-family residential uses. Permanent and seasonal residents of North Topsail Beach rely heavily on retail establishments and services available at both Surf City (8 miles) to the south, Sneads Ferry (6 miles) to the northwest, and Holly Ridge located on the mainland east of town along NC Highway 210. The closest major cities to North Topsail Beach are Jacksonville (22 miles) and Wilmington (32 miles). Residents of North Topsail Beach rely on these two urban centers for a variety of services including access to various health service providers and regional hospital facilities. Map 1 provides a regional location map for North Topsail Beach.

MAP 1 - REGIONAL LOCATION MAP

## SECTION IV: COMMUNITY CONCERNS AND ASPIRATIONS

### **A. KEY ISSUES**

This document will attempt to assess all issues and concerns that may affect the growth and natural environment in the Town of North Topsail Beach over the 5-year planning period. Due to resource and time limitations key issues must be identified and prioritized. These key issues are those that the Town will address in the form of goals, policies, and implementing actions through implementation of this plan.

In order to identify these issues, the Town held two Issues Identification Meetings on April 27, 2006 and May 8, 2006. These meetings were widely advertised, through direct solicitation of citizens with known interests in civic affairs and the posting of flyers at key locations in Town. Additionally, a notice was published twice in the Topsail Voice, once in the Jacksonville Daily News, and an article was written regarding the overall land use plan process as well as the citizen input meeting in the Topsail Voice.

At each of the meetings, the Town's planning consultants, Holland Consulting Planners, Inc., provided an overview of the CAMA Land Use Planning process and then led the assembled group in a "brainstorming" session to identify issues that the group judged to be significant to the Town of North Topsail Beach's growth and environment over the planning period. These issues were then listed on large writing pads and affixed to the wall of the room where the meeting was held. At the end of the second meeting, participants received 10 "votes" and identified their 10 top issues (1 vote per issue - no "multi-voting" with multiple votes per issue). The results are recorded below:

# of Votes	Issue	Rank
11	Encourage planting more trees and conservation of the existing maritime forests	1
10	Preservation of primary dune line (dune renourishment)	2
10	Preserving green space (large tracts)	3
10	Encourage low density residential development	4
9	Preserve the beach	5
9	Limit multi-family dwellings (duplexes, triplexes, condos, etc.)	6
9	Realign the New River inlet	7
8	Eliminate septic tanks	8
8	Elimination of septic holding tanks	9
7	Draft and adopt a dune protection ordinance	10
7	Increase sewer capacity	11
6	Establish more strict ocean front setback requirements	12
6	Implementation of plans for bicycle paths	13
5	Maintain Town's Outstanding Resource Waters	14
5	Establish procedure for getting trash receptacles off the street	15
4	Promote channel maintenance	16

# of Votes	Issue	Rank
4	Establish a curbside recycling service	17
4	Maintain the viability of shellfishing waters	18
4	Set more rigorous impervious percentages for construction to reduce stormwater runoff	19
4	Reduce new construction in CBRA zones	20
3	Establish Town view on maximum building height	21
3	Save the fishing pier (NTB) seaview pier	22
3	Real estate disclosure (ability to rebuild)	23
3	Establish an outdoor public amphitheater and community center	24
3	Economic development (improve efforts)	25
3	Establish a public canoe/kayak access	26
3	Reduce speed limit on 210 from 55 to 45 mph	27
2	Encourage more permanent residents	28
2	Address handicapped public access	29
2	Establish a municipal pier	30
2	Enhance NTB as an attractive vacation destination.	31
2	Improve pedestrian walkways (sidewalks)	32
2	Increase speed limit signage (35 mph Town-wide)	33
2	Research and establish local policies for dune protection with respect to new construction (primary dune line)	34
1	Address water capacity issue (water pressure)	35
1	Limit or reduce the amount of commercial development/property zoned commercial	36
1	Replace the swing bridge in Surf City with high-rise bridge	37
1	Keep the swing bridge	38
1	Protect fish spawning and nursery areas	39
1	Increase parking at public access sites	40
1	Increase number of public access points estuarine/ocean	41
1	Change building codes to provide maximum hurricane protection and wind/flood survivability	42
1	Improve beach patrol efforts (lifeguards)	43
1	Commercial/recreational development policy	44
1	Establish no passing zones on 210	45
1	Public awareness of property damage vulnerability	46
0	Establishment of additional boat ramp facilities	47
0	Do not promote the establishment of boat ramp facilities	48
0	Identify commercial needs/wants	49
0	Address problem of abandoned/condemned structures	50
0	Have more parks	51
0	Continue to limit driving automobiles on the beach	52

Additionally, a land use plan survey was mailed to 2,883 property owners. A total of 868 completed questionnaires were received. See Appendix II for the results of the property owners survey.

**B. NORTH TOPSAIL BEACH VISION STATEMENT**

North Topsail Beach is a residential, family-oriented community and major family vacation destination committed to living in harmony with nature while being supportive of activities and services necessary to enhance the quality of life for citizens and visitors.

## SECTION V: EXISTING AND EMERGING CONDITIONS

### A. POPULATION

#### 1. Onslow County and North Topsail Beach Population Growth

Table 1 is a comprehensive report on the population growth throughout Onslow County from 1980 to 2005. The data provided accounts for each municipality, as well as the county overall. The population information provided for 1980 and 1990 for North Topsail Beach was based on estimates provided by the North Carolina Office of State Planning. Due to this fact, the population counts for 1980 and 1990 may be inaccurate. For the 2000 Census, census workers made a first effort at establishing an actual census figure for North Topsail Beach. In 2000, it was determined that there were approximately 843 permanent year-round residents within the Town. The Office of State Planning has established population estimates for 2005, based on the official 2000 census count. According to these estimates, between 2000 and 2005, North Topsail Beach's permanent population has increased by 12 individuals. This appears to be a very modest estimate, in light of the rapid development that is taking place throughout the Town's corporate limits.

Table 1: Population Growth by Municipality and County, 1980-2007

Municipality	1980	1990	2000	2007 Estimate	'80-'90	'90-'00	'00-'07	Overall '80-'07
Holly Ridge	465	728	831	863	56.6%	14.1%	3.9%	85.6%
Jacksonville*	18,259	30,398	66,719	77,301	66.5%	119.5%	15.9%	323.4%
North Topsail Beach**	301	645	843	898	114.3%	30.7%	6.5%	198.3%
Richlands	825	996	928	1,093	20.7%	-6.8%	17.8%	32.5%
Surf City***	N/A	317	333	310	N/A	5.0%	-6.9%	N/A
Swansboro	976	1,165	1,426	1,997	19.4%	22.4%	40.0%	104.6%
Total Municipalities	20,826	34,249	71,080	82,462	64.5%	107.5%	16.0%	296.0%
Total Unincorporated Areas	91,958	115,589	79,275	86,840	25.7%	-31.4%	9.5%	-5.6%
Total County	112,784	149,838	150,355	169,302	32.9%	0.3%	12.6%	50.1%

\*The rapid population increase for Jacksonville between 1980 and 1990 can be attributed to a rapid increase in personnel at the Camp Lejeune Marine Base. The sharp increase between 1990 and 2000 was the result of annexation activity.

\*\*The Town of North Topsail Beach was incorporated in 1990. A formal census count for the Town was not conducted for the 1990 census. The figures outlined above for the years 1980 and 1990 are estimates provided by the NC Office of State Planning. These estimates may appear inaccurate, therefore, the 2000 Census figure is the first official population count for the Town and should serve as a baseline figure for permanent population within the Town's corporate limits.

\*\*\*Prior to the 1990 Census, Surf City annexed land falling within Onslow County. During previous census years, Surf City was situated entirely within Pender County, where now a portion of the town falls within Onslow County and abuts the corporate limits of North Topsail Beach.

Source: US Census Bureau.

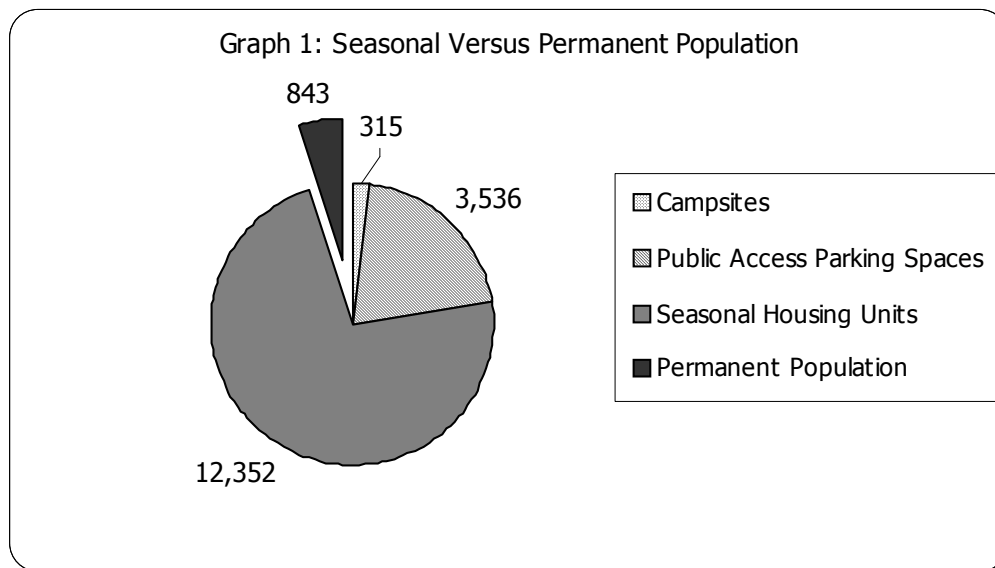
Table 2 provides a summary of seasonal population for North Topsail Beach. Seasonal population has a substantial impact on the Town, and is essentially the primary, if not the sole source, for economic development within Town. The estimates provided in Table 2 are based on a study conducted by Paul D.

Tschetter of East Carolina University in 1988. This study focused on recreational population for the coastal portions of eastern North Carolina. This study established average per capita figures for a variety of seasonal housing types including: motel/hotel, campsites, boat slips, and private housing units. Based on these averages, the peak seasonal population for North Topsail Beach is estimated to be 17,046. This figure may slightly increase due to day visitors to; however, an attempt was made to account for these individuals through incorporating public access parking spaces into the calculation. The estimates also account for one commercial campground (Surf City Campground), that is located within North Topsail Beach's corporate limits.

Table 2: Seasonal Population, 2000

Housing Type	Number of Units	Persons Per Unit	Seasonal Population
Campsites	90	3.50	315
Public Access Parking Spaces	884	4.00	3,536
Seasonal Housing Units	1,544	8.00	12,352
Total			16,203
Permanent Population	843		
Peak Seasonal Population			16,203
Total Peak Population			17,046

Source: Holland Consulting Planners, Inc.



## 2. Racial and Gender Composition

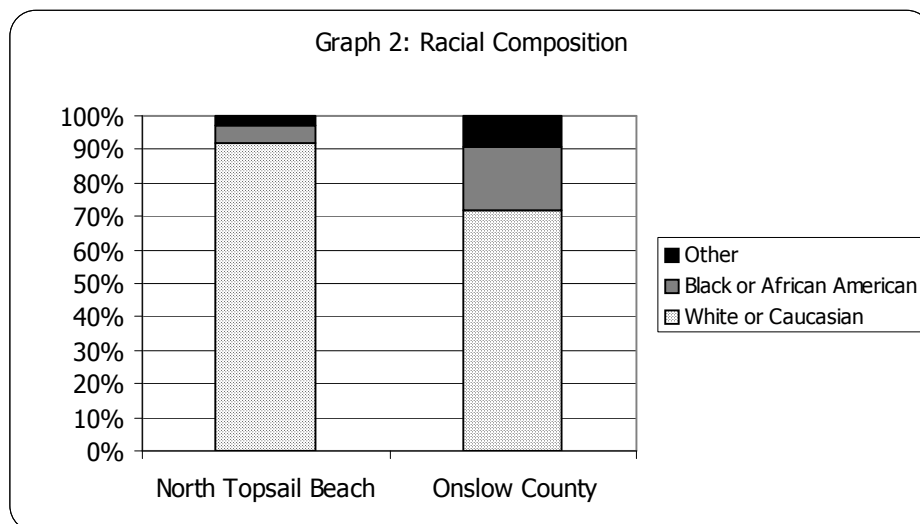
Table 3 provides a breakdown of racial and gender composition within North Topsail Beach as well as Onslow County. Due to the fact that 2000 was the first official census year for North Topsail Beach, this data is not available for past years. According to the Census, North Topsail Beach's permanent population is predominantly comprised of a Caucasian population (92.2%). Approximately 7.8% of the Town's

population is either African-American or other varying ethnicity. The African-American population within North Topsail Beach is considerably larger than most coastal beach communities in North Carolina. This can be attributed to a large African-American fishing community that historically existed within North Topsail Beach. The village is referred to as Ocean City. The gender breakdown within the Town is fairly evenly split, at 52.2% male and 47.8% female.

Table 3: Race and Gender Composition, 2000

	North Topsail Beach		Onslow County	
	Number	% of Total	Number	% of Total
2000 Population	843	100.0%	150,355	100.0%
White or Caucasian	777	92.2%	108,351	72.1%
Black or African American	40	4.7%	27,790	18.5%
Asian or Pacific Islander	7	0.8%	2,809	1.9%
American Indian and Alaska Native	4	0.5%	1,108	0.7%
Some Other Race	4	0.5%	5,449	3.6%
Two or More Races	11	1.3%	4,848	3.2%
Male	440	52.2%	82,986	55.2%
Female	403	47.8%	67,369	44.8%

Source: 2000 US Census.



### 3. Age Composition

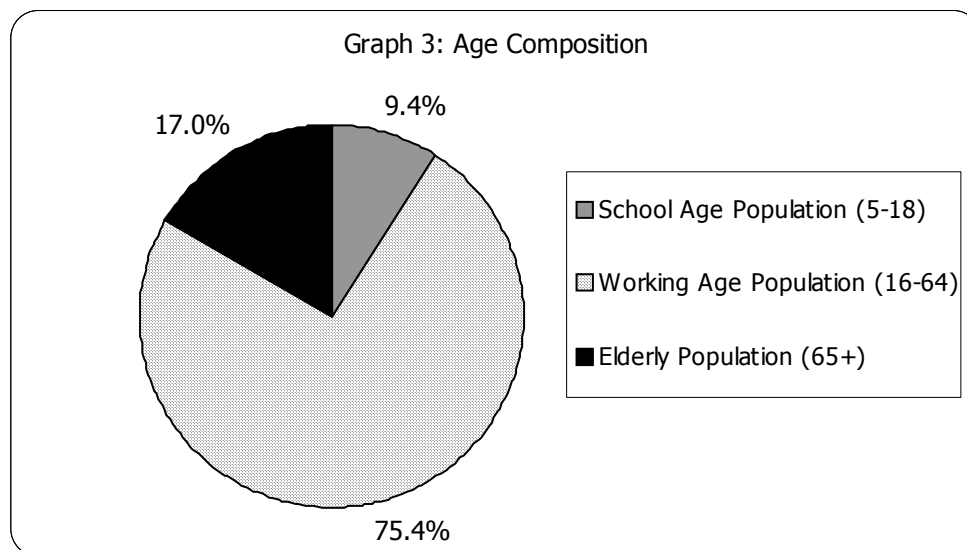
Table 4 provides a summary of population by age within North Topsail Beach and Onslow County. According to this information, a majority of the Town’s population is fairly young, with 65.8 % of the population falling below the age of 54. This is uncharacteristic of many moderately sized beach communities throughout North Carolina. The median age for permanent residents of North Topsail Beach is 45, compared to 25 for Onslow County overall. The young median age for the County can mainly be attributed to the presence of Camp Lejeune Marine Base, and the fact that a substantial number of

personnel on the base are under the age of 25. It should also be noted that the school age population for North Topsail Beach is fairly small.

Table 4: Age Composition, 2000

	North Topsail Beach		Onslow County
	Total	% of Total	% of Total
0 to 14 years	63	7.5%	22.4%
15 to 34 years	249	29.5%	43.4%
35 to 54 years	243	28.8%	22.1%
55 to 64 years	144	17.1%	5.8%
65 to 74 years	111	13.2%	4.0%
75 and over	33	3.9%	2.3%
Total population	843	100.0%	100.0%
Median Age		45.1	25.0
School Age Population (5-18)	79	9.4%	
Working Age Population (16-64)	636	75.4%	
Elderly Population (65+)	144	17.0%	

Source: 2000 US Census.



#### 4. Summary of Educational Attainment (Population 25 years and over)

North Topsail Beach compares favorably with Onslow County in terms of overall educational attainment. Table 5 provides a summary of the Town's 2000 educational attainment compared to Onslow County overall, based on people 25 years of age and older. According to the 2000 US Census, approximately 68.2% of the Town's citizens either attended some college, or received some form of college degree.

Table 5: Educational Attainment for Persons 25 Years and Over

	North Topsail Beach		Onslow County
	Total	% of Total	% of Total
Less than 9 <sup>th</sup> grade	2	0.3%	4.8%
Ninth to twelfth grade, no diploma	54	8.8%	10.8%
High school graduate	138	22.6%	32.8%
Some college, no degree	149	24.4%	28.6%
Associate degree	49	8.0%	8.1%
Bachelor's degree	181	29.6%	10.3%
Graduate/Professional degree	38	6.2%	4.5%
Total population 25 years and over	611	100.0%	100.0%

Source: 2000 US Census.

## 5. Population Summary

The following provides a summary of the significant demographic factors:

- ▶ Based on the first official census count conducted in 2000, the total recorded population for North Topsail Beach was 843 persons.
- ▶ The gender breakdown for the Town's permanent population is 52.8% male and 47.2% female.
- ▶ Approximately 75.4% of the Town's permanent population is considered to be of working age.
- ▶ Approximately 43.8% of North Topsail Beach's permanent residents have achieved some form of college degree.

## **B. HOUSING**

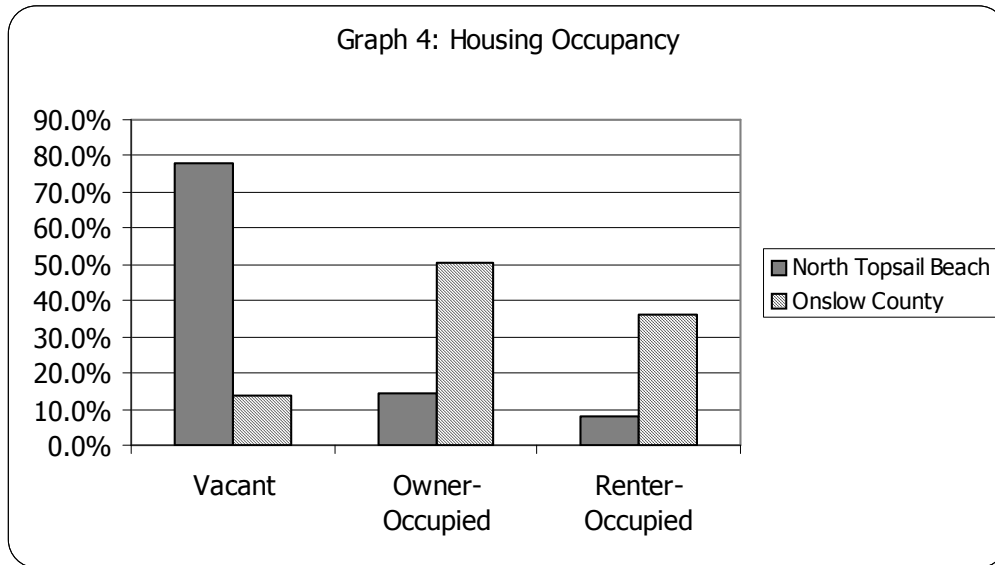
### 1. Housing Occupancy and Tenure

According to the 2000 Census, the Town of North Topsail Beach contains a total of 2,076 dwelling units. Approximately 77.8% of these units are vacant, which is a much higher percentage than that of Onslow County overall (13.6%). Out of the 22.2% of the units that are occupied, 14.1% are owner-occupied and 8.1% are rental properties. The percentage of occupied housing in North Topsail Beach is much less than Onslow County overall (86.4%). This can be attributed to the substantial number of seasonal housing units located throughout North Topsail Beach. Table 6 provides a summary of housing occupancy and tenure.

Table 6: Housing Occupancy and Tenure, 2000

	North Topsail Beach		Onslow County	
	Total	% of Total	Total	% of Total
<b>Vacant:</b>	<b>1,615</b>	<b>77.8%</b>	<b>7,604</b>	<b>13.6%</b>
For rent	110	5.3%	2,323	4.2%
For sale only	71	3.4%	840	1.5%
Rented or sold, not occupied*	2	0.1%	326	0.6%
For seasonal, recreational or occasional use	1,428	68.8%	2,906	5.2%
For migrant workers	0	0.0%	11	0.1%
Other vacant	4	0.2%	1,198	2.0%
<b>Occupied:</b>	<b>461</b>	<b>22.2%</b>	<b>48,122</b>	<b>86.4%</b>
Owner-Occupied	293	14.1%	27,973	50.2%
Renter-Occupied	168	8.1%	20,149	36.2%
<b>Total Housing Units</b>	<b>2,076</b>	<b>100.0%</b>	<b>55,726</b>	<b>100.0%</b>

Source: 2000 US Census.



## 2. Structure Age

Table 7 indicates that in 2000 the median age of housing structures in North Topsail Beach was 1986. Roughly 11.3% of the housing within North Topsail Beach was built prior to 1980. Due to the increasing population as a result of net in-migration, a majority of the housing in North Topsail Beach has been established in the past twenty years. Since 1980, there have been 1,839 new housing units built in North Topsail Beach comprising 88.5% of the Town's housing stock.

Table 7: Year Structure Built

Year	North Topsail		Onslow County	
	# of Structures	% of Total	# of Structures	% of Total
1999 to March 2000	57	2.7%	2,071	3.7%
1995 to 1998	225	10.8%	6,822	12.2%
1990 to 1994	310	14.9%	5,966	10.7%
1980 to 1989	1,247	60.1%	13,176	23.6%
1970 to 1979	123	5.9%	11,204	20.1%
1960 to 1969	82	3.9%	7,247	13.0%
1940 to 1959	28	1.3%	8,243	14.8%
1939 or earlier	4	0.2%	997	1.8%
Total Structures	2,076	100.0%	55,726	100.0%
Median Year Structure Built	1986		1980	

Source: 2000 US Census.

Table 8 provides a summary of building permit activity within North Topsail Beach dating back to 1999. Since 1999, a total of 413 single-family homes and 98 multi-family units (2-unit structures) have been constructed. Construction activity over this period picked up substantially in 2002 and spiked in 2004, with 127 new single-family homes and 32 multi-family units being constructed. The recent trends established through this building activity report will be utilized as a basis for build out projections within the future land use section of this plan.

Table 8: Building Permit Activity, 1999-2005

Year	Single-Family Units	Multi-Family Units
1999	29	4
2000	20	4
2001	23	18
2002	58	18
2003	94	8
2004	127	32
2005	62	26
Total	413	98

Source: Town of North Topsail Beach Building Inspections Department.

### 3. Housing Conditions

Table 9 provides a summary of existing household size, as well as the percentage of units lacking general household needs. The statistics in this table provide a good summary of the condition of the overall housing stock in North Topsail Beach.

Homes in North Topsail Beach are on average slightly smaller (rooms per unit) than those in Onslow County overall. The percentage of homes in North Topsail Beach with 3+ bedrooms is 44.6%, compared to 61.4% for Onslow County. The percentage of homes lacking complete kitchen and plumbing facilities is slightly higher than the county. Nearly every occupied dwelling unit within North Topsail Beach has a working telephone (98.3%), which is slightly higher than that of Onslow County (96.7%). This table clearly shows that the housing within North Topsail Beach is considered to be standard; meaning that structural and systems deficiencies are not a concern.

Table 9: Summary of Housing Conditions

	North Topsail Beach	Onslow County
Average Rooms Per Unit	4.6	5.3
Percent with no bedroom	0.2%	0.9%
Percent with 3+ bedrooms	44.6%	61.4%
Percent lacking complete kitchen facilities	0.9%	0.6%
Percent lacking complete plumbing	0.9%	0.6%
Percent occupied with telephones	98.3%	96.7%

Source: 2000 US Census.

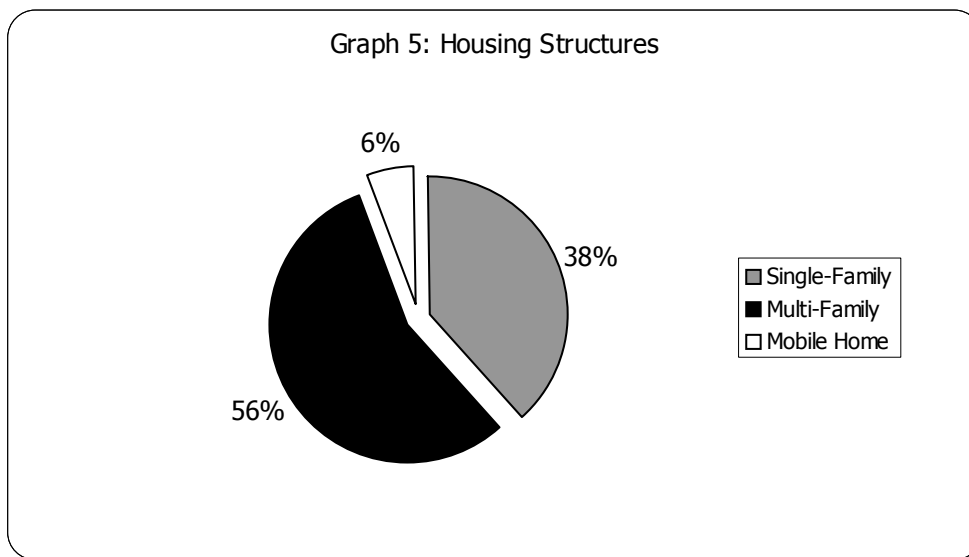
### 4. Single- and Multi-Family Units

Table 10 provides the number of single-family housing units versus multi-family units and the number of mobile homes for both North Topsail Beach and Onslow County overall. North Topsail Beach has a substantially lower number of single-unit detached housing (25.7%) than Onslow County (54.4%), while the percentage of multi-family housing is higher than the county. The percentage of housing in North Topsail Beach comprised of mobile homes is 5.6%. These mobile homes are situated throughout North Topsail Beach on individual lots in MHR zones.

Table 10: Units in Structure and Mobile Home Count, 2000

Units in Structure	North Topsail Beach		Onslow County	
	Total	% of Total	Total	% of Total
1 unit, detached	533	25.7%	30,328	54.4%
1 unit, attached	262	12.6%	4,659	8.4%
2 units	133	6.4%	1,530	2.7%
3 or 4 units*	94	4.5%	2,206	4.0%
5 to 9 units*	95	4.6%	1,303	2.3%
10 to 19 units*	12	0.6%	576	1.0%
20 to 49 units*	829	39.9%	1,332	2.4%
Mobile Home	116	5.6%	13,585	24.4%
Boat, RV, Van, etc.	2	0.1%	207	0.4%
Total	2,076	100.0%	55,726	100.0%

\*Units falling within these categories are considered high density housing.  
Source: 2000 US Census.



## 5. Housing Summary

- ▶ According to the 2000 Census, the Town of North Topsail Beach contains a total of 2,076 dwelling units. Approximately 77.8% of these units are vacant and 22.2% of the units are occupied.
- ▶ The median year of all residential structures in the Town is 1986. Approximately 88.5% of all structures within North Topsail Beach have been constructed since 1980.
- ▶ The percentage of homes in North Topsail Beach with 3+ bedrooms is 44.6%, compared to 61.4% for Onslow County.

- ▶ North Topsail Beach has a substantially lower percentage of single-unit detached housing (25.7%) than Onslow County overall (54.4%).

## C. ECONOMY

### 1. Introduction

The Town of North Topsail Beach relies heavily on retail businesses and services provided in Sneads Ferry and Surf City. North Topsail Beach is a residential community with oceanfront resort condominium complexes and rental units, and has few commercial establishments. Table 11 provides a summary of the economic indicators for the Town of North Topsail Beach and Onslow County. Due to the lack of available data, the figures provided in the table are from several different years. The per capita income as well as median income for North Topsail Beach is significantly higher than that of Onslow County. The unemployment rate for North Topsail Beach is about half that of Onslow County, and the poverty rate (8.6%) is lower than that of the County (12.9%).

Table 11: Summary of Economic Indicators

	Year	North Topsail Beach	Onslow County
Per Capita Income	1999	\$33,972	\$14,853
Mean Income	1999	\$36,293	\$38,848
Unemployment Rate	2000	3.0%	5.8%*
% of Population in Labor Force	2000	64.4%	76.2%
Poverty Rate	2000	8.6%	12.9%

\*2005 figure from Department of Commerce; updated on quarterly basis.  
Source: NC Department of Commerce and US Census Bureau.

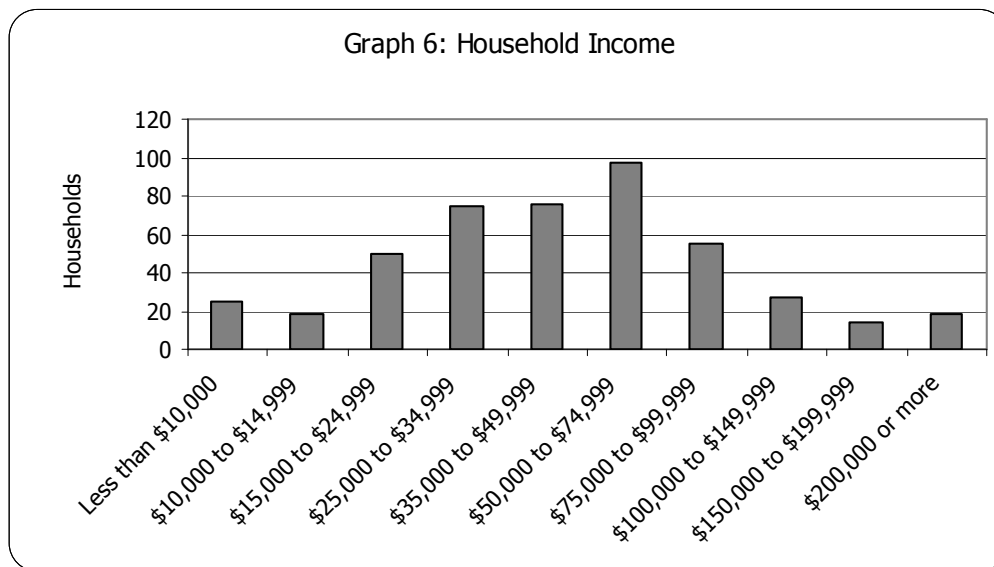
### 2. Household Income

Household income is an effective way to evaluate the overall wealth of an area. Table 12 provides the number of individuals within varying income brackets, and how these figures compare to Onslow County percentages. The Town of North Topsail household incomes are generally higher than Onslow County overall. Approximately 46.4% of permanent residents within North Topsail Beach have an annual household income of \$49,999 or greater.

Table 12: Household Income

	North Topsail Beach		Onslow County	
	Total	% of Total	Total	% of Total
Less than \$10,000	25	5.5%	4,153	8.6%
\$10,000 to \$14,999	18	4.0%	3,425	7.1%
\$15,000 to \$24,999	50	11.0%	8,598	17.9%
\$25,000 to \$34,999	75	16.5%	8,768	18.2%
\$35,000 to \$49,999	76	16.7%	9,847	20.5%
\$50,000 to \$74,999	97	21.3%	8,453	17.6%
\$75,000 to \$99,999	55	12.1%	2,873	6.0%
\$100,000 to \$149,999	27	5.9%	1,413	2.9%
\$150,000 to \$199,999	14	3.1%	305	0.6%
\$200,000 or more	18	4.0%	272	0.6%
Total Families	455	100.0%	48,107	100.0%
Median Income	\$45,982		\$33,756	

Source: 2000 US Census.



### 3. Employment by Industry

Table 13 provides a summary of employment by industry for North Topsail Beach residents 16 years and older. The leading employment industries are Education, Health, and Social Services (22.9%); Public Administration (12.4%); and Construction (12.1%). The industries with the lowest employment rates are Wholesale Trade (0.8%); and Agriculture, Forestry, Fishing and Hunting, and Mining (1.9%). It should be noted that a majority of employed full-time residents within North Topsail Beach rely on jobs located on the mainland.

Table 13: Employment by Industry

Industry	North Topsail Beach		Onslow County	
	# Employed	% Employed	# Employed	% Employed
Agriculture, Forestry, Fishing and Hunting, and Mining	7	1.9%	996	2.0%
Construction	45	12.1%	5,022	10.2%
Manufacturing	25	6.7%	2,682	5.5%
Wholesale Trade	3	0.8%	943	1.9%
Retail Trade	42	11.3%	7,496	15.3%
Transportation, Warehousing, and Utilities	11	3.0%	2,253	4.6%
Information	12	3.2%	1,393	2.8%
Finance, Insurance, Real Estate, and Rental and Leasing	26	7.0%	2,234	4.6%
Professional, Scientific, Management, Administrative, and Waste Management Services	29	7.8%	3,224	6.6%
Education, Health, and Social Services	85	22.9%	10,865	22.2%
Arts, Entertainment, Recreation, Accommodation, and Food Services	30	8.1%	4,790	9.8%
Other Services (except Public Administration)	10	2.7%	2,564	5.2%
Public Administration	46	12.4%	4,558	9.3%
Total Persons Employed 16 years and over	371	100.0%	49,020	100.0%

Source: 2000 US Census.

#### 4. Average Weekly Wage

Table 14 provides a listing of average weekly wages by industry for Onslow County overall. The Utilities industry yields the highest wages in Onslow county jobs (\$938 per week). Across the board, wages in Onslow County are significantly lower than state averages, with the exception of Public Administration.

Table 14: Earnings by Industry, 2000

	Average Weekly Earnings	
	Onslow County	North Carolina
Agriculture, Forestry, Fishing and Hunting	\$497	\$525
Construction	\$536	\$729
Manufacturing	\$604	\$847
Wholesale Trade	\$775	\$1,034
Retail Trade	\$406	\$460
Transportation, Warehousing	\$730	\$778
Information	\$446	\$1,024
Finance, Insurance,	\$615	\$1,151
Professional and Technical Services	\$662	\$1,150

Table 14 (continued)

	Average Weekly Earnings	
	Onslow County	North Carolina
Educational Services	\$536	\$649
Arts, Entertainment, Recreation	\$262	\$544
Mining	\$497	\$1,019
Utilities	\$938	\$1,208
Real Estate, and Rental/Leasing	\$503	\$700
Management of Companies and Enterprises	\$683	\$1,440
Administrative and Waste Services	\$339	\$491
Health Care and Social Assistance	\$617	\$755
Accommodation and Food Services	\$200	\$251
Other Services (except Public Administration)	\$384	\$436
Public Administration	\$717	\$715
Unclassified	\$428	\$651
Total Government	\$574	\$718
Total Private Industry	\$436	\$717
Total All Industries	\$485	\$715

Source: 2000 US Census.

## 5. Employment Commuting Patterns

North Topsail Beach has few commercial operations. Thus, citizens must commute to neighboring municipalities for employment. According to the 2000 US Census, the average commuting time for North Topsail Beach residents is 34.1 minutes. Table 15 shows the overall commuting time for all working age residents within Town.

Table 15: Travel Time to Work

Travel Time	Total	% of Total
Less than 5 minutes	8	1.7%
5 to 9 minutes	23	4.8%
10 to 14 minutes	49	10.3%
15 to 19 minutes	33	6.9%
20 to 24 minutes	33	6.9%
25 to 29 minutes	15	3.1%
30 to 34 minutes	103	21.5%
35 to 39 minutes	48	10.0%

Table 15 (continued)

Travel Time	Total	% of Total
40 to 44 minutes	28	5.9%
45 to 59 minutes	72	15.1%
60 to 89 minutes	35	7.3%
90 minutes or more	19	4.0%
Total (did not work at home)	466	97.5%
Worked at home	12	2.5%
Total Workers 16 years and over	478	100.0%
Mean travel time to work	34.1	

Source: 2000 US Census.

## 6. Economy Summary

- ▶ The unemployment rate for North Topsail Beach (3.0%) is much lower than that of Onslow County overall (5.8%).
- ▶ The poverty rate of North Topsail Beach is lower than that of Onslow County.
- ▶ Approximately 24.5% of the households within North Topsail Beach make less than \$25,000 annually.
- ▶ The leading employment industries are Education, Health, and Social Services (22.9%); Public Administration (12.4%); and Construction (12.1%). The industries supporting the least employment are Wholesale Trade (0.8%); and Agriculture, Forestry, Fishing and Hunting, and Mining (1.9%).
- ▶ The highest paying industry in the county is the Utilities sector. The lowest paying sector is Accommodation and Food Services.

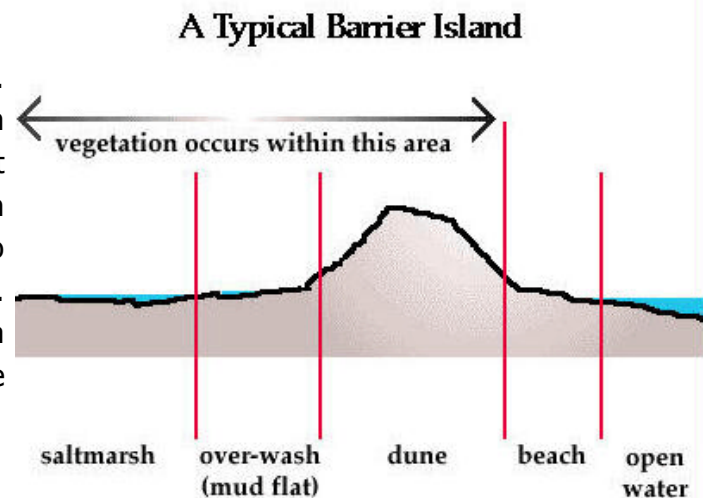
## D. NATURAL SYSTEMS ANALYSIS

### 1. Mapping and Analysis of Natural Features

#### a. Topography

North Topsail Beach is a semi-tropical barrier island located off the southern coast of Onslow County, North Carolina. North Topsail Beach is unique in that the town is home to many tropical plant species that generally do not thrive in an environment located this far north. Barrier islands are phenomenon that are still not fully understood by scientists. Barrier islands are fragile, constantly changing ecosystems that are important for coastal geology and ecology. These islands are separated from the mainland by a shallow sound. Barrier islands are often found in chains along the coastline and are separated from each other by narrow tidal inlets. North Topsail Beach is separated from the mainland by the Intracoastal Waterway.

Barrier islands serve two main functions. First, they protect the coastlines from severe storm damage. Second, they harbor several habitats that are refuges for wildlife. In fact, the salt marsh ecosystems of the islands and the coast help to purify runoffs from mainland streams and rivers. North Topsail Beach fits this overall description of a barrier island system. The town is home to a wide variety of wildlife.



#### b. Climate

The Town of North Topsail Beach climate is marked by hot and humid summers, and cool winters with occasional cold spells. During summer months, the area is cooled by offshore breezes. Rain typically falls throughout the year and can be quite heavy at times. The Town is extremely vulnerable to tropical storms and the flooding associated with them because of the unique location of the barrier island. In the event of a cyclonic storm event, portions of the Town's coastline suffers from substantial erosion. This is one of the most significant problems facing the Town, and will be addressed within the policy development portion of this plan.

In winter, the average temperature in the County is approximately 45°F, and the average daily minimum temperature is 32°F. The coldest recorded temperature on record for the region was 2°F occurring in 1965. During summer months, the average temperature is 76°F. The highest temperature on record for summer months was 103°F. Approximately 60% of all annual precipitation within the Town typically falls between the months of April and September. Snowfall in the area is rare; however, snow and winter storm events do occasionally occur.

The most significant weather related concern for the citizens of North Topsail Beach are hurricanes. Hurricanes Bertha and Fran devastated the Town in 1996, but the Town has rebounded from these storm events, and is currently researching alternatives for a long term plan for beach renourishment. In addition to hurricanes, nor'easters also cause significant problems with respect to beach and dune maintenance. These storms typically occur in fall and winter months and will often stall off the coast churning up wave swells that impact the Town's coastline.

### **c. Flood Zones/Storm Surge**

As noted above, coastal flooding associated with tropical storm systems and nor'easters is a significant issue for the Town of North Topsail Beach. Coastal flooding is the inundation of land areas along the oceanic coast by sea waters over and above normal tidal action. Such flooding can originate from the ocean front and/or adjacent sounds or riverine areas. Factors that contribute to the severity of coastal flooding include: tidal cycles, persistence and behavior of the storm that is generating the flooding, topography, shoreline orientation, and bathymetry (ocean floor contour) of the area.

The most significant concern for the Town of North Topsail Beach with regards to coastal flooding is the storm surge that is generated by tropical storm events, including tropical storm systems and hurricanes. A storm surge is a dome or bulge of water that is caused by wind and pressure forces. It is a rise above the normal water level along a shore that is caused by strong onshore winds and/or reduced atmospheric pressure. The surge height is the difference of the observed water level minus the predicted tide.

A storm surge is caused by powerful coastal storms that move toward or adjacent to the coastline. It may be worsened by higher than normal astronomical tide levels. Two factors are key in the development of a storm surge:

**Low barometric pressure** reduces the weight of the air on the ocean surface causing a slight rising (1 to 2 feet) of the surface of the water. This rising creates a dome and a new balance of forces.

**Wind** sweeps around the dome of water and induces currents that spiral toward the center of the storm. The force of the winds induces high waves that travel away from the storm. Wind is the dominant force at landfall, often bringing violent wave action far inland. The battering of these waves causes damage beyond mere flooding.

There are two different sets of data that will be used in the context of this plan to determine what portions of the Town fall within a flood hazard area: Federal Emergency Management Agency (FEMA) designated flood zones; and National Oceanic and Atmospheric Administration (NOAA) Storm Surge Inundation Model.

The Flood Insurance Rate Maps (FIRMS) for Onslow County have recently been updated in response to inaccuracies in the data exposed during Hurricane Floyd in 1999. On September 15, 2000, the first anniversary of the Hurricane Floyd disaster, FEMA and the State of North Carolina announced a historic agreement to develop a model program to maintain accurate flood hazard information for the State. As part of this program, the flood maps for the County have been revised.

It should be noted that in order to get secured financing to buy, build, or improve structures in Special Flood Hazard Areas you will be required to purchase flood insurance. Lending institutions that are federally regulated or federally insured must determine if the structure is located in a SFHA and must provide written notice requiring flood insurance. In addition to Federally declared flood hazard areas, large portions of North Topsail Beach fall within a defined Coastal Barriers Resources Act (CBRA) zone. Approximately 3,812 acres (53%) of the Town’s corporate limits fall within this zone. In addition, 2,632 acres (69%) of the parcel land mass falls within a CBRA zone. CBRA zone is the colloquial term for areas mapped and designated as Coastal Barrier Resources System (CBRS) units. The CBRA of 1982 removed Federal government support for building and development in undeveloped portions of hazardous coastal areas. The Act includes a ban on sale of NFIP insurance for structures located in mapped CBRA zones. Additional legislation in 1990 increased the area under CBRS protection and extended the ban on sale of NFIP insurance to “Otherwise Protected Areas” (OPAs), which are also shown on FIRMs. The US Department of Interior, Fish and Wildlife Service, is responsible for interpreting the boundaries of CBRS units and OPAs.

Table 16 provides a summary of the acreage within the Town that falls within various flood zones outlined on existing FIRMs. Additionally, Map 2 provides the locations of these flood zones. The following provides an explanation of how FEMA defines each of the Special Flood Hazard Areas or flood zones designations that encompass portions of the Town:

**Zone AE:** Areas subject to inundation by the 1-percent annual chance flood event determined by detailed methods. Based Flood Elevations (BFEs) are available for this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.

**Zone VE:** Areas subject to inundation by the 1-percent annual chance flood event with additional hazards due to storm-induced velocity wave action. Base Flood Elevations (BFEs) derived from detailed hydraulic analyses are available for this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.

Table 16: Flood Zones in Acres

Flood Zone	Corporate Limits (includes water and right-of-ways)		Corporate Limits (land only)	
	Acres	% of Total Town Acreage	Acres	% of Total Land
AE	1,402	19.4%	777	20.3%
VE	5,682	78.5%	3,017	78.7%
Total Acres in Floodplain	7,084	97.8%	3,794	99.0%
Total Town Acres	7,242		3,832	

Source: Federal Emergency Management Agency.

MAP 2 - FLOOD ZONES

NOAA National Weather Service forecasters model storm surge using the SLOSH (Sea, Lake and Overland Surges from Hurricanes) model. The SLOSH model is a "diagnostic" model in that the hurricane's track, size, and intensity must be specified before the model is run. When these parameters are put into the model, a model wind field is produced, which in turn gives the surface stresses. The stresses act as the driving forces to move the water. Friction, the surface wind stress, and the pressure gradient cause the water to pile up along the coast.

Generally, shallow areas will experience greater storm surges than areas with a shelf that drops off rapidly. NOAA has run the SLOSH model for coastal areas of the United States assuming average parameters in order to determine the general locations of storm surge impact associated with fast and slow moving hurricanes. Table 17 provides a summary of the impact that fast moving storm events will have on the Town of North Topsail Beach. Map 3 shows the location of the storm surge inundation.

Table 17: Storm Surge Inundation Acreage (Fast Moving Hurricanes)

Hurricane Strength	Corporate Limits (includes water and right-of-ways)		Corporate Limits (land only)	
	Acreage*	% of Total Town Acreage	Acreage	% of Total Land
Category 1 - 2	4,003	55.3%	3,741	97.6%
Category 3	4,093	56.5%	3,816	99.6%
Category 4 - 5	4,115	56.8%	3,832	100.0%
Total Town Acres	7,242		3,832	

\*It should be noted that all acreage falling within a Category 1 - 2 storm surge area will also fall within the storm surge boundary of a Category 3 storm. The same applies to a Category 4-5 storm.

Source: National Oceanic and Atmospheric Administration.

The following provides a summary of hurricane strength according to the Saffir-Simpson Scale:

**Category 1:** Winds of 74 to 96 miles per hour. Damage primarily to shrubbery, trees, foliage, and unanchored mobile homes. No appreciable wind damage to other structures. Some damage to poorly constructed signs. Storm surge possibly 3 to 5 feet above normal. Low-lying roads inundated, minor pier damage, some small craft in exposed anchorage torn from moorings.

**Category 2:** Winds of 97 to 111 miles per hour. Considerable damage to shrubbery and tree foliage; some trees blown down. Major damage to exposed mobile homes. Extensive damage to poorly constructed signs. Some damage to roof materials of buildings; some window and door damage. No major wind damage to buildings. Storm surge possibly 6 to 8 feet above normal. Coastal roads and low-lying escape routes inland cut by rising water 2 to 4 hours before arrival of hurricane center. Considerable damage to piers. Marinas flooded. Small craft in unprotected anchorages torn from moorings. Evacuation of some shoreline residences and low-lying island areas required.

MAP 3 - STORM SURGE INUNDATION AREAS

**Category 3:** Winds of 112 to 131 miles per hour. Foliage torn from trees; large trees blown down. Practically all poorly constructed signs blown down. Some damage to roofing materials of buildings; some window and door damage. Some structural damage to small buildings. Mobile homes destroyed. Storm surge possibly 9 to 12 feet above normal. Serious flooding at coast and many smaller structures near coast destroyed; larger structures near coast damage by battering waves and floating debris. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives.

**Category 4:** Winds of 132 to 155 miles per hour. Shrubs and trees blown down; all signs down. Extensive damage to roofing materials, windows, and doors. Complete failure of roofs on many small residences. Complete destruction of mobile homes. Storm surge possibly 13 to 18 feet above normal. Major damage to lower floors of structures near shore due to flooding and battering by waves and floating debris. Low-lying escape routes inland cut by rising water 3 to 5 hours before hurricane center arrives. Major erosion of beaches.

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

#### **d. Man-Made Hazards**

There are no man-made hazards located within the Town of North Topsail Beach. It should be noted, however, that there are three underground storage tanks located on the Rogers Bay Campground property. These tanks are documented and inspected by the North Carolina Department of Environment and Natural Resources Underground Storage Tanks (UST) Program. The UST Section enforces UST regulations and manages funds used to perform cleanups of petroleum UST discharges or releases. The program was initiated in 1988 in response to growing reports of USTs leaking petroleum into soil and drinking water supplies. All tank removal and efforts to remove ground and groundwater contamination should be coordinated with the UST Section. According to NCDENR, there have been no reported problems associated with the underground storage tanks at this facility.

#### **e. Soils**

There are eleven different soil series within the Town of North Topsail Beach's jurisdiction. Observations regarding the soils and soils conditions were taken from the Soil Survey of Onslow County, North Carolina, which was issued in November 1986. All of the eleven soil series identified within the Town are considered to have severe conditions for use as a septic tank absorption field. When making

determinations regarding the installation of septic tanks, the County soil survey should not be utilized. The soil survey is intended for use only as a general reference, and not for site specific determinations. Slight elevation and soil condition changes can have a drastic effect on the permeability of soils, and in turn the suitability for septic tank installation. There are still a fairly significant number of individual septic tank systems installed within the Town of North Topsail Beach. Expansion of the Town's central sewer system has been constrained due to a lack in available capacity. The Town is currently in the process of addressing this issue, and hopes to see further expansion of the central system, ultimately eliminating all septic tanks within Town.

Of the eleven soil series identified, four are comprised entirely of hydric soils. The definition of a hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. Also, soils in which the hydrology has been artificially modified are hydric if the soil, in an unaltered state, was hydric. Some series, designated as hydric, have phases that are not hydric depending on water table, flooding, and ponding characteristics. The presence of hydric soils is significant due to the fact that these soils are typically poorly suited for development. Additionally, these soils may meet the definition of 404 wetland areas if found in combination with certain 404 vegetation and require permitting by the U.S. Army Corps of Engineers' Wilmington office prior to any disturbance. Table 18 provides a summary of all soil types within the Town of North Topsail Beach.

Table 18: Soil Conditions

Map & Symbol Name	Acreage	Septic Tank Conditions
Bo - Bohicket*	1,653.4	Severe: flooding, ponding, percs slowly
Ca - Carteret*	496.0	Severe: flooding, ponding, poor filter
Co - Corolla**	295.8	Severe: wetness, poor filter
Da - Dorovan*	7.3	Severe: flooding, ponding
Dc - Duckston*	116.0	Severe: flooding, wetness, poor filter
NeE - Newhan**	665.1	Severe: poor filter, slope
NfC - Newhan	247.2	Severe: poor filter
NnE - Newhan**	260.9	Severe: poor filter, slope
Pa - Pactolus**	191.6	Severe: wetness, poor filter
WaB - Wando**	65.3	Severe: poor filter
YaA - Yaupon	250.1	Severe: percs slowly, wetness
w - Water	<u>2,993.3</u>	
Total	7,242.0	

\*Soils series that are all hydric soils as a major component.  
 \*\*Map units with inclusions of hydric soils or have wet spots.  
 Source: Soil Survey of Onslow County, North Carolina.

## **f. Water Supply**

Water is by far the most abundant natural resource in Onslow County, as well as North Topsail Beach. The water supply for the Town is provided by the Onslow Water and Sewer Authority (ONWASA), which is a water and sewer authority that operates independently from the Town.

The Castle Hayne aquifer, underlying the eastern half of the coastal plain, is the most productive aquifer in the state and the primary water source for the Town's water system. It is primarily limestone and sand. The Castle Hayne aquifer is noted for its thickness (more than 300 feet in places) and the ease of water movement within it, both of which contribute to high well yields. It lies fairly close to the surface toward the south and west, deepening rapidly toward the east. Water in the Castle Hayne aquifer ranges from hard to very hard because of its limestone composition. Iron concentrations tend to be high near recharge areas but decrease as the water moves further through the limestone.

Throughout the low lying and coastal areas of Onslow County, the Castle Hayne aquifer is subject to salt water intrusion. Because of the potential for salt water intrusion, approximately 2,500 square miles of the Castle Hayne aquifer, including portions underlying Onslow County and North Topsail Beach, have been designated as a capacity use area by the NC Groundwater Section. A capacity use area is defined as an area where the use of water resources threatens to exceed the replenishment ability to the extent that regulation may be required. Therefore, wells are not permitted to pump more than 2.018 million gallons per day.

## **g. Fragile Areas**

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

The Coastal Resources Commission designates areas as AECs to protect them from uncontrolled development that may cause irreversible damage to property, public health or the environment, thereby diminishing their value to the entire state. Statewide, AECs cover almost all coastal waters and less than 3% of the land in the 20 coastal counties.

Fragile areas are those areas that are not explicitly defined as AECs but that could cause significant environmental damage or other degradation of quality of life if not managed. These include wetlands, natural heritage areas, areas containing endangered species, prime wildlife habitats, or maritime forests. These areas must be evaluated pursuant to State regulations at 15A NCAC 7H for the CAMA Land Use Planning process.

In this section, the Town will evaluate the following AECs and fragile areas in the Town of North Topsail Beach: estuarine waters and shorelines, public trust areas, coastal wetlands, ocean beaches and shorelines, areas of excessive erosion, natural resource fragile areas, and outstanding resource waters.

i. Estuarine Waters and Estuarine Shorelines (AEC)

Estuaries are transition zones between fresh and salt water, usually where a river or stream flows into the ocean. Estuaries are protected from the full force of ocean waves and wind by barrier islands, mudflats, or sand. The sheltered waters support an abundance and diversity of plant and animal life, including marine mammals, shore birds, fish, crabs, clams and other shellfish, and reptiles. A number of marine organisms, including many of the commercially valuable fish species, depend on the estuaries for spawning, nursing, or feeding.

Besides serving as an important habitat for wildlife, estuaries also serve as a water filtration system by removing sediments, nutrients, and pollutants before they reach the ocean. The filtration process creates cleaner water, which is of benefit to both marine life and people who inhabit the surrounding areas. Estuaries also are important sources of flood control, with porous salt marsh soils and grasses absorbing flood waters and dissipating storm surges. Like barrier islands, they provide natural barriers between the land and the ocean. The Town's entire northeastern jurisdiction falls adjacent to the estuarine waters of Intracoastal Waterway. Due to the increased development occurring throughout the Town, protection of these waters will be a focus throughout the context of this plan.

Estuarine shorelines are shorelines immediately adjacent to or bordering estuarine waters. The areas are immediately connected to the estuary and are very vulnerable to heavy erosion caused by wind and water. In shoreline areas not contiguous to waters classified as ORW by the Division of Water Quality, all land 75 feet leeward from the normal water level are considered to be estuarine shorelines. The Town of North Topsail Beach is adjacent to several Outstanding Resource Waters as outlined on page 43. Development along estuarine shorelines can exacerbate water quality problems within estuarine waters, and expedite the threats of shorefront erosion and flooding.

Under CAMA rules, all estuarine shorelines are subject to CAMA development regulations at 15A NCAC 7H.0205-,0208, as follows:

- ▶ The location, design and construction of the project must give highest priority to conserving the biological, economic and social values of coastal wetlands, estuarine waters and public trust areas, and protect public rights of navigation and recreation in public trust areas.
- ▶ The project should be designed and located to cause the least possible damage to the productivity and integrity of:
  - coastal wetlands;
  - shellfish beds;

- submerged grass beds;
  - spawning and nursery areas;
  - important nesting and wintering areas for waterfowl and other wildlife; and
  - important natural barriers to erosion, such as marshes, cypress fringes, and clay soils.
- 
- ▶ The project must follow the air and water quality standards set by the N.C. Environmental Management Commission. Generally, development will not be permitted if it lowers water quality for any existing uses of the water (such as shellfishing, swimming, or drinking).
  - ▶ The project must not significantly increase siltation or erosion, which can smother important habitats, block sunlight from aquatic plants, and choke fish and shellfish.
  - ▶ The project must not create a stagnant body of water, which can affect oxygen levels and accumulate sediments and pollutants that threaten fish and shellfish habitats and public health.
  - ▶ Construction of the project must be timed to have the least impact on the life cycles and migration patterns of fish, shellfish, waterfowl and other wildlife. The life cycles of animals that depend on the estuarine system are especially sensitive during certain times of the year.
  - ▶ The project must not cause major or irreversible damage to valuable archaeological or historic resources. Archaeological resources, such as the remains of Native and Early American settlements, shipwrecks and Civil or Revolutionary War artifacts, provide valuable information about the history of the coastal region and its people. Information on the location of these sites is available from the N.C. Division of Archives and History in the Department of Cultural Resources.
  - ▶ The project must not reduce or prevent the use of, and public access to, estuarine waters and public trust lands and waters.
  - ▶ The project must comply with the local land use plan. A land use plan is a "blueprint" developed by local leaders to help guide decisions that affect the growth of the community. CAMA requires each of the 20 coastal counties to prepare a local land use plan and update it according to CRC guidelines. More than 70 cities and towns have adopted their own plans.

ii. Public Trust Areas

Public trust areas are the coastal waters and submerged lands that every North Carolinian has the right to use for activities such as boating, swimming, or fishing. These areas often overlap with estuarine waters, but they also include many inland fishing waters. The following lands and waters are considered public trust areas:

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

These areas are significant because the public has rights in these areas, including navigation and recreation. The public trust areas also support valuable commercial and sports fisheries, have aesthetic value, and are important resources for economic development. All of the land within North Topsail Beach that falls immediately adjacent to waters of the Intracoastal Waterway, and the Atlantic Ocean are considered public trust areas. Under CAMA regulations, all lands 30 feet leeward of public trust areas are subject to the restrictions specified above for estuarine shoreline areas.

iii. Coastal Wetlands

Coastal Resources Commission rules define "Coastal Wetlands" as any marsh in the 20 coastal counties that regularly or occasionally floods by lunar or wind tides, and that includes one or more of the following ten plant species:

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

- ▶ *Spartina patens*: Salt Meadow Grass
- ▶ *Spartina cynosuroides*: Salt Reed or Giant Cord Grass

Coastal wetlands provide significant environmental and economic benefits to the Town of North Topsail Beach. They protect against flooding, help maintain water quality, provide habitat to wildlife, and serve as part of the estuarine system.

In 2003, DCM classified and mapped coastal wetlands based on an analysis of several existing data sets, including aerial photographs and satellite images of coastal areas in North Carolina, including all portions of Onslow County. Even though the presence of wetlands must be established by an on-site delineation and investigation of plants, DCM produced an excellent representation of wetlands in the Town, and throughout coastal North Carolina. The location of all wetlands identified within the Town of North Topsail Beach are shown on Map 4.

According to NCDCCM's 2003 Coastal Wetlands Inventory, approximately 55.5% of the Town's land area, or 2,127.4 acres, are coastal wetlands (see Table 19).

Table 19: Coastal Wetlands by Type and Aerial Extent

Wetlands	Corporate Limits (includes water and right-of-ways)		Corporate Limits (land only)	
	Acres	% of Total Town Acreage	Acres	% of Total Land
Bottomland Hardwood	0.002	0.01%	0.0	0.0%
Cleared Estuarine Shrub/Scrub	2.3	0.03%	2.1	0.1%
Cutover Estuarine Shrub/Scrub	3.2	0.04%	2.5	0.1%
Drained Salt/Brackish Marsh	704.5	9.7%	656.4	17.1%
Estuarine Shrub/Scrub	381.7	5.3%	329.0	8.6%
Human Impacted	96.6	1.3%	94.6	2.5%
Managed Pineland	32.2	0.4%	31.7	0.8%
Riverine Swamp Forest	0.2	0.01%	0.1	0.0%
Salt/Brackish Marsh	1,472.3	20.3%	1,011.1	26.4%
Total	2,693.0	37.2%	2,127.4	55.5%

Source: NCDCCM Wetlands Inventory, 2003.

MAP 4 - WETLANDS

The following provides the DCM descriptions of the various wetland areas found in the Town of North Topsail Beach. These descriptions are followed by the modifiers cleared and cutover as indicated in the table above:

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

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

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

**Managed Pineland:** Seasonally saturated, managed pine forests (usually loblolly pine) occurring on hydric soils. This wetland category may also contain non-managed pine forests occurring on hydric soils. Generally these are areas that were not shown on National Wetlands Inventory maps. These areas may or may not be jurisdictional wetlands. Since this category is based primarily on soils data and 30 meter resolution satellite imagery, it is less accurate than the other wetland categories. The primary criteria for mapping these areas are hydric soils and a satellite imagery classification of 'pine forest'.

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

The following provides the definition of the modifiers used in the wetlands table above:

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

**Cutover Wetland:** Areas for which satellite imagery indicates a lack of vegetation in 1994. These areas are likely to still be wetlands; however, they have been recently cut over. The vegetation in cutover areas may be regenerating naturally, or the area may in use for silvicultural activities (defined as the cultivation of forest trees).

**Drained Wetland:** Any wetland system described above that is, or has been, effectively drained.

iv. Ocean Beaches and Shorelines & Inlet Hazard Areas (Areas of Excessive Erosion)

Ocean beaches and shorelines are lands consisting of unconsolidated soil materials that extend from the mean low water line landward to a point where either (1) the growth of vegetation occurs, or (2) a distinct change in slope or elevation alters the configuration of the land form, whichever is farther landward. The entire southeastern length of the Town of North Topsail Beach is an ocean beach. The Town contains approximately 12.5 linear miles of ocean erodible areas and high hazard flood areas.

This entire area constitutes an Ocean Hazard AEC as defined by CAMA. The Ocean Hazard AEC covers North Carolina's beaches and any other oceanfront lands that are subject to long-term erosion and significant shoreline changes. The seaward boundary of this AEC is the mean low water line.

The landward limit of the AEC is measured from the first line of stable natural vegetation and is determined by adding:

- ▶ a distance equal to 60 times the long-term, average annual erosion rate for that stretch of shoreline to
- ▶ the distance of erosion expected during a major storm.

The average annual erosion rates and the respective setback limits for each boundary is shown on Map 5. The erosion rates, and in turn the setbacks, vary substantially along the shoreline of North Topsail Beach. The CRC updates these long-term erosion rates about every five years using aerial photographs to examine shoreline changes. General maps of erosion rates are available free from the Division of Coastal Management; detailed erosion rate maps are available for inspection at all Coastal Management field and local permitting offices.

The following requirements apply to all development in the Ocean Hazard AEC (15A NCAC 7H .0306):

- ▶ The development must be located and designed to protect human lives and property from storms and erosion, to prevent permanent structures from encroaching on public beaches and reduce the public costs (such as disaster relief aid) that can result from poorly located development.
- ▶ The development must incorporate all reasonable means and methods to avoid damage to the natural environment or public beach accessways. Reasonable means and methods include: limiting the scale of the project and the damage it causes; restoring a damaged site; or providing substitute resources to compensate for damage.

MAP 5 - EROSION RATES

- ▶ No growth-inducing development paid for (in any part) by public funds will be permitted if it is likely to require more public funds for maintenance and continued use – unless the benefits of the project will outweigh the required public expenditures.
- ▶ The project should be set as far back from the ocean as possible. At minimum, all buildings must be located behind the crest of the primary dune, the landward toe of the frontal dune, or the erosion setback line - whichever is the farthest from the first line of stable natural vegetation.
- ▶ The project must not remove or relocate sands or vegetation from primary or frontal dunes. These dunes help protect structures from erosion, flooding, and storm waves, and they help maintain North Carolina's barrier islands and beaches.
- ▶ Moving a building that is in an ocean hazard area will require a CAMA permit. Buildings relocated entirely with private funds should be relocated as far landward as possible. Buildings relocated with public funds must meet all AEC standards, including the setback requirement.
- ▶ The project must meet all local minimum lot-size and setback requirements. Counties and Towns often require a setback from roads, property lines, or dunes.
- ▶ The project must comply with the local CAMA land use plan. A land use plan contains a community's goals, management policies, and a map classifying land according to the types of development allowed.
- ▶ A mobile home must not be placed within the high hazard flood area unless it is in a mobile home park that existed before June 1, 1979. Not only are mobile homes likely to be damaged by coastal storms, they are also likely to damage other buildings during storms.
- ▶ The public's ability to reach, use, and enjoy the resources that belong to all the people of the state must not be interfered with or blocked. These resources include the wet sand beaches and waters. No development is allowed seaward of the vegetation line, because the public has a right to use the sandy beach. Development also may not block established pathways to the beach.
- ▶ The project must not cause major or irreversible damage to valuable archaeological or historic resources. Information on the location of these sites is available from the N.C. Division of Archives and History in the Department of Cultural Resources.

- ▶ The construction of publicly-funded projects, such as sewers, water lines, roads, bridges and erosion control works, will be permitted only if they:
  - greatly benefit the public, nation, or state;
  - do not promote additional development in ocean hazard AECs;
  - will not damage natural buffers to erosion, wave wash, and flooding;
  - will not otherwise increase existing hazards.
  
- ▶ Meet all setback requirements for all development in the Ocean Hazard AEC.

Inlet hazard areas are portions of land that lie adjacent to turbulent waters associated with inlet navigation channels. Land adjacent to the inlet hazard area is extremely vulnerable to inlet migration, rapid and severe changes in watercourse, flooding and strong tides. The location of the inlet hazard area along the northern coast of the town is shown on Map 5. Erosion rates along this portion of beach are extremely high. The Town is researching alternatives to address the New River Inlet migration. The inlet is threatening existing properties, and the problem continues to worsen. The Town may fund a project to realign the inlet, which would serve as a long term solution. Restrictions regarding development along the shoreline adjacent to the inlet hazard area follow the same provisions as shorelines within an ocean hazard area, however, the following additional restrictions apply:

- ▶ Permanent structures can be permitted at a density of no more than one commercial or residential per 15,000 square feet of land area.
  
- ▶ Only residential structures of four units or less or non-residential units of less than 5,000 square feet total floor area will be allowed.

The Town of North Topsail Beach may establish and impose more restrictive development regulations than those listed above.

v. Protected Land and Significant Natural Heritage Areas

Natural resource fragile areas are generally recognized to be of educational, scientific, or cultural value because of the natural features of the particular site. Features in these areas serve to distinguish them from the vast majority of the landscape. These areas include complex natural areas, areas that sustain remnant species, pocosins, wooded swamps, prime wildlife habitats, or registered natural landmarks.

Within the Town of North Topsail Beach, the State of North Carolina recognizes three primary sites as protected lands. These include the Permuda Island, Seahaven Beach Access, and the North Topsail Beach Regional Beach Access. Additionally, the NC Division of Parks and Recreation has also identified four Significant Natural Heritage Areas that fall within the jurisdiction of the Town of North Topsail Beach. These include the New River Inlet, the New River Bird Nesting Islands, North Topsail Beach Maritime Forest, and Camp Lejeune Corn Landing. The locations of all these areas are shown on Map 6.

MAP 6 - PROTECTED LANDS/SNHA

In addition to these protected lands and significant natural heritage areas, there is one island off of the Town's northern tip, that falls under the jurisdiction of Camp Lejeune Marine Base. Due to this fact, this island is protected by the federal government.

Table 20: Significant Natural Heritage Areas and Protected Lands

Area	Corporate Limits (includes water and right-of-ways)		Corporate Limits (land only)	
	Acres	% of Total Town Acres	Acres	% of Total Land
Camp Lejeune New River Inlet	169.1	2.3%	0.0	0.0%
New River Inlet Bird Nesting Islands	345.9	4.8%	162.4	4.2%
North Topsail Beach Maritime Forest	51.8	0.7%	43.1	1.1%
Camp Lejeune Corn Landing	7.7	0.1%	0.0	0.0%
Coastal Management Permuda Island	59.7	0.8%	59.7	1.6%
Coastal Management Seahaven Public Beach Access	0.2	>1.0%	0.1	>1.0%
NCDENR - North Topsail Beach Regional Beach Access	10.3	0.1%	9.9	0.3%
Camp Lejeune Marine Base	131.1	1.8%	0.0	0.0%

Source: North Carolina Parks and Recreation Department and CGIA.

vi. Outstanding Resource Waters

All surface waters in North Carolina are assigned a primary classification by the NC Division of Water Quality (DWQ). Outstanding Resource Waters (ORW) is a supplemental classification intended to protect unique and special waters having excellent water quality and being of exceptional state or national ecological or recreational significance. To qualify, waters must be rated "Excellent" by DWQ and have one of the following outstanding resource values:

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

No new or expanded wastewater discharges are allowed; although there are no restrictions on the types of discharges to these waters. There are also associated stormwater runoff, building density, best agricultural practices, and landfill siting controls enforced by the Division of Water Quality.

The Town of North Topsail Beach is adjacent to the following water bodies, which have been classified as Outstanding Resource Waters (ORW):

- ▶ Alligator Bay
- ▶ Everett Bay
- ▶ Portions of the Intracoastal Waterway south of the New River Inlet
- ▶ Turkey Creek
- ▶ Stump Sound

vii. Shellfishing

The Shellfish Sanitation Section is responsible for monitoring and classifying coastal waters as to their suitability for shellfish harvesting for human consumption. Recommendations are made to the Division of Marine Fisheries to close those waters that have the potential for causing illness and opening those that are assured of having clean, healthy shellfish.

Shellfish include clams, oysters, and mussels. Shellfish are filter feeders, and pump water through their gills almost constantly. Through this pumping action, shellfish are able to gather food particles, but they also take up any bacteria, viruses or other pollutants that are present in the water. If shellfish that contain high concentrations of bacteria or viruses are consumed raw or undercooked, they could cause severe illness in the consumer. Therefore, it is mandatory for shellfish to be harvested only from approved (open) shellfish waters.

All shellfish growing areas are surveyed every three years to document all existing or potential pollution sources, to assess the bacteriological quality of the water, and to determine the hydrographic and meteorological factors that could affect water quality. Water samples are collected at least six times a year from each growing area and tested for fecal coliform bacteria, which are an indicator that human or animal wastes are present in the water.

In addition, reviews of bacteriological data and pollution sources are conducted annually. This information is then used to classify each shellfish growing area as either approved, conditionally approved, restricted, or prohibited. Approved areas are consistently open to shellfishing, while prohibited areas are permanently closed.

Conditional areas are generally open to shellfishing, but can be closed after a significant rainfall event due to the resultant runoff. The area will then remain closed until water sampling indicates a return to acceptable bacteria levels. An area's status can change quickly due to temporary closures after rainfall, high results during bacteriological sampling, or unexpected pollution events.

Shellfish harvesting waters which are open or approved for harvesting are those where harvesting is permitted anytime. Areas which are conditionally approved mean that shellfish harvesting is permitted except after rainfall events which exceed the area's management plan. Runoff from such a rainfall can carry bacteria into surface waters from adjacent land. Map 7 delineates the shellfishing areas adjacent to North Topsail Beach.

Map 7 - Water Quality

## **h. Areas of Resource Potential**

### **i. Regionally Significant Parks**

There are no public parks of regional or statewide significance within the corporate limits of the Town of North Topsail Beach, aside from the state-defined protected areas discussed above. There are, however, regional beach access sites located throughout the Town's jurisdiction and a public park which provides a variety of athletic facilities. This park will be discussed in detail within the community facilities section of this plan.

Regional beach access sites are defined by the NC Division of Coastal Management as public beach access sites that are generally the largest of the access sites and that have clear signage, ample parking, and often have other facilities such as restrooms, showers and picnic tables. North Topsail Beach has worked hard to establish a public beach access site every one half mile. Establishing a public access every half mile is a condition of funding under the US Army Corps of Engineers Section 933 project. The Town is not currently a grant recipient of the Section 933 program; however, the Town wants to be prepared in the event that this funding becomes available.

### **ii. Marinas and Mooring Fields**

Marinas are defined as any publicly- or privately-owned dock, basin, or wet boat storage facility constructed to accommodate more than ten boats and providing any of the following services: permanent or transient docking spaces, dry storage, fueling facilities, haulout facilities, and repair service. Excluded from this definition are boat ramp facilities allowing access only, temporary docking and none of the preceding services. There are no marina facilities located within North Topsail Beach's corporate limits; however, there is one public access boat ramp located beneath the bridge entering Town along NC Highway 210.

A "freestanding mooring" is any means to attach a ship, boat, vessel, floating structure, or other water craft to a stationary underwater device, mooring buoy, buoyed anchor, or piling (as long as the piling is not associated with an existing or proposed pier, dock, or boathouse). When more than one freestanding mooring is used in the same general vicinity, it is commonly referred to as a mooring field. There are no mooring fields within the Town of North Topsail Beach.

### **iii. Floating Homes**

A floating home or structure is any structure, not a boat, supported by means of flotation, designed to be used without a permanent foundation, which is used or intended for human habitation or commerce. A structure will be considered a floating structure when it is inhabited or used for commercial purposes for more than 30 days in any one location. A boat may be deemed a floating structure when its means of propulsion has been removed or rendered inoperative and it contains at least 200 square feet of living space area. There are no floating homes within the Town of North Topsail Beach.

iv. Channel Maintenance

There are navigable channels that run adjacent to the Town of North Topsail Beach that are utilized by both County and Town residents. The primary channels that are essential to navigation around the town are the Intracoastal Waterway, and the New River Inlet at the Town's northern extent. The US Army Corps of Engineers is responsible for maintaining the Intracoastal Waterway; however, funding has not been available in recent years to ensure that this navigable water body is properly maintained. Maintenance of the New River Inlet is also the responsibility of the US Army Corps of Engineers, and has become a significant concern for property owners with homes located on the northern end of the town. The Corps ensures this channel remains open for navigation, due to the presence of the Camp Lejeune Marine Base, but they do not address concerns related to the alignment of the channel. This is a migrating inlet, and has started to encroach on development at the northernmost extent of the Town's corporate limits. The Town has researched alternatives to addressing these concerns, but will attempt to rectify the problem within the context of a comprehensive long term approach to beach erosion.

v. Marine Resources (Water Quality)

The North Carolina Division of Water Quality (DWQ) monitors approximately one-third of the state's stream miles for water quality. For stream miles not monitored, DWQ uses professional judgement to evaluate whether the streams are supporting their designated uses. The State categorizes miles of stream as Fully Supporting, Support Threatened, Partially Supporting or Not Supporting. Partially Supporting and Not Supporting mean that a stream is supporting only part or none of its designated uses. These streams are considered by the State to be impaired. Support Threatened means that though the stream is currently supporting its full uses, there is reason to believe it may not support them in the future. The following table provides a detailed breakdown of water quality classifications as defined by the North Carolina Division of Water Quality.

Table 21: Water Body Classifications

<b>PRIMARY FRESHWATER AND SALTWATER CLASSIFICATIONS*</b>	
<u>CLASS</u>	<u>BEST USES</u>
C and SC	Aquatic life propagation/protection and secondary recreation
B and SB	Primary recreation and Class C uses
SA	Waters classified for commercial shellfish harvesting
WS	<i>Water Supply watershed.</i> There are five WS classes ranging from WS-I through WS-V. WS classifications are assigned to watersheds based on land use characteristics of the area. Each water supply classification has a set of management strategies to protect the surface water supply. WS-I provides the highest level of protection and WS-V provides the least protection. A Critical Area (CA) designation is also listed for watershed areas within a half-mile and draining to the water supply intake or reservoir where an intake is located.
<b>SUPPLEMENTAL CLASSIFICATIONS</b>	
<u>CLASS</u>	<u>BEST USES</u>
Sw	<i>Swamp Waters:</i> Recognizes waters that will naturally be more acidic (have lower pH values) and have lower levels of dissolved oxygen.
Tr	<i>Trout Waters:</i> Provides protection to freshwaters for natural trout propagation and survival of stocked trout.
HQW	<i>High Quality Waters:</i> Waters possessing special qualities including excellent water quality, Native or Special Native Trout Waters, Critical habitat areas, or WS-I and WS-II water supplies.
<u>CLASS</u>	<u>BEST USES</u>
ORW	<i>Outstanding Resource Waters:</i> Unique and special surface waters that are unimpacted by pollution and have some outstanding resource values.
NSW	<i>Nutrient Sensitive Waters:</i> Areas with water quality problems associated with excessive plant growth resulting from nutrient enrichment.

\*Primary classifications beginning with an "S" are assigned to saltwaters.  
Source: NC Division of Water Quality.

There are fourteen separate classified stream segments, within or adjacent to the Town of North Topsail Beach corporate limits. Table 22 provides a listing of all water bodies that are classified by the NC Division of Water Quality, along with their stream index number and assigned classification.

Table 22: Listing of Water Bodies

Name of Stream	Description	Stream Index Number	Class
Intracoastal Waterway*	All waters between the southern edge of the White Oak River Basin to the western end of Permuda Island	18-87	SA; ORW
Everett Bay*	Entire Bay excluding that portion in King Creek Restricted Area	18-87-0.5	SA; ORW
Stump Sound*	Entire Sound excluding that portion in King Creek Restricted Area	18-87-3	SA; ORW
Topsail Sound*	Entire Sound	18-87-10	SA; HQW
Atlantic Ocean*	The waters of the Atlantic Ocean contiguous to that portion of the Cape Fear River Basin that extends from the edge of the White Oak River Basin to the southwestern end of Smith Island at a point called Bald Head	99-(3)	SB

Table 22 (continued)

Name of Stream	Description	Stream Index Number	Class
New River**	From a line extending across the New River from Grey Point to a point of land approximately 2,200 yards downstream from the mouth of Buck Creek to the Atlantic Ocean; including all unnamed bays, creeks, and other waters	19-(27)	SA; HQW
Traps Creek**	Entire Bay	19-38	SA; HQW
Intracoastal Waterway**	From the northeastern boundary of the Cape Fear River Basin to Daybeacon #17 including all unnamed bays, guts, and channels	19-39(0.5)	SA; ORW
Rogers Bay**	Entire Bay	19-39-1	SA; HQW
Alligator Bay**	Entire Bay	19-39-3	SA; ORW
Chadwick Bay**	Entire Bay	19-39-4	SA; HQW
Hell Gate Creek**	From source to Intracoastal Waterway	19-39-5	SA; HQW
Intracoastal Waterway**	From New River to the northeast mouth of Goose Creek	19-41-(0.5)	SA; HQW
Atlantic Ocean**	The waters of the Atlantic Ocean contiguous to that portion of the White Oak River Basin that extends from the northern boundary of the White Oak River Basin to the southern boundary of the White Oak River Basin	99-(4)	SB

\*These stream segments are located within the Cape Fear River Basin, Subbasin 03-06-24.

\*\*These stream segments are located within the White Oak River Basin, Subbasin 03-05-02.

Source: NC Division of Water Quality.

## 2. Environmental Composite Map

The environmental composite map (Map 8) is a requirement under the new CAMA Land Use Planning guidelines [15A NCAC 7B.0702 (c)(2)]. Environmental data layers were assigned to a class based on CAMA regulations. Three classes are identified and all land masses, developed and undeveloped, are considered. The ultimate intent of the map is to rank the suitability of all land based on the environmental criteria. The layers used, and their assigned classes, are outlined in Table 23. The categories utilized are as follows:

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

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

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

Table 23: Environmental Composite Map Layers

Layer	Class I	Class II	Class III
Coastal Wetlands			X
Exceptional or Substantial Non-Coastal Wetlands			X
Beneficial Non-Coastal Wetlands		X	
Estuarine Waters			X
Flood Zones		X	
Storm Surge Areas		X	
HQW/ORW Watersheds		X	
Water Supply Watersheds		X	
Significant Natural Heritage Areas		X	
Protected Lands			X

Data layers are site specific. As such, the value of the site will be determined by the highest class theme that is represented on that site. For example, if the site is in a coastal wetland (Class III) and in a storm surge area (Class II), the value for the site will be Class III. In other words, if an area does not meet the criteria for Class III, but qualifies as Class II, it has Class II for a value. If an area does not qualify for either Class III or Class II, then it is Class I by default. Table 24 provides a summary of the Town’s acreage by class.

Table 24: Land Use Acreage by Class

Class	Acreage
Class I	0.0
Class II	1,454.0
Class III	<u>2,378.0</u>
TOTAL	3,832.0

Note: The figures above do not include water acreage within the Town.  
 Source: Holland Consulting Planners, Inc.

## Map 8 - Environmental Composite Map

### 3. Environmental Conditions

North Topsail Beach is located within two river basins: the Cape Fear (subbasin 03-06-24) and White Oak (subbasin 03-05-02). The Cape Fear River Basinwide Water Quality Plan was completed in October 2005, and the White Oak River Basinwide Water Quality Plan was complete in October 2001. The following are the goals of DWQ's basinwide program and should be kept in mind when considering future land uses:

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

The Town of North Topsail Beach and the boundaries for the each of the subbasins are delineated on Map 9. The following provides a summary of existing conditions in the river basins and subbasins that fall within North Topsail Beach.

#### a. **Cape Fear River Basin**

The Cape Fear River Basin is located entirely within the State of North Carolina. It extends from Rockingham County in the north to the coast in Brunswick, New Hanover, Pender, and Onslow Counties. The Haw River, Deep River, Northeast Cape Fear River, Black River, and the Cape Fear River make up the major drainage areas. The upper portion of the basin and the areas along the coast are experiencing major population growths which will affect drinking water demands and wastewater dischargers.

<i><b>Cape Fear River Basin Statistics</b></i>	
Total Area:	9,149 sq. miles
Freshwater Stream Miles:	6,386
Freshwater Lakes Acres:	31,134
Estuarine Acres:	31,753
Coastline Miles:	61
No. of Counties:	26
No. of Municipalities:	115
No. of Subbasins:	24
Population (1990):	1,465,451
Population (2000):	1,834,545*
Pop. Density (2000):	197 persons/sq. mi.*
*Estimated based on % of county land area that is partially or entirely within the basin.	

The heavily urbanized areas within this basin generally have the impaired streams. There are 163 stream miles and 262 freshwater acres of High Quality Waters (HQW). There are also 11,000 acres of shellfish harvesting waters (SA) that are also considered to be HQW. There are 129 stream miles and 3,623 acres of Outstanding Resource Waters (ORW).

## Map 9 - River Basins and Subbasins

**b. Subbasin 03-06-24**

This subbasin drains entirely into the Intracoastal Waterway. The population is concentrated around Wilmington and the beach communities. Land use is largely forest and wetland areas. There are three permitted dischargers in the subbasin with a permitted flow of 0.1 MGD. All three dischargers are considered to be minor ones with one being a municipal discharger. There is one registered swine operation.

Use support ratings were assigned for aquatic life and recreation. Ninety-four percent (94%) of waters evaluated for aquatic life were supporting and four percent (4%) of those waters were impaired. One hundred percent (100.0%) of waters evaluated for recreation were supporting. All waters in the subbasin are considered impaired for fish consumption.

Stressors for water quality in this subbasin are: Low Dissolved Oxygen and Fecal Coliform Bacteria. Sources for Low Dissolved Oxygen are MS4 NPDES. Sources for Fecal Coliform Bacteria are marinas, MS4 NPDES, and impervious surfaces. Some stressor sources in the subbasin are unknown.

<i><b>Subbasin 03-06-24 Description</b></i>	
<b><u>Land and Water</u></b>	
Total area:	162 mi <sup>2</sup>
Land area:	142 mi <sup>2</sup>
Water area:	20 mi <sup>2</sup>
<b><u>Population Statistics</u></b>	
2000 Est. pop.:	58,658 people
Population Density:	361 persons/mi <sup>2</sup>
<b><u>Land Cover (percent)</u></b>	
Forest/Wetland:	63.0
Surface Water:	17.5
Urban:	8.3
Cultivated Crop:	6.7
Pasture/Managed Herbaceous:	4.5
<b><u>Counties</u></b>	
New Hanover, Onslow, and Pender	
<b><u>Municipalities</u></b>	
Carolina Beach, Holly Ridge, North Topsail Beach, Surf City, Topsail, Wilmington, and Wrightsville Beach	

2005 Recommendations for Impaired Waters (taken from the Water Quality Plan)

**Banks Channel:** Specific areas of the channel will be added to the 303(d) list of Impaired waters.

**Batts Mill Creek, County Line Branch, and Cypress Branch:** These segments will be added to the 303(d) list of Impaired waters.

**Beckys Creek:** Beckys Creek will be added to the 303(d) list of Impaired waters.

**Everett Bay:** Everett Bay will be added to the 303(d) list of Impaired waters.

**Everett Creek\*:** Everett Creek will be added to the 303(d) list of Impaired waters.

**Futch Creek:** Specific segments of Futch Creek will be added to the 303(d) list of Impaired waters.

**Hewletts Creek:** Specific segments of Hewletts Creek will be added to the 303(d) list of Impaired waters.

**Howe Creek:** Howe Creek will be added to the 303(d) list of Impaired waters.

**Intracoastal Waterway:** Specific segments will be added to the 303(d) list of Impaired waters. DWQ will work with Wilmington and New Hanover County to identify potential sources of bacteria and oxygen-consuming materials.

**Masonboro Sound ORW Area:** Specific segments will be added to the 303(d) list of Impaired waters.

**Mill Creek:** Mill Creek will be added to the 303(d) list of Impaired waters.

**Virginia Creek and Mullett Run:** Both creeks will be added to the 303(d) list of Impaired waters.

**Nixons Creek:** Nixons Creek will be added to the 303(d) list of Impaired waters.

**Old Mill Creek:** Old Mill Creek will be added to the 303(d) list of Impaired waters.

**Old Topsail Creek:** Specific segments of Old Topsail Creek will be added to the 303(d) list of Impaired waters.

**Pages Creek:** Specific segments of Pages Creek will be added to the 303(d) list of Impaired waters.

**Stump Sound and Stump Sound ORW\*:** Both segments will be added to the 303(d) list of Impaired waters.

**Topsail Sound\*:** Specific segments of Topsail Sound will be added to the 303(d) list of Impaired waters.

**Topsail Sound and Middle Sound ORW Area\*:** Specific segments of this ORW area will be added to the 303(d) list of Impaired waters.

**Turkey Creek\*:** Specific segments of Turkey Creek will be added to the 303(d) list of Impaired waters.

**Whiskey Creek:** Whiskey Creek will be added to the 303(d) list of Impaired waters.

\*These water bodies are located either within or adjacent to the corporate limits of North Topsail Beach.

**c. White Oak River Basin**

The White Oak River Basin includes four separate river systems. The New River and its tributaries, the White Oak River and its tributaries, the Newport River and its tributaries, and the North River. Bogue and Core Sounds are also located within the basin. The New River watershed is the largest and most populated of the watersheds and is located entirely within Onslow County. The City of Jacksonville is located within this watershed. The river drains into the Atlantic Ocean. The White Oak watershed is the second largest watershed in the basin and is located just east of the New River. The river drains into the Atlantic Ocean. The Newport River watershed is located east of the White Oak watershed. The watershed originates in Craven County and drains into the Atlantic Ocean near Morehead City. The North River is located west of Core Sound. The watershed originates in Carteret County and drains into Back Sound near Harkers Island.

<b>White Oak River Basin Statistics</b>	
Total Area:	1,264 sq. miles
Stream Miles:	446
Estuarine Acres:	130,009
Coastline Miles:	91
No. of Counties:	4
No. of Municipalities:	16
No. of Subbasins:	5
Population (1990):	146,240*
Estimated Population (2015):	188,403*
% Increase (1998-2015):	26%
Pop. Density (1990):	141 persons/sq. mi.*
*Based on % of county land area estimated to be within the basin.	

**d. Subbasin 03-05-02**

This subbasin includes the New River and its tributaries, several small coastal streams, and the ICWW. The majority of the White Oak River Basin’s population density is within this subbasin along the New River in Richlands, Jacksonville, Camp Lejeune, and Sneads Ferry. There are thirty NPDES dischargers in this subbasin. All but one, at the USMC-MDB WWTP, are considered minor dischargers. Nutrient enrichment and elevated levels of fecal coliform bacteria have been problems in the subbasin. As a result, in 1998 Jacksonville removed its discharge from the upper New River estuary and Camp Lejeune consolidated its five dischargers into one tertiary treatment facility.

In subbasin 03-05-02, use support ratings were assigned for aquatic life and secondary recreation, fish consumption, primary recreation, and shellfish harvesting. Thirty-six percent (36%) of the miles and ninety-six percent (96%) of the acreage of water evaluated for aquatic life and secondary recreation were supporting. Coastal miles were not rated for aquatic life and secondary recreation. One hundred percent (100%) of waters were determined to be impaired for

<b>Subbasin 03-05-02 Description</b>	
<b>Land and Water</b>	
Total area:	267mi <sup>2</sup>
Land area:	260 mi <sup>2</sup>
Water area:	7 mi <sup>2</sup>
<b>Population Statistics</b>	
2000 Est. pop.:	21,177 people
<b>Land Cover</b>	
Forest/Wetland:	75.0%
Surface Water:	3.0%
Urban	4.0%
Agriculture	18.0%
<b>County</b>	
Brunswick	
<b>Municipalities</b>	
Boiling Spring Lakes, Bolivia, Carolina Shores, Holden Beach, Oak Island, Ocean Isle Beach, Shallotte, Sunset Beach, and Varnamtown	

fish consumption. Seventy-eight percent (78%) of the acreage and one hundred percent (100%) of coastal miles were supporting for primary recreation. Seventy-eight percent (78%) of the acreage was impaired for shellfish harvesting. Stressors for water quality in this subbasin are nutrient enrichment fecal coliform bacteria. Possible sources are stormwater runoff and WWTP dischargers.

2002 Recommendations for Impaired Waters (taken from the Water Quality Plan)

**Little Northeast Creek:** The four minor dischargers should pursue alternatives to discharge. DWQ will pursue the reclassification of the creek to reflect swampy conditions.

**Southwest Creek:** New dischargers and discharge expansions should not be permitted. DWQ will pursue the reclassification of the creek to reflect swampy conditions.

**New River\*:** DWQ recommends that the City of Jacksonville protect primary recreation and aquatic life as part of their stormwater program. DWQ will continue to monitor nutrients in the river to assess the risk of algal blooms to aquatic life.

\*This waterbody is located either within or adjacent to the corporate limits of North Topsail Beach.

**e. Registered Animal Operations within the Cape Fear and White Oak River Basins**

The following table provides a summary of registered animal operations within the Cape Fear River subbasin 03-06-24 and the White Oak River subbasin 03-05-02. The numbers only reflect those operations required by law to be registered. There are no registered cattle operations in the subbasins. None of these facilities are located in the North Topsail Beach vicinity.

Table 25: Registered Animal Operations

Subbasin	Swine*		
	No. of Facilities	No. of Animals	Total Steady State Live Weight**
Cape Fear 03-06-24	1	1,800	243,000
White Oak 03-05-02	38	150,427	17,956,695

\*There are no other registered animal operations located within these subbasins.

\*\*Steady State Live Weight (SSLW) is the result, in pounds, after a conversion factor has been applied to the number (head count) of swine, cattle, or poultry on a farm. The conversion factors, which come from the Natural Resource Conservation Service (NRCS) guidelines, vary depending on the type of animals on the farm and the type of operation (for example, there are five types of hog farms). Since the amount of waste produced varies by the size of the animal, SSLW is the best way to compare the sizes of the farms.

Source: NC Division of Water Quality Cape Fear and White Oak River Basinwide Water Quality Plans.

## **f. Growth Trends**

Since river basin boundaries do not coincide with county boundaries, population numbers within the basinwide water quality plans are not directly applicable to the each basin. The numbers provided are estimates of county-wide population changes. Population growth trends for the Cape Fear River Basin between 1990 and 2000 indicate a 19.4% population increase with four counties having growth rates in excess of 30% and seven counties having growth rates of between 20% and 30%. The most recent basinwide water quality plan for the White Oak River Basin reports that the basin experienced a 30.8% population increase between 1980 and 1990. The White Oak River subbasin in which North Topsail Beach is located saw an estimated 32.8% population increase during the same time period.

## **E. ANALYSIS OF EXISTING COMMUNITY FACILITIES/SERVICES**

### **1. Transportation**

NC Highway 210 is the main transportation route in to and out of North Topsail Beach. The highway crosses the Intracoastal Waterway to enter Topsail Island at two points: North Topsail Beach and southeast of the Town in Surf City. The bridge at North Topsail Beach is a high rise bridge and the bridge at Surf City is a draw bridge.

The North Carolina Department of Transportation (NCDOT) reported that, in 2004, the highest annual average daily traffic count (AADT) occurred along NC Highway 210 at a point just north of the North Topsail Beach-Surf City corporate limit line. The AADT for that area was 4,000, a 7% decrease in traffic along that road since 2002. NCDOT also reported a 2004 AADT of 2,700 for a point along NC 210 just south of its intersection with SR 1568.

North Topsail Beach is located in NCDOT's Division 3. According to the NCDOT Division 3 2006-2012 Transportation Improvement Program (TIP), there are no projects under construction. There is one Enhancement Project scheduled for development on the TIP. The town currently has a grant for the installation of a bike path that runs from mile marker 11 to mile marker 12. This bike path is in the early stages of development, and will be discussed further within the Future Demands section of this plan.

### **2. Health Care**

North Topsail Beach residents and visitors are served by Onslow Memorial Hospital. The hospital is located in Jacksonville, approximately 20 miles from the beach. Onslow Memorial has 162 beds, is staffed with over 127 physicians, and is accredited by the Joint Commission on Accreditation of Healthcare Organizations. The hospital physicians have a wide range of specialties to better care for patients. Following are some of these specialties.

- |                  |                      |                    |
|------------------|----------------------|--------------------|
| ▶ Anesthesiology | ▶ Dermatology        | ▶ Family Practice  |
| ▶ Cardiology     | ▶ Emergency Medicine | ▶ Gastroenterology |

- |                     |                   |                                  |
|---------------------|-------------------|----------------------------------|
| ▶ Internal Medicine | ▶ Orthopedics     | ▶ Podiatry                       |
| ▶ Nephrology        | ▶ Otolaryngology  | ▶ Pulmonology                    |
| ▶ Neurology         | ▶ Pain Management | ▶ Radiology                      |
| ▶ Oncology          | ▶ Pathology       | ▶ Surgery                        |
| ▶ Ophthalmology     | ▶ Pediatrics      | ▶ Urology                        |
| ▶ Oral Surgery      | ▶ Plastic Surgery | Source: Onslow Memorial Hospital |

In addition to Onslow Memorial Hospital, North Topsail Beach residents also rely on New Hanover Regional Medical Center located in the City of Wilmington. New Hanover Regional Medical Center is a not-for-profit health care system serving southeastern North Carolina and northeastern South Carolina. A teaching hospital and regional referral center, the network is dedicated to providing a wide range of health care services including, but not limited to, the following:

- |                             |                       |                           |
|-----------------------------|-----------------------|---------------------------|
| ▶ Heart Center              | ▶ Pulmonary Program   | ▶ Rehabilitation Services |
| ▶ Imaging/X-ray-CT-PET      | ▶ Women’s Services    | ▶ Cancer Services         |
| ▶ Orthopedics               | ▶ Children’s Services | ▶ Ambulatory Surgery      |
| ▶ Emergency/Level II Trauma | ▶ Behavioral Health   | ▶ Vascular Services       |

### 3. Law Enforcement

Law enforcement is provided by the Town of North Topsail Beach Police Department. The department is located at Town Hall, 2008 Loggerhead Court. There are eleven full-time and six part-time officers and one office staff employee. Two officers are on duty during the day and two officers are on duty at night. All emergency response calls to the department are routed through the Onslow County Emergency 911 Call Center. The department responds to approximately 3,500 calls per year, which does not include traffic tickets, check points, and DWIs. The police department performs one beach patrol per shift in the winter and three per shift during the summer months. Following is a summary of the vehicles used by the department. Jet skis are utilized by the department but are obtained through a rental agreement.

- ▶ 3 four wheel drive vehicles
- ▶ 8 Crown Victorias
- ▶ 2 Dodge Chargers
- ▶ 2 Humvees
- ▶ 2 all terrain vehicles

Currently, the Police Department utilizes approximately 800 square feet in the Town Hall with no garage or storage facility. All of the vehicles are stored outside and often times off-site at the police chief’s residence.

#### 4. Fire Services

The North Topsail Beach Fire Department is located at 2049 New River Inlet Road with an additional location at 3304 Gray Street. The department is served by six paid firefighters, including the Fire Chief and Deputy Chief, and 23 volunteers. It is one of 16 volunteer fire departments within Onslow County. All volunteer departments maintain an ongoing contract with the county for mutual aid services. Automatic mutual aid sends multiple departments to a fire call. Mutual aid occurs when the fire departments that respond to a call ask for additional assistance by other departments. Emergency Response calls are received through the Onslow County Emergency 911 Call Center. Following is a list of the equipment available to the firefighters at North Topsail Beach.

- ▶ 75 foot ladder truck
- ▶ Two pumpers (1,000 gallon capacity)
- ▶ One 1,800 gallon tanker
- ▶ One service vehicle
- ▶ Two personnel vehicles
- ▶ One fast attack all-terrain vehicle

#### 5. Emergency Medical Services

North Topsail Beach is served by the Emergency Medical Services division of the Onslow County Department of Emergency Services and Homeland Security and the North Topsail Beach and Holly Ridge Volunteer Rescue Squads. The county EMS station is located at 3304 Gray Street, North Topsail Beach, and provides paramedic level service with assistance from volunteer basic EMT and Advanced Rescue service. Each EMS station is staffed with two Onslow County paramedics 24 hours a day, 7 days a week.

#### 6. Administration

The Town of North Topsail Beach is located at 2008 Loggerhead Court and is governed by a Council-Manager form of government. There are five departments that provide service to the Town. The following table provides a list of those departments and the number of employees in each.

Table 26: Staffing

<u>Department</u>	<u>Number of Employees</u>
Administration	5
Planning and Zoning	2
Building Inspections	2
Police	13
Fire	4.5*
Public Works	4.5*

\*The Fire Chief and the Public Works Director are the same person.  
Source: Town of North Topsail Beach.

## 7. Water System

The Onslow Water and Sewer Authority (ONWASA) was established in July 2005, to provide water and sewer service to under served areas of Onslow County. ONWASA's Rating Agency Update reports that it was also established as a means to enter into contracts with the Camp Lejeune United States Marine Corps Base (MCB) because the base will only negotiate with a single entity and as such will sell to ONWASA under wholesale agreements. Onslow County, Holly Ridge, Richlands, Swansboro, and North Topsail Beach have entered into long term renewable Capital Leases on their systems with ONWASA. There are three water service districts under the Authority: Dixon, Hubert, and Well Field service areas. North Topsail Beach falls within the Dixon Service Area.

All raw water treated by ONWASA currently comes from groundwater wells installed in the Cretaceous and Castle Hayne aquifers. Water from the Castle Hayne aquifer is drawn from eight wells and treated at the Hubert and Dixon water treatment plants. Water from the Cretaceous aquifer is drawn from 11 wells and chlorinated prior to distribution. The following provides a summary of the Dixon water service area taken from a capital needs assessment drafted by ARCADIS on behalf of ONWASA:

*Dixon WTP Service Region.* The Dixon WTP was originally constructed with a capacity of 2.0 mgd, but was designed to be capable of expansion to 6.0 mgd. In 2004, an Environmental Assessment (EA) was prepared and a Finding of No Significant Impact (FONSI) was received to allow the plant to be upgraded to 4.0 mgd. The expansion was completed in 2006, with additional raw water supply made available in 2007. The total capacity increased to 3.8 mgd in 2007 and to 4.0 mgd in 2008. An upgrade to 6.0 mgd is not currently planned until 2015 or later. A connection to the Holcomb Boulevard WTP on MCBCL is also being planned. The connection will be completed in 2015. This will provide an additional 1.5 mgd to the Dixon Service Region.

## 8. Sewer System

Central sewer service is provided to the Town of North Topsail Beach by North Topsail Utilities. North Topsail Utilities is a privately-owned utility that was initially established to provide sewer service to development in North Topsail Beach. Since its establishment, they have expanded their service area to include portions of Onslow County's mainland including: NC Highway 210 from North Topsail Beach to NC Highway 17, and Old Folkstone Road to the east. North Topsail Utilities has a wastewater treatment plant located on NC Highway 210. The plant currently has an operating capacity of .874 million gallons per day (MGD). This plant is operating at capacity, which has forced North Topsail Utilities to execute a phased expansion plan. This will be discussed in the future demands section of the plan.

North Topsail Utilities provides sewer service to approximately 70% of North Topsail Beach. There is a trunk line running the full extent of the town; however, several side streets are not served. All properties not connected to central sewer are served by septic tanks. These septic systems are permitted and monitored by the Onslow County Health Department. At this time, there are no package treatment plants located within North Topsail Beach.

## 9. Schools

North Topsail Beach is served by the Onslow County School System. Dixon Elementary School, 130 Betty Dixon Road in Holly Ridge, serves grades K-5. Dixon Middle School, 200 Dixon School Road in Holly Ridge, serves grades 6-8. Dixon High School, 160 Dixon School Road in Holly Ridge, serves grades 9-12. The following table provides a summary of the schools that serve North Topsail Beach's school age children.

Table 27: Public Schools Serving North Topsail Beach

School	Enrollment	Licensed Staffing	Student Capacity	Capacity Utilized	Recreational Facilities Shared with the County
Dixon Elementary	773	53	644	120.0%	
Dixon Middle	488	34	634	77.0%	Gym
Dixon High	560	44	555	100.9%	

Source: Onslow County Schools.

Higher education is offered at Coastal Carolina Community College (CCCC). The college is located at 444 Western Boulevard in Jacksonville. The college is a public institution supported by tax dollars. Originally established as Onslow County Industrial Education Center in July 1965, the center became Onslow Technical Institute in May 1967, and Coastal Carolina Community College in July 1970. The College has the following mission statement:

"As a member of the North Carolina Community College System, Coastal Carolina Community College provides opportunities for quality post-secondary education, workforce training and lifelong learning for the civilian and military population of Onslow County, within the limits of available resources. Coastal values academic excellence, focuses on learning outcomes and student success, provides leadership for community cooperation and actively promotes the economic development of Onslow County."

The community college operates classes on a semester schedule and offers online courses and a variety of programs that lead to degrees, diplomas, or certificates. In addition, coastal carolina higher education opportunities are also available at Cape Fear Community College and the University of North Carolina at Wilmington. Both of these facilities are located in Wilmington, North Carolina. Cape Fear Community College also offers classes at the Surf City Community Building. Additionally, several degree programs are available through Camp Lejeune's MCAS New River Campus.

## 10. Recreation

The Town does not operate a Parks and Recreation Department at this time. However, there is a Town Park that provides the following facilities: Picnic Shelters, Basketball Courts, Volleyball Courts, Tennis Courts, a Fishing Pier, a Kayak/Canoe Launch, a Gazebo, and new restroom facilities. In addition to this public park, North Topsail Beach has a total of 28 public beach access sites including local, neighborhood, and regional sites. Two of these sites are served by parking facilities, with a total of 740 parking spaces.

## 11. Stormwater Management

### **a. Introduction**

Precipitation that occurs as a result of a rainfall or snow melt event that does not permeate into the soil, is not consumed by plants, or is evaporated into the air becomes stormwater. Pollutants such as oil and grease, sediment, bacteria, and other toxic substances are added to this water as it runs across impervious surfaces and thereby polluting our surface waters. In addition, as the volume of stormwater increases, more flooding and erosion may occur.

### **b. Existing Drainage Problems**

North Topsail Beach is drained by the Intracoastal Waterway, the New River Inlet, and the Atlantic Ocean. The elevations within the town are fairly low due to its location on a barrier island. As a result, the Town is prone to flooding where elevations are low as a result of hurricane storm surge and heavy rains. As mentioned in the Natural Systems Analysis section, 100% of the town is within a flood hazard area. As development continues, so will the construction of impervious and semi-permeable surfaces and the potential for surficial water contamination.

### **c. EPA Regulations**

The Environmental Protection Agency (EPA) has begun implementation of Phase II of the Stormwater Management Plan. These policies apply to municipalities with populations greater than 10,000 and with densities of 1,000 per square mile. For municipalities that meet these parameters, submittal of a stormwater management plan is required. Phase II regulations also apply to entities designated under the 1990 census as a Small MS4 (Small Municipal Separate Storm Sewer System). MS4s are defined as a publicly-owned conveyance or system of conveyances designed or used for collecting and conveying stormwater. MS4s can include counties, towns, airports, federal properties, hospitals, schools, etc. Small community MS4s are regulated if they discharge into impaired or sensitive US waters. At this time, North Topsail Beach is not required to meet the EPA Phase II Stormwater Management Program regulations. The Town may be required to submit a stormwater management permit application under future expansion of the NPDES program.

### **d. Construction Activities**

Stormwater runoff from construction activities can have a significant impact on water quality, contributing sediment and other pollutants exposed at construction sites. The NPDES Stormwater Program requires operators of both large and small construction sites to obtain authorization to discharge stormwater under a NPDES construction stormwater permit. In 1990, the Phase I Stormwater Management Program regulations addressed large construction operations that disturbed five (5) or more acres of land. The NPDES program also addresses small construction activities – those that disturb less than five (5) acres of land – which were included in the Phase II final rule. Construction activities that

disturb over one (1) acre of land are required to develop and implement a stormwater pollution prevention plan specifically designed for the construction site. The development implementations of the plan follow the basic phases listed below:

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

#### **e. North Carolina Shoreline Buffering**

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

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

### **F. ANALYSIS OF LAND USE AND DEVELOPMENT**

#### **1. Existing Land Use**

In order to address future development within the Town it is necessary to establish a snapshot of what is currently developed within the Town's jurisdiction. Conducting a detailed land use survey allows for a review of existing land use patterns. This survey will assist in identifying land use patterns and trends that exist within the Town's planning jurisdiction. This process will serve two main purposes: identifying key conflicts in land use and addressing the issue of future housing and land use demand. This review will provide a solid foundation for decisions regarding future land use and policy development.

The existing land use survey was completed through the use of Aerial Photography, county tax data, and on-site windshield surveys in March, 2008. The existing land use map was then submitted to the Town Planning and Inspections Department and Land Use Planning Committee for review to address any errors that exist. Land use within the Town was broken into the following land use categories: multi-family residential, commercial, office & institutional, recreational, single-family residential, association owned property, and undeveloped (vacant).

The following provides a summary of what types of facilities are included in each of the land use categories listed above:

**Multi-Family Residential (MFR)** - all residential structures with three or more attached dwelling units on a single property.

**Commercial (C)** - This land use category includes private business operations located throughout the Town. These include restaurants, the marina, retail shopping facilities, and any commercially operated overnight accommodations (bed & breakfast operations)

**Office & Institutional (O&I)** - These properties include all professional office related uses, as well as any institutional and governmental uses. Institutional uses include churches, membership organizations, meeting facilities.

**Recreational (Rec)** - Recreational land uses on the land use map correspond to all public and private recreational facilities. In the case of the North Topsail Beach, these areas are primarily restricted to the Town's park facilities and the three private campgrounds located in the southern end of town.

**Single-Family Residential (SFR)** - This land use category includes all single-family residential dwellings. This includes mobile homes on individual lots.

**Association Owned Property (AOP)** - This land use category includes all properties that serve as common areas and/or private drives for private residential and multi-family developments.

**Undeveloped (V)** - All vacant land falls under this category.

Map 10 provides an overview of existing land use within the town based on the land use categories listed above. Table 28 on page 67 provides a breakdown of land use acreage that corresponds to the existing land use map. All data regarding land use acreage have been provided for the Town's total jurisdiction.

Map 10 - ELU

Table 28: Existing Land Use

Land Use	Acreage	% of Total
Commercial	4.3	0.1%
Association Owned Property	15.6	0.4%
Multi-Family	59.1	1.5%
Office & Institutional	12.2	0.3%
Recreational	54.5	1.4%
Single-Family Residential	383.8	10.0%
Vacant	3,302.5	86.2%
<b>Total</b>	<b>3,832.0</b>	<b>100.0%</b>

Source: Holland Consulting Planners, Inc.

## 2. Land Use Conflicts

Land use conflicts often exist within a Town’s planning jurisdiction resulting from a variety of circumstances. Issues leading to land use conflicts can result from a lack of proper land use controls, demand for increased development, and situations beyond the Town’s control. The Town has been very conscious of these issues over the past, and has addressed many problems related to land use conflicts through adoption of local ordinances and installation of infrastructure. Although steps have been taken to address potential problems that may be detrimental to environmental conditions, several conflicts still exist within the Town planning jurisdiction.

These land use conflict issues can be summarized as follows:

**Residential Development within Flood Hazard Areas.** The Town lies on a barrier island and is extremely vulnerable to coastal flooding associated with tropical storm events. The Town’s vulnerability to flood hazards is discussed in detail beginning on page 24. As with other barrier island communities this fact has not slowed development. The Town aims to ensure the safety of all property within the Town’s jurisdiction through proper land use controls and enforcement of the Town’s Flood Damage Prevention Ordinance. All residential structures are subject to requirements outlined in the Town’s Flood Damage Prevention Ordinance, as well as the North Carolina State Building Code.

**Development within the CBRA Zone.** The Coastal Barrier Resource Act of 1982 places additional constraints on development beyond those tied to standard FEMA flood zones. The CBRA zone was discussed within the natural hazards discussion earlier in the plan (page 25). Some portions of North Topsail Beach (see Map 8) that fall within the CBRA zone are not eligible for federal flood insurance, and limited federal assistance in the event of a natural disaster. These properties must rely on private flood insurance which is typically much more costly than the federally subsidized alternative. This issue became especially problematic subsequent to Hurricane Fran in 1997. Approximately 80-90 property owners within the town’s jurisdiction secured federal flood insurance policies, only

to determine that their policy was void due to the presence of the CBRA zone. This problem has now been rectified, but property owners within the zone are still restricted from securing federal flood insurance. The presence of the CBRA zone has not hampered development; however, many property owners build within this area without a full understanding of the burden that this federal policy can ultimately have on them in the event of a natural disaster. The town has voiced concerns over educating property owners of this hazard. The Floodplain Administration provides a map information service providing inquirers with information from the town's Flood Insurance Rate Map (FIRM) including information on the provisions of the Coastal Barrier Resources Act (CBRA).

A second problem related to the CBRA zone is that the town cannot receive federal assistance to perform beach nourishment activities. Portions of the town not within the zone are eligible, while those within the zone are not. The town has been struggling to determine a solution regarding a financial plan to address this problem for several years now. As the town moves through this process, the land use plan will be updated to include the town's long term beach nourishment strategy.

**Encroachment of residential and urban type uses into forested/environmentally sensitive areas.** The Town is home to significant acres of maritime forest, and environmentally sensitive areas including estuarine marshes and wetlands. As discussed in the natural systems analysis portion of the plan, the Town is surrounded on the northwestern side by estuarine wetlands. From the Town's origin there has been a focus on preserving these areas wherever feasible. The Town aims to protect the natural setting throughout Town through preserving the forest where possible, and promoting low density development in an attempt to maintain water quality. The issue of preserving the forest in light of continued development pressures will be addressed in the policy statement section of the plan.

**Impacts of development and redevelopment on adjacent waterbodies designated as Outstanding Resource Waters (ORW)** - As discussed in the Marine Resources section of the plan starting on page 47, North Topsail Beach is adjacent to several waterbodies that have been designated as Outstanding Resource Waters by the NC Division of Water Quality. Increased development along North Topsail Beach as well as mainland portions of Onslow County are beginning to have adverse impact on these waterbodies. According to the 2005 Cape Fear River Basinwide Water Quality Plan, several of the ORW stream segments adjacent to North Topsail Beach will be placed on the State's 303(d) list. This list was established as an index of all impaired waterbodies throughout the state. The Town needs to focus on minimizing further negative impacts on adjacent bodies of water through revised land use controls and the establishment of comprehensive stormwater management requirements. Additionally, the Town is working with North Topsail Utilities towards minimizing the use of septic tanks within the town's corporate limits. Currently, approximately 70% of the town's properties are hooked into the North Topsail Utilities central sewer system. These issues will be discussed further in the Future Demands and policy sections of the plan.

### 3. Existing Land Use Patterns

The Town of North Topsail Beach is a very unique municipality in that a majority of the town’s jurisdiction remains as vacant/open space. A majority of the vacant land within Town is comprised of land zoned as conservation areas, and will remain vacant in perpetuity, as long as the Town’s policy is to preserve these areas. The land use category comprising the most substantial development of land is single-family residential. Nearly all of the developed acreage within North Topsail Beach is either duplex or single-family residential homes.

In order to provide a forecast of how vacant land will be developed throughout the Town’s jurisdiction an overlay analysis was performed based on the existing land use survey, and the Town’s zoning map. Based on this analysis, the zoning district of each undeveloped parcel has been identified. Table 29 and Map 11 provide a summary of how all vacant parcels will be developed, if this development follows existing zoning patterns.

Table 29: Zoning Classification of Undeveloped Properties

Zoning District	Vacant Acreage by Zoning District	% of Total Vacant Acreage
B-1	61.5	1.9%
B-2	5.3	0.2%
CON-D	1,907.9	57.8%
CU R-5	17.5	0.5%
CU R-10	15.6	0.5%
CU R-15	16.8	0.5%
CU R-8	39.2	1.2%
MHR	120.1	3.6%
R-10	88.3	2.7%
R-15	70.4	2.1%
R-20	618.4	18.7%
R-5	98.3	3.0%
R-8	7.1	0.2%
R-A	236.8	7.2%
Total	3,303.1	100.0%

Source: Holland Consulting Planners, Inc.

Map 11 - Zoning in relation to Land Use

## **G. LAND SUITABILITY ANALYSIS**

A thorough analysis of all impediments to development, as well as existing community facilities, has been completed in Sections V(D), V(E), and V(F) of this Plan. These same sections also analyzed factors that attract development, such as the presence of transportation, water, and waste disposal capabilities. All of these variables factor into suitability for development for a specific piece of property. In order to assess what effect the various man-made and environmental constraints will have on development throughout the Town of North Topsail Beach, an overlay analysis was performed. This overlay analysis is a GIS-based process geared toward evaluating the suitability of land for development. The procedure is very similar to the practice developed by Ian McHarg, the Scottish urban designer, in which geospatial data layers are referenced to each other in an effort to determine what portions of a land mass appear to be the most favorable sites for a specific land use.

The overall process utilized Arcview GIS software with the Spatial Analyst extension along with data layers provided by the North Carolina Center for Geographic Information and Analysis (NCCGIA). The analysis takes into consideration a number of factors, including natural systems constraints, compatibility with existing land uses and development patterns, existing land use policies, and the availability of community facilities. The end product of this analysis is a land suitability map that shows underutilized land that is suited or not suited for development (see Map 12). This map can be used as a foundation for the discussion and formation of town-wide land use policy and should be compared to the future land use map (see Section VI).

Land suitability analysis involves the application of criteria to the landscape to assess where land is most and least suitable for development of structures and infrastructure. A computer application is not essential for this analysis, but greatly simplifies the process.

There are eight key steps to completing the overlay analysis:

- (1) Define criteria for the analysis
- (2) Define data needed
- (3) Determine what GIS analysis operations should be performed
- (4) Prepare the data
- (5) Create a model
- (6) Run the model
- (7) Analyze results
- (8) Refine model as needed

All of these steps have been completed and, as noted above, the end product is displayed on Map 12. There were no additions or adjustments to the default layer sets and weighting factors provided by the Division of Coastal Management to the Town for the existing land suitability analysis map. Prior to producing the map, data was compiled and each data layer in conjunction with criteria was assigned a weight. The Town was then divided into one-acre squares. Each of these one-acre squares of land was given a score based on how that respective piece of property related to each data layer. The score for

each data layer was multiplied against that given layer's weight. The scores for each layer were added together to determine a suitability rating for that one-acre square of property. The suitability rating falls into four primary categories: least suitable, low suitability, medium suitability, and high suitability. The following table summarizes all data layers used, including the criteria and weight assigned to each layer.

Table 30: Land Suitability Analysis Criteria

Layer Name		Criteria and Rating				Assigned Weight
		Least Suitable	Low Suitability	Medium Suitability	High Suitability	
		0	-2	1	+2	
Coastal Wetlands	Exclusion*	Inside	--	Outside	--	
Exceptional & Substantial Non-Coastal Wetlands	Exclusion*	Inside	--	Outside	--	
Estuarine Waters	Exclusion*	Inside	--	Outside	--	
Protected Lands	Exclusion*	Inside	--	Outside	--	
Storm Surge Areas	Weighted	--	Inside	--	Outside	2
Soils (Septic Limitations)	Weighted	--	Severe	Moderate	Slight	2
Flood Zones	Weighted	--	Inside	--	Outside	2
HQW/ORW Watersheds	Weighted	--	Inside	--	Outside	1
Natural Heritage Areas	Weighted	--	<500'	--	>500'	1
Hazardous Substance Disposal Sites	Weighted	--	<500'	--	>500'	1
NPDES Sites	Weighted	--	<500'	--	>500'	1
Wastewater Treatment Plants	Weighted	--	<500'	--	>500'	1
Discharge Points	Weighted	--	<500'	--	>500'	1
Land Application Sites	Weighted	--	<500'	--	>500'	1
Developed Land	Weighted	--	>1 mi	.5 - 1 mi	<.5 mi	1
Roads	Weighted	--	>1 mi	.5 - 1 mi	<.5 mi	2
Water Pipes	Weighted	--	>.5 mi	.25 - .5 mi	<.25 mi	3
Sewer Pipes	Weighted	--	>.5 mi	.25 - .5 mi	<.25 mi	3

\*Data layers that are slated as exclusion have a suitability of 0 or 1, meaning that if a specific one-acre piece of property falls within one of these areas, it is automatically considered least suitable for development.  
Source: NCCGIA and CAMA.

Overall, land in North Topsail Beach is moderately suitable for development. Table 31 provides a summary of land suitability acreage based on the results of the overlay analysis.

Table 31. LSA Acreage

Suitability	Acreage	% of Total
Least Suitable	2,206.4	57.6%
Low Suitability	150.6	3.9%
Medium Suitability	1,413.9	36.9%
High Suitability	61.1	1.6%
Total	3,832.0	100.0%

Source: Holland Consulting Planners; North Carolina Center for Geographic Information and Analysis.

## Map 12 - Land Suitability Analysis

## **H. CURRENT PLANS, POLICIES, AND REGULATIONS**

### **1. Introduction**

The Town has adopted a comprehensive Municipal Code that addresses a wide range of topics with respect to development, environmental protection, and daily operations. This code serves as the primary tool for construction and future development for the Town's planning and inspections department. The code is enforced by the Town Administration, as well as the Board of Aldermen. The Town Code addresses the following topics: Administration; Animals; Buildings and Building Regulations; Civil Emergencies; Environment; Fire Prevention and Protection; Floods; Offenses and Miscellaneous Provisions; Parks and Recreation; Solid Waste Management; Stormwater Management; Streets, Sidewalks, and other Public Places; Subdivisions; Traffic and Vehicles; Utilities; and Zoning. The following provides a summary of all Town Codes that relates to land use and future development/redevelopment.

### **2. Planning and Zoning (Chapter 7)**

Chapter 7 of the North Topsail Beach Town Code, outlines regulations for the development, redevelopment, and subdivision of properties within the town. The first three articles of this chapter outline the establishment and duties of the town's Planning Board, as well as the procedure for securing permits regarding minor development within the town's planning jurisdiction. The remaining chapters include the town's zoning ordinance, subdivision regulations, and building code provisions. A summary of these Articles is provided below.

#### **a. Zoning (Article IV)**

The Town's zoning ordinance is included in Chapter 7 of the Municipal Code. The purposes of the zoning ordinance, as stated in the Section 32-1 of the ordinance, are as follows:

"In order to lessen congestion in the streets; to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to facilitate the adequate provisions of transportation, sewerage, schools, parks and other public requirements; to conserve the value of buildings and encourage the most appropriate use of land throughout the corporate area, there is hereby adopted and established an official zoning plan of the Town of North Topsail Beach."

The zoning ordinance includes the following fourteen land use districts. Each parcel of land in the Town is included in at least one of the following districts. The ordinance provides detailed specifications regarding minimum lot size, maximum building height, and setback/buffering requirements for development within each of these zoning districts. Additionally, the permitted and special uses for each district are established, and can be found within Article IV, Section 7-128 of the North Topsail Beach Town Code.

In addition to establishing regulations regarding development within the Town, the zoning ordinance defines the duties and responsibilities of the Board of Adjustment. The Town's Board of Adjustment is a quasi-judicial board and has the function of addressing ordinance interpretations, appeals regarding code enforcement action, and decisions associated with applications regarding the issuance of special and conditional use permits.

**b. Subdivision Regulations (Article V)**

Chapter 7, Article V of the Town Municipal Code provides the Town of North Topsail Beach subdivision regulations. The following excerpt from the subdivision ordinance provides the purpose of the subdivision regulations:

"The purpose of this ordinance is to establish procedures and standards for the development and subdivision of land within the territorial jurisdiction of the Town of North Topsail Beach. It is further designed to provide for the orderly growth and development of the town; for the coordination of streets and highways within proposed subdivisions with existing or planned streets and highways and with other public facilities; for the dedication or reservation of recreation areas serving residents of the immediate neighborhood within the subdivision and of rights-of-way or easements for street and utility purposes; and for the distribution of population and traffic in a manner that will avoid congestion and overcrowding and will create conditions essential to public health, safety, and the general welfare. This ordinance is designed to further facilitate adequate provision of water, sewerage, parks, schools, and playgrounds, and also to facilitate the further resubdivision of larger tracts into smaller parcels of land."

Specifically, the subdivision regulations require that:

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

**c. Buildings and Building Regulations (Article VI)**

Chapter 7, Article VI of the Municipal Code includes these regulations. The town has adopted and enforces the North Carolina state building, plumbing, heating, electrical, and residential codes. This chapter also outlines the procedures related to applying for and obtaining a building permit for construction. Additionally, the general duties and powers of the town's inspections department are outlined in this chapter.

### 3. Flood Damage Prevention (Chapter 8)

The Town is a standard member of the National Flood Insurance Program (NFIP). The NFIP has recently completed updated floodplain maps for Onslow County, and these have been adopted by the town. The floodplain maps have been discussed further in the Natural Systems Analysis Constraints section of the plan.

In accordance with regulations under the NFIP, the Town has an updated Flood Damage Prevention Ordinance. The purpose of the new ordinance is as follows:

- (1) Restrict or prohibit uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increase in erosion, flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;
- (4) Control filling, grading, dredging, and all other development which may increase erosion or flood damage; and,
- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.

### 4. Environmental Protection (Chapter 9)

Chapter 9 of the Town Code addresses issues related to protection of environmentally sensitive areas. Specifically this chapter provides provisions for the process for identifying and removing environmentally hazardous materials, dune protection, and provisions for protecting Areas of Environmental Concern (AEC). The town has adopted a dune protection ordinance to ensure the safety of the frontal dune line which runs along oceanfront portions of the town's corporate limits.

According to this ordinance it is unlawful to disturb or infringe on any frontal dune areas except at marked public access points, which are located throughout the Town. It is also illegal to construct a dune crossing or oceanfront access without the issuance of a building permit and CAMA permit from the town Building Inspector. The provisions related to the protection of AEC's discuss regulations outlined by the North Carolina Department of Environment and Natural Resources (NCDENR) regarding development within coastal areas, as discussed earlier in the plan.

5. Parks and Recreation (Chapter 10)

This portion of the town's municipal code outlines regulations related to activities that are either permitted or restricted within oceanfront portions of North Topsail Beach. Items addressed in the ordinance include: surfing activities, driving on the beach, commercial and recreational fishing, and fees and penalties.

6. Onslow County Hazard Mitigation Plan

North Topsail Beach participated in the development of the Onslow County Hazard Mitigation Plan, the Hazard Mitigation Plan (HMP) identifies potential natural hazards that may affect the town, identifies the extent of the risk the town faces from these hazards, and adopted goals, policies and procedures to help minimize these risks over the long term. Refer to Appendix V for the town's Hazard Mitigation policies and implementing actions.

This Plan was required by Federal and State laws adopted in the year 2000 that require all local governments to have a hazard mitigation plan in place as a condition of disaster recovery and hazard mitigation assistance after November 2004. The HMP has been approved by both the North Carolina Department of Emergency Management and FEMA.

7. Review of the 1997 North Topsail Beach CAMA Land Use Plan Update

North Topsail Beach's existing Coastal Area Management Act (CAMA) land use plan was certified by the Coastal Resources Commission on March 26, 1999, and was developed by the town in conjunction with Holland Consulting Planners, Inc. The document complies with the 15A NCAC 7B planning requirements. In addition, the policies contained within the plan meet or exceed the State of North Carolina minimum use standards for areas of environmental concern as set forth in 15A NCAC 7H.

In most cases, the policies adopted support the 15A NCAC 7H minimum use standards. Appendix III provides a summary of what policies and implementing actions have been addressed since certification of the 1997 land use plan.

## SECTION VI: PLAN FOR THE FUTURE

### **A. FUTURE DEMANDS**

#### 1. Introduction

The NCAC 7B administrative guidelines specify requirements for future needs. These included the following:

- ▶ To establish the need for land for residential structure, commercial uses and related services. Population predictions shall be examined in relation to present and future types of land development. Policies shall consider both past development densities and patterns and the desired future density and type of development.
- ▶ Consideration shall be given to new and expanded facilities which will be required by the estimated population growth and the densities at which the land is to be developed. Features such as landfills, road widenings, bridges, water and sewer, police and fire protection, solid waste, and schools should be considered in order to meet the intent of this item.

Growth is expected to continue through 2030 at a rate of 16.7% for the 25-year time period. New development in North Topsail Beach's planning jurisdiction could strain the capacity of the existing transportation system; increase demand for water, wastewater, and solid waste disposal; and place increasing demands on school facilities, recreational facilities, police and fire departments, and administrative/regulatory agencies.

Table 32: Population Projections, 2007-2030

	2007 (estimate)	2010	2020	2030	Overall % Change
North Topsail Beach	863	878	928	978	13.3%
Onslow County*	162,745	166,175	167,661	166,283	2.2%

\*Based on the population projections included in the Onslow County Comprehensive Plan.  
Source: North Carolina State Data Center and Holland Consulting Planners, Inc.

#### 2. Housing Trends

According to the 2000 US Census, from 1990 to 2000 the Town of North Topsail Beach's housing stock increased by 592 dwelling units for an average of 59.2 dwelling units per year. This trend is increasing within the Town, however, recent market conditions have slowed coastal residential growth. Building permit data within the Town shows that between 2001 and 2005 building permits were issued for 364

single-family residential dwellings and 102 multi-family units. The data indicates a 466 dwelling unit increase for an average of 93 units per year. In comparison, there have been 34 building permits issued for residential development in 2007. Building permit averages were up from 2001 to 2005 in response to market conditions. As noted, these averages have fallen substantially. Over the next five to ten years, building permit activity is expected to range from 35 to 55 units per year.

### 3. Transportation

The 1996 CAMA Land Use Plan stated that overwash periodically occurs on SR 1568 near Galleon Bay. This continues to be an important issue that should be addressed.

According to the 2007-2013 Division 3 NCDOT Transportation Improvement Program (TIP), there are no road projects scheduled for North Topsail Beach. Additionally, the Town has plans to expand on its existing bike path system. The bicycle trail system is discussed further under the parks and recreation section of this plan.

### 4. Health Care

The primary comprehensive medical facility serving North Topsail Beach residents is Onslow Memorial Hospital. The hospital began a \$31.3 million renovation project in July 2006. Renovations to the facility include but are not limited to: a new emergency room, four operating rooms, separate waiting areas for Emergency Room and outpatient services, six observation beds, and a family conference room to be used to discuss sensitive patient care issues.

### 5. Police Services

The North Topsail Beach Police Department currently utilizes 800 square feet of space within the Town Hall and has no garage or storage facility. A larger office space should be considered to house current personnel, to provide space for training, and to store records. At the present time, the department cannot meet statutes for containment of records.

### 6. Fire Services

The North Topsail Beach Fire Department has adequate facilities at this time; however, the Department would benefit from the addition of paid firefighters to ensure two firefighters per shift. The increased personnel will assist the department in dealing with the increased demand resulting from seasonal population fluctuations.

### 7. Emergency Medical Services

North Topsail Beach is currently served by Onslow County Emergency Medical Services. Calls for emergency medical assistance are handled through the Onslow County E-911 call center. At this time, there are no plans for expansion of the county facilities or staff located within North Topsail Beach.

8. Administration

The Town Hall facilities occupied by administrative personnel are more than adequate to meet current demand. At this time, there are no plans to expand Town Hall or increase existing staffing levels.

9. Water System

The Town of North Topsail Beach entered a long term capital lease on their water system with the Onslow Water and Sewer Authority. The following provides a summary of forecast relating to the ONWASA water system that currently serves North Topsail Beach:

**a. Water Supply**

ONWASA has divided the County into three water service regions. These areas are the Dixon, Hubert, and Well Field Service Regions. The majority of the population in the County is already connected to the public water system. The service regions were delineated based on the current water supply system. In general, the Dixon Service Region includes the Stump Sound and North Topsail Beach Service Area, the Hubert Service Region includes the White Oak and Swansboro Service Areas, and the Well Field Service Region includes the Southwest and Richlands Service Areas.

**b. Dixon WTP Service Region**

The Dixon WTP was originally constructed with a capacity of 2.0 mgd, but was designed to be capable of expansion to 6.0 mgd. In 2004, an Environmental Assessment (EA) was prepared and a Finding of No Significant Impact (FONSI) was received to allow the plant to be upgraded to 4.0 mgd. The expansion was completed in 2006, but additional raw water supply will not be available until 2007. The total capacity will increase to 3.8 mgd in 2007 and to 4.0 mgd in 2008. An upgrade to 6.0 mgd is not currently planned until 2015 or later. A connection to the Holcomb Boulevard WTP on MCBCL is also being planned. The connection will be completed by 2015. This will provide an additional 1.4 mgd to the Dixon Service Region.

Table 33 shows a summary of the water demand and supply projections for the Dixon service region. This table shows that the Dixon service region will have an available supply of 3.9 mgd in 2030.

Table 33: Summary of Water Demand and Supply Projections

	2000	2005	2010	2020	2030
<b>Dixon Service Region</b>					
Avg. Daily Demand (mgd)	0.8	0.8	1.3	1.8	2.0
Max. Day Demand (mgd)	1.1	1.2	1.9	2.7	3.6
Supply	2.0	2.0	4.0	7.4	7.4
Supply Available/Deficit	0.9	0.8	2.1	4.8	3.9

Source: Onslow County Water and Wastewater Resources Plan, ARCADIS, 2007.

## 10. Sewer System

Sewer is provided by North Topsail Utilities to approximately 70% of North Topsail Beach. The wastewater treatment plant is currently operating at capacity which requires North Topsail Utilities to execute a phased expansion plan. As noted earlier in the plan, North Topsail Utilities has an existing maximum operating capacity of 880,000 gallons per day (GPD). This system serves approximately 2,000 customers including the Town of North Topsail Beach, as well as residents on the mainland of Onslow County. The Town currently has an agreement with North Topsail Utilities that the plant capacity will be increased by 300,000 gpd. This will bring the current operating capacity to 1,180,000 GPD. Once available, this increased capacity will be provided on a first come first serve basis. This effort has not been completed by North Topsail Utilities; the town is working with the NC Utilities Commission towards a resolution.

Subsequent to this initial expansion, North Topsail Utilities has agreed to establish a maximum capacity of 3,000,000 GPD. There is no schedule set for this future expansion, but it is anticipated that it will occur during the planning period (2025).

Until the 2008 expansion is complete, new development within North Topsail Beach will continue to rely on private on-site wastewater treatment systems. The town is highly opposed to the use of these systems, and has addressed these concerns throughout the policy section of this document.

## 11. Education

As mentioned earlier, North Topsail Beach is served by Dixon Elementary School, Dixon Middle School, and Dixon High School. The combined enrollment at these schools for the 2005/2006 school year was 1,821. The middle school was operating at 20% over capacity and the high school was operating at slightly less than 1% over capacity.

Recent forecasting suggests the Town's population will increase by approximately 143 persons by 2030. Historically, school-aged children have comprised approximately 9.4% of the Town's population. If this trend continues, the schools may only need to accommodate approximately 13 additional students from North Topsail Beach by 2030. Assuming these students will be divided between the three schools listed above, the impact on the school system from North Topsail Beach should be minimal.

As a result of recent population growth, many schools within the Onslow County School System are experiencing overcrowding. In response, the school system conducted a long range needs assessment that determined that \$237 million in improvements were needed. The County decided to phase the improvements. A bond referendum was approved for FY05 for \$105 million to cover the costs of Phase I. The following table indicates projects scheduled or completed for the three schools that serve North Topsail Beach.

Table 34: 2005 Bond Referendum - Proposed Onslow County School Improvements

School Name	Proposed Projects	Projected Investment	Projected Completion Date
Dixon Elementary	8 to 11 classrooms, HVAC system, parking/driveway, renovations, technology	\$4,398,359	7/1/08
Dixon Middle	Gym AC, parking/driveway, technology	\$1,043,500	7/1/06
Dixon High	3 to 6 classrooms, ADA renovations, technology	\$ 355,338	4/1/08

Source: Onslow County.

## 12. Recreation

Currently, North Topsail Beach maintains a municipal park centrally located within the Town’s corporate limits. Details regarding this facility are outlined within the community facilities section of this plan. Additionally, the Town currently has 28 public beach access sites. Some of the sites are owned and operated by the County, while many are under the Town’s jurisdiction. North Topsail Beach will continue to seek out opportunities to provide additional public access points. This effort will include accepting land donations and easements in conjunction with large multi family and subdivision developments.

## 13. Solid Waste

Garbage pickup is provided by Waste Industries. Trash is picked up on Tuesdays, Fridays, and Saturdays during the summer and after Labor Day trash is only picked up on Tuesdays. At this time, there are no public facility needs related to solid waste disposal. The town also provides curbside recycling services, beginning July 1, 2009.

## 14. Redevelopment/Development Issues

One of the major development/redevelopment issues in the Town of North Topsail Beach will be the redevelopment of areas following a hurricane or other natural disaster. Based on the Town’s geographic location on the coast, hurricanes can likely occur causing destruction of private and public facilities. Wind damage and flooding could result from the inland movement of a major hurricane or nor’easter. The specifics of this redevelopment will be addressed in the Storm Hazard Mitigation and Post-Disaster Reconstruction section of this plan.

## **B. LAND USE/DEVELOPMENT GOALS AND IMPLEMENTING ACTIONS**

This section of the plan is intended to guide the development and use of land within the Town of North Topsail Beach. The future land use map and policies are intended to support the Town’s and CAMA’s goals. Specifically, this section includes Town goals, land use development policies, and the future land use map. The future land use map and the specified development goals are based in part on the Town of North Topsail Beach community concerns (identified on page 6 of this plan) and the survey results

collected through the land use plan process (see Appendix II). The Town is somewhat unique in that a majority of the land use throughout the Town's jurisdiction is comprised of residential construction. The policies outlined within this section focus on maintaining the low density residential character of the Town, while stressing the need to address the increased demand in services as development continues. Approximately 35.4% of the town's undeveloped acreage is currently zoned to be developed as residential construction. It should also be noted that of the remaining vacant acreage 59.2% is zoned CON-D. This is a zoning designation established for the purpose of conserving environmentally sensitive areas.

## **C. POLICIES/IMPLEMENTING ACTIONS**

### **1. Introduction**

It is intended that the policies included in this plan are either consistent with or exceed the goals of CAMA. This plan will address the CRC management topics for land use plans and comply with all state and federal rules and regulations. The following will serve as a guideline to assist in assuring that this land use plan will guide the development and use of land in a manner that is consistent with the management goal(s), planning objective(s), and land use plan requirements of this plan. These policies/implementing actions will be applied throughout the town's planning jurisdiction. All policies/implementing actions shall be used for consistency review by appropriate state and federal agencies.

Resource conservation and impact analysis issues are addressed throughout the policies and implementing actions included in this plan. However, the following conservation related policies and implementing actions are emphasized:

- ▶ Public Access, page 87.
- ▶ Conservation, page 93.
- ▶ Stormwater Control, page 95.
- ▶ Natural Hazard Areas, page 100.
- ▶ Water Quality, page 102.
- ▶ Cultural, Historical, and Scenic Areas, page 107.

Specifically, in implementing this plan, the Town Planning Board and Town Board of Aldermen will continually do the following:

- Consult the Land Use Plan during the deliberation of all re-zoning requests.
- Consider the following in deliberation of all zoning petitions:
  - Consider the policies and implementing actions of this plan and all applicable CAMA regulations in their decisions regarding land use and development (including 15A NCAC 7H).

- All uses that are allowed in a zoning district must be considered. A decision to re-zone or not to re-zone a parcel or parcels of property cannot be based on consideration of only one use or a partial list of the uses allowed within a zoning district.
- Zoning decisions will not be based on aesthetic considerations.
- Requests for zoning changes will not be approved if the requested change will result in spot zoning. Spot zoning is a form of discriminatory zoning whose sole purpose is to serve the private interests of one or more landowners instead of furthering the welfare of the entire community as part of an overall zoning plan. Spot zoning is based on the arbitrary and inappropriate nature of a re-zoning change rather than, as is commonly believed, on the size of the area being re-zoned.
- The concept of uniformity should be supported in all zoning deliberations. Uniformity is a basic premise of zoning which holds that all land in similar circumstances should be zoned alike; any different circumstances should be carefully balanced with a demonstrated need for such different treatment.
- Zoning regulations should be made in accordance with the Town Land Use Plan and designed to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; and to facilitate the adequate provision of transportation, water, sewerage, open space, and other public requirements. The regulations shall be made with reasonable consideration, among other things, as to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout the Town's planning jurisdiction.
- Specifically, the Planning Board and Town Board of Aldermen should ask the following questions:
  - Does the Town need more land in the zone class requested?
  - Is there other property in the Town that might be more appropriate for this use?
  - Is the request in accordance with the Town land use plan?
  - Will the request have a serious impact on overall traffic circulation, sewer and water services, and other utilities?
  - Will the request have an impact on other Town services, including police protection and fire protection?

- Is there a good possibility that the request, as proposed, will result in lessening the enjoyment or use of adjacent properties?
- Will the request, as proposed, cause serious noise, odors, light, activity, or unusual disturbances?
- Does the request raise serious legal questions such as spot zoning, hardship, violation of precedents, or need for this type of use?
- Does the request adversely impact any CAMA AEC's or other environmentally sensitive areas including water quality?

It is intended that this plan will serve as the basic tool to guide development/growth in the Town subject to the following:

- ▶ The Town Land Development Ordinances, when applicable, should be revised from time to time to be consistent with the recommendations of this plan and the evolving nature of the Town's growth and development policy.
- ▶ Land development regulations should be designed: to ensure safe and efficient transportation; to secure safety from fire, panic, and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; and to facilitate the adequate provision of transportation, water, sewerage, and other public requirements.
- ▶ The Town will coordinate all development proposals that fall subject to CAMA regulations with appropriate State and/or Federal agencies.

## 2. Policies Regarding Land Use and Development in AEC's

This plan contains some policies which exceed minimum 15A NCAC 7H use standards for AECs. **Otherwise, the Town accepts state and federal law regarding land uses and development in AECs.** By reference, all applicable state and federal regulations are incorporated into this document. All policies and implementing actions are to be utilized by the State of North Carolina for consistency review. Note the following:

- ▶ No policy is subordinate to another.
- ▶ All management topics have equal status.

- ▶ The future land use map may show some areas in a developed category which may also include sensitive habitats or natural areas. The intent is that development should be designed/permited to protect these areas through utilization of concepts such as cluster development. Development/project approval will be based on project design which avoids substantial loss of important habitat areas.

## **D. LAND USE PLAN MANAGEMENT TOPICS**

### 1. Introduction

The purposes of the Coastal Resources Commission (CRC) management topics are to ensure that CAMA Land Use Plans support the goals of CAMA, to define the CRC's expectations for the land use planning process, and to give the CRC a substantive basis for review and certification of CAMA Land Use Plans. Each of the following management topics (Public Access, Land Use Compatibility, Infrastructure Carrying Capacity, Transportation, Natural Hazard Areas, Water Quality, and Local Areas of Concern) include three components: a management goal, a statement of the CRC's planning objective, and requirements for the CAMA Land Use Plan. These policies apply to the entire town. The local concerns which should be addressed in this plan are identified on page 6. These concerns and issues were utilized to develop the goals and objectives which are included in this plan. Additionally, the survey results obtained through the property owner questionnaires were also taken into consideration. Most of the implementing actions are continuing activities. In most situations, specific timelines are not applicable. Refer to page 122 for a list of those implementing actions which have a specific schedule. The policies and implementing actions frequently utilize the following words: should, continue, encourage, enhance, identify, implement, maintain, prevent, promote, protect, provide, strengthen, support, work. The intent of these words is defined in Appendix IV. Please note: Policies and Implementing Actions are numbered consecutively throughout this document with the letter "P" denoting a policy and the letter "I" denoting an implementing action.

### 2. Impact of CAMA Land Use Plan Policies on Management Topics

The development of this land use plan has relied in some part on the CAMA-prescribed land suitability analysis which is included in Section V(G) of this document. Reliance on this map is based in large part on the intent that this document is supportive of the CAMA regulations for protection of AEC's (15A NCAC 7H). This analysis was performed to identify pockets of land that are particularly poorly suited for development with respect to environmentally sensitive areas. No negative impacts are anticipated by the implementation of the goals, objectives, and policies which are included in this plan.

Note: It is intended that all policies are consistent with (do not exceed) applicable State and Federal requirements when State and Federal requirements apply. **If a policy exceeds State or Federal requirements, that fact will be noted.**

3. Public Access

**a. Management Goal**

The Town will provide adequate public access to the beaches and the public trust waters bordering its primary corporate limits.

**b. Planning Objective**

The Town will develop comprehensive policies that provide beach and public trust water access opportunities for the public along the shoreline and estuarine areas within the planning jurisdiction.

**c. Land Use Plan Requirements**

The following are the Town's policies/implementing actions for waterfront access.

**Policies:**

- P.1 The Town supports Onslow County's economic development efforts and recreational-related developments that protect and preserve the natural environment while promoting the Town as a family vacation destination. It supports the private and public development of waterfront access through private funds and grant monies.
- P.2 The Town supports providing shoreline access for persons with disabilities, and further supports the use of grant funding to retrofit existing beach access points in a manner that will address the issue of ADA compliance.
- P.3 The Town supports the frequency of shoreline access as defined by 15A NCAC 7M, Section .0300, Shorefront Access Policies.
- P.4 The Town supports the development of estuarine and oceanfront access areas to ensure adequate shoreline access within all areas of the Town. Areas that have traditionally been used by the public or have been deemed unbuildable due to development criteria will be given special attention.
- P.5 The Town supports the development of a town-wide bicycle and pedestrian trail system.
- P.6 The town does not support the development of marinas or public boat ramp facilities within the town's planning jurisdiction. The town does support a "no net loss" policy with regards to existing boat access facilities. NOTE: This policy exceeds the minimum use standards.

- P.7 The town supports efforts to increase awareness related to the location of town-wide public beach access points through signage and information available at Town Hall as well as on the town's website.

**Implementing Actions:**

- I.1 The Town will consider the preparation of a shoreline access and public facilities plan and request Division of Coastal Management funding for the preparation of the plan. ***Schedule: Fiscal Years 2010-2011.***
- I.2 The Town will pursue funding under the North Carolina CAMA Shoreline Access funding program to address new access points, as well as improvements noted in P.2 relating to ADA compliance. (15A NCAC 7M, Section .0300, Shorefront Access Policies). ***Schedule: Continuing Activity.***
- I.3 The Town will pursue the private donation of land and/or easements that may be utilized for public beach access. The town will consider revising the town's subdivision regulations to require large subdivisions and/or large scale multi-family developments to provide public access points in conjunction with the development of a respective project. ***Schedule: Continuing Activity.***
- I.4 The Town will cooperate with state and federal agencies as well as private interests to secure estuarine access areas in order to ensure adequate shoreline access within all areas of the Town. ***Schedule: Continuing Activity.***
- I.5 The Board of Aldermen will annually review beach access requirements outlined for all funding programs and ensure that the town is adequately addressing all program requirements relating to public access. If it is determined that there is a need related to public access, the committee will review all alternatives available to secure additional access sites. This review will involve requests for funding through the NCDCCM Shoreline Access Program. ***Schedule: Review Annually.***

4. Land Use Compatibility

**a. Management Goal**

The Town will ensure that development and use of resources or preservation of land minimize direct and secondary environmental impacts, avoid risks to public health, safety, and welfare, and are consistent with the capability of the land based on considerations of interactions of natural and manmade features.

**b. Planning Objectives**

- i. The Town will adopt and apply local development policies that balance protection of natural resources and fragile areas with continued growth and development.
- ii. The Town's policies will provide clear direction to assist local decision making and consistency findings for zoning, divisions of land, and public and private projects.

**c. Land Use Plan Requirements**

The following are the Town's policies/implementing actions for land use compatibility.

**Policies - Residential:**

- P.8 The Town supports discouraging the re-zoning of existing residentially-developed or zoned areas to a non-residential classification in an effort to maintain the overall low density (see future land use classifications, page 114-117) residential character of the Town. Such re-zoning and amendments in classifications to the future land use map should be carefully balanced with a demonstrated need for such proposed development that will be the best overall land development policy for the Town.
- P.9 The Town supports quality future development reflecting the spectrum of housing needs ranging from single-family homes to multi-family development in the form of duplex and triplex housing. Although this policy reflects support for medium density development, the town will not rezone any property to a density less than R-10 (10,000 square feet).
- P.10 The Town supports regulating growth to coincide with the provision of public facilities and services. This policy includes regulating development in a manner that will facilitate development in conjunction with available sewer capacity in an effort to minimize and ultimately eliminate the use of septic tank wastewater treatment systems throughout the town's corporate limits.
- P.11 The Town supports vegetated buffers and/or landscaping along thoroughfares.
- P.12 The Town supports providing adequate conservation/open space buffers between areas designated for residential development as indicated on the future land use map and any adjacent non-residential land use, including commercial, utility, and office and institutional areas.
- P.13 The Town acknowledges all covenants established by all Property Owners Associations (POA) throughout its planning jurisdiction. Proposals for development or redevelopment should not only comply with Town land development policies and ordinances, but should

also abide by all restrictions established under a given properties respective POA restrictive covenants. The Town of North Topsail Beach does not have the authority to enforce these covenants.

P.14 The town allows development within the defined inlet hazard areas, assuming the development is consistent with all local zoning and subdivision regulations, 15A NCAC 7H use standards, and the following use standards:

- (1) The only new structures allowed in inlet hazard areas shall be single-family structures.
- (2) All development in the inlet hazard area shall be set back from the first line of stable natural vegetation a distance equal to the setback required in the adjacent ocean hazard areas;
- (3) Established common-law and statutory public rights of access to the public trust lands and waters in inlet hazard areas shall not be eliminated or restricted. Development shall not encroach upon public accessways nor shall it limit the intended use of the accessways;
- (4) Shoreline stabilization structures shall be permitted only as a part of a publicly supported project;
- (5) All other rules in this subchapter pertaining to development in the ocean hazard areas shall be applied to development within the inlet hazard areas;
- (6) The following types of development shall be exempted from these inlet hazard area setback requirements:
  - campgrounds that do not involve substantial permanent structures;
  - parking areas with clay, packed sand, or similar surfaces;
  - outdoor tennis court;
  - beach accessways consistent with 15A NCAC 7H use standards; and
  - temporary amusement stands
- (7) In all cases, development shall only be permitted if it meets other applicable 15A NCAC 7H inlet hazard areas use standards; is landward of the vegetation line; and involves no significant alteration or removal of primary or frontal dunes or the dune vegetation. NOTE: This policy exceeds the minimum use standards.

- P.15 The Town of North Topsail Beach does not support the development of any additional condotel structures. A condotel is defined as follows: A condominium project, with individual unit ownership, developed for short-term or transient occupancy. Pursuant to the condominium statutes of the State of North Carolina, a condotel is operated as a commercial hotel even though the units are individually owned.
- P.16 The town does not encourage the development of high density multi-family housing complexes.
- P.17 The town supports a reduction in development density within portions of town that fall within the FEMA defined CBRA Zone where new home construction is subject to the terms outlined under the Coastal Barrier Resources Act of 1982.
- P.18 The town does not support the creation of new flag lots with the exception of PRDs upon approval of the Board of Aldermen. Flag lots are, for the purposes of this plan, defined as follows: a large lot not meeting minimum frontage requirements and where access to the public road is by a narrow, private right-of-way or driveway.
- P.19 The town will not support any commercial or residential development in a conservation classified area nor does it permit the rezoning of any lands designated as conservation district (CON-D).

#### **Implementing Actions - Residential:**

- I.6 All re-zoning and subdivision approvals will consider the future land use and land suitability maps and analyses which are included in this plan. During the development review process, all residential development must comply with the development densities outlined under the future land use section of this plan, as well as current zoning standards. If it is determined that a given lot is nonconforming based on the town's currently adopted zoning code then the property owners may secure a variance through the Board of Adjustment prior to securing a zoning compliance certificate approving the development of a given piece of property. ***Schedule: Continuing Activity.***
- I.7 The Town will permit residential development to occur in response to market needs provided that the following criteria are met:
- (1) Due respect is offered to all aspects of the environment, including the protection of all islands located along the town's estuarine shoreline. Development of these islands should not exceed a density of two units per acre.

- (2) If deficient community facilities and services are identified, the Town should attempt to improve such to the point of adequately meeting demands. This policy does not include the development of water or sewer system infrastructure.
- (3) Additional residential development should concurrently involve planning for improvements to community facilities and services if excess capacity does not exist within those facilities and services.
- (4) Residential development is consistent with other Town policies and the land use map as contained in this plan update.

This implementing action will be enforced through the Town zoning and subdivision ordinances. ***Schedule: Continuing Activity.***

- I.8 The Town will review the zoning ordinance for non-residential sites to ensure adequate buffering and landscaping to separate residential and incompatible non-residential uses, and adequate regulation of off-site lighting, hours of operation, and vehicular access and parking locations. ***Schedule: Fiscal Years 2009-2010.***
- I.9 The Town will regulate through its zoning and subdivision ordinance the development of conflicting land uses in areas where non-residential development is permitted. ***Schedule: Continuing Activity.***
- I.10 The town will consider revising its zoning ordinance in an effort to establish a reduction in the defined maximum lot coverage requirements or buildable area for individual lots throughout the town's planning jurisdiction. This effort will aim to establish a lot coverage cap that will assist in reducing density and compromise the ability of a property owner to construct "mega-structures" that cover a substantial portion of a residential lot. This effort will coincide with considerations related to on-site stormwater retention requirements. ***Schedule: Fiscal Years 2009-2010.***
- I.11 The town will consider revising its zoning ordinance to establish ocean hazard and estuarine setback standards that exceed state requirements. The focus of this effort will be to minimize the potential for property loss resulting from ocean front erosion and tidal flooding. As part of this process, the town will consider establishment of lot coverage limits. ***Schedule: Fiscal Years 2009-2010.***
- I.12 The town will consider requiring large scale multi-family developments and planned unit developments (PUDs) to conduct traffic impact studies to determine the potential problems that may result from a respective development. The results of these studies will be utilized to make decisions regarding allowable density for a development, as well as site layout and curb cut locations. ***Schedule: Fiscal Years 2009-2010.***

- I.13 The town's planning and inspections department will work with local realtors and developers to educate homebuyers of the potential issues relating to homeownership within ocean hazard and inlet hazard areas. This effort will be aimed at educating property owners about issues unique to North Topsail Beach such as redevelopment following a tropical storm event or the impacts of various flood zones. ***Schedule: Fiscal Years 2009-2013.***

**Policies - Commercial:**

- P.20 The Town supports commercial development that is specifically consistent with the Town's future land use map. This may require revisions to the town's existing zoning ordinance.
- P.21 The Town opposes the establishment of any industrial operations within its planning jurisdiction.
- P.22 The Town opposes the establishment of private or public solid waste collection sites within the Town's planning jurisdiction.
- P.23 Commercial operations which are noxious by reason of the emission of smoke, dust, glare, noise, odor, and vibrations should not be located in the Town.
- P.24 The town recognizes the need for commercial development that will support visitors during peak summer months; however, the town only supports modest new commercial growth in the form of convenience retail facilities and restaurants. This development should only take place in portions of town defined for commercial development on the future land use map.

**Implementing Actions - Commercial:**

- I.14 The Town will enforce its existing zoning regulations and rely on state permitting agencies to ensure that all commercial development within or adjacent to Areas of Environmental Concern is carried out properly. ***Schedule: Continuing Activity.***
- I.15 The Town will review its zoning and subdivision ordinances to ensure compliance with policies P.20-P.24. ***Schedule: Fiscal Year 2009 and review annually.***

**Policies - Conservation:**

- P.25 Except as otherwise permitted in this plan, residential, commercial, and office/institutional development should not be supported in natural heritage areas, conservation areas, or coastal wetlands. Residential and commercial development which meets 15A NCAC 7H use standards will be allowed in estuarine shoreline, estuarine water, and public trust areas.

In all other areas, development will be allowed that is consistent with applicable local, state, and federal regulations.

- P.26 The Town aims to maintain its character as an eco-friendly low to moderate density residential community. Commercial development should be permitted only in areas defined for commercial use on the future land use map established in this document.
- P.27 The town, in an effort to protect the eco-friendly environment that the town has established over the years, may aim to secure lots through either acquisition, grant-funded purchase, or donation. These lots may be secured as open space easements in perpetuity. Special attention will be given to acquire properties that have been deemed unbuildable due to either state or local development regulations.
- P.28 It is the policy of the Town to require the construction of dune walkover platforms at all town-maintained public beach access points. The town will seek public access grant funding for the development of these access points. The town will encourage the development of dune crossovers on private property in the future. NOTE: This policy exceeds the minimum use standards.
- P.29 The town supports protection of all remaining maritime forest areas. The town will not support the rezoning of any parcel currently designated as conservation on the future land use map established within this document. Additionally, it is the town's intent, where feasible, to rezone maritime forest areas to the CON-D zoning district.
- P.30 The town will not recognize any accreted land as a defined upland unless a property owner has secured documentation from the US Army Corps of Engineers that their property is by Corps standards deemed an upland area. All upland areas must comply with all existing zoning and subdivision regulations of the town unless a variance is granted through the town's Board of Adjustment. NOTE: This policy exceeds the minimum use standards.

#### **Implementing Actions - Conservation:**

- I.16 The town will draft and consider adopting a tree ordinance that aims to protect tree species indigenous to the region. ***Schedule: Fiscal Year 2009-2010.***
- I.17 In portions of town where sand and erosion has resulted in the accretion of upland areas, the town will account for this increased land area through regulations outlined within the town's Zoning Ordinance. ***Schedule: Continuing Activity.***

- I.18 Protect the Town's fragile areas from inappropriate, unplanned, or poorly planned development through the following:
- ▶ By implementing the Town Zoning Ordinance, limit land uses in the vicinity of historic sites, natural heritage areas, and designated conservation areas to compatible land uses. ***Schedule: Continuing Activity.***
  - ▶ The town will continue to work with NCDENR through the implementation and enforcement of coastal development regulations in an effort to protect environmentally sensitive areas throughout the town's planning jurisdiction. ***Schedule: Continuing Activity.***
- I.19 The Town will review its zoning and subdivision ordinances to ensure compliance with policies P.26, P.30-P.31. ***Schedule: Fiscal Years 2009-2010.***
- I.20 The Planning Board will work towards the adoption of a dune protection ordinance that will aim to provide protection for the primary dune line running along the town's ocean hazard area. This ordinance will address dune disturbance policies, and guidelines relating to development adjacent to established dune structures that exceeds current state standards. ***Schedule: Fiscal Years 2009-2010.***
- I.21 The town will consider establishing a land trust that will serve to secure undeveloped land through either acquisition or donation as open space easements in perpetuity. This effort will help realize the town's vision to maintain an eco-friendly environment. The town will work with the Conservation Trust of North Carolina throughout this effort to ensure that all land secured is properly protected. ***Schedule: Fiscal Years 2009-2013.***

**Policies - Stormwater Control:**

- P.31 The Town supports reducing soil erosion, runoff, and sedimentation to minimize the adverse effects on surface and subsurface water quality.
- P.32 The Town supports the enforcement of all controls and regulations, specifically design standards, tie-down requirements, construction and installation standards, elevation requirements, flood-proofing, CAMA regulations, and FEMA regulations, deemed necessary by the Board of Aldermen to mitigate the risks of lives and property caused by severe storms and hurricanes.
- P.33 The Town supports the Onslow County National Pollutant Discharge Elimination System (NPDES) Phase II stormwater management program, due to its role in reducing the impact of stormwater runoff to waterbodies throughout the county.

- P.34 The town supports and will continue to enforce the NCDENR Coastal Stormwater Rules.
- P.35 The town supports the enforcement of maximum lot coverage requirements, as well as the enforcement of on-site stormwater retention requirements.

**Implementing Actions - Stormwater Control:**

- I.22 The town will continue to monitor revisions to the Coastal Stormwater Rule Policy, and may amend town ordinances to either meet or exceed development requirements established through these state guidelines. ***Schedule: Fiscal Years 2009-2010.***
- I.23 The Town will consider adopting and enforcing a soil erosion and sediment control ordinance. ***Schedule: Fiscal Years 2009-2010.***
- I.24 The Town will review its stormwater control policies and include updates regarding regulations for water detention and/or retention facilities in new developments as new state and federal policy requires. This will include a consideration of reducing the town's current maximum lot coverage requirements and policy relating to on-site stormwater retention/detention. ***Schedule: Fiscal Years 2009-2010.***
- I.25 The Town supports ongoing planning and capital improvement efforts to address the drainage problems associated with flooding from tropical storm events. ***Schedule: Fiscal Years 2009-2013.***
- I.26 The Town will continue to seek grant funding from state and federal agencies for capital improvement projects that will aid the Town in alleviating flooding and storm drainage problems. ***Schedule: Continuing Activity.***

5. Infrastructure Carrying Capacity

**a. Management Goal**

The Town will ensure that public infrastructure systems are appropriately sized, located, and managed so the quality and productivity of AECs and other fragile areas are protected or restored. It is acknowledged that to achieve the infrastructure carrying capacity goals, policies, and implementing actions, utility lines may have to extend through some environmentally sensitive areas.

**b. Planning Objective**

The Town will establish level of service policies and criteria for infrastructure consistent with the projections of future land needs.

### **c. Land Use Plan Requirements**

The following are the Town's policies for infrastructure carrying capacity.

#### **Policies:**

- P.36 The Town supports providing adequate community services and facilities which meet the needs of the Town's citizens and businesses.
- P.37 The Town supports providing sufficient water and sewer service to promote continued growth and to alleviate public health problems created by the absence of public water and sewer services in the Town.
- P.38 The Town supports the extension of water services from existing systems and encourages the use of central systems for new developments whether residential, commercial, or office/institutional in nature. It also supports the continued public provision of solid waste disposal, law enforcement, and educational services to all citizens of the Town.
- P.39 The Town opposes the installation of on-site wastewater treatment systems throughout the town's corporate limits. Additionally, the town strongly encourages that existing homes utilizing septic systems and/or on-site package plants tie into North Topsail Utilities central sewer service as additional capacity becomes available.
- P.40 The Town supports the provision of public recreational facilities and areas and will pursue grant funds and private donations for public open space and recreation facilities.
- P.41 The Town supports all efforts of ONWASA and North Topsail Utilities under terms outlined within current service agreements established between the town and each respective utility operator.

#### **Implementing Actions:**

- I.27 The Town will amend the future land use map, when needed, to reflect water and sewer upgrade and/or extension projects as they are planned. ***Schedule: Continuing Activity.***
- I.28 The Town will consult the future land use map when considering new public facilities and private development. ***Schedule: Continuing Activity.***
- I.29 The Town will rely on its existing land use and development ordinances to regulate development and may amend or modify regulations to encourage or require the provision of central water service to lots or parcels proposed in new developments. ***Schedule: Continuing Activity.***

- I.30 The Town will rely on the NC Division of Environmental Management and the Onslow County Department of Environmental Health to oversee the proper operation, management, and maintenance of all wastewater treatment facilities within the Town. Although the town opposes on-site wastewater treatment systems, the town will continue to rely on the County Health Department to permit and monitor the operation of all existing systems. ***Schedule: Continuing Activity.***
- I.31 The town will continue to monitor the efforts of North Topsail Utilities with respect to increasing sewer capacity for the Town of North Topsail Beach. If it is determined that proper steps are not being taken to address concerns relating to capacity, the town will take all steps necessary to assure that North Topsail Utilities abides by the current service agreement that has been adopted by the town. ***Schedule: Annually.***
- I.32 The town will continue to provide sufficient emergency management personnel and facilities to adequately serve the projected off season and peak seasonal population growth. ***Schedule: Continuing Activity.***
- I.33 The Town will coordinate the development of recreational facilities with all applicable property owners' associations in order to maximize the potential quality, access, and use of these facilities. ***Schedule: Continuing Activity.***

6. Transportation

**a. Management Goal**

The town will achieve safe, efficient, reliable, environmentally-sound, and economically feasible transportation network within the town.

**b. Planning Objective**

The town will provide a safe and efficient transportation network throughout the town's planning jurisdiction.

**c. Land Use Plan Requirements**

The following are the town's policies/implementing actions for transportation:

**Policies:**

- P.42 The Town of North Topsail Beach opposes any NCDOT or municipal street or road projects that will result in blocking both access points into town at any given time.

- P.43 The town supports limited access from development along the town's major thoroughfares to provide safe ingress and egress from residential and non-residential development.
- P.44 The town supports maintaining an effective signage and addressing system for all right-of-ways including private drives and access streets. All addressing shall be coordinated with the Onslow County Emergency Management Department.
- P.45 The town supports state and federal funding for maintenance/dredging of the Intracoastal Waterway, as well as the New River Inlet. Town residents and visitors rely on these resources for recreational and navigational purposes. Furthermore, the town supports efforts to realign the New River Inlet in an effort to minimize impacts on development within northern portions of the town's corporate limits.
- P.46 The town supports the development of a town-wide bicycle/pedestrian path. Additionally, the town supports establishing a schedule aimed at ensuring that the town's bicycle trail system is properly maintained.
- P.47 The Town of North Topsail Beach opposes access to oceanfront and estuarine public access areas by any privately owned automobile or all terrain vehicle.
- P.48 The town supports increasing the speed limit signage located throughout its corporate limits.
- P.49 The town would like to establish a turn lane to aid in ease of access into Town Hall.
- P.50 All bridges to access islands within the corporate limits of North Topsail Beach shall adhere to NCDOT standards.

**Implementing Actions:**

- I.34 The town will review and update its subdivision ordinance to ensure compliance with policies P.44 through P.45. ***Schedule: Fiscal Year 2009-2010.***
- I.35 The town will continue to consider the dedication of all street right-of-ways for town maintenance. Dedication of all existing and proposed streets will be determined on a case-by-case basis, and will be determined based on whether the respective street right-of-way meets the design specifications of the town and NCDOT if applicable. ***Schedule: Continuing Activity.***
- I.36 The town will continue to seek grant funding through the NCDOT Enhancement program, as well as other grant programs that address the installation of pedestrian and bicycle trail systems. ***Schedule: Review Annually***

I.37 The town's planning department will work with the police department to identify where deficiencies exist with respect to speed limit signage. Subsequent to identifying these deficiencies, the planning department will phase in all new signage as required. ***Fiscal Years 2009-2010.***

I.38 The town will work to establish a turn lane to provide safe access to Town Hall. ***Fiscal Years 2009-2010.***

7. Natural Hazard Areas

**a. Management Goal**

The town will conserve and maintain shorelines, floodplains, and other coastal features for their natural storm protection functions and their natural resources giving recognition to public health, safety, and welfare issues.

**b. Planning Objective**

The town will develop policies that minimize threats to life, property, and natural resources resulting from development located in or adjacent to hazard areas, such as those subject to erosion, high winds, storm surge, flooding, or sea level rise.

**c. Land Use Plan Requirements**

The following are the town's policies/implementing actions for natural hazard areas. All policies are continuing activities.

**Policies:**

P.51 The town supports the US Army Corps of Engineers policy on dredging the New River Inlet; however, the town would like to work with the Corps to establish a dredging process that will provide sand to the town. This will help the town in their efforts to establish a long term solution to beach nourishment.

P.52 The town supports the use and installation of legal alternative shoreline stabilization structures.

P.53 The town supports the US Army Corps of Engineers' regulations and the applicable guidelines of the Coastal Area Management Act and the use of local land use ordinances to regulate development within or immediately adjacent to freshwater swamps, marshes, coastal wetlands, and 404 wetlands.

- P.54 The town supports relocation of structures endangered by erosion, if the relocated structure will be in compliance with all applicable local, state, and federal policies and regulations including the town's zoning and subdivision ordinances. Relocation of structures should comply with density standards outlined within the future land use map section of this plan.
- P.55 The town recognizes the uncertainties associated with sea level rise. The rate of rise is difficult to predict. Thus, it is difficult to establish policies to deal with the effects of sea level rise. The town supports cooperation with local, state, and federal efforts to inform the public of the anticipated effects of sea level rise, and adopt policies accordingly.
- P.56 The town supports hazard mitigation planning. Hazard mitigation policies have been included as Appendix V to this plan and are incorporated herein by reference.
- P.57 The town supports the land use densities that are specified on page 114 of this plan. Through enforcement of the zoning ordinance, these densities will minimize damage from natural hazards and support the hazard mitigation plan.
- P.58 The town recognizes the significance of protecting the primary dune line along oceanfront portions of the town's planning jurisdiction. The town supports continued efforts to protect these dunes through a proactive dune stabilization and protection program.

### **Implementing Actions:**

- I.39 The town will continue to enforce its Floodplain Ordinance and participate in the National Flood Insurance Program. It will rely on the North Carolina Department of Environment and Natural Resources, Division of Coastal Management, to monitor and regulate development in areas up to five feet above mean high water susceptible to sea level rise and wetland loss as policy is adopted and/or amended. The town's Floodplain Management Ordinance will be enforced through requiring elevation monuments at two feet above base flood elevation. A flood elevation certificate from a registered land surveyor is required. ***Schedule: Continuing Activity.***
- I.40 The town will monitor development proposals for compliance with Section 404 of the Clean Water Act and will continue to enforce local land use ordinances to regulate development within or adjacent to freshwater swamps, marshes, and 404 wetlands. ***Schedule: Continuing Activity.***
- I.41 In the event of a natural disaster, the town permits reconstruction of previously developed parcels, provided all local, state, and federal policies, regulations, and ordinances are complied with. Reconstruction, including infrastructure, should be designed to withstand natural hazards. ***Schedule: Continuing Activity.***

- I.42 The town will enforce the density controls in the zoning ordinance and subdivision ordinance in potential reconstruction areas to control growth intensity. Special attention will be given to portions of town that fall within the CAMA defined inlet hazard areas. ***Schedule: Continuing Activity.***
- I.43 In response to possible sea level rise, the town will review all local building and land use related ordinances and consider establishing setback standards, density controls, bulkhead restrictions, buffer vegetation protection requirements, and building designs which will facilitate the movement of structures. ***Schedule: Continuing Activity.***
- I.44 The town will utilize the future land use maps to control development. These maps are coordinated with the land suitability map and existing infrastructure maps. ***Schedule: Continuing Activity.***
- I.45 The town will continue to seek funding through the US Army Corps of Engineers Section 933 Beach Renourishment Program in an effort to establish a comprehensive solution to maintaining a stable shoreline that will help mitigate adverse impacts on the built environment. ***Schedule: Review Annually.***
- I.46 The town will draft a dune stabilization and protection ordinance that will aim to protect the primary dune line running along the ocean hazard portion of the town's corporate limits. ***Fiscal Years 2009-2010.***

8. Water Quality

**a. Management Goal**

The town will maintain, protect, and, where possible, enhance water quality in all coastal wetlands, rivers, streams, and estuaries. This process should include a means of addressing the complex problems of planning for increased development and economic growth while protecting and/or restoring the quality and intended uses of the basin's surface waters.

**b. Planning Objective**

The town will adopt policies for surface waters within the town to help ensure that water quality is maintained if not impaired, and improved if impaired.

**c. Land Use Plan Requirements**

The following provides the town's policies/implementing actions on water quality.

## **Policies:**

- P.59 The town supports the guidelines of the Coastal Area Management Act and the efforts and programs of the North Carolina Department of Environment and Natural Resources, Division of Coastal Management and the Coastal Resources Commission to protect the coastal wetlands, estuarine waters, estuarine shorelines, and public trust waters of the town.
- P.60 The town supports conserving subsurface groundwater resources throughout the Castle Hayne Aquifer, which serves as the source of drinking water for the citizens of North Topsail Beach.
- P.61 The town supports commercial and recreational fishing in its waters and will cooperate with other local governments and state and federal agencies to control pollution of these waters to improve conditions so that commercial and recreational fisheries will not be depleted. It also supports the preservation of nursery and habitat areas.
- P.62 The town opposes the disposal of any toxic wastes, as defined by the US Environmental Protection Agency's Listing of Hazardous Substances and Priority Pollutants (developed pursuant to the Clean Water Act of 1977), within its planning jurisdiction.
- P.63 The town recognizes the value of water quality maintenance to the protection of fragile areas and to the provision of clean water for recreational purposes and supports the control of stormwater runoff to aid in the preservation of water quality. The town will support existing state regulations relating to stormwater runoff resulting from development (Stormwater Disposal Policy 15 NCAC 2H.001-.1003). Additionally, the town supports all efforts of the Onslow County NPDES Phase II stormwater management program.
- P.64 The town supports regulation of underground, as well as above ground, storage tanks in order to protect its groundwater resources; however, the town does not support the establishment of new underground or above ground storage tanks within the town's corporate limits. This policy shall include the installation of private on-site septic systems where central sewer service is currently available.
- P.65 The town supports the policy that all State of North Carolina and Town of North Topsail Beach projects should be designed to limit to the maximum extent practicable stormwater runoff into coastal waters.
- P.66 The town supports implementation of the Cape Fear and White Oak River Basin Water Quality Management Plans.

- P.67 The town supports protection of those waters known to be of the highest quality or supporting biological communities of special importance, including the High Quality (HQW) and Outstanding Resource (ORW) Waters adjacent to the town's corporate limits.
- P.68 The town supports management of problem pollutants, particularly biological oxygen demand and nutrients, in order to correct existing water quality problems and to ensure protection of those waters currently supporting their uses.
- P.69 The town opposes the installation of package treatment plants as an alternative method for wastewater treatment throughout the town's corporate limits. The town will continue to work with North Topsail Utilities to increase sewer capacity and ultimately expand central sewer service throughout the town's planning jurisdiction.
- P.70 The town opposes the installation of private on-site wastewater treatment systems. In the event that a private property owner secures a septic permit from the Onslow County Health Department, the town will issue a zoning compliance certificate until additional sewer capacity becomes available.
- P.71 The town supports the following actions by the General Assembly and the Governor:
- ▶ Sufficient state funding should be appropriated to initiate a program of incentives grants to address pollution of our rivers from both point sources and nonpoint sources.
  - ▶ An ongoing source of state funding should be developed to provide continuous support for an incentives grant program.
  - ▶ The decision-making process for the award of incentives grants should involve river basin organizations representing local governments and other interest groups in the review of all applications for state funding.
  - ▶ The ongoing effort of the Department of Environment and Natural Resources to develop administrative rules implementing the Cape Fear River Basin Management Strategy should continue to involve local government officials in the development, review, and refinement of the proposal.
- P.72 The town opposes the location of floating homes within its jurisdiction. This policy includes all forms of transient boat mooring.

P.73 The town supports the following goals of the NC Coastal Habitat Protection Program (CHPP):

- ▶ Document the ecological role and function of aquatic habitats for coastal fisheries.
- ▶ Provide status and trends information on the quality and quantity of coastal fish habitat.
- ▶ Describe and document threats to coastal fish habitat, including threats from both human activities and natural events.
- ▶ Describe the current rules concerning each habitat.
- ▶ Identify management needs.
- ▶ Develop options for management action using the above information.

**Implementing Actions:**

I.47 The town will comply with CAMA and NC Division of Environmental Management stormwater runoff regulations, and by coordinating local development activities involving chemical storage or underground and above ground storage tank installation/abandonment with the town Emergency Management personnel and the Groundwater Section of the North Carolina Division of Environmental Management. The town, in conjunction with ONWASA, will plan for an adequate long-range water supply. In the planning process, the town will cooperate with all regional counties to protect water resources. ***Schedule: Continuing Activity.***

I.48 The town will enforce its zoning and subdivision regulations to aid in protecting sensitive shoreline areas. It will rely upon state and federal agencies to promote and protect the waters of the Cape Fear and White Oak River Basins, as well as other nursery and habitat areas adjacent to the town. ***Schedule: Continuing Activity.***

I.49 The town will rely on the technical requirements and state program approval for underground storage tanks (40 CFR, Parts 280 and 281), and any subsequent state regulations concerning underground and above ground storage tanks adopted during the planning period (see policy P.67 for town policy regarding UST's). ***Schedule: Continuing Activity.***

I.50 The town will continuously enforce, through the development and zoning permit process, all current regulations of the NC State Building Code and North Carolina Division of Health Services relating to building construction and septic tank replacement in areas where central sewer service is not currently available. ***Schedule: Continuing Activity.***

I.51 The town will implement the following actions through local ordinances to improve water quality (NOTE - these actions are especially significant in areas adjacent to estuarine waters):

- ▶ Minimize impervious cover in site
- ▶ Limit erosion during construction through establishment of an erosion and sedimentation control ordinance.
- ▶ Maintain coastal growth measures
- ▶ Restoration of impaired waters (through cooperation with state programs)
- ▶ Reduction of nutrients in the town waters through stormwater management concepts. ***Schedule: Review local ordinances annually.***

I.52 Preservation of wetlands is important to the protection/improvement of water quality in the town. The following will be implemented:

- ▶ Coordinate all development review with the appropriate office of the US Army Corps of Engineers and the Soil Conservation Service (if applicable). ***Schedule: Continuing Activity.***
- ▶ Require that wetland areas be surveyed and delineated on all preliminary and final subdivision plats and development plans. ***Schedule: Fiscal Year 2009-2010.***
- ▶ Encourage cluster development in order to protect sensitive natural areas within high density housing developments. ***Schedule: Fiscal Year 2009-2010, revised zoning and subdivision ordinances.***

## 9. Local Areas of Concern

### a. **Management Goal**

The town will integrate local concerns with the overall goals of CAMA in the context of land use planning.

### b. **Planning Objective**

The town will identify and address local concerns and issues, such as cultural and historic areas, scenic areas, economic development, or general health and human services needs.

### c. **Land Use Plan Requirements**

The following provides the town's policies/implementing actions on local areas of concern. All policies are continuing activities.

### **Policies - Cultural, Historic, and Scenic Areas:**

- P.74 The town supports protection of the town's remaining maritime forest areas.
- P.75 The town supports the protection of the sea turtle habitats located throughout oceanfront portions of the town's corporate limits.

### **Implementing Actions - Cultural, Historic, and Scenic Areas:**

- I.53 The town will guide development so as to protect the maritime forest where feasible. The town will consider drafting more comprehensive language within the town's code of ordinances to protect the town's maritime forest resources. ***Schedule: Fiscal Years 2009-2010.***
- I.54 The town will work with federal agencies to assist in protecting sea turtle nesting grounds between the months of May and October. This proposed ordinance will involve a series of fines for individuals found in violation of the ordinance. This program will require involvement and assistance from the town's permanent and seasonal residents. ***Schedule: Fiscal Year 2009-2010.***

### **Policies - Economic Development:**

- P.76 Tourism is important to the town and will be supported in an effort to promote North Topsail Beach as a family vacation destination.
- P.77 The town will encourage both residential and commercial development, as outlined on the future land use map, while aiming to protect the town's natural resources and preserve its environmentally friendly atmosphere.
- P.78 The town will encourage moderate commercial development in areas with existing infrastructure that does not infringe on existing or planned residential areas.
- P.79 The town supports the extension of sewer services from existing systems and encourages the use of central sewer systems for new developments whether residential or non-residential in nature.

### **Implementing Actions - Economic Development:**

- I.55 The town will continue to support the activities of the North Carolina Division of Travel and Tourism, specifically, the monitoring of tourism-related industry, efforts to promote tourism-related commercial activity, and efforts to enhance and provide shoreline access resources. ***Schedule: Continuing Activity.***

- I.56 The town will support projects that will increase public access to shoreline areas through continued monitoring of areas where new public access points may be available (refer to public access policies). ***Schedule: Continuing Activity.***

**Policies - General Health and Human Services Needs:**

- P.80 The town supports the continued public provision of solid waste disposal, law enforcement, and educational services to all citizens of the town. Additionally, the town supports the establishment of a curbside recycling service.

- P.81 In an effort to improve health conditions, the town supports the following water and sewer policies:

- ▶ The town supports the extension of central water service into all areas of the town shown on the future land use map as suitable for development, including the construction of lines to and through conservation areas to serve development which meets all applicable state and federal regulations.
- ▶ The town is aware that inappropriate land uses near well fields increase the possibility of well contamination. Land uses near groundwater sources are regulated by the North Carolina Division of Environmental Management through NCAC Subchapter 2L and Subchapter 2C. The town recognizes the importance of protecting potable water supplies, and therefore supports the enforcement of these regulations.
- ▶ The town supports all efforts to secure available state and federal funding for the construction and/or expansion of public and private water/sewer systems.
- ▶ The town supports the construction of water systems with adequate line sizes to ensure adequate water pressure and fire protection.
- ▶ The town opposes the establishment of package treatment plants within the town's corporate limits (see infrastructure carrying capacity policies).
- ▶ The town opposes the installation of on-site wastewater treatment systems.

- P.82 The town supports the establishment of a tree planting program. This program shall be established a volunteer program involving in-kind and financial contributions from town citizens.

### **Implementing Actions - General Health and Human Services Needs:**

I.57 Floodplain regulation is a concern in the town. To accomplish protection of public health and service needs, the town will:

- ▶ Continue to enforce the flood hazard reduction provisions of the the town Land Development Ordinances.
- ▶ Prohibit the installation of underground and above ground storage tanks in the 100-year floodplain.
- ▶ Zone for open space, recreational, low to moderate density residential, or other low-intensity uses within the floodplain.

***Schedule: Continuing Activities.***

I.58 The town will research alternatives for establishing a curb-side recycling service in conjunction with existing waste management services. ***Schedule: Continuing Activity.***

I.59 To effectively manage the town's investment in existing and proposed community facilities and services, the town needs to develop a capital improvements plan with emphasis placed on services and facilities which affect growth and development. This effort should especially focus on dealing with the effects of seasonal population fluctuations. ***Schedule: Fiscal Years 2009-2010.***

I.60 The town will provide sufficient emergency services to all residents. The town will implement the following:

- ▶ Require that all necessary infrastructure firefighting capability/capacity be provided in new subdivisions and developments. ***Schedule: Continuing Activity.***
- ▶ Continue to maintain an effective signage and addressing system for all streets, roads, and highways. ***Schedule: Continuing Activity.***

### **Implementing Actions - Funding Options:**

I.61 The town will continue to support state and federal programs that are deemed necessary, cost-effective, and within the administrative and fiscal capabilities of the town. ***Schedule: Continuing Activity.*** These programs include:

- ▶ Community Development Block Grant Program
- ▶ Area Agency on Aging
- ▶ Emergency Medical Services

- ▶ Coastal Area Management Act, including shoreline access funds
- ▶ Small Business Association
- ▶ Economic Development Administration Funds
- ▶ Federal Emergency Management Program
- ▶ MEDICAID
- ▶ Crisis Intervention
- ▶ US Army Corps of Engineers Section 933 Program

I.62 The town will selectively support state and federal programs related to the town. The town, through its boards and committees, will monitor state and federal programs and regulations. It will use opportunities as they are presented to voice support for or to disagree with programs and regulations that are proposed by state and federal agencies.

***Schedule: Continuing Activity.***

I.63 The town officials will continue to work with the Army Corps of Engineers and any other state and federal agencies to ensure continued dredging and maintenance of channels and rivers as needed to keep these facilities open to navigation. These efforts shall comply with applicable state and federal regulations. Providing borrow or spoil areas and provision of easements for work will be determined on case-by-case basis. The town encourages spoil material being placed on those areas where beach renourishment efforts are necessary. Channel maintenance has major economic significance and is worthy of state and federal funding.

***Schedule: Continuing Activity.***

## **E. FUTURE LAND USE PLAN**

### 1. Introduction

The future land use plan or map is an essential tool for implementing land use planning. The map is intended to serve as a guide for the Town Board of Aldermen and Planning Board when they review private development proposals and make decisions on the location of public facilities. The land use plan also provides the framework upon which zoning and subdivision regulations and the capital improvements program should be based, when applicable.

A land use plan is intended to accomplish three primary objectives. These objectives are as follows:

- ▶ To promote economic efficiency by coordinating the size and location of publicly provided future community facilities with the location and intensity of future private residential and commercial development activity.
- ▶ To optimize resources by allocating land for its most suitable use. For example, a town may want to focus high density residential development into areas that will not affect traffic flow, or impede sight lines and views from single family residential areas.

- ▶ To provide a land use form that reflects the vision of the town's residents, is unified, avoids conflicting land uses, optimizes resources, preserves the town's character and is pleasing: providing open space, vistas and distinguishable districts.

It is important that the Town understands that merely completing the land use plan, illustrating the town's vision for the future, does not ensure that its objectives will be met. The future land use map reflects current zoning trends that exist throughout the town's planning jurisdiction. The primary conflict that exist in relation to current zoning districts, is the expansion of the town's conservation zone. Portions of town that fall within environmentally sensitive areas, and have been identified as least suitable for development through the results of the Land Suitability Analysis (see page 71) have been designated as conservation areas.

## 2. Future Land Use Map

### a. **Introduction**

The future land use map (Map 13) depicts application of the policies for growth and development as outlined in this plan, as well as the desired future patterns of land use and land development. Future infrastructure is not indicated on this map mainly due to the fact the town does not operate any municipal utility services. It should be noted however; that portions of the town do not currently have access to central sewer service. It is anticipated that this service will become available upon expansion of the North Topsail Utilities wastewater treatment plant in the future. The Future Land Use Plan Map was compiled utilizing a combination of existing land use, zoning regulations, and input from the Land Use Plan Committee. This map depicts how the Town will develop through total buildout. It is not anticipated that the uses as depicted will change; however, there may be some rezoning activity that should reflect the district defined within this section. The future land use map must include the following:

- ▶ 14-digit hydrological units encompassed by the planning area.
- ▶ Areas and locations planned for conservation or open space and a description of compatible land uses and activities.
- ▶ Areas and locations planned for future growth and development with descriptions of the following characteristics:
  - ▶ Predominant and supporting land uses that are encouraged in each area;
  - ▶ Overall density and development intensity planned for each area; and
  - ▶ Infrastructure required to support planned development in each area.
- ▶ Existing and planned infrastructure, including major roads, water, and sewer (water and sewer not included, as noted above).

Map 13A - Future Land Use

Map 13B - Future Land Use

It should be noted that future land use plan map and supporting text will be considered policy within the context of this document. The standards outlined in this section will be utilized for consistency review purposes during the CAMA permitting process.

**b. Future Land Use Acreages**

Table 35 provides a summary of the estimated future land use acreages. Based on the results of the land suitability analysis, some areas are committed to the conservation category on the future land use map. It should be noted that the future land use plan map depicts areas for development which are geographically consistent with the land suitability map (Map 12, page 73), and local ordinances.

Table 35: Future Land Use Acreages

Land Use	Acres	% of Total
Conservation	1,918.6	50.1%
High Density Residential	486.1	12.7%
Inlet Hazard Residential	37.3	1.0%
Low Density Residential	945.8	24.7%
Medium Density Residential	314.6	8.2%
Mixed Use	129.6	3.4%
<b>Total</b>	<b>3,832.0</b>	<b>100.0%</b>

Source: Holland Consulting Planners, Inc.

**3. Descriptions of Future Land Use Categories**

**Conservation** - The conservation district was established with a focus on preserving the environmentally sensitive portions of the Town. The boundaries of this district correspond to portions of the Town determined to be least suitable for development through the land suitability analysis conducted earlier in the plan (see page 71), as well as portions of town zoned as CON-D ( see page 69). This area as shown on the Future Land Use Map, is comprised largely of wetlands, or other environmentally sensitive areas located throughout the town’s planning jurisdiction. The town will continue to focus on preserving these areas.

*Allowable Density:* For portions of the conservation zone zoned CON-D development within this district will be prohibited and therefore no density thresholds have been established; in portions of town where property is currently zoned for development or redevelopment the density thresholds for the underlying zoning district shall apply.

*Maximum Building Height:* 45' (measured to roof peak).

*Permitted Uses:* Agricultural uses, utility-related uses, recreational walking paths, educational signage, wooden walkways (slatted), navigational signage (within wetlands); water dependant uses; where property is currently zoned for development or redevelopment development regulations for the underlying zoning district shall apply.

*Uses Not Permitted:* Any construction involving the establishment of stick built/block structures and or paved access paths.

**Mixed Use** - This district is located in areas where nonresidential development including: commercial, office/professional, and government uses currently exist. These are portions of the Town where existing zoning will permit this type of development. Currently these sites are developed as non residential sites; however, in the event that they are redeveloped, the future land use map should be reviewed in an effort to rezone these properties in a manner that conforms with adjacent residential development. Due to the medium density residential character of the island commercial development needs to be cluster into specific locations so that the impact on surrounding neighborhoods is minimal. Additionally, the increased traffic flow generated by nonresidential development needs to be directed towards major thoroughfares traversing through the Town, and away from local access streets.

*Allowable Density:* 8,000 square feet per building (~5 units per acre)

*Maximum Building Height:* 45' (measured to roof peak).

*Permitted Uses:* light retail/commercial structures, mixed use development (i.e. residential above commercial/office space), government support services, recreation facilities, open space areas, transportation systems, parking areas.

*Uses Not Permitted:* heavy commercial uses, light industry, heavy industry, private campgrounds, private RV parks.

**Low Density Residential** – This district is intended to provide development opportunities for primarily single family residential housing. This district is comprised of larger buildable lots, and is more restrictive, with respect to permitted uses.

*Allowable Density:* 2 units per acre

*Maximum Building Height:* 45' (measured to roof peak)

*Permitted Uses:* single-family residential housing, duplex residential housing (only within the RA zoning district), townhouse development, recreational facilities, public access facilities, infrastructure facilities, right-of-way development, emergency management facilities.

*Uses Not Permitted:* commercial uses, industry, private campgrounds, private RV parks, any other forms of non-residential development.

**Medium Density Residential** – This district is intended to provide development opportunities for primarily single- and multi-family residential housing. This district is comprised of moderately sized buildable lots.

*Allowable Density:* 4 units per acre

*Maximum Building Height:* 45' (measured to roof peak).

*Permitted Uses:* single-family residential housing, duplex residential housing, townhouse development, multi family condominium housing, recreational facilities, public access facilities, infrastructure facilities, right-of-way development, emergency management facilities.

*Uses Not Permitted:* commercial uses, industry, private campgrounds, private RV parks, any other forms of non-residential development.

**High Density Residential** – This district is intended to allow for development on smaller lot sizes. This district allows for a wider spectrum of development options, and is intended to allow for the location of modular housing and single unit mobile homes.

*Allowable Density:* 8 units per acre

*Maximum Building Height:* 45' (measured to roof peak).

*Permitted Uses:* single-family residential housing, duplex residential housing, townhouse development, multi family condominium housing, manufactured housing (where permitted by zoning ordinance), recreational facilities, public access facilities, infrastructure facilities, right-of-way development, emergency management facilities.

*Uses Not Permitted:* commercial uses, industry, private campgrounds, private RV parks, any other forms of non-residential development.

**Inlet Hazard Residential District** – This district falls within the boundaries of the defined inlet hazard areas (see page 73). Development within this district should be restricted single family housing. In the event of a catastrophic storm event, property owner within this district should be allowed to redevelop at preexisting densities.

*Allowable Density:* 2 units per acre (15,000 square feet minimum lot size).

*Maximum Building Height:* 45' (measured to roof peak).

*Permitted Uses:* single-family housing; duplex housing will be permitted where they currently exist. This will only be permitted under conditions where the original structure has been damaged to 50% or greater of the structures fair market value.

*Uses Not Permitted:* all uses not comprised of single-family housing

**Future Land Use Compatibility Matrix** – Each of the land use categories is supported by zoning districts contained in the Town’s UDO. Table 36 provides a comparison of the land use categories and the Town’s existing zoning districts. The reader is cautioned that this is an “overview” and detailed analysis must be based on careful review of the Town’s UDO. The terms “generally consistent, conditionally consistent, and inconsistent” are intended to only be indicators of where revisions may need to occur for the Town’s UDO to support implementation of this plan. The land use category descriptions express some “objectives” which may be inconsistent with the existing UDO.

Table 36. Future Land Use Plan Compatibility Matrix  
 Consistency Review of Future Land Use Map Designations and Existing Zoning Districts

Zoning Districts	CON-D	RA	R-20	R-15	R-10	R-8	CU-R8	R-5	CU-R5	MHP	B-1	CU-B1	B-2	CU-B2
Min. Lot Size (SF)*	N/A	130,680	20,000	15,000	10,000	8,000	8,000	5,000	5,000	5,000	8,000	8,000	8,000	8,000
Max. Bldg. Height (ft.)		35	35	35	35	72	72	72	72	35	35	35	35	35
Designations/Average Density (du per acre)														
Conservation	g	x	x	x	x	x	x	x	x	x	x	x	x	x
Mixed Use	x	x	x	x	x	x	x	x	x	x	g	c	g	c
Low-Density Residential	x	g	g	g	g	g	c	g	c	g	g	c	g	c
Medium-Density Residential	x	x	x	g	g	g	c	g	c	g	g	c	g	c
High-Density Residential	x	x	x	x	x	x	x	g	c	g	g	c	g	c
Inlet Hazard Residential	x	x	x	x	g	g	x	x	x	x	x	x	x	x

g = generally consistent; c = conditionally consistent; x = inconsistent

\*Minimum lot sizes listed are for single-family development only.

#### 4. Land Demand Forecast/Carrying Capacity Discussion

The following table provides a forecast of land use demand. The acreage forecasts are intended to provide anticipated land use acreages through the extent of the planning period (2030). The acreage forecast are based on the population forecast provided on page 78 of the plan. The forecasts have been calculated based on the persons per acre that existed in 2007.

In reviewing these forecasts, several factors should be taken into account. As noted earlier in the plan, all water and sewer services are provided through ONWASA and North Topsail Utilities. The information contained in Section E.7 and E.8 (page 61) outlines what the current system capacities are, and how these systems will be upgraded to address projected growth trends. Additionally, non-residential growth within the Town’s planning area is projected to be fairly moderate.

The following table provides anticipated acreage increases in relation to the districts outlined on the Future Land Use Map. This table does not assume buildout of the Town’s planning area as defined within this land use plan update. It is not anticipated that this will occur during the planning period (2030).

Table 37. Town of North Topsail Beach - Land Demand Forecast

Land Use	Existing Land Use 2007	Person Per Acre 2007	Increased Acreage 2010	Increased Acreage 2020	Increased Acreage 2030	Total Increased Acreage 2010-2030
Residential*	458.8	0.532	8.0	26.6	26.6	61.2
Commercial/Office & Institutional	16.5	0.019	0.3	1.0	1.0	2.3
Recreational	54.5	0.063	0.9	3.2	3.2	7.3
Total	529.8	N/A	9.2	30.8	30.8	70.8

\*Includes multi-family development, manufactured homes, and manufactured home parks  
Source: Holland Consulting Planners, Inc.

#### 5. Summary of General Principles Used to Develop the Land Use Plan

The Town of North Topsail Beach Land Use Plan was drafted with consideration given to the following:

- ▶ Key land use issues
- ▶ Existing plans for the development of public facilities
- ▶ Development constraints
- ▶ Existing zoning patterns
- ▶ Limiting potential land use conflicts
- ▶ Preservation of existing single family residential neighborhoods

## SECTION VII. TOOLS FOR MANAGING DEVELOPMENT

### **A. GUIDE FOR LAND USE DECISION MAKING**

This document should be an integral part of the Town's decision making process concerning future land use. The plan should be consulted prior to any decision being made by town staff, Planning Board, and/or Board of Aldermen concerning land use and development.

### **B. EXISTING DEVELOPMENT PROGRAM**

The existing management program includes the following ordinances: Town of North Topsail Beach Town Code (includes the following topics - administration; personnel; licenses, taxation, and miscellaneous; franchises; public safety; offenses and miscellaneous provisions; planning and zoning; flood damage prevention; environmental control; parks and recreation; animals; vehicles and boats; solid waste management; zoning; and subdivision regulations), Onslow County Hazard Mitigation Plan, and the 1997 Town of North Topsail Beach Land Use Plan. Preparation of the 1997 Land Use Plan was coordinated with the land use related codes.

### **C. ADDITIONAL TOOLS**

The Town of North Topsail Beach will utilize the following additional tools to implement this plan:

- ▶ Conduct annual training sessions for the Town of North Topsail Beach Planning Board and Board of Adjustment.
- ▶ The Planning Department staff, in concert with the Planning Board, shall prepare an annual report assessing the effectiveness of plan implementation. This report shall be presented to the Board of Aldermen.
- ▶ At a minimum, update the Land Use Plan and implementation process every six to seven years.
- ▶ Revise the town's zoning and subdivision ordinances to support the policies and implementing actions contained in this plan.
- ▶ Prepare a capital improvements plan/program to address all infrastructure needs of the town.

## **D. LAND USE PLAN AMENDMENTS**

At which time the North Topsail Beach CAMA Core Land Use Plan needs to be amended, the Town will apply the guidelines for Land Use Plan Amendments under Subchapter 7B, Section 0.400 of the North Carolina Administrative Code. A brief summary of the Town's amendment process is provided below:

- ▶ The Land Use Plan may be amended as a whole by a single resolution or in parts by successive resolutions. The successive resolution may address geographical sections, county divisions, or functional units of subject matter. Participating municipalities may make amendments to the land use plan as it affects their jurisdictions.
- ▶ The Town must hold a public hearing of which the public has been properly notified.
- ▶ Copies of the proposed amendment(s) must be available for review at the Town's primary governmental office during designated hours.
- ▶ The executive secretary or a designated agent of the Coastal Resources Commission shall be given notice of the public hearing, a copy of the proposed amendment(s), and a reason for the amendment(s).
- ▶ Amendments must be consistent with the Coastal Resources Commission's Land Use Planning Guidelines (15A NCAC 7B) and, if possible, with the Land Use Plans of adjacent jurisdictions.
- ▶ If possible, the Town will adopt the plan amendments expeditiously following the close of the public hearing.
- ▶ The Town will provide the executive secretary of the Coastal Resources Commission with a copy of the amended text or maps, and certification of adoption within seven days of adoption.
- ▶ The advertising cost of amendments to this plan which are not initiated by the Town will be paid for by the individual, organization, or other entity requesting the amendment.

## **E. ACTION PLAN/SCHEDULE**

### **1. Citizen Participation**

For the preparation of this plan, the North Topsail Beach Board of Aldermen adopted a citizen participation plan on February 2, 2006. A copy of that plan is included as Appendix I. Following adoption of this plan, North Topsail Beach will implement the following to ensure adequate citizen participation:

- ▶ The Town will encourage public participation in all land use decisions and procedure development processes and encourages citizen input via its boards and committees.
- ▶ North Topsail Beach will advertise all meetings of the Planning Board and Board of Adjustment through newspaper advertisements and notice postings.
- ▶ North Topsail Beach will utilize advisory committees to assess and advise the Town on special planning issues/needs.
- ▶ The Town will, at least annually, conduct a joint meeting of the North Topsail Beach Board of Aldermen and the Town's Planning Board to identify planning issues/needs.
- ▶ The Town's website will be updated to include this plan.
- ▶ All public hearings for changes to land use related ordinances which affect AECs shall include in the notice a specific description of the impact of the proposed change on the AECs.
- ▶ Ensure that the membership of all planning related and ad hoc advisory committees has a broad cross section of North Topsail Beach's citizenry.

2. Action Plan/Schedule

The following describes the priority actions that will be taken by the Town of North Topsail Beach to implement this CAMA Core Land Use Plan and the fiscal year(s) in which each action is anticipated to begin and end. This action plan/schedule will be used to prepare the required 2-year implementation status report for the CAMA Land Use Plan.

Policy References	Implementing Actions	Schedule	
		Begin	End
P.1 - P.7	The Town will consider the preparation of a shoreline access and public facilities plan and request Division of Coastal Management funding for the preparation of the plan.	FY2010	FY2011
P.8 - P.19 P.20 - P.24 P.25 - P.30 P.43 - P.44 P.59 - P.73	The Town will review and consider revising its zoning and subdivision ordinances to address the policies contained in the Land Use Plan.	FY2009	FY2010
P.8 - P.19	The Town's planning and inspections department will work with local realtors and developers to educate homebuyers of the potential issues relating to homeownership within ocean hazard and inlet hazard areas.	FY2009	FY2013
P.25 - P.30	The Town will draft and consider adopting a tree ordinance that aims to protect tree species indigenous to the region.	FY2009	FY2010

Policy References	Implementing Actions	Schedule	
		Begin	End
P.25 - P.30 P.51 - P.58	The Planning Board will work towards the adoption of a dune protection ordinance that will aim to provide protection for the primary dune line running along the Town's ocean hazard area.	FY2009	FY2010
P.25 - P.30	The Town will consider establishing a land trust that will serve to secure undeveloped land through either acquisition or donation as open space easements in perpetuity.	FY2009	FY2013
P.31 - P.35	The Town will continue to monitor revisions to the Coastal Stormwater Rule Policy, and may amend town ordinances to either meet to exceed development requirements established through these state guidelines.	FY2009	FY2010
P.31 - P.35	The Town will consider adopting and enforcing a soil erosion and sediment control ordinance.	FY2009	FY2010
P.31 - P.35	The Town will review its stormwater control policies and include updates regarding regulations for water detention and/or retention facilities in new developments as new state and federal policy requires.	FY2009	FY2010
P.31 - P.35	The Town supports ongoing planning and capital improvement efforts to address the drainage problems associated with flooding from tropical storm events.	FY2009	FY2013
P.42 - P.50	The Town's Planning Department will work with the Police Department to identify where deficiencies exist with respect to speed limit signage.	FY2009	FY2010
P.42 - P.50	The town will work to establish a turn lane to provide safe access to Town Hall.	FY2009	FY2010
P.59 - P.73	The Town will require that wetland areas be surveyed and delineated on all preliminary and final subdivision plats and development plans.	FY2009	FY2010
P.74	The Town will guide development so as to protect the maritime forest where feasible.	FY2009	FY2010
P.75	The Town will work with federal agencies to assist in protecting sea turtle nesting grounds between the months of May and October.	FY2009	FY2010
P.80 - P.82	The Town will develop a capital improvements plan with emphasis placed on services and facilities which affect growth and development.	FY2009	FY2010

F. RESOURCE CONSERVATION MANAGEMENT ACTION PLAN/POSITIVE AND NEGATIVE IMPACTS OF LAND USE PLAN POLICIES

North Topsail Beach believes that the policies, management goals, planning objectives, and land use plan requirements contained in this document will have positive impacts for the town. However, the following could have some negative impacts:

- ▶ Transportation improvements in sensitive and non-sensitive areas.
- ▶ Potential infringement of growth on sensitive areas.
- ▶ Increased stormwater runoff.
- ▶ Possible degradation of water quality.

The management objectives, policies, and implementing actions address the issues associated with these possible negative impacts. Mitigating policies are stated in the conservation policies, page 93; stormwater control policies, page 95; infrastructure carrying capacity, page 96; and water quality, page 102.

Table 38 provides an analysis matrix which summarizes this plan's policies and identifies them as beneficial, neutral, or detrimental.

Table 38: Policy Analysis Matrix – Land Use Plan Management Topics

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
<b>Land Use and Development Policies</b>	<ul style="list-style-type: none"> <li>• more planned access locations</li> <li>• upgrades to existing access locations</li> <li>• increase pedestrian access</li> <li>• comply with state access standards to enhance opportunities for state funding</li> </ul>	<ul style="list-style-type: none"> <li>• reduction in habitat loss and fragmentation related to impacts of land use and development</li> <li>• reduction of water resource and water quality degradation</li> <li>• balance growth demands with protection of the environment</li> </ul>	<ul style="list-style-type: none"> <li>• water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns</li> <li>• during construction of infrastructure systems, AECs and other fragile areas should be protected</li> <li>• transportation improvements should support the efficiency of traffic flow and pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>• land uses and development patterns that reduce vulnerability to natural hazards</li> <li>• land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure</li> <li>• minimize development in floodplains, AECs, wetlands, and other fragile areas</li> </ul>	<ul style="list-style-type: none"> <li>• land use and development criteria and measures that abate impacts that degrade water quality</li> <li>• coordinate water quality efforts with Onslow County</li> </ul>	<ul style="list-style-type: none"> <li>• preservation of cultural, historic, and scenic areas</li> <li>• support of economic development</li> <li>• development of human resources</li> <li>• preservation of the town’s rural character</li> <li>• decrease residential density within town</li> </ul>
Public Access: P.1	B	B	N	B	N	B
P.2	B	B	N	B	N	B
P.3	B	N	N	N	N	B
P.4	B	N	N	B	B	B
P.5	B	B	N	N	N	B
P.6	B	B	B	N	N	B
P.7	B	N	N	N	N	B
Land Use Compatibility: P.8	N	B	B	N	B	B
P.9	N	B	B	N	B	N
P.10	B	B	B	N	N	B
P.11	N	B	N	B	N	B
P.12	N	B	N	N	B	B

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
<b>Land Use and Development Policies</b>	<ul style="list-style-type: none"> <li>• more planned access locations</li> <li>• upgrades to existing access locations</li> <li>• increase pedestrian access</li> <li>• comply with state access standards to enhance opportunities for state funding</li> </ul>	<ul style="list-style-type: none"> <li>• reduction in habitat loss and fragmentation related to impacts of land use and development</li> <li>• reduction of water resource and water quality degradation</li> <li>• balance growth demands with protection of the environment</li> </ul>	<ul style="list-style-type: none"> <li>• water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns</li> <li>• during construction of infrastructure systems, AECs and other fragile areas should be protected</li> <li>• transportation improvements should support the efficiency of traffic flow and pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>• land uses and development patterns that reduce vulnerability to natural hazards</li> <li>• land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure</li> <li>• minimize development in floodplains, AECs, wetlands, and other fragile areas</li> </ul>	<ul style="list-style-type: none"> <li>• land use and development criteria and measures that abate impacts that degrade water quality</li> <li>• coordinate water quality efforts with Onslow County</li> </ul>	<ul style="list-style-type: none"> <li>• preservation of cultural, historic, and scenic areas</li> <li>• support of economic development</li> <li>• development of human resources</li> <li>• preservation of the town's rural character</li> <li>• decrease residential density within town</li> </ul>
P.13	N	B	B	N	N	B
P.14	N	B	B	N	N	B
P.15	N	B	B	N	B	B
P.16	N	B	B	N	N	B
P.17	B	B	B	N	B	B
P.18	N	B	B	B	B	B
P.19	B	B	B	B	B	B
P.20	B	B	B	N	N	B
P.21	N	B	B	N	B	B
P.22	N	B	B	N	N	B
P.23	B	B	B	N	N	B
P.24	N	B	B	N	B	B
P.25	N	B	B	B	B	B
P.26	N	B	B	N	B	B
P.27	N	N	N	N	B	B

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
<b>Land Use and Development Policies</b>	<ul style="list-style-type: none"> <li>• more planned access locations</li> <li>• upgrades to existing access locations</li> <li>• increase pedestrian access</li> <li>• comply with state access standards to enhance opportunities for state funding</li> </ul>	<ul style="list-style-type: none"> <li>• reduction in habitat loss and fragmentation related to impacts of land use and development</li> <li>• reduction of water resource and water quality degradation</li> <li>• balance growth demands with protection of the environment</li> </ul>	<ul style="list-style-type: none"> <li>• water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns</li> <li>• during construction of infrastructure systems, AECs and other fragile areas should be protected</li> <li>• transportation improvements should support the efficiency of traffic flow and pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>• land uses and development patterns that reduce vulnerability to natural hazards</li> <li>• land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure</li> <li>• minimize development in floodplains, AECs, wetlands, and other fragile areas</li> </ul>	<ul style="list-style-type: none"> <li>• land use and development criteria and measures that abate impacts that degrade water quality</li> <li>• coordinate water quality efforts with Onslow County</li> </ul>	<ul style="list-style-type: none"> <li>• preservation of cultural, historic, and scenic areas</li> <li>• support of economic development</li> <li>• development of human resources</li> <li>• preservation of the town's rural character</li> <li>• decrease residential density within town</li> </ul>
P.28	N	B	B	N	N	B
P.29	N	B	B	N	N	B
P.30	B	B	B	N	N	B
P.31	B	B	B	N	B	B
P.32	N	B	N	N	B	B
P.33	B	B	B	N	N	B
P.34	N	B	B	B	B	B
P.35	N	B	B	B	B	B
Infrastructure Carrying Capacity: P.36	N	N	B	N	B	B
P.37	N	B	B	N	B	B
P.38	N	B	B	N	N	B
P.39	N	N	B	N	N	B
P.40	N	B	B	N	B	B
P.41	N	N	B	N	B	B

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
<b>Land Use and Development Policies</b>	<ul style="list-style-type: none"> <li>• more planned access locations</li> <li>• upgrades to existing access locations</li> <li>• increase pedestrian access</li> <li>• comply with state access standards to enhance opportunities for state funding</li> </ul>	<ul style="list-style-type: none"> <li>• reduction in habitat loss and fragmentation related to impacts of land use and development</li> <li>• reduction of water resource and water quality degradation</li> <li>• balance growth demands with protection of the environment</li> </ul>	<ul style="list-style-type: none"> <li>• water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns</li> <li>• during construction of infrastructure systems, AECs and other fragile areas should be protected</li> <li>• transportation improvements should support the efficiency of traffic flow and pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>• land uses and development patterns that reduce vulnerability to natural hazards</li> <li>• land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure</li> <li>• minimize development in floodplains, AECs, wetlands, and other fragile areas</li> </ul>	<ul style="list-style-type: none"> <li>• land use and development criteria and measures that abate impacts that degrade water quality</li> <li>• coordinate water quality efforts with Onslow County</li> </ul>	<ul style="list-style-type: none"> <li>• preservation of cultural, historic, and scenic areas</li> <li>• support of economic development</li> <li>• development of human resources</li> <li>• preservation of the town's rural character</li> <li>• decrease residential density within town</li> </ul>
P.42	N	N	B	N	N	B
P.43	N	B	B	N	B	B
P.44	N	N	B	N	B	B
P.45	N	N	B	N	N	B
P.46	N	N	B	N	N	B
P.47	N	N	B	N	N	B
P.48	N	N	B	N	B	B
P.49	N	N	B	N	N	B
P.50	N	N	B	N	N	B
Natural Hazard Areas:						
P.51	N	B	B	B	N	B
P.52	N	B	B	B	N	B
P.53	N	N	B	B	N	B
P.54	N	B	B	B	N	B
P.55	N	B	B	B	N	B
P.56	N	B	B	B	B	B

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
<b>Land Use and Development Policies</b>	<ul style="list-style-type: none"> <li>• more planned access locations</li> <li>• upgrades to existing access locations</li> <li>• increase pedestrian access</li> <li>• comply with state access standards to enhance opportunities for state funding</li> </ul>	<ul style="list-style-type: none"> <li>• reduction in habitat loss and fragmentation related to impacts of land use and development</li> <li>• reduction of water resource and water quality degradation</li> <li>• balance growth demands with protection of the environment</li> </ul>	<ul style="list-style-type: none"> <li>• water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns</li> <li>• during construction of infrastructure systems, AECs and other fragile areas should be protected</li> <li>• transportation improvements should support the efficiency of traffic flow and pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>• land uses and development patterns that reduce vulnerability to natural hazards</li> <li>• land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure</li> <li>• minimize development in floodplains, AECs, wetlands, and other fragile areas</li> </ul>	<ul style="list-style-type: none"> <li>• land use and development criteria and measures that abate impacts that degrade water quality</li> <li>• coordinate water quality efforts with Onslow County</li> </ul>	<ul style="list-style-type: none"> <li>• preservation of cultural, historic, and scenic areas</li> <li>• support of economic development</li> <li>• development of human resources</li> <li>• preservation of the town's rural character</li> <li>• decrease residential density within town</li> </ul>
P.57	N	N	B	B	N	B
P.58	N	N	B	B	N	B
Water Quality: P.59	N	B	N	N	B	B
P.60	N	N	N	N	B	N
P.61	B	B	N	N	B	B
P.62	N	N	N	N	N	B
P.63	N	N	N	N	B	B
P.64	N	B	N	N	B	B
P.65	N	N	N	N	B	B
P.66	N	N	N	N	B	B
P.67	N	N	B	B	B	B
P.68	N	N	N	N	B	B
P.69	N	N	N	N	B	B
P.70	N	B	N	B	B	B
P.71	N	B	B	N	B	B

Management Topics	Policy Benchmarks – Indicate whether the policy is <u>beneficial</u> (B), <u>neutral</u> (N), or <u>detrimental</u> (D)					
	Public Access	Land Use Compatibility	Infrastructure Carrying Capacity	Natural Hazards	Water Quality	Local Concerns
<b>Land Use and Development Policies</b>	<ul style="list-style-type: none"> <li>• more planned access locations</li> <li>• upgrades to existing access locations</li> <li>• increase pedestrian access</li> <li>• comply with state access standards to enhance opportunities for state funding</li> </ul>	<ul style="list-style-type: none"> <li>• reduction in habitat loss and fragmentation related to impacts of land use and development</li> <li>• reduction of water resource and water quality degradation</li> <li>• balance growth demands with protection of the environment</li> </ul>	<ul style="list-style-type: none"> <li>• water, sewer, and other key community facilities and services being available in required locations at adequate capacities to support planned community growth and development patterns</li> <li>• during construction of infrastructure systems, AECs and other fragile areas should be protected</li> <li>• transportation improvements should support the efficiency of traffic flow and pedestrian safety</li> </ul>	<ul style="list-style-type: none"> <li>• land uses and development patterns that reduce vulnerability to natural hazards</li> <li>• land uses and development patterns that take into account the existing and planned capacity of evacuation infrastructure</li> <li>• minimize development in floodplains, AECs, wetlands, and other fragile areas</li> </ul>	<ul style="list-style-type: none"> <li>• land use and development criteria and measures that abate impacts that degrade water quality</li> <li>• coordinate water quality efforts with Onslow County</li> </ul>	<ul style="list-style-type: none"> <li>• preservation of cultural, historic, and scenic areas</li> <li>• support of economic development</li> <li>• development of human resources</li> <li>• preservation of the town's rural character</li> <li>• decrease residential density within town</li> </ul>
P.72	N	N	N	N	B	B
P.73	N	N	N	N	B	B
Local Areas of Concern: P.74	B	N	N	N	N	B
P.75	B	N	N	N	B	B
P.76	N	N	N	N	N	B
P.77	N	N	N	N	N	B
P.78	B	N	N	N	N	B
P.79	N	N	N	N	N	B
P.80	N	B	N	N	N	B
P.81	N	B	N	N	N	B
P.82	N	B	N	N	N	B

## **APPENDIX I**

### **TOWN OF NORTH TOPSAIL BEACH CITIZEN PARTICIPATION PLAN**

#### **PREPARATION OF A CORE LAND USE PLAN, PHASE I**

The Town of North Topsail Beach has received a Coastal Area Management Act grant for preparation of a Core Land Use Plan, Phase I. Adequate citizen participation in the development of the plan is essential to the preparation of a document responsive to the needs of the citizens of North Topsail Beach. To ensure such input, the following citizen participation program will be utilized by the Town.

The North Topsail Beach Board of Aldermen will appoint a Land Use Plan Committee (LUPC) to work with the Town's planning consultant to ensure that the final product will be a plan suitable for adoption by the Town. The committee will be composed of the members of the Planning Board.

Specifically, the planning consultant and the LUPC will be responsible for ensuring accomplishment of the following:

- Develop and adopt the Citizen Participation Plan; conduct public information meeting; and conduct a Town-wide meeting to identify community concerns, key planning issues, and aspirations. In addition, prepare analysis of existing and emerging conditions.
- Complete analysis of existing and emerging conditions; prepare natural systems analysis and analysis of land use and development (including Existing Land Use Map).
- Prepare community facilities analysis; prepare/review land suitability analysis and map; review existing CAMA plan, ordinances, and policies.

The following schedule will be utilized for Phase I:

1. February 2, 2006
  - Conduct Public Information Meeting.
  - Board of Aldermen adopt the Citizen Participation Plan.
2. February - March, 2006
  - Conduct initial meeting with LUPC and review Citizen Participation Plan and process for preparing the land use plan.
  - Conduct Town-wide issues identification meeting.
3. March – October, 2006 – Prepare preliminary draft land use plan which will include analysis of existing conditions, land suitability analysis, natural systems analysis, and community facilities analysis. Conduct meetings with the LUPC.
4. November, 2006 – Present draft of Phase I to the LUPC.

All meetings of the LUPC and Board of Aldermen at which the Plan will be discussed will be advertised in a local newspaper. The public information meeting, Town-wide meeting, and public hearing will also be advertised in a local newspaper. In addition, public service announcements will be posted at the Town Municipal Building and other public buildings as directed by the LUPC and Board of Aldermen. All meetings will be open to the public. The Town will encourage and consider all economic, social, ethnic and cultural viewpoints. No major non-English speaking groups are known to exist in North Topsail Beach.

TOWN OF NORTH TOPSAIL BEACH  
CITIZEN PARTICIPATION PLAN

PREPARATION OF A CORE LAND USE PLAN  
PHASE II

The Town of North Topsail Beach has received a Coastal Area Management Act grant for preparation of a Core Land Use Plan, Phase II. Adequate citizen participation in the development of the plan is essential to the preparation of a document responsive to the needs of the citizens of the Town of North Topsail Beach. To ensure such input, the following citizen participation program will be utilized by the Town.

The North Topsail Beach Board of Aldermen has appointed a Land Use Plan Committee (LUPC) to work with the Town's planning consultant to ensure that the final product will be a plan suitable for adoption by the Town.

Specifically, the planning consultant and the LUPC will be responsible for ensuring accomplishment of the following:

- Adopt and implement Citizen Participation Plan for Phase II.
- Revise preliminary plan based on public review.
- Complete plan for the future (including future land use map and tools for managing development).
- Present the draft plan to the Board of Aldermen.
- Submit plan to state/DCM for review; provide plan to adjacent jurisdictions for review; conduct public information hearings.
- Revise plan based on state and local review; conduct public hearing; Board of Aldermen adoption; submit for CRC certification.

The schedule to be utilized for Phase II is included as Exhibit A.

All meetings of the LUPC and Board of Aldermen at which the Plan will be discussed will be advertised in a local newspaper. The public hearing will also be advertised in a local newspaper. In addition, public service announcements will be posted at the Town Municipal Building and other public buildings as directed by the LUPC and Board of Aldermen. All meetings will be open to the public. The Town will encourage and consider all economic, social, ethnic and cultural viewpoints. No major non-English speaking groups are known to exist in North Topsail Beach.

2/8/07

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## **EXHIBIT A**

### **WORK PROGRAM AND SCHEDULE**

#### **Phase II**

January, 2007	Complete all Phase II contractual arrangements
February, 2007	LUPC meeting will be held Items to discuss: Finalize Phase I
March, 2007	LUPC meeting will be held Items to discuss: Future Demands on public services
April, 2007	LUPC meeting will be held Items to discuss: Introduction to Policy Statements and submittal of draft Future Land Use Map
May, 2007	LUPC meeting will be held Items to discuss: Draft Policy Statements
June, 2007	LUPC meeting to be held Items to discuss: Continue discussion over Draft policy statements
July, 2007	LUPC meeting to be held Items to discuss: Continue discussion over Draft policy statements; overview of Plan for the Future
August, 2007	LUPC meeting to be held Items to discuss: Review of final document
September/ October, 2007	LUPC meeting to be held Items to discuss: Review of final draft plan, with all edits, and request for approval to forward plan to NCDCM for review
Upon receipt of DCM Comments	Make all edits based on NCDCM comments; meet with the LUPC to discuss changes. Hold a Public Hearing for local adoption by the North Topsail Beach Board of Aldermen Submit the plan for Coastal Resources Commission certification

APPENDIX II  
TOWN OF NORTH TOPSAIL BEACH  
2006/2007CAMA CORE LAND USE PLAN  
LAND USE PLAN SURVEY RESULTS

*[All numbers are represented as percentages].*

**TOTAL OF ALL SURVEY RESULTS, INCLUDING YEAR-ROUND PROPERTY OWNERS, SEASONAL RESIDENTS AND RENTERS**

1. N.T.B. should encourage conservation of the maritime forests.  
Agree 80.8 No Opinion 16.8 Disagree 2.4
2. N.T.B. should encourage preservation of the primary dune line through adoption of a dune protection ordinance.  
Agree 93.2 No Opinion 4.3 Disagree 2.5
3. N.T.B. should encourage preservation of green space (large tracts/one acre or larger) through the establishment of a land trust.  
Agree 67.1 No Opinion 21.9 Disagree 11.0
4. N.T.B. should maintain the town's Outstanding Resource Waters through stronger controls on adjacent shoreline development (i.e., preserve vegetative buffers).  
Agree 80.9 No Opinion 12.0 Disagree 7.1
5. N.T.B. should maintain the viability of shellfishing waters, marshes/wetlands, fish spawning, and nursery areas through more strict land use controls (i.e., preserve green/landscape areas and control stormwater runoff).  
Agree 81.8 No Opinion 9.8 Disagree 8.4
6. Sea turtle habitats should be protected through local ordinances.  
Agree 78.1 No Opinion 11.8 Disagree 10.1
7. N.T.B. should encourage low density residential development (average four dwelling units per acre or fewer).  
Agree 76.3 No Opinion 11.3 Disagree 12.4
8. N.T.B. should establish more strict oceanfront setback requirements.  
Agree 62.9 No Opinion 17.4 Disagree 19.7
9. N.T.B. should set more rigorous impervious percentages for construction to reduce stormwater runoff (impervious surfaces refer to building footprints, concrete, etc.).  
Agree 59.7 No Opinion 22.8 Disagree 17.5
10. N.T.B. should reduce new construction in CBRA (Coastal Barrier Resources Act) zones through control by local ordinances.  
Agree 60.1 No Opinion 19.7 Disagree 20.2
11. N.T.B. should limit or reduce the amount of commercial development/property zoned commercial.  
Agree 57.9 No Opinion 14.3 Disagree 27.8
12. N.T.B. should address problem of abandoned/condemned structures through rigorous enforcement of its minimum housing code.  
Agree 78.9 No Opinion 13.1 Disagree 8.0

13. N.T.B.'s building height should not exceed:

35'	Agree	<u>20.0</u>	No Opinion	<u>20.5</u>	Disagree	<u>5.3</u>	No Response	<u>54.1</u>
40'	Agree	<u>16.2</u>	No Opinion	<u>20.5</u>	Disagree	<u>5.3</u>	No Response	<u>57.9</u>
45'	Agree	<u>14.3</u>	No Opinion	<u>20.5</u>	Disagree	<u>5.3</u>	No Response	<u>59.9</u>
50'	Agree	<u>23.9</u>	No Opinion	<u>20.5</u>	Disagree	<u>5.3</u>	No Response	<u>50.2</u>

14. The following types of development should be encouraged:

[1991 survey results are included below in italics].

a.	Low density, single-family homes (<4 per ac.)	Agree	<u>76.0</u>	No Opinion	<u>16.5</u>	Disagree	<u>7.6</u>
			<i>84%</i>		<i>6.5%</i>		<i>9%</i>
b.	High density, single-family homes (5 or more per acre)	Agree	<u>13.4</u>	No Opinion	<u>35.0</u>	Disagree	<u>51.6</u>
			<i>20.7%</i>		<i>15%</i>		<i>64%</i>
c.	Duplexes	Agree	<u>49.3</u>	No Opinion	<u>28.0</u>	Disagree	<u>22.7</u>
			<i>50.8%</i>		<i>12.6%</i>		<i>36.5%</i>
d.	Triplexes & Quadriplexes	Agree	<u>21.4</u>	No Opinion	<u>29.4</u>	Disagree	<u>49.2</u>
			<i>20%</i>		<i>15%</i>		<i>64%</i>
e.	Condos (3 stories or less)	Agree	<u>33.8</u>	No Opinion	<u>25.1</u>	Disagree	<u>41.1</u>
			<i>35.9%</i>		<i>10.5%</i>		<i>53%</i>
f.	High-rise condos (more than 3 stories)	Agree	<u>10.9</u>	No Opinion	<u>17.1</u>	Disagree	<u>72</u>
			<i>8.9%</i>		<i>13.8%</i>		<i>77%</i>
g.	Commercial business	Agree	<u>35.5</u>	No Opinion	<u>26.3</u>	Disagree	<u>38.2</u>
			<i>43.6%</i>		<i>13%</i>		<i>43%</i>
h.	Parks & natural areas	Agree	<u>78.7</u>	No Opinion	<u>14.3</u>	Disagree	<u>7.0</u>
			<i>85%</i>		<i>4%</i>		<i>10.5%</i>

15. The following types of business should be encouraged:

[1991 survey results are included below in italics].

a.	Motel/hotel	Agree	<u>26.4</u>	No Opinion	<u>20.5</u>	Disagree	<u>53.1</u>
			<i>35%</i>		<i>4%</i>		<i>60%</i>
b.	Restaurants	Agree	<u>76.0</u>	No Opinion	<u>9.7</u>	Disagree	<u>14.3</u>
			<i>81.5%</i>		<i>4%</i>		<i>14%</i>
c.	Convenience stores	Agree	<u>47.1</u>	No Opinion	<u>20.0</u>	Disagree	<u>32.8</u>
			<i>47.7%</i>		<i>11%</i>		<i>40.8%</i>
d.	Tourist shops	Agree	<u>37.3</u>	No Opinion	<u>21.5</u>	Disagree	<u>41.1</u>
			<i>52%</i>		<i>10.5%</i>		<i>37%</i>

16. N.T.B. should coordinate with N. C. DOT in reducing speed limit on NC Hwy. 210 from 55 to 45 mph.

Agree 37.1 No Opinion 15.1 Disagree 47.8

17. N.T.B. should coordinate with N.C. DOT in establishing no passing zones on NC Hwy. 210.

Agree 43.2 No Opinion 18.7 Disagree 38.1

18. N.T.B. should improve efforts to increase economic development.

Agree 50.7 No Opinion 23.3 Disagree 26.0

19. N.T.B. should encourage more permanent residency.

Agree 49.5 No Opinion 32.2 Disagree 18.2

20. N.T.B. should be enhanced as an attractive vacation destination.

Agree 74.0 No Opinion 12.7 Disagree 13.4

21. N.T.B. should revise building codes to provide maximum hurricane protection and wind/flood survivability.  
 Agree 76.7 No Opinion 12.0 Disagree 11.3
22. N.T.B. should increase public awareness of property damage vulnerability.  
 Agree 71.0 No Opinion 20.0 Disagree 9.0
23. N.T.B. should continue to prohibit driving automobiles on the beach.  
 Agree 90.2 No Opinion 3.5 Disagree 6.3
24. N.T.B. should encourage the retention of all lands designated Conservation District, and prevent these lands from rezoning.  
 Agree 78.7 No Opinion 15.3 Disagree 6.0
25. N.T.B. should ban recreational vehicles (e.g., all-terrain vehicles, dune buggies, dirt bikes) from all estuarine and oceanfront public trust areas.  
 Agree 83.0 No Opinion 7.8 Disagree 9.2
26. I am satisfied with the following public services:  
*[1991 survey results are included below in italics].*
- |    |                                  |                   |                        |                      |
|----|----------------------------------|-------------------|------------------------|----------------------|
| a. | Water system (volume & pressure) | Agree <u>74.7</u> | No Opinion <u>11.5</u> | Disagree <u>13.8</u> |
|    |                                  | <i>58.1%</i>      | <i>11.9%</i>           | <i>29%</i>           |
| b. | Sewer system                     | Agree <u>67.2</u> | No Opinion <u>16.0</u> | Disagree <u>16.8</u> |
|    |                                  | <i>55%</i>        | <i>20%</i>             | <i>24%</i>           |
| c. | Garbage disposal                 | Agree <u>76.4</u> | No Opinion <u>15.7</u> | Disagree <u>7.9</u>  |
|    |                                  | <i>42.6%</i>      | <i>20.9%</i>           | <i>36.5%</i>         |
| d. | Recycling                        | Agree <u>32.0</u> | No Opinion <u>33.4</u> | Disagree <u>34.6</u> |
|    |                                  | <i>23.9%</i>      | <i>34.5%</i>           | <i>41%</i>           |
| e. | Police protection                | Agree <u>82.0</u> | No Opinion <u>14.3</u> | Disagree <u>3.8</u>  |
|    |                                  | <i>65%</i>        | <i>20%</i>             | <i>14%</i>           |
| f. | Fire protection                  | Agree <u>78.2</u> | No Opinion <u>20.0</u> | Disagree <u>1.7</u>  |
|    |                                  | <i>49%</i>        | <i>19.9%</i>           | <i>30.6%</i>         |
| g. | Emergency Medical Service        | Agree <u>66.0</u> | No Opinion <u>30.0</u> | Disagree <u>4.0</u>  |
|    |                                  | <i>56.9%</i>      | <i>26%</i>             | <i>16.6%</i>         |
| h. | Government administration        | Agree <u>42.7</u> | No Opinion <u>35.0</u> | Disagree <u>22.2</u> |
|    |                                  | <i>34.4%</i>      | <i>37.6%</i>           | <i>27%</i>           |
| i. | Streets, roads                   | Agree <u>64.1</u> | No Opinion <u>16.1</u> | Disagree <u>19.8</u> |
|    |                                  | <i>32.5%</i>      | <i>17%</i>             | <i>50%</i>           |
| j. | Street lighting                  | Agree <u>67.2</u> | No Opinion <u>17.4</u> | Disagree <u>15.4</u> |
|    |                                  | <i>50.6%</i>      | <i>18%</i>             | <i>31%</i>           |
| k. | Recreation/cultural facilities   | Agree <u>56.9</u> | No Opinion <u>24.5</u> | Disagree <u>18.6</u> |
|    |                                  | <i>35.5%</i>      | <i>21.5%</i>           | <i>42.8%</i>         |
27. In light of erosion and coastal storm damage N.T.B. should develop building standards and reconstruction policies to:
- |    |  |                   |                        |                      |
|----|--|-------------------|------------------------|----------------------|
| a. | Deal with abandoned/damaged buildings  | Agree <u>85.8</u> | No Opinion <u>8.2</u>  | Disagree <u>6.0</u>  |
| b. | Encourage moveable structures  | Agree <u>22.5</u> | No Opinion <u>34.2</u> | Disagree <u>43.3</u> |
| c. | Reconstruct buildings less likely to be damaged in future  | Agree <u>71.0</u> | No Opinion <u>19.8</u> | Disagree <u>9.3</u>  |
| d. | Inform owners/buyers about availability of flood insurance and regulations concerning flood damage/clean-up. | Agree <u>87.8</u> | No Opinion <u>7.0</u>  | Disagree <u>5.2</u>  |

28. N.T.B. should encourage planting more trees outside of the maritime forest areas.  
Yes 64.7 No 31.6 No Response 3.7
29. N.T.B. should address channel maintenance, including the realignment of the New River Inlet.  
Yes 67.6 No 28.0 No Response 4.4
30. N.T.B. should continue implementation of bicycle path construction from one end of town to the other.  
Yes 77.0 No 21.9 No Response 1.1
31. N.T.B. should establish a outdoor public amphitheater and community center.  
Yes 34.3 No 62.3 No Response 3.4
32. N.T.B. should increase awareness and number of public canoe/kayak access facility(ies).  
Yes 60.8 No 36.2 No Response 3.0
33. N.T.B. should better address handicapped public access, including shoreline access.  
Yes 57.8 No 37.2 No Response 5.0
34. N.T.B. should purchase or build a municipally-owned pier.  
Yes 29.5 No 67.7 No Response 2.8
35. N.T.B. should increase parking at public access sites.  
Yes 32.7 No 64.4 No Response 2.9
36. N.T.B. should increase the number of public access points (both estuarine and ocean).  
Yes 28.0 No 69.7 No Response 2.3
37. N.T.B. should establish additional boat ramp facilities.  
Yes 35.0 No 62.0 No Response 3.0
38. N.T.B. should develop more public parks.  
Yes 33.9 No 63.5 No Response 2.6
39. N.T.B. should eliminate septic tanks/septic holding tanks.  
Yes 58.1 No 36.4 No Response 5.5
40. N.T.B. should increase sewer capacity.  
Yes 75.7 No 18.5 No Response 5.8
41. N.T.B. should increase pedestrian walkways (sidewalks).  
Yes 54.7 No 42.2 No Response 3.1
42. N.T.B. should increase speed limit signage, i.e., 35 mph town-wide (costs would only be associated with town-maintained roads).  
Yes 42.3 No 53.0 No Response 4.7
43. N.T.B. should address water capacity issue (water pressure).  
Yes 57.4 No 37.3 No Response 5.3
44. N.T.B. should provide curbside trash can placement and removal service.  
Yes 55.3 No 37.7 No Response 7.0

45. N.T.B. should establish a curbside recycling service.  
Yes 59.8 No 36.2 No Response 4.0

46. N.T.B. should improve beach patrol efforts (lifeguards).  
Yes 38.4 No 55.4 No Response 6.2

*[All numbers are represented as percentages].*

**YEAR ROUND PROPERTY OWNER**

Registered voter in N.T.B.? Yes 82.6 No 17.4

1. N.T.B. should encourage conservation of the maritime forests.  
Agree 85.9 No Opinion 10.9 Disagree 3.3
2. N.T.B. should encourage preservation of the primary dune line through adoption of a dune protection ordinance.  
Agree 90.8 No Opinion 3.8 Disagree 5.4
3. N.T.B. should encourage preservation of green space (large tracts/one acre or larger) through the establishment of a land trust.  
Agree 71.7 No Opinion 15.2 Disagree 13.0
4. N.T.B. should maintain the town's Outstanding Resource Waters through stronger controls on adjacent shoreline development (i.e., preserve vegetative buffers).  
Agree 82.1 No Opinion 10.3 Disagree 7.6
5. N.T.B. should maintain the viability of shellfishing waters, marshes/wetlands, fish spawning, and nursery areas through more strict land use controls (i.e., preserve green/landscape areas and control stormwater runoff).  
Agree 82.6 No Opinion 7.6 Disagree 9.8
6. Sea turtle habitats should be protected through local ordinances.  
Agree 77.2 No Opinion 9.8 Disagree 13.0
7. N.T.B. should encourage low density residential development (average four dwelling units per acre or fewer).  
Agree 80.4 No Opinion 9.8 Disagree 9.8
8. N.T.B. should establish more strict oceanfront setback requirements.  
Agree 74.5 No Opinion 10.3 Disagree 15.2
9. N.T.B. should set more rigorous impervious percentages for construction to reduce stormwater runoff (impervious surfaces refer to building footprints, concrete, etc.).  
Agree 65.8 No Opinion 15.8 Disagree 18.5
10. N.T.B. should reduce new construction in CBRA (Coastal Barrier Resources Act) zones through control by local ordinances.  
Agree 66.8 No Opinion 13.6 Disagree 19.6
11. N.T.B. should limit or reduce the amount of commercial development/property zoned commercial.  
Agree 47.8 No Opinion 13.0 Disagree 39.1
12. N.T.B. should address problem of abandoned/condemned structures through rigorous enforcement of its minimum housing code.  
Agree 74.5 No Opinion 13.6 Disagree 12.0

13. N.T.B.'s building height should not exceed:
- |     |       |             |            |             |          |            |             |             |
|-----|-------|-------------|------------|-------------|----------|------------|-------------|-------------|
| 35' | Agree | <u>16.3</u> | No Opinion | <u>16.3</u> | Disagree | <u>4.3</u> | No Response | <u>63.0</u> |
| 40' | Agree | <u>13.0</u> | No Opinion | <u>16.3</u> | Disagree | <u>4.3</u> | No Response | <u>66.3</u> |
| 45' | Agree | <u>24.5</u> | No Opinion | <u>16.3</u> | Disagree | <u>4.3</u> | No Response | <u>54.9</u> |
| 50' | Agree | <u>26.1</u> | No Opinion | <u>16.3</u> | Disagree | <u>4.3</u> | No Response | <u>53.3</u> |
14. The following types of development should be encouraged:
- |    |  |       |             |            |             |          |             |
|----|--|-------|-------------|------------|-------------|----------|-------------|
| a. | Low density, single-family homes (<4 per acre)         | Agree | <u>82.1</u> | No Opinion | <u>13.6</u> | Disagree | <u>4.3</u>  |
| b. | High density, single-family homes (5 or more per acre) | Agree | <u>13.0</u> | No Opinion | <u>31.0</u> | Disagree | <u>56.0</u> |
| c. | Duplexes   | Agree | <u>48.4</u> | No Opinion | <u>26.6</u> | Disagree | <u>25.0</u> |
| d. | Triplexes & Quadriplexes                               | Agree | <u>20.1</u> | No Opinion | <u>25.0</u> | Disagree | <u>54.9</u> |
| e. | Condos (3 stories or less)                             | Agree | <u>23.4</u> | No Opinion | <u>27.7</u> | Disagree | <u>48.9</u> |
| f. | High-rise condos (more than 3 stories)                 | Agree | <u>10.3</u> | No Opinion | <u>16.8</u> | Disagree | <u>72.8</u> |
| g. | Commercial business                                    | Agree | <u>40.8</u> | No Opinion | <u>27.2</u> | Disagree | <u>32.1</u> |
| h. | Parks & natural areas                                  | Agree | <u>74.5</u> | No Opinion | <u>15.8</u> | Disagree | <u>9.8</u>  |
15. The following types of business should be encouraged:
- |    |                    |       |             |            |             |          |             |
|----|--------------------|-------|-------------|------------|-------------|----------|-------------|
| a. | Motel/hotel        | Agree | <u>28.3</u> | No Opinion | <u>20.7</u> | Disagree | <u>51.1</u> |
| b. | Restaurants        | Agree | <u>74.5</u> | No Opinion | <u>7.6</u>  | Disagree | <u>17.9</u> |
| c. | Convenience stores | Agree | <u>52.7</u> | No Opinion | <u>15.2</u> | Disagree | <u>32.1</u> |
| d. | Tourist shops      | Agree | <u>35.9</u> | No Opinion | <u>17.9</u> | Disagree | <u>46.2</u> |
16. N.T.B. should coordinate with N. C. DOT in reducing speed limit on NC Hwy. 210 from 55 to 45 mph.  
 Agree 32.6 No Opinion 12.5 Disagree 54.9
17. N.T.B. should coordinate with N.C. DOT in establishing no passing zones on NC Hwy. 210.  
 Agree 38.6 No Opinion 11.4 Disagree 50.0
18. N.T.B. should improve efforts to increase economic development.  
 Agree 43.5 No Opinion 24.5 Disagree 32.1
19. N.T.B. should encourage more permanent residency.  
 Agree 69.0 No Opinion 21.2 Disagree 9.8
20. N.T.B. should be enhanced as an attractive vacation destination.  
 Agree 58.2 No Opinion 21.2 Disagree 20.7
21. N.T.B. should revise building codes to provide maximum hurricane protection and wind/flood survivability.  
 Agree 75.0 No Opinion 13.0 Disagree 12.0
22. N.T.B. should increase public awareness of property damage vulnerability.  
 Agree 69.0 No Opinion 23.9 Disagree 7.1
23. N.T.B. should continue to prohibit driving automobiles on the beach.  
 Agree 87.5 No Opinion 2.7 Disagree 9.8

24. N.T.B. should encourage the retention of all lands designated Conservation District, and prevent these lands from rezoning.  
Agree 82.1 No Opinion 10.9 Disagree 7.1
25. N.T.B. should ban recreational vehicles (e.g., all-terrain vehicles, dune buggies, dirt bikes) from all estuarine and oceanfront public trust areas.  
Agree 76.1 No Opinion 7.1 Disagree 16.8
26. I am satisfied with the following public services:
- |    |                                  |   |
|----|----------------------------------|---|
| a. | Water system (volume & pressure) | Agree <u>77.7</u> No Opinion <u>3.3</u> Disagree <u>19.0</u>  |
| b. | Sewer system                     | Agree <u>71.2</u> No Opinion <u>11.4</u> Disagree <u>17.4</u> |
| c. | Garbage disposal                 | Agree <u>87.0</u> No Opinion <u>2.7</u> Disagree <u>10.3</u>  |
| d. | Recycling                        | Agree <u>21.7</u> No Opinion <u>31.0</u> Disagree <u>47.3</u> |
| e. | Police protection                | Agree <u>85.3</u> No Opinion <u>8.2</u> Disagree <u>6.5</u>   |
| f. | Fire protection                  | Agree <u>88.0</u> No Opinion <u>8.2</u> Disagree <u>3.8</u>   |
| g. | Emergency Medical Service        | Agree <u>79.9</u> No Opinion <u>15.2</u> Disagree <u>4.9</u>  |
| h. | Government administration        | Agree <u>37.5</u> No Opinion <u>26.6</u> Disagree <u>35.9</u> |
| i. | Streets, roads                   | Agree <u>63.6</u> No Opinion <u>9.2</u> Disagree <u>27.2</u>  |
| j. | Street lighting                  | Agree <u>70.7</u> No Opinion <u>10.3</u> Disagree <u>19.0</u> |
| k. | Recreation/cultural facilities   | Agree <u>61.4</u> No Opinion <u>17.4</u> Disagree <u>21.2</u> |
27. In light of erosion and coastal storm damage N.T.B. should develop building standards and reconstruction policies to:
- |    |  |   |
|----|--|---|
| a. | Deal with abandoned/damaged buildings  | Agree <u>84.8</u> No Opinion <u>6.0</u> Disagree <u>9.8</u>   |
| b. | Encourage moveable structures  | Agree <u>23.9</u> No Opinion <u>27.2</u> Disagree <u>48.9</u> |
| c. | Reconstruct buildings less likely to be damaged in future  | Agree <u>69.6</u> No Opinion <u>19.0</u> Disagree <u>11.4</u> |
| d. | Inform owners/buyers about availability of flood insurance and regulations concerning flood damage/clean-up. | Agree <u>83.2</u> No Opinion <u>10.3</u> Disagree <u>6.5</u>  |
28. N.T.B. should encourage planting more trees outside of the maritime forest areas.  
Yes 66.8 No 28.3 No Response 4.9
29. N.T.B. should address channel maintenance, including the realignment of the New River Inlet.  
Yes 58.2 No 39.7 No Response 2.2
30. N.T.B. should continue implementation of bicycle path construction from one end of town to the other.  
Yes 75.5 No 22.3 No Response 2.2
31. N.T.B. should establish a outdoor public amphitheater and community center.  
Yes 32.6 No 64.7 No Response 2.7
32. N.T.B. should increase awareness and number of public canoe/kayak access facility(ies).  
Yes 57.1 No 40.2 No Response 2.7
33. N.T.B. should better address handicapped public access, including shoreline access.  
Yes 57.6 No 38.0 No Response 4.3
34. N.T.B. should purchase or build a municipally-owned pier.  
Yes 22.3 No 75.5 No Response 2.2

35. N.T.B. should increase parking at public access sites.  
Yes 32.6 No 65.2 No Response 2.2
36. N.T.B. should increase the number of public access points (both estuarine and ocean).  
Yes 26.1 No 71.2 No Response 2.7
37. N.T.B. should establish additional boat ramp facilities.  
Yes 29.9 No 68.5 No Response 1.6
38. N.T.B. should develop more public parks.  
Yes 28.3 No 69.6 No Response 2.2
39. N.T.B. should eliminate septic tanks/septic holding tanks.  
Yes 70.7 No 25.0 No Response 4.3
40. N.T.B. should increase sewer capacity.  
Yes 80.4 No 16.3 No Response 3.3
41. N.T.B. should increase pedestrian walkways (sidewalks).  
Yes 55.4 No 41.8 No Response 2.7
42. N.T.B. should increase speed limit signage, i.e., 35 mph town-wide (costs would only be associated with town-maintained roads).  
Yes 35.3 No 58.7 No Response 6.0
43. N.T.B. should address water capacity issue (water pressure).  
Yes 54.9 No 42.4 No Response 2.7
44. N.T.B. should provide curbside trash can placement and removal service.  
Yes 47.3 No 48.4 No Response 4.3
45. N.T.B. should establish a curbside recycling service.  
Yes 57.1 No 40.8 No Response 2.2
46. N.T.B. should improve beach patrol efforts (lifeguards).  
Yes 25.5 No 69.6 No Response 4.9

*[All numbers are represented as percentages].*

**SEASONAL PROPERTY OWNERS**

Number of visits: Once/twice per year 18.7 Once per quarter 32.2 Once per month 49.1

1. N.T.B. should encourage conservation of the maritime forests.  
Agree 79.3 No Opinion 18.5 Disagree 2.2
2. N.T.B. should encourage preservation of the primary dune line through adoption of a dune protection ordinance.  
Agree 93.8 No Opinion 4.4 Disagree 1.8
3. N.T.B. should encourage preservation of green space (large tracts/one acre or larger) through the establishment of a land trust.  
Agree 65.7 No Opinion 23.7 Disagree 10.6
4. N.T.B. should maintain the town's Outstanding Resource Waters through stronger controls on adjacent shoreline development (i.e., preserve vegetative buffers).  
Agree 80.7 No Opinion 12.2 Disagree 7.1
5. N.T.B. should maintain the viability of shellfishing waters, marshes/wetlands, fish spawning, and nursery areas through more strict land use controls (i.e., preserve green/landscape areas and control stormwater runoff).  
Agree 81.5 No Opinion 10.4 Disagree 8.1
6. Sea turtle habitats should be protected through local ordinances.  
Agree 78.4 No Opinion 12.4 Disagree 9.3
7. N.T.B. should encourage low density residential development (average four dwelling units per acre or fewer).  
Agree 75.0 No Opinion 11.8 Disagree 13.2
8. N.T.B. should establish more strict oceanfront setback requirements.  
Agree 59.7 No Opinion 19.3 Disagree 21.0
9. N.T.B. should set more rigorous impervious percentages for construction to reduce stormwater runoff (impervious surfaces refer to building footprints, concrete, etc.).  
Agree 57.8 No Opinion 24.9 Disagree 17.4
10. N.T.B. should reduce new construction in CBRA (Coastal Barrier Resources Act) zones through control by local ordinances.  
Agree 58.1 No Opinion 21.3 Disagree 20.4
11. N.T.B. should limit or reduce the amount of commercial development/property zoned commercial.  
Agree 60.6 No Opinion 14.6 Disagree 24.9
12. N.T.B. should address problem of abandoned/condemned structures through rigorous enforcement of its minimum housing code.  
Agree 80.0 No Opinion 13.1 Disagree 6.9

13. N.T.B.'s building height should not exceed:
- |     |                   |                        |                     |                         |
|-----|-------------------|------------------------|---------------------|-------------------------|
| 35' | Agree <u>21.0</u> | No Opinion <u>21.8</u> | Disagree <u>5.6</u> | No Response <u>51.6</u> |
| 40' | Agree <u>16.9</u> | No Opinion <u>21.8</u> | Disagree <u>5.6</u> | No Response <u>55.7</u> |
| 45' | Agree <u>11.6</u> | No Opinion <u>21.8</u> | Disagree <u>5.6</u> | No Response <u>61.0</u> |
| 50' | Agree <u>23.4</u> | No Opinion <u>21.8</u> | Disagree <u>5.6</u> | No Response <u>49.3</u> |
14. The following types of development should be encouraged:
- 8.4
- |    |  |                   |                        |                      |
|----|--|-------------------|------------------------|----------------------|
| a. | Low density, single-family homes (<4 per ac.)          | Agree <u>74.3</u> | No Opinion <u>17.4</u> | Disagree             |
| b. | High density, single-family homes (5 or more per acre) | Agree <u>13.2</u> | No Opinion <u>36.3</u> | Disagree <u>50.4</u> |
| c. | Duplexes   | Agree <u>49.4</u> | No Opinion <u>28.5</u> | Disagree <u>22.1</u> |
| d. | Triplexes & Quadriplexes                               | Agree <u>21.8</u> | No Opinion <u>30.7</u> | Disagree <u>47.5</u> |
| e. | Condos (3 stories or less)                             | Agree <u>36.6</u> | No Opinion <u>24.6</u> | Disagree <u>38.8</u> |
| f. | High-rise condos (more than 3 stories)                 | Agree <u>11.0</u> | No Opinion <u>17.2</u> | Disagree <u>71.8</u> |
| g. | Commercial business                                    | Agree <u>34.0</u> | No Opinion <u>26.2</u> | Disagree <u>39.9</u> |
| h. | Parks & natural areas                                  | Agree <u>79.7</u> | No Opinion <u>14.0</u> | Disagree <u>6.3</u>  |
15. The following types of business should be encouraged:
- |    |                    |                   |                        |                      |
|----|--------------------|-------------------|------------------------|----------------------|
| a. | Motel/hotel        | Agree <u>25.9</u> | No Opinion <u>20.6</u> | Disagree <u>53.5</u> |
| b. | Restaurants        | Agree <u>76.5</u> | No Opinion <u>10.3</u> | Disagree <u>13.5</u> |
| c. | Convenience stores | Agree <u>45.7</u> | No Opinion <u>21.3</u> | Disagree <u>32.9</u> |
| d. | Tourist shops      | Agree <u>37.8</u> | No Opinion <u>22.6</u> | Disagree <u>39.6</u> |
16. N.T.B. should coordinate with N. C. DOT in reducing speed limit on NC Hwy. 210 from 55 to 45 mph.
- Agree 38.4 No Opinion 15.9 Disagree 45.7
17. N.T.B. should coordinate with N.C. DOT in establishing no passing zones on NC Hwy. 210.
- Agree 44.6 No Opinion 20.7 Disagree 34.7
18. N.T.B. should improve efforts to increase economic development.
- Agree 52.8 No Opinion 23.1 Disagree 24.1
19. N.T.B. should encourage more permanent residency.
- Agree 44.4 No Opinion 35.3 Disagree 20.3
20. N.T.B. should be enhanced as an attractive vacation destination.
- Agree 78.4 No Opinion 10.4 Disagree 11.2
21. N.T.B. should revise building codes to provide maximum hurricane protection and wind/flood survivability.
- Agree 77.2 No Opinion 11.6 Disagree 11.2
22. N.T.B. should increase public awareness of property damage vulnerability.
- Agree 71.3 No Opinion 19.1 Disagree 9.6
23. N.T.B. should continue to prohibit driving automobiles on the beach.
- Agree 90.9 No Opinion 3.7 Disagree 5.4

24. N.T.B. should encourage the retention of all lands designated Conservation District, and prevent these lands from rezoning.  
Agree 77.8 No Opinion 16.5 Disagree 5.7
25. N.T.B. should ban recreational vehicles (e.g., all-terrain vehicles, dune buggies, dirt bikes) from all estuarine and oceanfront public trust areas.  
Agree 84.9 No Opinion 8.1 Disagree 7.1
26. I am satisfied with the following public services:
- |    |                                  |   |
|----|----------------------------------|---|
| a. | Water system (volume & pressure) | Agree <u>73.7</u> No Opinion <u>13.8</u> Disagree <u>12.5</u> |
| b. | Sewer system                     | Agree <u>66.0</u> No Opinion <u>17.4</u> Disagree <u>16.6</u> |
| c. | Garbage disposal                 | Agree <u>73.4</u> No Opinion <u>19.3</u> Disagree <u>7.4</u>  |
| d. | Recycling                        | Agree <u>34.7</u> No Opinion <u>34.3</u> Disagree <u>31.0</u> |
| e. | Police protection                | Agree <u>80.9</u> No Opinion <u>16.0</u> Disagree <u>3.1</u>  |
| f. | Fire protection                  | Agree <u>75.6</u> No Opinion <u>23.2</u> Disagree <u>1.2</u>  |
| g. | Emergency Medical Service        | Agree <u>62.2</u> No Opinion <u>34.0</u> Disagree <u>3.8</u>  |
| h. | Government administration        | Agree <u>44.1</u> No Opinion <u>37.4</u> Disagree <u>18.5</u> |
| i. | Streets, roads                   | Agree <u>64.3</u> No Opinion <u>18.1</u> Disagree <u>17.6</u> |
| j. | Street lighting                  | Agree <u>66.2</u> No Opinion <u>19.4</u> Disagree <u>14.4</u> |
| k. | Recreation/cultural facilities   | Agree <u>55.6</u> No Opinion <u>26.6</u> Disagree <u>17.8</u> |
27. In light of erosion and coastal storm damage N.T.B. should develop building standards and reconstruction policies to:
- |    |  |   |
|----|--|---|
| a. | Deal with abandoned/damaged buildings  | Agree <u>86.0</u> No Opinion <u>8.8</u> Disagree <u>5.1</u>   |
| b. | Encourage moveable structures  | Agree <u>21.9</u> No Opinion <u>36.2</u> Disagree <u>41.9</u> |
| c. | Reconstruct buildings less likely to be damaged in future  | Agree <u>71.0</u> No Opinion <u>20.1</u> Disagree <u>8.8</u>  |
| d. | Inform owners/buyers about availability of flood insurance and regulations concerning flood damage/clean-up. | Agree <u>89.0</u> No Opinion <u>6.2</u> Disagree <u>4.9</u>   |
28. N.T.B. should encourage planting more trees outside of the maritime forest areas.  
Yes 64.0 No 32.6 No Response 3.4
29. N.T.B. should address channel maintenance, including the realignment of the New River Inlet.  
Yes 70.0 No 25.0 No Response 5.0
30. N.T.B. should continue implementation of bicycle path construction from one end of town to the other.  
Yes 77.4 No 21.8 No Response 0.9
31. N.T.B. should establish a outdoor public amphitheater and community center.  
Yes 34.7 No 61.8 No Response 3.5
32. N.T.B. should increase awareness and number of public canoe/kayak access facility(ies).  
Yes 61.9 No 35.0 No Response 3.1
33. N.T.B. should better address handicapped public access, including shoreline access.  
Yes 57.9 No 36.9 No Response 5.1
34. N.T.B. should purchase or build a municipally-owned pier.  
Yes 31.3 No 65.7 No Response 2.9

35. N.T.B. should increase parking at public access sites.  
Yes 32.8 No 64.1 No Response 3.1
36. N.T.B. should increase the number of public access points (both estuarine and ocean).  
Yes 28.5 No 69.3 No Response 2.2
37. N.T.B. should establish additional boat ramp facilities.  
Yes 36.5 No 60.1 No Response 3.4
38. N.T.B. should develop more public parks.  
Yes 35.4 No 61.8 No Response 2.8
39. N.T.B. should eliminate septic tanks/septic holding tanks.  
Yes 54.7 No 39.4 No Response 5.9
40. N.T.B. should increase sewer capacity.  
Yes 74.3 No 19.3 No Response 6.5
41. N.T.B. should increase pedestrian walkways (sidewalks).  
Yes 54.3 No 42.5 No Response 3.2
42. N.T.B. should increase speed limit signage, i.e., 35 mph town-wide (costs would only be associated with town-maintained roads).  
Yes 44.4 No 51.2 No Response 4.4
43. N.T.B. should address water capacity issue (water pressure).  
Yes 58.1 No 35.9 No Response 6.0
44. N.T.B. should provide curbside trash can placement and removal service.  
Yes 57.2 No 35.0 No Response 7.8
45. N.T.B. should establish a curbside recycling service.  
Yes 60.3 No 35.1 No Response 4.6
46. N.T.B. should improve beach patrol efforts (lifeguards).  
Yes 41.9 No 51.5 No Response 6.6

*[All numbers are represented as percentages].*

**RENTERS**

Registered voter in N.T.B.? Yes 75.0 No 25.0

1. N.T.B. should encourage conservation of the maritime forests.  
Agree 100 No Opinion 0 Disagree 0
2. N.T.B. should encourage preservation of the primary dune line through adoption of a dune protection ordinance.  
Agree 100 No Opinion 0 Disagree 0
3. N.T.B. should encourage preservation of green space (large tracts/one acre or larger) through the establishment of a land trust.  
Agree 75 No Opinion 25 Disagree 0
4. N.T.B. should maintain the town's Outstanding Resource Waters through stronger controls on adjacent shoreline development (i.e., preserve vegetative buffers).  
Agree 50 No Opinion 50 Disagree 0
5. N.T.B. should maintain the viability of shellfishing waters, marshes/wetlands, fish spawning, and nursery areas through more strict land use controls (i.e., preserve green/landscape areas and control stormwater runoff).  
Agree 100 No Opinion 0 Disagree 0
6. Sea turtle habitats should be protected through local ordinances.  
Agree 75 No Opinion 0 Disagree 25
7. N.T.B. should encourage low density residential development (average four dwelling units per acre or fewer).  
Agree 100 No Opinion 0 Disagree 0
8. N.T.B. should establish more strict oceanfront setback requirements.  
Agree 75 No Opinion 25 Disagree 0
9. N.T.B. should set more rigorous impervious percentages for construction to reduce stormwater runoff (impervious surfaces refer to building footprints, concrete, etc.).  
Agree 100 No Opinion 0 Disagree 0
10. N.T.B. should reduce new construction in CBRA (Coastal Barrier Resources Act) zones through control by local ordinances.  
Agree 100 No Opinion 0 Disagree 0
11. N.T.B. should limit or reduce the amount of commercial development/property zoned commercial.  
Agree 75 No Opinion 25 Disagree 0
12. N.T.B. should address problem of abandoned/condemned structures through rigorous enforcement of its minimum housing code.  
Agree 100 No Opinion 0 Disagree 0

13. N.T.B.'s building height should not exceed:
- |     |       |           |            |          |          |          |             |            |
|-----|-------|-----------|------------|----------|----------|----------|-------------|------------|
| 35' | Agree | <u>25</u> | No Opinion | <u>0</u> | Disagree | <u>0</u> | No Response | <u>75</u>  |
| 40' | Agree | <u>50</u> | No Opinion | <u>0</u> | Disagree | <u>0</u> | No Response | <u>50</u>  |
| 45' | Agree | <u>0</u>  | No Opinion | <u>0</u> | Disagree | <u>0</u> | No Response | <u>100</u> |
| 50' | Agree | <u>25</u> | No Opinion | <u>0</u> | Disagree | <u>0</u> | No Response | <u>75</u>  |
14. The following types of development should be encouraged:
- |    |  |       |            |            |          |          |           |
|----|--|-------|------------|------------|----------|----------|-----------|
| a. | Low density, single-family homes (<4 per ac.)          | Agree | <u>75</u>  | No Opinion | <u>0</u> | Disagree | <u>25</u> |
| b. | High density, single-family homes (5 or more per acre) | Agree | <u>50</u>  | No Opinion | <u>0</u> | Disagree | <u>50</u> |
| c. | Duplexes   | Agree | <u>75</u>  | No Opinion | <u>0</u> | Disagree | <u>25</u> |
| d. | Triplexes & Quadriplexes                               | Agree | <u>25</u>  | No Opinion | <u>0</u> | Disagree | <u>75</u> |
| e. | Condos (3 stories or less)                             | Agree | <u>25</u>  | No Opinion | <u>0</u> | Disagree | <u>75</u> |
| f. | High-rise condos (more than 3 stories)                 | Agree | <u>25</u>  | No Opinion | <u>0</u> | Disagree | <u>75</u> |
| g. | Commercial business                                    | Agree | <u>50</u>  | No Opinion | <u>0</u> | Disagree | <u>50</u> |
| h. | Parks & natural areas                                  | Agree | <u>100</u> | No Opinion | <u>0</u> | Disagree | <u>0</u>  |
15. The following types of business should be encouraged:
- |    |                    |       |           |            |           |          |           |
|----|--------------------|-------|-----------|------------|-----------|----------|-----------|
| a. | Motel/hotel        | Agree | <u>25</u> | No Opinion | <u>0</u>  | Disagree | <u>75</u> |
| b. | Restaurants        | Agree | <u>75</u> | No Opinion | <u>0</u>  | Disagree | <u>25</u> |
| c. | Convenience stores | Agree | <u>25</u> | No Opinion | <u>25</u> | Disagree | <u>50</u> |
| d. | Tourist shops      | Agree | <u>25</u> | No Opinion | <u>0</u>  | Disagree | <u>75</u> |
16. N.T.B. should coordinate with N. C. DOT in reducing speed limit on NC Hwy. 210 from 55 to 45 mph.
- Agree 25 No Opinion 0 Disagree 75
17. N.T.B. should coordinate with N.C. DOT in establishing no passing zones on NC Hwy. 210.
- Agree 25 No Opinion 0 Disagree 75
18. N.T.B. should improve efforts to increase economic development.
- Agree 25 No Opinion 0 Disagree 75
19. N.T.B. should encourage more permanent residency.
- Agree 25 No Opinion 25 Disagree 50
20. N.T.B. should be enhanced as an attractive vacation destination.
- Agree 50 No Opinion 0 Disagree 50
21. N.T.B. should revise building codes to provide maximum hurricane protection and wind/flood survivability.
- Agree 75 No Opinion 25 Disagree 0
22. N.T.B. should increase public awareness of property damage vulnerability.
- Agree 100 No Opinion 0 Disagree 0
23. N.T.B. should continue to prohibit driving automobiles on the beach.
- Agree 100 No Opinion 0 Disagree 0

24. N.T.B. should encourage the retention of all lands designated Conservation District, and prevent these lands from rezoning.  
 Agree 75 No Opinion 25 Disagree 0
25. N.T.B. should ban recreational vehicles (e.g., all-terrain vehicles, dune buggies, dirt bikes) from all estuarine and oceanfront public trust areas.  
 Agree 75 No Opinion 0 Disagree 25
26. I am satisfied with the following public services:
- |    |                                  |                  |                      |                    |
|----|----------------------------------|------------------|----------------------|--------------------|
| a. | Water system (volume & pressure) | Agree <u>100</u> | No Opinion <u>0</u>  | Disagree <u>0</u>  |
| b. | Sewer system                     | Agree <u>75</u>  | No Opinion <u>0</u>  | Disagree <u>25</u> |
| c. | Garbage disposal                 | Agree <u>100</u> | No Opinion <u>0</u>  | Disagree <u>0</u>  |
| d. | Recycling                        | Agree <u>50</u>  | No Opinion <u>0</u>  | Disagree <u>50</u> |
| e. | Police protection                | Agree <u>100</u> | No Opinion <u>0</u>  | Disagree <u>0</u>  |
| f. | Fire protection                  | Agree <u>75</u>  | No Opinion <u>25</u> | Disagree <u>0</u>  |
| g. | Emergency Medical Service        | Agree <u>75</u>  | No Opinion <u>25</u> | Disagree <u>0</u>  |
| h. | Government administration        | Agree <u>50</u>  | No Opinion <u>25</u> | Disagree <u>25</u> |
| i. | Streets, roads                   | Agree <u>50</u>  | No Opinion <u>0</u>  | Disagree <u>50</u> |
| j. | Street lighting                  | Agree <u>75</u>  | No Opinion <u>0</u>  | Disagree <u>25</u> |
| k. | Recreation/cultural facilities   | Agree <u>75</u>  | No Opinion <u>0</u>  | Disagree <u>25</u> |
27. In light of erosion and coastal storm damage N.T.B. should develop building standards and reconstruction policies to:
- |    |  |                  |                      |                    |
|----|--|------------------|----------------------|--------------------|
| a. | Deal with abandoned/damaged buildings  | Agree <u>100</u> | No Opinion <u>0</u>  | Disagree <u>0</u>  |
| b. | Encourage moveable structures  | Agree <u>50</u>  | No Opinion <u>25</u> | Disagree <u>25</u> |
| c. | Reconstruct buildings less likely to be damaged in future  | Agree <u>100</u> | No Opinion <u>0</u>  | Disagree <u>0</u>  |
| d. | Inform owners/buyers about availability of flood insurance and regulations concerning flood damage/clean-up. | Agree <u>100</u> | No Opinion <u>0</u>  | Disagree <u>0</u>  |
28. N.T.B. should encourage planting more trees outside of the maritime forest areas.  
 Yes 100 No 0
29. N.T.B. should address channel maintenance, including the realignment of the New River Inlet.  
 Yes 100 No 0
30. N.T.B. should continue implementation of bicycle path construction from one end of town to the other.  
 Yes 75 No 25
31. N.T.B. should establish a outdoor public amphitheater and community center.  
 Yes 50 No 50
32. N.T.B. should increase awareness and number of public canoe/kayak access facility(ies).  
 Yes 50 No 50
33. N.T.B. should better address handicapped public access, including shoreline access.  
 Yes 50 No 50
34. N.T.B. should purchase or build a municipally-owned pier.  
 Yes 50 No 50

35. N.T.B. should increase parking at public access sites.  
Yes 25 No 75
36. N.T.B. should increase the number of public access points (both estuarine and ocean).  
Yes 25 No 75
37. N.T.B. should establish additional boat ramp facilities.  
Yes 25 No 75
38. N.T.B. should develop more public parks.  
Yes 25 No 75
39. N.T.B. should eliminate septic tanks/septic holding tanks.  
Yes 50 No 50
40. N.T.B. should increase sewer capacity.  
Yes 100 No 0
41. N.T.B. should increase pedestrian walkways (sidewalks).  
Yes 100 No 0
42. N.T.B. should increase speed limit signage, i.e., 35 mph town-wide (costs would only be associated with town-maintained roads).  
Yes 0 No 100
43. N.T.B. should address water capacity issue (water pressure).  
Yes 50 No 50
44. N.T.B. should provide curbside trash can placement and removal service.  
Yes 100 No 0
45. N.T.B. should establish a curbside recycling service.  
Yes 100 No 0
46. N.T.B. should improve beach patrol efforts (lifeguards).  
Yes 25 No 75

## BEACH NOURISHMENT PROJECTS SURVEY RESULTS

### Year Round Property Owners

1. Do you believe your property will be jeopardized by beach erosion in the next ten years?  
Yes 95 (51.3%)    No 88 (47.6%)    No response 2 (1.1%)
  
2. Do you believe beach erosion is something the town of North Topsail Beach should address?  
Yes 150 (81.1%)    No 33 (17.8%)    No response 2 (1.1%)
  
3. To finance beach nourishment, the Town of North Topsail Beach would sell bonds which would be paid off by tax revenues. How much of your property taxes are you willing to designate for beach nourishment?  
0% 49 (26.5%)    5% 34 (18.4%)    10% 26 (14.1%)    15% 6 (3.2%)  
20% 16 (8.6%)    25% 12 (6.5%)    30% 4 (2.2%)    40% 0 (0.0%)  
50% 1 (0.5%)    67% 0 (0.0%)    As much as it takes 20 (10.8%)  
No response 17 (9.2%)
  
4. What is the dollar limit you would consider paying annually for beach nourishment?  
\$0 55 (29.7%)    \$250 40 (21.6%)    \$500 29 (15.7%)    \$1,000 26 (14.1%)  
\$2,000 11 (5.9%)    \$3,000 4 (2.2%)    \$5,000 4 (2.2%)    \$7,500 0 (0.0%)  
\$10,000 1 (0.5%)    No response 15 (8.1%)
  
5. What is your real property assessed value? Range \$40,000 - \$3,000,000
  
6. Do you believe all property should be taxed equally or should the rate vary depending on whether the property is closer to the ocean?  
Equally 72 (38.9%)    Vary 103 (55.7%)    No response 10 (5.4%)
  
7. Do you live in a CBRA zone (Coastal Barrier Resources Act)?  
Yes 59 (31.9%)    No 87 (47.0%)    Don't Know 39 (21.1%)
  
8. Do you have federally funded flood insurance?  
Yes 124 (67.1%)    No 55 (29.7%)    Don't Know 6 (3.2%)

## BEACH NOURISHMENT PROJECTS SURVEY RESULTS

### Seasonal Property Owners

1. Do you believe your property will be jeopardized by beach erosion in the next ten years?  
Yes 494 (74.3%)    No 165 (24.8%)    No response 6 (0.9%)
  
2. Do you believe beach erosion is something the town of North Topsail Beach should address?  
Yes 621 (93.4%)    No 39 (5.9%)    No response 5 (0.7%)
  
3. To finance beach nourishment, the Town of North Topsail Beach would sell bonds which would be paid off by tax revenues. How much of your property taxes are you willing to designate for beach nourishment?  
0% 70 (10.5%)    5% 113 (17.0%)    10% 112 (16.8%)    15% 28 (4.2%)  
20% 55 (8.3%)    25% 46 (6.9%)    30% 17 (2.6%)    40% 6 (0.9%)  
50% 29 (4.4%)    67% 2 (0.3%)    As much as it takes 142 (21.4%)  
No response 45 (6.8%)
  
4. What is the dollar limit you would consider paying annually for beach nourishment?  
\$0 96 (14.4%)    \$250 173 (26.0%)    \$500 128 (19.2%)    \$1,000 105 (15.8%)  
\$2,000 54 (8.1%)    \$3,000 22 (3.3%)    \$5,000 25 (3.8%)    \$7,500 2 (0.3%)  
\$10,000 5 (0.7%)    No response 55 (8.3%)
  
5. What is your real property assessed value? Range \$400 - \$3,150,000
  
6. Do you believe all property should be taxed equally or should the rate vary depending on whether the property is closer to the ocean?  
Equally 392 (58.9%)    Vary 247 (37.1%)    No response 26 (3.9%)
  
7. Do you live in a CBRA zone (Coastal Barrier Resources Act)?  
Yes 225 (33.8%)    No 147 (22.1%)    Don't Know 286 (43.0%)  
No response 7 (1.1%)
  
8. Do you have federally funded flood insurance?  
Yes 296 (44.5%)    No 303 (45.6%)    Don't Know 61 (9.2%)  
No response 5 (0.7%)

## BEACH NOURISHMENT PROJECTS SURVEY RESULTS

### Renters

1. Do you believe your property will be jeopardized by beach erosion in the next ten years?  
Yes 1 (25.0%)      No 3 (75.0%)
  
2. Do you believe beach erosion is something the town of North Topsail Beach should address?  
Yes 4 (100.0%)      No 0 (0.0%)
  
3. To finance beach nourishment, the Town of North Topsail Beach would sell bonds which would be paid off by tax revenues. How much of your property taxes are you willing to designate for beach nourishment?  
5% 1 (25.0%)      10% 1 (25.0%)      As much as it takes 1 (25.0%)  
No response 1 (25.0%)
  
4. What is the dollar limit you would consider paying annually for beach nourishment?  
\$0 2 (50.0%)      \$500 1 (25.0%)      \$1,000 1 (25.0%)
  
5. What is your real property assessed value? Range \$250,000 - \$400,000
  
6. Do you believe all property should be taxed equally or should the rate vary depending on whether the property is closer to the ocean?  
Equally 0 (0.0%)      Vary 4 (100.0%)
  
7. Do you live in a CBRA zone (Coastal Barrier Resources Act)?  
Yes 0 (0.0%)      No 0 (0.0%)      Don't Know 4 (100.0%)
  
8. Do you have federally funded flood insurance?  
Yes 0 (0.0%)      No 3 (75.0%)      Don't Know 1 (25.0%)

## BEACH NOURISHMENT PROJECTS SURVEY RESULTS

### Total - All Surveys

1. Do you believe your property will be jeopardized by beach erosion in the next ten years?  
Yes 590 (69.1%)    No 256 (30.0%)    No response 8 (0.9%)
  
2. Do you believe beach erosion is something the town of North Topsail Beach should address?  
Yes 775 (90.8%)    No 72 (8.4%)    No response 7 (0.8%)
  
3. To finance beach nourishment, the Town of North Topsail Beach would sell bonds which would be paid off by tax revenues. How much of your property taxes are you willing to designate for beach nourishment?  
0% 119 (13.9%)    5% 148 (17.3%)    10% 139 (16.3%)    15% 34 (4.0%)  
20% 71 (8.3%)    25% 58 (6.8%)    30% 21 (2.5%)    40% 6 (0.7%)  
50% 30 (3.5%)    67% 2 (0.2%)    As much as it takes 163 (19.1%)  
No response 63 (7.4%)
  
4. What is the dollar limit you would consider paying annually for beach nourishment?  
\$0 153 (17.9%)    \$250 213 (24.9%)    \$500 158 (18.6%)    \$1,000 132 (15.5%)  
\$2,000 65 (7.6%)    \$3,000 26 (3.0%)    \$5,000 29 (3.4%)    \$7,500 2 (0.2%)  
\$10,000 6 (0.7%)    No response 70 (8.2%)
  
5. What is your real property assessed value? Range \$400 - \$3,150,000
  
6. Do you believe all property should be taxed equally or should the rate vary depending on whether the property is closer to the ocean?  
Equally 464 (54.3%)    Vary 354 (41.5%)    No response 36 (4.2%)
  
7. Do you live in a CBRA zone (Coastal Barrier Resources Act)?  
Yes 284 (33.3%)    No 234 (27.4%)    Don't Know 329 (38.5%)  
No response 7 (0.8%)
  
8. Do you have federally funded flood insurance?  
Yes 420 (49.2%)    No 361 (42.3%)    Don't Know 68 (8.0%)  
No response 5 (0.5%)

**Appendix III  
Status of Policies from the  
North Topsail Beach 1997 CAMA Land Use Plan**

**Accomplished**

**RESOURCE PROTECTION POLICY STATEMENTS**

**Physical Limitations**

Soils

To mitigate existing septic tank problems and other restrictions on development posed by soil limitations, North Topsail Beach will:

- (a) Enforce all current regulations of the N.C. State Building Code and Onslow County Health Department for all matters relating to septic tank installation/replacement in areas with soils restrictions.
- (b) Coordinate development activity with appropriate state regulatory agencies when necessary.
- (c) Rely on the U.S. Army Corps of Engineers to enforce the 404 wetlands permit process.
- (d) North Topsail Beach opposes the installation of package treatment plants and septic tanks which discharge waste in any areas classified as coastal wetlands or freshwater wetlands (404).

(Note: Wetlands functional assessment maps as required by NCAC T154.0212(a)(1)(B)(iii) are currently not available for North Topsail Beach and a policy on the wetlands of highest functional significance is not required.)

Flood Hazard Areas

- (a) North Topsail Beach will coordinate any development within the special flood hazard area with the North Carolina Division of Coastal Management, FEMA, and the U.S. Army Corps of Engineers.
- (b) North Topsail Beach will continue to enforce its existing zoning and flood damage prevention ordinances and follow the storm hazard mitigation plan. (See Subsection G, Storm Hazard Mitigation, Post-Disaster Recovery, and Evacuation Plans).

Groundwater/Protection of Potable Water Supplies

- (a) North Topsail Beach will strive to conserve its surficial groundwater resources by supporting CAMA and N.C. Division of Water Quality stormwater run-off regulations.
- (b) The primary water supply for North Topsail Beach comes through the Onslow County system from wells located beyond the town's jurisdiction. The town encourages the county to take all necessary steps to protect this water source.

### Manmade Hazards

- (a) North Topsail Beach will coordinate the regulation of underground storage tanks with the North Carolina Division of Water Quality. North Topsail Beach will support 15A NCAC 2N, Sections .0100-.0800, which includes the criteria and standards applicable to underground storage tanks.
- (b) With the exception of bulk fuel storage tanks used for retail and wholesale sales, and individual heating fuel storage tanks, North Topsail Beach opposes the bulk storage of manmade hazardous materials within its jurisdiction. This policy is supported by the town's zoning ordinance.
- (c) North Topsail Beach opposes the establishment of toxic waste dump sites within Onslow County.

### Cultural/Historical Resources

There are three sites in North Topsail Beach worthy of designation for the National Register of Historic Places and at least 14 historic and prehistoric period archaeological sites have been recorded within North Topsail Beach, (see page I-62). In order to protect these areas, North Topsail Beach will:

- (a) Coordinate where necessary housing code enforcement/redevelopment projects with the N.C. Division of Archives and History, to ensure that any significant archeological sites are identified and preserved.
- (b) Coordinate where necessary county and town public works projects with the N.C. Division of Archives and History, to ensure the identification and preservation of significant archaeological sites.

### Industrial Impacts on Fragile Areas

No industrial development of any type shall be located within North Topsail Beach's planning jurisdiction. This policy is enforced by the Town of North Topsail Beach Zoning Ordinance.

## **MISCELLANEOUS RESOURCE PROTECTION**

### Marina and Floating Home Development

- (a) North Topsail Beach opposes the construction of marinas as defined by 15A NCAC 7H and will review and revise its zoning ordinance to provide better control of marina placement. (Marinas are those facilities which include more than 10 boat slips.)
- (b) North Topsail Beach supports the restriction of floating structures in all public trust areas, estuarine waters, and ORW areas. Floating structures are defined as any structure or vessel used, designed, and occupied as a permanent dwelling unit, business, office, or source of any occupation or any private or social club, which floating structure or vessel is primarily immobile and out of navigation or which functions substantially as a land structure while moored or docked on waters within town jurisdiction. Floating structures shall not be used commercially or inhabited in one place for more than 10 days. The town will develop and adopt an ordinance designed to enforce this policy.

- (c) North Topsail Beach opposes the location of drystack storage facilities for boats within its planning jurisdiction. This policy will be supported by the town's zoning ordinance.

### Mooring Fields

Within North Topsail Beach there is not sufficient water depth to accommodate mooring fields. Therefore, a policy statement is not required.

### Development of Sound and Estuarine Islands

- (a) There are a number of estuarine islands located on North Topsail Beach's "sound-side," including some which have been previously disturbed. The town believes that these islands should be developed only at a residential density not greater than R-20, in order to enhance and maintain the existing water quality.
- (b) As a matter of policy, the Town of North Topsail Beach supports the preservation of Permuda Island, and the subsequent limitations on activities, consistent with 15A NCAC 7H.

### Ocean and Inlet Hazard Areas

- (a) The town opposes the construction of additional sewer lines, waterlines, or roads in inlet hazard areas. Following CRC certification of this plan, the only permanent structures allowed shall be single-family residential structures. Otherwise, North Topsail Beach will support only uses within the ocean hazard areas which are allowed by 15A NCAC 7H and are consistent with the town's zoning and dune and vegetation protection ordinances.
- (b) For existing and previously disturbed dunes, North Topsail Beach believes that efforts to replant or revegetate these vital oceanfront landforms must take place.
- (c) Any lot or parcel created after certification of the 1991 CAMA Land Use Plan shall provide for a "move-back" of any proposed structure. This "move-back" line shall be established only for the purpose of accommodating a possible relocation of a structure.
- (d) Oceanside developers, by ordinance (subdivision and/or zoning), shall provide appropriately constructed dune crossovers.
- (e) North Topsail Beach supports beach nourishment and relocation as the preferred erosion control measures for ocean hazard areas.
- (f) North Topsail Beach objects to the construction of permanent shoreline stabilization structures in ocean hazard areas and any changes in state standards which would allow such structures.
- (g) The Town of North Topsail Beach will allow uses within the inlet hazard areas which are consistent with the town's zoning ordinance, 15A NCAC 7H use standards, and the following use standards:
  - (1) The only structures allowed in inlet hazard areas shall be single-family structures.
  - (2) All development in the inlet hazard area shall be set back from the first line of stable natural vegetation a distance equal to the setback required in the adjacent ocean hazard areas;

- (3) Established common-law and statutory public rights of access to the public trust lands and waters in inlet hazard areas shall not be eliminated or restricted. Development shall not encroach upon public accessways nor shall it limit the intended use of the accessways;
- (4) Shoreline stabilization structures shall be permitted only as a part of a publicly supported project;
- (5) All other rules in this subchapter pertaining to development in the ocean hazard areas shall be applied to development within the inlet hazard areas;
- (6) The following types of development shall be exempted from these inlet hazard area setback requirements:
  - campgrounds that do not involve substantial permanent structures;
  - parking areas with clay, packed sand, or similar surfaces;
  - outdoor tennis court;
  - beach accessways consistent with 15A NCAC 7H use standards; and
  - temporary amusement stands
- (7) In all cases, development shall only be permitted if it meets other applicable 15A NCAC 7H inlet hazard areas use standards; is landward of the vegetation line; and involves no significant alteration or removal of primary or frontal dunes or the dune vegetation.

#### Coastal Wetlands

- (a) The Town of North Topsail Beach opposes any project resulting in the imposition of irreversible damage to the wetlands.
- (b) Uses which require water access and uses such as utility easements, fishing piers, and docks, will generally be allowed, but must adhere to use standards of the Coastal Area Management Act (CAMA: 15A NCAC 7H), and the town's zoning ordinance. Shoreline access facilities such as boat ramps may also be permitted.
- (c) It is the town's policy that development in coastal wetlands be consistent with the Conservation District (CON-D) in the existing zoning ordinance. The town may deem it necessary to amend the ordinance in order to place all of the identified coastal wetlands or marsh into a "Conservation District." This will greatly limit the types of permitted development in these sensitive areas.

#### Estuarine Waters and Estuarine Shorelines

- (a) In order to promote the quality of the estuarine waters, as well as minimize the likelihood of significant property loss due to erosion or flooding, North Topsail Beach will permit only those uses which are compatible with both the dynamic nature of the estuarine shorelines and the values of the estuarine system. A substantial chance of pollution occurring from the development should not exist. The cumulative impact of development should be considered in this analysis. Residential, recreational, and commercial uses may be permitted within the estuarine shoreline, provided that:

1. Natural barriers to erosion are preserved and not substantially weakened or eliminated;
  2. A vegetated 40' buffer is maintained wherein removal of any vegetation 3" or greater in diameter at the base is prohibited, unless such provision prohibits a permitted use. Removal of such vegetation shall be minimized.
  3. The construction of impervious surfaces and areas not allowing natural drainage is limited to that necessary for development;
  4. Standards of the North Carolina Sedimentation Pollution Control Act 1978, and as amended in 1990, are met;
  5. Development does not have a significant adverse impact on the estuarine resources;
  6. Development does not significantly interfere with existing public rights or access to, use of, navigable waters or public resources.
- (c) The AEC estuarine shoreline should be maintained in a manner consistent with 15A NCAC 7H and local development standards.

#### Public Trust Waters

North Topsail Beach will promote the conservation and management of public trust areas. Appropriate uses generally include those allowed in estuarine waters; i.e., which protect public rights for navigation and recreation. Projects which would directly or indirectly block or impair existing navigation channels, increase shoreline erosion, deposit spoils below mean high tide, cause adverse water circulation patterns, violate water quality standards, or cause degradation of shellfish waters shall generally not be allowed. Allowable uses shall be those which do not cause detriment to the physical or biological functions of public trust areas. Such uses as navigational channels, drainage ditches, retaining walls to prevent erosion, piers or docks, shall be permitted.

North Topsail Beach will allow uses within public trust waters which satisfy 15A NCAC 7H minimum use standards and policies contained in this plan.

#### Outstanding Resource Waters

- (a) The significance and almost unique pristine quality of the Stump Sound ORW is discussed in several sections of the plan. North Topsail Beach, by all means, desires to see the integrity of these waters enhanced and maintained. The town believes that the types of land uses, densities, and building coverage in the ORW impact areas should be restricted.
- (b) The town is opposed to the construction of marinas and dredging in the ORWs and in primary nursery areas, except maintenance dredging, which is allowed. In areas outside of the ORWs, the town will revise its zoning ordinance to require issuance of a special use permit for the construction of all commercial and noncommercial marinas. However, dredging is permitted in the Corps of Engineers' jurisdiction of the Intracoastal Waterway.
- (c) New residential developments in the ORW impact area shall be restricted to four (4) dwelling units per acre. No building shall exceed 45 feet in height.

- (d) All development within the ORW impact area shall be set back according to the requirements established by the State of North Carolina, and shall maintain consistency with previously stated buffer requirements.
- (e) Maximum lot coverage within the ORW area shall be 25%. The density shall be calculated for the ORW impact area (575 feet) and not calculated on the entire area of a project or subdivision.
- (f) Construction of any private roads using porous material, e.g., rock, gravel, marl, or similar material, in order to reduce the amount of stormwater runoff shall be encouraged.
- (g) All uses must be consistent with the NCAC 15A.02B.0225 Outstanding Resource Waters and other applicable state restrictions.

### Bulkhead Construction

Bulkheads are any structure utilized for shoreline stabilization. North Topsail Beach will permit the construction of bulkheads in estuarine shorelines and ORW estuarine shorelines which satisfy the following specific use standards as specified in 15A NCAC 7H.0206(b)(7) and 7H.1100, Bulkheads and Shoreline Stabilization Measures:

- (1) Bulkhead alignment, for the purpose of shoreline stabilization, must approximate mean high water or normal water level.
- (2) Bulkheads shall be constructed landward of significant marshland or marshgrass fringes.
- (3) Bulkhead fill material shall be obtained from an approved upland source, or if the bulkhead is a part of a permitted project involving excavation from a non-upland source, the material so obtained may be contained behind the bulkhead.
- (4) Where possible, sloping rip-rap, gabions, or vegetation must be used rather than vertical seawalls. The primary stabilization method preferred is sloping rip-rap.
- (5) Bulkheads or other structures employed for shoreline stabilization shall be permitted below approximate mean high water or normal water level only when the following standards are met:
  - the property to be bulkheaded has an identifiable erosion problem, whether it results from natural causes or adjacent bulkheads, or it has unusual geographic or geologic features, e.g., steep grade bank, which will cause the applicant unreasonable hardship under the other provisions of this regulation;
  - the bulkhead alignment extends no further below approximate mean high water or normal water level than necessary to allow recovery of the area eroded in the year prior to the date of application, to align with adjacent bulkheads, or to mitigate the unreasonable hardship resulting from the unusual geographic or geologic features;
  - the bulkhead alignment will not result in significant adverse impacts to public trust rights or to the property of adjacent riparian owners;

- the need for a bulkhead below approximate mean high water or normal water level is documented in the Field Investigation Report or other reports prepared by the Division of Coastal Management; and
- the property to be bulkheaded is in a non-oceanfront area.

### Sea Level Rise

- (a) North Topsail Beach, recognizing the scientific uncertainties of projected sea level rise and related wetlands loss, believes that any policies could not be "definite." Therefore, except for the following bulkhead policy (b), none will be established at this time.
- (b) North Topsail Beach will allow the construction of bulkheads along estuarine shorelines to protect structures and property from rising sea level.

### Maritime Forests

- (a) Maritime forest areas are not designated as a conservation land classification. North Topsail Beach will develop and adopt a local ordinance to regulate the removal of vegetation.
- (b) Because of its importance in soil stabilization, habitats for birds and other wildlife, and its natural service as a canopy helping to prohibit destructive salt spray from reaching the ground and root systems, North Topsail Beach believes that cutting or pruning of its maritime vegetation should be very limited.
- (c) Generally, construction should not disturb or destroy any maritime vegetation beyond that necessary for the footprint of the proposed structure(s) and related uses, plus 8 feet. Lot coverage should not exceed that allowed by the town's zoning ordinance.

### Water Quality Management

- (a) North Topsail Beach supports the implementation of the water quality management plans for the Cape Fear River and White Oak River basins. Specifically, the town supports the following:
  - Control of land uses which will result in the degradation of water quality.
  - Regulation of intensive livestock operations.
  - Protection of shellfishing waters.
  - Implementation of 15A NCAC .02B.0225 Outstanding Resource Waters and other applicable state restrictions.
  - Reduction of nitrogen and phosphorous levels in surface waters.
- (b) North Topsail Beach will undertake a review of all local land use regulation ordinances to determine if revisions should be undertaken to respond to specific water quality management problems.
- (c) North Topsail Beach supports adoption of an ordinance by Onslow County to regulate intensive livestock operations.
- (d) The town opposes any disposal of treated or partially treated sewage by ocean outfall.

## Hazard Mitigation

This plan includes a detailed storm mitigation evacuation and post-disaster recovery plan. In addition to that plan, North Topsail Beach supports the following hazard mitigation planning policies:

- Mitigation strategies should be driven by North Topsail Beach because it is familiar with the local hazards.
- North Topsail Beach will engage in hazard identification, risk assessment, and the development of an overall mitigation plan.
- Mitigation plans should reduce future damages, contribute to public safety and welfare, and preserve economic vitality.
- North Topsail Beach's mitigation projects should be compatible with the local jurisdiction's overall planning process and the state's hazard mitigation plan.
- Education and training of public officials and citizens is essential to the implementation of sound mitigation strategies and should therefore be encouraged.
- The purchase and dedication of undeveloped flood-prone property or conservation easements as open space should be encouraged.
- North Topsail Beach will work with land conservancies and government grant programs to purchase undeveloped properties or conservation easements when possible.

## **RESOURCE PRODUCTION AND MANAGEMENT POLICIES**

### Recreation Sources

- (a) All lands classified as conservation areas are considered valuable passive recreation areas. Except as otherwise provided for in these policy statements, these areas should be protected in their natural state, and development should not be allowed except for public shoreline access including dune crossover structures and boardwalks in ocean hazard areas.
- (b) During the five-year planning period, the town will focus on improving the following recreational facilities with funding support from local tax dollars: parking for shoreline access, jogging and walking paths, bikeways, public boat access, and picnic facilities. This will include repairing damage sustained from the 1996 hurricanes.
- (c) North Topsail Beach believes that additional and appropriate soundside and ocean beach access facilities should be developed.

### Productive Agricultural Lands

- (a) North Topsail Beach recognizes the presence of agriculture within environmentally sensitive areas. In its concern for the quality of the water, the town believes that these activities should be closely monitored by state environmental officials. Regular monitoring of the practices and sampling the water quality should help reduce the risk of pollution and water

quality degradation from runoff or accidental dumping of noxious substances into the adjacent waters.

- (b) The town also supports the Natural Resources Conservation Service "Best Management Practices Program."

#### Productive Forest Lands

There are no productive forest lands found in North Topsail Beach; therefore, no policy statement is necessary.

#### Aquaculture Activities

Aquaculture is considered the cultivation of aquatic plants and animals under controlled conditions. The following policies shall apply.

- (a) Both commercial agricultural and aquacultural activities are currently taking place on North Topsail Beach. Because of the potential ecological hazards caused from use of chemical pesticides and/or fertilizers and subsequent runoff, as well as the "dumping" of aquacultural wastes, neither of these uses are deemed desirable -- especially because of their proximity to coastal wetlands, estuarine waters and shorelines, and the Stump Sound ORW (see Map 7). The town believes that these existing operations should be carefully monitored to document environmental impacts.
- (b) North Topsail Beach permits aquaculture activities which meet applicable federal, state and local policies and permit requirements. North Topsail Beach reserves the right to comment on all aquaculture activities which require Division of Water Quality permitting. The town will revise its zoning ordinance to regulate aquaculture activities.
- (c) North Topsail Beach objects to any discharge of water from aquaculture activities that will degrade in any way the receiving waters. The town objects to withdrawing water from aquifers or surface sources if such withdrawal will endanger water quality or water supply from the aquifers or surface sources.

#### Residential, Commercial, and Industrial Development Impacts on Resources

- (a) All permitted development, according to the town's zoning ordinance, shall strictly comply with state CAMA use standards (7H), so as not to cause adverse impacts upon any AEC or other fragile resource identified in this plan. Both residential and commercial development may be permitted within the estuarine system (including ORW), as long as they comply with other resource protection policies of North Topsail Beach).
- (b) North Topsail Beach supports continued residential development and growth according to the availability of necessary basic support services to support that development. The locations and densities should be consistent with the town's Zoning Map and Ordinance.

However, in environmentally sensitive areas, such as the estuarine shoreline and ORW impact areas, current allowable densities may be excessive. Therefore, the town shall consider amending its ordinance structure whereby the allowable densities, as defined in the town's Zoning Ordinance, shall apply to residential development on a "net buildable" acreage basis.

- (c) North Topsail Beach objects to the subdivision of "pipe stem" lots. This policy will be supported through a revision to the North Topsail Beach Subdivision Ordinance.

#### Marine Resource Areas

- (a) North Topsail Beach reserves the right to review and comment on policies and requirements of the North Carolina Division of Marine Fisheries which govern commercial and recreational fisheries and activities, including trawling activities.
- (b) The town opposes any trawling activities take place within the primary nursery areas or ORWs.
- (c) With their extensive SA and SA-ORW classification, the soundside waters of North Topsail Beach are valuable primary nursery areas. North Topsail Beach supports the development density restrictions enforced by local, state, and federal agencies for land uses in the estuarine system and ORW impact areas. Density controls, vegetated buffers, and impervious coverage limitations should help maintain the water quality in the long-term and enhance both recreational and commercial fishing.
- (d) The town opposes the direct discharge of any potentially noxious substance, including agricultural/aquacultural runoff, or effluent, into its productive waters.
- (e) North Topsail Beach opposes all trawling within 1/2 mile of its ocean shoreline. (Note: This policy is unenforceable through local ordinance).

#### Peat or Phosphate Mining

As there are no peat or phosphate deposits located within North Topsail Beach's planning jurisdiction, a policy statement is not necessary.

#### Off-Road Vehicles

Because of the sensitive nature of the dunes and ocean beaches, as well as pedestrian safety, North Topsail Beach believes that driving should not be allowed on the beach except for emergency vehicles. This policy will be supported with a local ordinance.

### **ECONOMIC AND COMMUNITY DEVELOPMENT POLICY STATEMENTS**

#### Local Commitment to Providing Services to Development

The Town of North Topsail Beach is committed to providing appropriate municipal services to support additional development. The level of such basic services as trash collection, police and fire protection, etc., shall be based on the town's financial capacity and/or the economic feasibility of those services, and consistency with other stated development policies and land use regulations. Water and sewer services will be provided in accordance with the following water and sewer system policy statements.

#### Water Supply

- (a) North Topsail Beach supports the development of additional well sites to provide increased water supply for the town by the Onslow County water system.

- (b) North Topsail Beach supports continuous monitoring of the quantity of water pumped from the Cretaceous Middle Sand Aquifer in order to avoid water supply depletion and/or salt water intrusion.

### Sewer System

North Topsail Beach supports expansion of the North Topsail Water and Sewer System to provide additional capacity to meet the demand for new taps and to serve the peak seasonal population during the planning period. The system's permitted capacity should be increased to equal its design capacity.

### Stormwater

- (a) North Topsail Beach will cooperate with the NCDOT, the North Carolina Division of Water Quality, and other state agencies in mitigating the impact of stormwater runoff within the town's planning jurisdiction. The town will support the Division of Water Quality stormwater runoff retention permitting process through the town's zoning permit system.
- (b) North Topsail Beach recognizes the value of water quality maintenance for the protection of its previously described fragile areas and for the provision of clean water for fishing and recreational purposes. Previously cited resource protection policies regarding density, lot coverage, and vegetation removal all affect stormwater runoff. Additionally, the town will support existing state regulations relating to stormwater runoff resulting from development (Stormwater Disposal Policy [15A NCAC 2H.001-1003]).
- (c) North Topsail Beach believes that possible agricultural runoff from estuarine islands should be controlled through implementation of U.S. Soil Conservation Service "Best Management Practices" program, and/or North Carolina State "Best Management Practices."

### Solid Waste

- (a) North Topsail Beach supports Onslow County's efforts to develop a new landfill north of the existing Pony Farm Landfill.
- (b) North Topsail Beach will support efforts to educate people and businesses on waste reduction and recycling. The town vigorously supports recycling by all users of the Onslow County Landfill and supports setting up practical collection methods and education efforts to achieve a high degree of county-wide recycling.
- (c) North Topsail Beach supports the siting of recycling centers within the commercial land classification.

### Energy Facility Siting and Development

- (a) There are no electric generating or other power generating plants located in or proposed for location within North Topsail Beach's planning jurisdiction. The town will not support the location of permanent energy generating facilities within its jurisdiction.
- (b) North Topsail Beach supports a county policy of reviewing proposals for development of electric generating plants within Onslow County on a case-by-case basis, judging the need for the facility by the county against all identified possible adverse impacts. The town

reserves the right to comment on the impacts of any energy facility proposed for location within Onslow County.

- (c) The Town of North Topsail Beach will not support the development of any industrial use, including energy facilities. Such uses could cause extensive or irreversible damage to the town's existing fragile or environmentally sensitive areas.
- (d) The town also opposes the development of energy facilities which would increase the amount of manmade hazards within its jurisdiction, including the storage and/or transshipment of crude oil.
- (e) The Town of North Topsail Beach is apposed to off-shore drilling for either exploration for or production of either oil or gas and the location of onshore support facilities for such activities.

#### Redevelopment of Developed Areas

The only significant redevelopment issue facing North Topsail Beach through 2005 will be reconstruction following a hurricane or other natural disaster. The town will allow the reconstruction of any structures demolished by natural disaster which will comply with all applicable local and state regulations and the policies contained in this plan. The town will not reduce local setbacks on lots located on ocean front streets to render unbuildable lots (because of erosion) buildable. The town will accept the donation of unbuildable lots or may consider spending local funds to acquire such unbuildable lots which are suitable for public use. Mobile home parks in North Topsail Beach have been previously developed at higher densities than the town's highest density zoning classification; i.e., R-5. Therefore, in areas where current density exceeds the R-5 classification, such as the mobile home parks, any redevelopment which takes place should be permitted at no greater density than that allowed in R-5 zoning, except where previously platted lots exceed such a density.

#### Types and Locations of Desired Industry

North Topsail Beach opposes industrial development of any type. This policy is supported by the North Topsail Beach zoning ordinance.

#### Community Facilities

North Topsail Beach considers its existing community facilities, including the Municipal Building, completed in 1997, to be adequate to serve the town's needs during the planning period. This policy statement does not apply to sewer facilities, water facilities, shoreline access, outdoor recreation, and associated parking.

#### Shoreline Access

- (a) North Topsail Beach supports the preservation and development of estuarine and ocean shoreline access areas to ensure adequate shoreline access within all areas of the town. This includes repair/redevelopment of facilities damaged/destroyed by the 1996 hurricanes.
- (b) North Topsail Beach will implement the shoreline access site improvements as recommended by the 1996 North Topsail Beach Beach and Waterfront Access Plan.

- (c) North Topsail Beach will attempt to secure funding for the development of shoreline access sites through the state shoreline access grant program.

#### Commitment to State and Federal Programs

North Topsail Beach is receptive to state and federal programs, particularly those which provide improvements to the town. The town will continue to support programs, including but not limited to the following: North Carolina Department of Transportation road and bridge improvement programs, the CAMA planning process and permitting programs, the U.S. Army Corps of Engineers regulatory and permitting efforts, dredging and channel maintenance by the U.S. Army Corps of Engineers, and federal and state projects which provide efficient and safe boat access for commercial and sport fishing. There is no demand for substandard housing rehabilitation programs nor housing for low to moderate income families and individuals.

#### Assistance in Channel Maintenance

North Topsail Beach will support efforts of the U.S. Army Corps of Engineers and state officials to provide proper channel maintenance. However, the town opposes the establishment of any dredge spoil sites within its jurisdiction, with the exception of usable spoil material for beach nourishment.

#### Assistance in Interstate Waterways

North Topsail Beach considers the interstate waterway to be a valuable economic asset. The town will provide assistance by providing temporary easements across town-owned property for dredge spoil piping for beach renourishment projects.

#### Tourism

North Topsail Beach is generally supportive of the development and expansion of travel and tourism facilities. However, all such facilities must be consistent with the policies on resource protection, resource production and management, and other community development policies.

North Topsail Beach will implement the following policies to further the development of tourism:

- (a) North Topsail Beach will support North Carolina Department of Transportation projects to improve access to and within Onslow County.
- (b) North Topsail Beach will support projects that will increase public access to shoreline areas.
- (c) North Topsail Beach will continue to support the activities of the North Carolina Division of Travel and Tourism; specifically, the monitoring of tourism-related industry, efforts to promote tourism-related commercial activity, and efforts to enhance and provide shoreline resources.
- (d) North Topsail Beach will continue to support the activities of Onslow County to increase tourism.

## Transportation

North Topsail Beach supports the following specific transportation improvements:

<u>Route/City</u>	<u>ID No.</u>	<u>Location and Description</u>	<u>Length (MI) (KM)</u>	<u>Schedule</u>
US 17	R-2405*	I-40 at Wilmington to east corporate limits of Holly Ridge. Widen roadway to multi-lanes, part on new location.	23.4 37.7	Design 1997-98 Right-of-way 1997-98 Construction 1997-2001
US 17	R-2406*	East corporate limits of Holly Ridge to four lane section south of Jacksonville. Four lane divided facility with a bypass east of Verona.	17.0 27.4	Construction 1997-99
US 17	R-2514*	Multi-lanes north of Jacksonville to multi-lanes south of New Bern. Widen roadway to multi-lanes with bypasses of Belgrade, Maysville, and Pollocksville on new location.	21.0 33.8	Planning 1997 Design 1997-2003 Right-of-way 1999-2003 Construction 2001-2003

\*Indicates Intrastate Project.

Source: NCDOT Transportation Improvement Plan, 1996.

## Types of Urban Growth Patterns Desired/Land Use Trends

Generally, the Town of North Topsail Beach wishes to preserve and promote the quiet, peaceful, low-density atmosphere and reputation of the town. The primary urban land uses in North Topsail Beach will be for residential (housing) and commercial development. Specific policies on these areas are addressed below, beginning with residential development policies:

### (a) Housing

It shall be the policy of North Topsail Beach to continue to encourage the development of a variety of housing types to meet the needs and desires of existing and future citizens through the following:

- (1) To maintain certain areas exclusively for conventional single-family dwellings for the growing population.
- (2) To retain a height limitation for residential and commercial structures.
- (3) To require new residential subdivisions to provide for public access in a manner so specified in local ordinance.

### (b) Commercial Development

Generally, the town wishes to enhance and promote quality commercial development through the following:

- (1) To encourage community businesses to develop in the areas zoned commercial.
  - (2) To establish standards for the control of landscaping and signage in commercial areas.
- (c) Economic and Community Development Strategies
- (1) The Town of North Topsail Beach will continue to enforce its existing regulations and controls.
  - (2) As a follow-up to the 1996 storms, the town will review both its zoning and subdivision ordinances for possible revisions relating to development densities and related issues of runoff, vegetative buffers, setbacks, vegetation removal, and percent of impervious surface limits.

**Not Accomplished**

**MISCELLANEOUS RESOURCE PROTECTION**

Package Treatment Plant Use

North Topsail Beach is opposed to the future construction of package treatment plants within its planning jurisdiction and will rely on appropriate state agencies to regulate this policy.

**Appendix IV**  
**Policy/Implementing Action**  
**Definitions of Common Terms**

1. Should: An officially adopted course or method of action intended to be followed to implement the community goals. Though not as mandatory as "shall," it is still an obligatory course of action unless clear reasons can be identified that an exception is warranted. Town staff and Planning Board involved at all levels from planning to implementation.
2. Continue: Follow past and present procedures to maintain desired goal, usually with Town staff involved at all levels from planning to implementation.
3. Encourage: Foster the desired goal through Town policies. Could involve Town financial assistance.
4. Enhance: Improve current goal to a desired state through the use of policies and Town staff at all levels of planning. This could include financial support.
5. Identify: Catalog and confirm resource or desired item(s) through the use of Town staff and actions.
6. Implement: Actions to guide the accomplishment of the Plan recommendations.
7. Maintain: Keep in good condition the desired state of affairs through the use of Town policies and staff. Financial assistance should be provided if needed.
8. Prevent: Stop described event through the use of appropriate Town policies, staff actions, Planning Board actions, and Town finances, if needed.
9. Promote: Advance the desired state through the use of Town policies and Planning Board and staff activity at all levels of planning. This may include financial support.
10. Protect: Guard against a deterioration of the desired state through the use of Town policies, staff, and, if needed, financial assistance.
11. Provide: Take the lead role in supplying the needed financial and staff support to achieve the desired goal. The Town is typically involved in all aspects from planning to implementation to maintenance.
12. Strengthen: Improve and reinforce the desired goal through the use of Town policies, staff, and, if necessary, financial assistance.
13. Support: Supply the needed staff support, policies, and financial assistance at all levels to achieve the desired goal.
14. Work: Cooperate and act in a manner through the use of Town staff, actions, and policies to create the desired goal.