



DARE COUNTY 2022 LAND USE PLAN



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Section One – Community Vision and Purpose of Land Use Plan

Dare County is located along the eastern coast of North Carolina and its boundaries extend 85 miles along the coastline. The Outer Banks of North Carolina is a top vacation destination because of the miles of spectacular ocean and sound beaches, historical landmarks, and world-class fishing. The islands that comprise Dare County are surrounded by the Atlantic Ocean and numerous estuarine water bodies. Every year thousands of visitors travel to Dare County to experience the Outer Banks. The history of the area dates back to the first permanent English settlement on Roanoke Island in 1585. Another historic first occurred here in 1903 when Orville and Wilbur Wright flew the first man-powered airplane leading to the proud designation of “First in Flight” for North Carolina.

History of Land Use Plans

In 1974, the State of North Carolina adopted the Coastal Area Management Act (CAMA) which established a regulatory program to protect and manage the coastal areas of the state. As one of the twenty coastal counties, Dare County is required to adopt a comprehensive land use plan. The first land use plan for Dare County was adopted in 1976 and the land use plan has been updated several times as required by the State of North Carolina. Land use plans are used by the NC Division of Coastal Management in the review of CAMA major permit applications and federal consistency reviews. Land use plans are also used by local governments when reviewing zoning amendments to determine consistency with the plan and its policies. The CAMA guidelines outline the components of a land use plan and each coastal government uses those guidelines to prepare a land use plan that is specific to their area and serves as an overall portrait of the natural, environmental and economic conditions of the community.

The Dare County Land Use Plan (LUP), although required by the State, is not an ordinance but is a policy document that is used by the Dare County Board of Commissioners, Dare County Planning Board and the Dare County Planning Department to guide development in unincorporated Dare County. The unincorporated portions of Dare County include Hatteras Island, Martin’s Point, Colington, the Mainland of Dare County and portions of Roanoke Island outside of the Town of Manteo boundaries. Each of the six municipalities in Dare County adopts their respective land use plans for their communities. The policy statements included in the LUP are intended as guidance and are not regulations such as those found in the Dare County Zoning Ordinance. The maps that accompany the land use plan are treated the same way and do not establish zoning districts although areas are delineated to denote land use patterns and anticipated areas of growth. This difference between the policy-based LUP and regulatory-based land use ordinances is an important distinction.

The LUP is used by the Division of Coastal Management staff in the review of CAMA major permit applications for development in CAMA Areas of Environmental Concern (AECs) and used in determinations of consistency with federal laws. More information about what

comprises AECs is included in Section Two of this document. Every major CAMA permit application is reviewed for consistency with the policies and maps of the local LUP. If activities proposed in a CAMA major permit application are found to be inconsistent with a local LUP, then the CAMA major permit cannot be approved or a federal consistency determination made.

Public Participation

Public participation is a vital part of any land use plan update and efforts are made to incorporate public input throughout the process. One of the first steps of the update process is the adoption of a public participation plan by the Dare County Board of Commissioners. For the 2022 update, the PPP was adopted and a copy of this document is included as Appendix A. Some highlights of the PPP:

1. Endorsement of the Planning Board as the steering committee for the update process.
2. Use of an on-line survey on the Dare County webpage to gather input from local residents and property owners.
3. Outline of public workshops that will be used during the update process.

Factors That Affect Community Development

There are several conditions and factors that affect and influence the growth and development of unincorporated Dare County. These factors include large amounts of publicly owned lands, soil conditions and topography, and flooding and other natural hazards.

Over 80% of the land in Dare County is publicly owned by federal and state agencies which puts pressure on the remaining 20% of privately-owned land to accommodate the needs of the permanent residents and seasonal visitors. The needs of the permanent population and seasonal visitors often vary. Schools, medical facilities, housing and other public services must be addressed on the same privately-owned lands as development geared toward seasonal visitors. The vast amounts of public lands heavily influence the pattern of development especially on Hatteras Island where the villages on the island are interspersed with the Cape Hatteras National Seashore. While these public lands offer exceptional opportunities for recreation, they also result in competition for the remaining privately owned lands.

Soil conditions and the suitability of the soil for on-site wastewater treatment coupled with seasonal high-water tables is another factor that has a significant impact on growth and development. Soil suitability can be identified as the most dominant factor since the majority of unincorporated Dare County is served by on-site wastewater systems and not central collection and treatment systems which are often found in other communities. Soil suitability coupled with the naturally low-lying geography of the barrier islands greatly influences our area. Separation from the water table is evaluated during design of wastewater systems. Flooding from storms and heavy rains is a major concern and the continued resiliency of our existing neighborhoods and infrastructure. The use of construction techniques, such as elevation of structures, will remain an effective way to address flooding concerns in new construction activities and for mitigation of risks for older structures. However, recognition that storm surge and wind-driven tides are not the only flood risk is necessary. Heavy rain events

lead to elevated ground water tables and exacerbate drainage in areas where stormwater improvements are lacking or have not been adequately maintained. Runoff from the heavy rains also present concerns about impacts to our surface water quality. Good, clean water is vital for our fishing industry and tourist economy. Improved maintenance of older drainage ditches and better management of stormwater has been identified by County leaders as one long-term goal for unincorporated Dare County. Education of property owners that flooding can occur in any area, not just FEMA identified flood zones, is a top priority of Dare County. Local regulations to supplement federal floodplain regulations will play an important role in the resiliency of our community.

Vision Statement

A vision statement is a required component of every land use plan. The vision statement establishes the general vision for the future of the community and is supported by plan objectives. The CAMA guidelines set forth six management topics – public access, land use compatibility, infrastructure carrying capacity, natural hazard areas, water quality and local issues of concern. Goals serve as a framework for the more specific policy statements and implementation activities. The policy statements and implementation actions are grouped by management topic.

2022 Vision Statement

Dare County is a desirable place to live, work, and visit. In order to maintain this desirability, Dare County will manage growth and development in a manner that preserves our historical, cultural, and natural resources. Development will be guided to retain the historical character of our unincorporated villages, to sustain our local economy and to maintain the traditional livelihoods of our citizens. The viability of our infrastructure and tax base will be protected using realistic and practicable measures to mitigate the natural hazards that impact Dare County. Dare County will respond to the environmental and economic stress from the effects of these natural hazards and undertake actions to safeguard the resiliency of our community. The safety and reliability of our roads, bridges and waterways are vital components of our economy and way of life. Dare County will continue to work with the federal and state agencies that have ownership interests and regulatory responsibilities in Dare County to ensure their support and maintenance of our roads, bridges and waterways.

Management Topic Objectives

Public Access

Maintain, protect and enhance access to the beaches, sounds and other public trust areas of Dare County.

Encourage the protection of working waterfront areas from redevelopment that may result in the loss of or reduced access to those public trust areas and diminished opportunities for our local fishing industry.

Land Use Compatibility

Use the existing patterns of village communities to guide the location of new development and redevelopment in a manner that relates to the vast amounts of publicly owned lands and historical landmarks.

Address the housing needs of our permanent residents, our visitors, and our seasonal workforce with a mix of residential structures. Residential development is the preferred pattern of development used to support the varied needs of both permanent and seasonal populations.

Cultivate the influence of our coastal village heritage on the architecture, manner of structures, and scale of development for both residential and nonresidential development.

Recognize the varying and sometimes competing needs of our year-round residents and our seasonal visitors when evaluating land use policy and decisions on development of the remaining privately-owned lands in unincorporated Dare County.

Encourage commercial development that is village-oriented to serve the needs of our neighborhoods and not intended to serve as regional attractions. Locally owned businesses and historical marine-related industries should be encouraged and maintained.

Infrastructure Carrying Capacity

Continue to develop multi-modal means of transportation to connect our villages by expanding pedestrian and bicycle infrastructure improvements.

Balance the infrastructure needs of the permanent population with the demands of the seasonal population.

Continue to work with state and federal agencies to provide safe and reliable transportation improvements in Dare County and northeastern North Carolina.

Emphasize the importance of the County's waterways and the vital role they play in our local economy by lobbying state and federal agencies for maintenance funding.

MANAGEMENT TOPICS

- PUBLIC ACCESS
- LAND USE COMPATABILITY
- INFRASTRUCTRE CARRYING CAPACITY
- NATURAL HAZARDS
- WATER QUALITY
- LOCAL AREA OF CONCERN

Natural Hazards

Encourage development to fit the natural conditions and landscape.

Mitigate the impacts of natural hazards through the adoption and administration of floodplain management ordinances, the participation in the National Flood Insurance Program and the Coastal Area Management Act program, and the implementation of emergency management policies and operations.

Encourage the resiliency of our community and economy through the use of appropriate and practical natural hazards mitigation programs and techniques.

Water Quality

Ensure sustainability of our important natural resources especially ocean and estuarine water quality. Good water quality is vital to the viability of our commercial fisheries, tourism, and recreational fishing and boating.

Protect the water quality of the County's surface water bodies through the use of monitoring programs, stormwater runoff best management practices, and preservation of natural features such as coastal wetlands, which are directly related to good water quality.

Local Issues

Protect and promote the unique nature of Dare County and how our distinctive characteristics should be recognized and fostered in the development of local, state and federal policies, regulations and programs.

Recognize that the overall sustainability of our community extends beyond the physical infrastructure and economy to include our human infrastructure. Issues such as quality education, adequate and affordability housing and insurance, and substance abuse all impact the cohesiveness of Dare County.

Future of Dare County

The 2022 Dare County Land Use Plan will serve as the guiding document for development and re-development activities over the next decade. The protection of our natural resources and our local economy are undeniably linked. This LUP recognizes that linkage and its role in how we manage our growth, how we address our infrastructure needs and how we direct the scope and pattern of future land use.

Protection of our natural resources and balancing this protection with the viability of our local economies and industries is important for both the short-term and long-term future of Dare County's residents and property owners. The County must be diligent in our efforts to protect and manage the natural resources that make Dare County a desirable place to live, work and visit. We must also be diligent in monitoring federal and state initiatives and regulations that may have detrimental impacts on the local economy, our natural resources, or the historical use of our property and resources.

With over 80% of land in Dare County in public ownership, all infrastructure improvements, service facilities, housing, and other private development to meet the needs of the year-round and seasonal populations must be addressed on the remaining 20% of private land. The challenge of this unbalanced public-private ownership is unique to Dare County because no other coastal region faces this same challenge. While other communities may be able to deem certain areas as unsuitable for development due to federal regulatory initiatives or natural hazards, Dare County is not afforded this luxury due to the unbalanced land ownership. Dare County must utilize construction techniques and other land use regulations to address our unique situation.

It is anticipated that Dare County will continue to experience growth in our permanent populations and our seasonal populations. Maintaining a desirable quality of life for our permanent population is important as well as providing a quality vacation experience. Demands on infrastructure and housing for year-round residents and seasonal workers were identified as concerns in the 2009 land use plan and they remain concerns during the 2022 land use plan update. Although tremendous accomplishments in the construction of bridge improvements at Oregon Inlet and Hatteras Island have been made since the 2009 LUP, it is crucial that Dare County continue to lobby for improvements to other transportation improvements such as the Alligator River Bridge, and maintenance of our waterways, which we consider transportation corridors for our local fishermen. Efforts to address housing needs will continue as a concern to all Dare County communities and will require public and private sector actions to effectuate measurable impacts on the housing shortage we are currently experiencing.

Section Two – Existing and Emerging Conditions

2.1 Population, Housing, and Economy

Population – Permanent and Seasonal

The main source of this information is the US Census. The 2020 Census listed the permanent population of Dare County to be 36,915. The 2010 census listed the total population for Dare County as 33,650. The incorporated towns of Dare County typically account for 51% of the total population. Using this assumed percentage, 18,827 residents live in the six incorporated towns of Dare County and 18,088 in the unincorporated areas. The 2000 census population for Dare County was 29,967. Compared to the 2010 population, the overall population increased by 3,683 persons or a 11.0% increase over the ten-year census timeframe. Comparing the 2010 census to the 2020 Census count, Dare County experienced an increase of 3,265 or a 8.8 % increase.

Seasonal population estimates are included later on in the section.

Table 1 – Population by Year 2010-2020
(Source: US Census)

Population		
Year	Count	Increase
2010	33,650	-----
2011	33,819	169
2012	34,019	200
2013	34,289	270
2014	34,530	241
2015	34,863	333
2016	35,187	324
2017	35,414	227
2018	35,741	327
2019	36,222	481
2020	36,915	693

Demographic information is provided for unincorporated Dare County based on research in the census data filtered by postal ZIP codes. In some instances, the municipal populations had to be subtracted from the overall ZIP code totals to arrive at a population for Martins Point (27949), Colington (27948) and Roanoke Island (27954).

Table 2 – Population for Unincorporated Dare County By ZIP Code

ZIP Code	2000 Population	2010 Population	2017 Population
Avon 27915	786	777	848
Buxton 27920	1613	1,326	1,443
-Frisco 27936	401	1,091	976
Hatteras 27943	634	504	395
Rodanthe 27968	178	298	120
Waves 27982	50	82	67
Salvo 27972	339	244	269
Colington/KDH Outside 27948	3304	4,179	4,136
Manteo Outside 27954	4116	4,677	5,676
Wanchese 27981	1556	1,643	1,619
Mainland 27953 *	1182	1,021	1,085
Stumpy Point 27978	*	225	143
Martin's Point 27949	**	592	522
TOTAL		16,659	17,299

- ZIP code data not provided for Stumpy Point or East Lake. Martin's Point was not under the jurisdiction of unincorporated Dare County until mid-2000

The US Census provides information on the composition of the permanent population of Dare County in terms of household size and age groups. Although this information is based on 2019 data, it does provide background on the characteristics of our population, as detailed in Table 3. The information in Table 3 is presented for unincorporated Dare County in Table 4-6. A review of information on the American Community Survey webpage was used for these tables based on CDPs or census designated places as identified by the Census Bureau. There are no CDPs for Colington, East Lake, Stumpy Point or Martin's Point so the population of these areas is calculated by subtracting the total of the CDPs from the total population of unincorporated Dare County.

*Table 3 – Various Demographic Facts about Dare County
2019 Census Data Estimates*

Average Household Size	2.32	Persons under 5 years of age	1,568
Total Households	15,529	Persons 5-19 years of age	6,029
Average family size	2.79	Persons 20-64 years of age	21,126
Family Households	10,281	Persons 65 years and older	7,499
Non-family Households	5,248	Median Age	46.5
Male Population	18,110	Race – White	33,591
Female Population	18,112	Race – Black	1,086
		Race –Hispanic and other	1,345

Table 4—Population by Sex and Age for Unincorporated Dare County

		Male	Female	Under 5 yrs	5-18 yrs	19-64 yrs	Over 65 yrs
Dare Unincor	17,222	8,729	8493	826	1,136	11,962	3,298
Avon CDP	421	241	180	25	0	335	61
Buxton CDP	1,503	708	795	87	335	900	181
Frisco CDP	104	53	51	0	0	62	42
Hatteras CDP	460	216	244	19	45	199	197
Rodanthe CDP	141	77	64	0	0	137	4
Waves CDP	56	43	13	0	0	56	0
Salvo CDP	91	35	56	0	12	56	23
Wanchese CDP	1,732	873	859	70	302	1,018	342
Manns Harbor CDP	782	384	398	26	157	482	117
CDP Total	5,290	2,630	2,660	227	851	3,245	967
NON-CTP	11,932	6,099	5,833	599	285	8,717	2,331

Table 5—Household Information for Unincorporated Dare County

	Total	Family Households	Nonfamily Households
Dare Unincorporated	6,692	4,555	2,137
Avon CDP	328	83	245
Buxton CDP	544	377	167
Frisco CDP	61	28	33
Hatteras CDP	207	130	77
Rodanthe CDP	55	31	24
Waves CDP	24	13	11
Salvo CDP	43	35	8
Wanchese CDP	675	480	195
Manns Harbor CDP	297	341	56
CDP Total	2,234	1,418	816
NON-CTP	4,458	3,137	1,321

Table 6 Race Characteristics for Unincorporated Dare County

	Total	White	Black	Hispanic and All Others
Dare Unincorporated	16970	14563	472	1935
Avon CDP	832	770	7	55
Buxton CDP	1181	1052	11	118
Frisco CDP	994	940	2	52
Hatteras CDP	577	544	2	31
Rodanthe CDP	213	197	0	16
Waves CDP	172	169	1	2
Salvo CDP	303	275	4	24
Wanchese CDTP	1522	1358	14	150
Manns Harbor CDP	790	633	12	145
CDP Total	6584	5938	53	593
NON-CTP	10386	8625	419	1342

Population (Seasonal)

With the Outer Banks being a popular vacation destination, our population fluctuates at any given day depending on the time of the year and weather conditions. The peak seasonal population occurs during the summer months of June, July, and August when all available accommodations are occupied at, or near, their maximum capacity and day visitors number in the thousands. After the Labor Day holiday, which is traditionally thought of as the end of summer tourist season, the population of Dare County does not revert to the permanent population number. During the spring and fall months, many visitors come to the Outer Banks. There are population spikes during winter holiday periods and three-day federal holiday weekends such as Presidents Day in February. The dynamic nature of our population makes it difficult to quote a static population figure. Although a count of our year-round population can be established, this population is seldom experienced since many of the non-resident property owners choose to use their second homes on a part-time basis and visitors still make weekend trips or day trips.

The following information details the numbers used by the Dare County Planning Department to estimate the peak seasonal population. This peak figure is based on housing stock information from the Dare County Appraisal office, information from the Outer Banks Visitors Bureau, and population information from the US Census. This peak population figure is appropriate for the purpose of the Land Use Plan Update and represents a peak population for Dare County as a whole and not just the unincorporated portions of the County. Estimates for seasonal population for unincorporated Dare County are included on pages 14-15.

Peak Population Formula: maximum occupancy of residential units owned by non-resident property owners + maximum occupancy of other rental accommodations + day visitors estimate + 2020 permanent population with 25% increase for summer guests/family = peak seasonal population

Table 7 lists the numbers used in the peak population formula. Component A is a breakdown of Dare County tax records of housing units owned by non-resident property owners, see page 15-16 for housing discussion. Non-Dare County ZIP codes were used as the filter for residential structures. Recognizing that many residential structures on the oceanfront and immediate neighboring areas are owned by Dare County residents as investment properties, an analysis of the tax records was completed to incorporate these structures into the seasonal population. A total of 535 structures were added to account for oceanfront ownership by Dare County residents. An occupancy rate of twelve people per structure was assumed for each seasonal home, a four-person occupancy used for manufactured homes, and a six-person occupancy rate used for multi-family units. Component B is other accommodations -- hotel units, campgrounds and short-term rentals. The Outer Banks Visitors Bureau provided the number of hotel room and campsites. For campground sites, a four-person occupancy rate was used and for motel rooms a three-person occupancy rate was used. Short-term rentals, typically offered through Airbnb or VRBO, have been factored in the seasonal population estimates for the 2022 Land Use Plan. Although, there is no verified number of short-term rental units, there are a segment of vacation rentals impacting our seasonal population. For the purposes of reflecting short-term rentals in the seasonal population, an estimate of 25% of the housing stock of owned by Dare County residents has been used with an occupancy rate of two-persons per unit. Although it is recognized that some STRs may be owned by non-residents property owners, non-resident structures have been addressed in Component A. Day visitors are accounted for in Component C and are based on the average daily traffic flows from Highway 64 in East Lake and at Point Harbor near the landing of the Wright Memorial Bridge entering Dare County. Component D represents the family-guest factor associated with the permanent population. For this component, 25% of the permanent population was used. The components are totaled for the peak seasonal and the peak seasonal plus permanent.

Table 7 – Seasonal Population Estimates

Component A				Population
Non-resident owned residential structures	#	Occupancy	Subtotal	
Single family dwellings	15,808	12 persons	189,696	
Manufactured homes	331	4 persons	1,324	
Multifamily Structures	2188	6 persons	13,128	204,148
Component B				
Other Accommodations	#	Occupancy	Subtotal	

Campground Sites	2,377	4 persons	9,508	
Motel/hotels rooms	2,889	3 persons	8,667	
Short-term rentals	3,620	2 persons	7,240	25,415
Component C				
Day Visitors (2019 NCDOT ADT Counts)	#	Occupancy	Subtotal	
Hwy 158 Point Harbor/Wright Bridge	17,000	2 persons	34,000	
Virginia Dare Bridge	5,500	2 persons	11,000	45,000
Component D				
Summer guests and families of permanent (25% of perm population)				9,229
TOTALS				
Permanent Population (2020)				36,915
Peak Seasonal (A+B+C+D)				283,792
Peak Seasonal + Permanent				320,707

The peak population increases are significant in contrast to the permanent population. The seasonal population of 320,707 compared to the permanent population of 36,915 equals a ratio of 8.6 to 1 visitors to year-round residents.

Visitor count information from the Outer Banks Visitor Bureau for visitation at several of the local attractions is detailed in Table 8. As evident from the tables, the winter months have relatively modest amounts of visitors at each of the sites. These visitor numbers increase during the spring months with the peak month for visitors either July or August. The numbers taper off during the fall months to the lowest monthly totals in December.

Table 8– Visitation at Key Tourist Sites

(Source: Outer Banks Visitor Bureau)

Month	NC Aquarium			Aycock Brown Welcome			Cape Hatteras Seashore		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Jan	5,449	6,630	7,125	693	693	1,201	72,767	81,816	86,901
Feb	6,341	7,174	6,971	825	851	1,045	72,796	76,105	78,269
March	14,677	Closed	14,701	1,785	Closed	1,586	135,597	109,749	169,278
April	30,661	Closed	27,548	3,447	Closed	3,537	205,590	66,422	254,366
May	28,105	Closed	37,345	4,532	537	4,397	263,356	208,837	316,898
June	47,393	Closed	57,052	6,049	4,127	5,364	384,260	399,364	447,760
July	54,351	Closed	55,417	6,051	3,604	5,535	438,846	451,849	491,061
Aug	52,192	Closed	48,293	6,161	4,357	3,845	398,662	387,379	427,384
Sept.	19,788	14,619	31,026	3,479	4,824	3,847	243,139	345,249	390,994
Oct	16,088	15,465	18,880	3,015	4,023	3,470	188,710	259,618	274,997
Nov	9,110	7,586	11,339	1,506	2,207	1,756	122,516	167,925	161,115
Dec	6,708	6,358	8,064	815	1,580	1,036	81,393	91,064	106,943
TOTAL	290,863	57,832	323,761	38,367	26,944	36,619	2,607,632	2,645,377	3,206,056

- Aquarium closed for renovations in March-May 2016

Month	Fort Raleigh			Wright Brothers Monument			Jockey's Ridge		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Jan	5,230	5,565	4,447	1,277	8,213	10,949	43,643	46,599	63,060
Feb	5,324	5,948	3,340	7,318	9,054	7,995	41,002	41,353	48,592
March	9,369	6,550	14,752	22,091	9,953	27,307	91,709	77,429	143,487
April	17,688	5,933	24,338	44,568	1,183	51,280	185,915	36,610	219,486
May	31,409	6,544	38,667	48,488	12,909	57,065	207,310	142,408	239,429
June	48,014	17,432	56,080	57,921	34,545	67,723	278,919	310,144	263,639
July	43,000	24,681	51,192	68,666	44,768	72,772	301,325	370,796	223,242
Aug	37,729	20,427	34,891	63,836	42,229	63,953	261,821	286,440	202,013
Sept.	18,817	19,826	24,048	27,828	42,019	45,575	116,675	246,985	184,791
Oct	15,208	19,779	18,827	30,051	38,649	40,145	106,212	181,676	123,665
Nov	9,860	11,524	12,973	16,697	20,608	22,251	64,446	114,783	70,231
Dec	6,491	9,310	10,004	11,394	13,833	15,177	51,261	78,753	52,163
TOTAL	248,139	248,139	293,559	400,135	277,963	482,192	1,750,238	1,933,976	1,833,798



Fort Raleigh - A major tourist site located in Manteo, NC

The major impact of the seasonal population is on the delivery of services and infrastructure capacity. Utility systems must be designed to meet the needs of the seasonal peak populations we experience in

the summer months. The local highway improvements are especially impacted by the seasonal population influx with heavy traffic flows and delays in emergency response times due to the increased traffic volumes. The increased traffic volume is often cited as the one of the negative quality of life issues associated with the tourist economy. However, this negative impact is offset by the revenues received from visitors to the area.

Population Projections

The State Data Center for North Carolina provides projections for permanent residents. These projections are detailed in Table 6 and Table 7. The growth in the permanent population is not projected to increase at the same rate as experienced in the 1980s and 1990s.

Table 9 - Permanent Population Projections For Dare County

(Source: State Data Center)

	2020	2025	2030	2035	2040	2045	2050
Population	38,027	39,864	41,268	42,265	42,975	43,480	43,844
Increase		1,837	1,404	997	710	505	364

Table 10 Permanent Population Projections for Unincorporated Dare County

(based on assumption of 49% located in unincorporated Dare County)

	2020	2025	2030	2035	2040	2045	2050
Unincorp. (49%)	18,633	19,533	20,221	20,710	21,058	21,305	21,484
Increase		900	688	489	348	247	179

The projections indicate that slight increases in Dare's permanent population will continue over the next several decades with the increases tapering off over each 5-year period.

The State Data Center does not provide projections of seasonal populations and local officials must establish these projections. The Outer Banks continues to be a premier vacation destination and there is no reason to think our seasonal population will decline over the planning periods. For the purpose of projecting seasonal population increases, it is assumed there will be a modest 1% annual increase in visitors. This 1% annual increase was applied to the seasonal population estimate established in Table 7. Table 11 documents the projections for Dare's seasonal population. Table 12 lists the projections for the seasonal population for the unincorporated areas only based on an assumption that 30% of the seasonal population is accommodated in the unincorporated areas of Dare County.

Table 11 – Seasonal Population Projections for All Areas of Dare County

	2020	2025	2030	2035	2040	2045	2050
Seasonal Population	283,792	297,982	312,881	328,525	344,951	362,199	380,309
Increase		14,190	14,899	15,644	16,426	17,248	18,110

Table 12 Seasonal Population Projections for Unincorporated Dare County

	2020	2025	2030	2035	2040	2045	2050
Seasonal Projection	85,138	89,395	93,865	98,558	103,486	108,660	114,093
Increase		4,257	4,470	4,693	4,928	5,174	5,433

Housing

Tax records were analyzed to determine the number of residential structures (single family, multi-family structures and manufactured homes) in Dare County. There are a total of 32,273 structures used for residential purposes. Filters for Dare County ZIP codes were then applied to the totals to establish resident or non-resident ownership. Using this methodology, it was established that 55% of the residential structures in Dare County are owned by non-residents. The majority of the properties owned by non-residents are used for seasonal rentals and these units remain largely vacant during the off-season months. In the residential category, 28,173 structures are designated as single family. Non-resident property owners represent 54% of the ownership of single-family homes. Of the 2,983 residential condominiums and townhouses, non-resident property owners account for 73% of owners. In the category of manufactured homes, resident property owners represent the largest percentage (70%) of ownership.

*Table 13 Total Housing Units**(Source: Dare County Tax Records January 31, 2021)*

Number of Units	TOTAL	% of TOTAL
Single Family Homes	28,173	87%
Manufactured Homes	1,121	4%
Multifamily Structures	2,979	9%
TOTAL	32,273	100%

*Table 14 Housing Units – Property Ownership Status**(Source: Dare County Tax Records January 31, 2021)*

	TOTAL	Resident		Non-resident	
Occupancy		#	%	#	%
Single family homes	28,173	12,900	46	15,273	54
Manufactured homes	1,121	790	70	331	30
Multifamily Structures	2,979	791	27	2,188	73
TOTAL	32,273	14,481	45	17,792	55

Using the same ZIP code filters, a number for the homes located in the unincorporated areas versus the six municipal areas can be calculated. Table 15 depicts the breakdown of the

residential structures in the unincorporated areas versus the incorporated towns of Duck, Southern Shores, Kitty Hawk, Kill Devil Hills, Nags Head and Manteo. Overall, the incorporated areas account for the largest percentage of residential development (63%) compared to the unincorporated communities. The largest percentage of manufactured homes is located in unincorporated Dare County (87.0%) and the largest percentage of multifamily structures (85%) is located in the incorporated areas. In terms of single-family homes, the incorporated areas contain 17,736 homes compared to 10,437 homes in the unincorporated areas.

Table 15 – Housing Units -- Incorporated Areas vs. Unincorporated Areas

(Source Dare County Tax Records January 31, 2021)

	TOTAL	Incorporated		Unincorporated	
Occupancy		#	%	#	%
Single family homes	28,173	17,736	63	10,437	37
Manufactured homes	1,121	143	13	978	87
Multifamily Structures	2,979	2,547	85	432	15
TOTAL	32,273	20,426	63	11,847	37

A review of the 2019 American Community Survey Data for households in Dare County finds 75% of housing units are listed as owner-occupied versus renter occupied. Table 16 applies this percentage to the housing stock for unincorporated Dare County.

Table 16 – Tenure of Housing – Unincorporated Dare County

	TOTAL	Owner Occupied	Renter-Occupied
Single family homes	10,437	7,828	2,609
Manufactured homes	978	734	244
Multifamily Structures	432	324	108
TOTAL	11,847	8,886	2,961

Economy

The local economy of Dare County continues to be driven by tourism and the services associated with this industry. Many local retail stores sell tourist-related goods. Local restaurants and food service companies rely on seasonal visitors for the bulk of their business. The rental of residential homes as short-term accommodations in addition to the traditional hotels and cottage courts provide employment to a large number of property management officials and maintenance service companies. Other sectors of employment include construction, real estate sales, boat building, and commercial fishing. In the past decade, the visitor season has extended beyond the traditional Memorial Day to Labor Day season with many visitors choosing to come to the Outer Banks when rates for accommodations are less

expensive and area beaches are less crowded. There are also festivals and events such as the Outer Banks marathon in November of each year that attract visitors during the off-season.

The following table indicates the median income for Dare County households for 2019 compared to North Carolina as a whole. The information in Table 14 is for unincorporated Dare County. A review of information on the American Community Survey webpage was used for Table 17 based on CDPs or census designated places as identified by the Census Bureau.

Table 17 – Median Family Incomes For Dare County

(Source US Census)

	Median Income Per Household (2019 US Census Information)
Dare County	\$59,381
North Carolina	\$54,602

Table 18 Median Family Income for Certain CDPs in Unincorporated Dare County

	Median Income
Avon CDP	\$26,652
Buxton CDP	\$56,429
Frisco CDP	----
Hatteras CDP	\$74,427
Rodanthe CDP	\$59,180
Waves CDP	----
Salvo CDP	----
Wanchese CDTP	\$55,799
Manns Harbor CDP	\$48,945

Frisco, Waves and Salvo not provided

Tables 19 and 20 lists the different employment sectors for Dare County and the numbers of employees in each sector.

Table 19 – Employment Sectors – 2019

(Source: American Community Survey)

	Employees	Percentage
Government Workers	2,796	13.0%
Manufacturing	912	4.0%
Construction	1,717	8.0%
Wholesale Trade	281	1.0%
Retail Trade	2,836	13.0%
Transportation, Warehousing, Utilities	699	3.0%
Information	141	0.6%

Finance, Insurance, Real Estate	1,417	6.0%
Professional and Technical Services	1,949	9.0%
Agricultural, Forestry, Fishing, Hunting	427	2.0%
Educational Services, Health, Social Assistance	2,580	12.0%
Arts, Recreation, Accommodation, Food Service	3,601	17.0%
Other Services (non-public admin.)	1,096	5.0%
Public Administration	760	4.0%
TOTAL	21,212	

The information in Table 20 is further sorted by CDP for the municipal areas and the unincorporated Dare County.

Table 20 Employment Sectors Unincorporated Dare County -2019

	Unincorporated	Incorporated
Government Workers	1,253	1,543
Manufacturing	423	489
Construction	837	880
Wholesale Trade	92	189
Retail Trade	1,368	1,468
Transportation, Warehousing, Utilities	361	338
Information	80	61
Finance, Insurance, Real Estate	564	853
Professional and Technical Services	925	1,024
Agricultural, Forestry, Fishing, Hunting	309	118
Educational Services, Health, Social Assistance	1,098	1,482
Arts, Recreation, Accommodation, Food Service	1,560	2,041
Other Services (non-public admin.)	698	398
Public Administration	238	522
TOTAL	9,806	11,406

2.2 Natural Features

CAMA Areas of Environmental Concern (AECs)

The Coastal Area Management Act of 1974 established a regulatory program for the protection of critical resources of statewide concern in the coastal areas of North Carolina. These AECs fall into four broad categories with individual AECs designated within each of the four broad categories as follows:

Areas of Environmental Concern	Components
<i>Estuarine and ocean systems (4)</i>	<i>Coastal wetlands, estuarine waters, public trust areas, coastal shorelines</i>
<i>Ocean hazard areas (3)</i>	<i>Ocean erodible areas, inlet hazards areas, unvegetated beach areas</i>
<i>Public water supply areas (2)</i>	<i>Small surface water supply areas and public water supply wellfields</i>
<i>Fragile coastal resources (5)</i>	<i>Coastal complex natural areas, coastal areas that sustain remnant species, unique coastal geologic formations, significant coastal architectural resources, and significant coastal historic architectural resources</i>

Estuarine and Ocean Systems

Coastal Wetlands

Coastal wetlands are defined as any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides, that reach the marshland areas through natural or artificial watercourses, provided this does not include hurricane or tropical storm tides.

Coastal wetlands may contain one or more of the following marsh plant species:

- Cord grass (Spartina, alterniflora)*
- Black needlerush (Juncus roemerianus)*
- Glasswort (Salicornia spp)*
- Salt Grass (Distichlis specata)*
- Sea Lavender (Limonium spp)*
- Bulrush (Scirpus spp)*
- Saw Grass (Cladium jamaicense)*
- Cattail (Typha spp)*
- Salt Meadow Grass (Spartina patens)*
- Salt Reed or Giant Cord Grass (Spartina cynosuroides)*

Wetland areas help maintain the productivity of the primary fishery areas found in the estuarine systems and also help with flood damage and erosion control along the shorelines. In unincorporated Dare County, coastal wetlands can be found along all of our estuarine shorelines. Coastal wetlands may be mapped for general purposes but for site specific development, coastal wetlands must be identified through field evaluations. Coastal wetlands vary from freshwater wetlands which are regulated by the U. S. Corps of Engineers and are discussed later in this section. The US Fish and Wildlife Service maintains a national wetlands inventory mapping tool at <https://www.fws.gov/wetlands/>. This mapping tool can be used to identify potential wetland areas although it is not recognized for regulatory purposes by Dare County or the other government agencies.



Large wetland areas along shoreline of Roanoke Island

Estuarine Waters

Estuarine waters include all waters of the Atlantic Ocean and all the waters of the bays, sounds, rivers, and tributaries seaward of the dividing line between coastal fishing waters and inland fishing waters as set forth by the NC Division of Wildlife Resources, NC Department of Environmental and Natural Resources (Department of Environmental Quality) and the NC Marine Fisheries. As described in the CAMA regulations, estuarine waters are the dominant component and bonding element of the entire estuarine and ocean systems, integrating aquatic influences from both the land and the sea. They support the commercial and recreational fisheries of the coastal area. In unincorporated Dare County, this includes the Atlantic Ocean, Roanoke Sound, Pamlico Sound, Currituck Sound, Albemarle Sound, Croatan Sound, Alligator River and all associated tributaries of these water bodies.

Public Trust Areas

Public trust areas are all waters of the Atlantic Ocean and land underneath from the mean high water mark seaward to the State's jurisdictional limit (three miles offshore); all natural water bodies subject to measurable lunar tides and lands underneath to the normal water level; all navigable natural water bodies and land underneath to the normal water level; all waters in artificially created water bodies containing public fishing resources which are accessible from other public water bodies; and all waters artificially created in which the public has acquired rights by prescription, custom, usage, dedication or other means. These areas are important for fisheries resources, their aesthetic value, and economic development. The public has rights to navigation and recreation in these areas. In unincorporated Dare County, public trust areas are located along the oceanfront of Hatteras Island, estuarine water bodies and various of water bodies including canals and ponds found throughout the unincorporated communities.

Coastal Shorelines

This category includes estuarine shorelines and public trust shorelines. Estuarine shorelines are non-ocean shorelines extending from normal high water or normal water level along the estuarine waters, estuaries, sounds, bays, fresh and brackish waters and public trust areas identified by the NC Wildlife Resources Commission and the Department of Environmental Quality to a distance 75 feet landward. Along those water bodies designated as Outstanding Resource Waters, the estuarine AEC extends 575 feet landward. A portion of the Alligator River located in unincorporated Dare County is classified as Outstanding Resources Waters. Public trust shorelines are non-ocean shorelines immediately contiguous to public trust areas located inland of the dividing line between coastal fishing waters and inland fishing waters. Public trust shoreline AECs extend 30 feet landward of the normal high water or normal water level. These areas are important because of their function in flood damage control, fisheries resources, and recreational opportunities. The estuarine shoreline AEC is applied to the shorelines of the Pamlico Sound, Roanoke Sound, Currituck Sound, Albemarle Sound, Croatan Sound, the Alligator River and all associated tributaries of these waters. The public trust shoreline AEC applies along Jean Guite Creek in Martin's Point.

Ocean Hazard Areas

Ocean Erodible Area

The ocean erodible area is an area where there is substantial possibility of excessive erosion and significant shoreline fluctuations. The oceanward boundary of the ocean erodible area is the mean low water line and the landward boundary is the distance landward from the first line of stable, natural vegetation to the recession line calculated by multiplying the long-term erosion rate times 90. This AEC recognizes the significance of the hazards found along the immediate shoreline of the Atlantic Ocean and the importance to mitigate the hazards. The first line of stable, natural vegetation is also used to establish the appropriate setback for oceanfront structures. The areas in unincorporated Dare County designated as ocean erodible areas of environmental concern are those properties that are adjacent to the Atlantic Ocean on Hatteras Island.

Inlet Hazard Areas

The inlet hazard areas are natural hazard areas that are vulnerable because of their proximity to ocean inlets. The adverse effects of sand, wind, and water are the hazards associated with inlet hazards areas. This area extends landward from the mean low water line a distance sufficient to encompass that area subject to inlet migration. There are no inlet hazard areas in Dare County. The area around Oregon Inlet is federally owned land and therefore no inlet hazard area has been declared for this area.

Unvegetated Beach Area

The third ocean hazard area is defined as beach areas where no stable natural vegetation is present. The areas may be designated on a permanent or temporary basis by the Coastal Resources Commission following major hurricanes or storms or applied to areas that are experiencing rapid unpredictable shoreline change due to wind and wave conditions. There are none of these areas in Dare County.

Public Water Supplies

Small Surface Water Supply Watersheds

This AEC is applied to catchment areas that are situated entirely in the coastal area which contain a water body classified as A-H by the Environmental Management Commission. This designation signifies that the maximum beneficial use of these water bodies is to serve as public water supply areas. There are no small surface water supply watersheds within the jurisdiction of unincorporated Dare County.

Public Water Supply Wellfields

Public water supply wellfields are areas of well-drained sands that extend downward from the surface into the shallow groundwater table which serves as a source of potable water for the public. These surficial wellfields are geographically identifiable by the Department of Environmental Quality.

Natural and Cultural Resource Areas

Coastal Areas that Sustain Remnant Species

Coastal areas that sustain remnant species are those areas that support native plants or animals determined to be rare or endangered within the coastal area. These remnant species provide critical habitats for the survival of existing populations or communities of rare or endangered species in the coastal areas.

Coastal Complex Natural Areas

Coastal complex natural areas are defined as lands that support native plant and animal communities by providing habitat qualities which have remained essentially unchanged by human activity. Coastal complex natural areas function as key biological components of natural systems, as important scientific and educational sites, or as valuable scenic or cultural resources.

Unique Coastal Geologic Formations

These areas are defined as sites that contain geologic formations that are unique or otherwise significant components of coastal systems or are notable examples of geological formations or processes in the coastal area. The AEC designation is meant to preserve the unique resources of these areas for scientific and educational sites or scenic assets. Jockey's Ridge in the Town of Nags Head has been designated with this AEC.

Significant Coastal Archaeological Resources

Significant coastal archaeological resources are areas that contain archaeological remains (features, objects, and/or sites) that have more than local significance to history or prehistory. These areas offer important educational, scientific, or aesthetic resources that could be jeopardized by unmanaged development activities.

Significant Coastal Historic Architectural Resources

Significant coastal historic architectural resources are defined as districts, structures, buildings, sites or objects that have more than local significance to history or architecture. Incompatible development may impact the important educational, scientific, or aesthetic resources of these AECs.

Natural and cultural resources occur in unincorporated Dare County, none of the resource areas designated as AECs are located in unincorporated Dare County.

Soil Conditions

Soil characteristics and their ability or inability to accommodate on-site wastewater systems play a crucial role in land development and construction in Dare County. Within the boundaries of Dare County, soil conditions vary based on the geographic region and can also vary significantly within relatively small areas. On the Dare County Mainland, natural ground elevations range from three to seven feet above mean sea level and soil conditions are predominantly poorly drained with thin organic loam to silt loam surface layers. Along the barrier island portions of Dare County, the soils are generally well to moderately well drained sand. On Roanoke Island, soils range from loamy sand surfaces with sandy clay loamy subsoils to silty clay loam surfaces. The Dare County Soil Survey provides more specific information on soil types found in Dare County and is the best resource on this information. This document is available from the Dare County Soil and Water Conservation Service office. The Soil and Water Conservation Service has divided the County into four general categories for wastewater suitability: suitable, marginal, unsuitable, and questionable. A table summarizing these soil types is included on the next page:

*Table 21 – Classification or Soil Types for Wastewater Suitability**(Source: Dare County Soil Survey)*

Soil Type	Depth to Water Table	Suitability Designation
Duneland	6.0'	Suitable
Fripp Fine Sand	6.0'	Suitable
Newhan Fine Sand	6.0'	Suitable
Newhan Complexes	Varies	Suitable
Pactolus-Wakula-Wagram-Associates	NA	Suitable
Corolla Fine Sand	1.5' to 3.0'	Marginal
Corolla Fine Sand	1.5' to 3.0'	Marginal
Beach Foredune Association	0 to 3.0' foredunes 6.0'	Unsuitable
Corolla Duckston Complex		Unsuitable
Hobonny Soils	0 to 2.0'	Unsuitable
Duckston Fine Sands	1.0' to 2.0'	Unsuitable
Duckston Fine Sands, Forested	1.0' to 2.0'	Unsuitable
Carteret Soils, High	1.0' to 3.0'	Unsuitable
Conaby Soils	0 to 1.0'	Unsuitable
Currituck Soils	0 to 3.0'	Unsuitable
Soil Type	Depth to Water Table	Suitability Designation
Wasada-Bladen Association	NA	Unsuitable
Capers Association	NA	Unsuitable
Dredge Spoil	3.0'	Questionable
Madeland	0 to 2.0'	Questionable

The Dare County Health Department or a soil scientist must perform an on-site evaluation of an individual lot to determine the types and location of soils. Throughout Dare County, natural soil conditions have been altered by drainage improvements and from the introduction of soils from other sources. The placement of fill on undeveloped lots to raise the natural ground elevation or to accommodate wastewater systems is common practice.

The erosion of soils in certain areas is also an issue. As discussed in the previous section on Areas of Environmental Concern, the Division of Coastal Management has designated erosion-prone areas along the oceanfront. Wind driven tides and storm surge can result in erosion, and in some instances, structures and/or infrastructure collapse due to undermining of the land. These areas are periodically mapped and an erosion rate established by the Division of Coastal Management to account for the rate of erosion in a certain area. The erosion rate is the basis for oceanfront setbacks. The erosion rates for the Rodanthe oceanfront area are the some of the highest in the State of North Carolina. In the past, several structures have collapsed on the oceanfront. Several have been relocated westward on the same lot or to an entirely different lot. Some sections of NC 12 were threatened by erosion. Beach nourishment to protect the threatened sections of NC 12 was undertaken by the NC Department of Transportation in 2013. Another erosion hotspot is the north oceanfront of Buxton village. Beach nourishment was completed in the Buxton area in late 2017. A map depicting the erosion rates for Dare County is found in the map supplement at the end of

Section Two. More detailed erosion rate maps can be found on the NC Division of Coastal Management's webpage.

Water Quality Classifications and Shellfish Growing Areas

North Carolina classifies all water in the State. These classifications are based upon the existing or proposed usage of the various streams and tributaries of the State. The evaluations and classifications are managed by the NC Division of Water Resources. The State classification is as follows:

*Table 22 – Descriptions of Water Quality Classifications Assigned by North Carolina
(Source NC Dept of Natural Resources)*

DWR PRIMARY CLASSIFICATIONS	
Class C	Waters protected for uses such as secondary recreation, fishing, wildlife, fish consumption, aquatic life including propagation, survival and maintenance of biological integrity, and agriculture. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized, or incidental manner.
Class B	Waters protected for all Class C uses in addition to primary recreation. Primary recreational activities include swimming, skin diving, water skiing, and similar uses involving human body contact with water where such activities take place in an organized manner or on a frequent basis.
Water Supply I (WS-I)	Waters protected for all Class C uses plus waters used as sources of water supply for drinking, culinary, or food processing purposes for those users desiring maximum protection for their water supplies. WS-I waters are those within natural and undeveloped watersheds in public ownership. All WS-I water are HQW (high quality waters) by supplemental classification.
Water Supply II (WS-II)	Waters used as sources of water supply for drinking, culinary, or food processing purposes where a WS-I classification is not feasible. These waters are also protected for Class C uses. WS-II waters are generally in predominantly undeveloped watersheds. All WS-II waters are HQW (high quality waters) by supplemental classification.
Water Supply III (WS-III)	Waters used as sources of water supply for drinking, culinary or food processing purposes where a more protective WS-I or WS-II classification is not feasible. These waters are also protected for Class C uses. WS-III waters are generally in low to moderately developed watersheds.
Water Supply IV (WS-IV)	Waters used as sources of water supply for drinking, culinary, or food processing purposes where a WS-I, WS-II, or WS-III classification is not feasible. These waters are also protected for Class C uses. WS-IV waters are generally in moderately or highly developed watersheds or Protected Areas.
Water Supply V (WS-V)	Waters protected as water supplies which are generally upstream and draining to Class WS IV waters or waters used by industry to supply their employees with drinking water or as waters formerly used as a water supply. These waters are also protected for Class C uses.
DWR PRIMARY CLASSIFICATIONS	
Class SC	All tidal waters protected for secondary recreation such as fishing, boating, and other activities involving minimal skin contact, fish and noncommercial shellfish consumption, aquatic life propagation and survival; and wildlife.
Class SB	Tidal salt waters protected for all SC uses in addition to primary recreation. Primary recreational activities include swimming, skin diving, water skiing, and similar uses involving human body contact with water where such activities take place in an organized manner or on a frequent basis.
Class SA	Tidal salt waters that are used for commercial shellfishing or marketing purposes and are also protected for all Class SC and Class SB uses. All SA waters are also HQW (high quality water) by supplemental classification.

DWR SUPPLEMENTAL CLASSIFICATIONS	
High Quality Waters (HQW)	Intended to protect waters which are rated excellent based on biological and physical/chemical characteristics through Division of Water Quality monitoring or special studies, primary nursery areas designated by the NC Division of Marine Fisheries Commission, and other functional nursery areas designated by the Marine Fisheries Commission. The following waters are HQW by definition: WS-I, WS-II, SA, ORW (outstanding resource waters), primary nursery areas (PNAs) as designated by the Marine Fisheries Commission, and waters for which the Division of Water Quality has received a petition for reclassification to either WS-I, or WS-II classification.
Swamp Waters	Intended to recognize those waters which have low velocities and other natural characteristics which are different from adjacent streams.
Unique Wetland (UWL)	Wetlands of exceptional state or national ecological significance. These wetlands may include wetlands that have been documented as habitat essential for the conservation of state or federally listed threatened or endangered species.
Nutrient Sensitive Waters (NSW)	Intended for waters needing additional nutrient management due to their being subject to excessive growth of microscopic or macroscopic vegetation.

Table 23 Water Quality Classifications of Unincorporated Dare County Water Bodies

Water Body	Description	Classification
Atlantic Ocean	Waters of the Atlantic Ocean	SB
Pamlico Sound	From Croatan and Roanoke Sounds to a line running from Sandy Point south of Stumpy Point Bay to the northeast tip of Ocracoke Island	SA, HQW
Sandy Bay	Sandy Bay	SA, HQW
East Lake	Entire Lake	SC, Sw
Stumpy Point Bay	Entire Bay	SA, HQW
Alligator River	From mouth of Northwest Fork to US Hwy 64	SC, Sw, ORW
Croatan Sound 30-20-1	From a line running from a point of land on the southern side of mouth of Peter Mashoes Creek on Dare County mainland to Northwest Point on Roanoke Island to a line west of Reeds Point on the Dare County mainland.	SB
Croatan Sound 30-20-2	From Northwest Point on Roanoke Island to a line west to Reeds Point on the Dare County mainland to a line running from a point of land just below Long Wretch Creek on Dare County mainland to the Southern tip of Smith Island south of Roanoke Island.	SA, HQW
Shallowbag Bay	Entire Bay	SC
Roanoke Sound	From a line running from Northwest Point on Roanoke Island northwest to Rhodoms Point on Colington Island, thence a line running eastward through Memoriam Monumenet to a line running from the southern tip of Smith Island south of Roanoke Island	SA, HQW
Broad Creek	From source to Roanoke Sound	SA, HQW
Oregon Inlet	Entire Inlet	SA, HQW

Water Body	Description	Classification
Albemarle Sound	All waters south and east of a line running in a southerly direction from Horniblow Point) North end of Norfolk-Southern railroad bridge) to a point of land on the east side of Roanoke River (a line running along the railroad to the Chowan-Washington County	SB
Kitty Hawk Bay	Entire Bay	SC
Colington Creek	From Kill Devil Hills Bridge south to Buzzard Bay	SC
Jean Guite Creek	From source to Currituck Sound	SC
Currituck Sound	From source to Wright Memorial Bridge to Albemarle Sound	SC

The NC Shellfish Sanitation section of the Division of Marine Fisheries oversees consumer protection of shellfish. The section tests and issues reports on individual shellfish growing areas of the coastal region. The Reports for Sanitary Surveys discuss current situations and status of each growing area. The reports are updated every three years. Shellfish area classifications include approved, conditionally approved, restricted and prohibited. The Division of Marine Fisheries staff tests water quality and recommend temporary shellfish closure areas when heavy rainfall results in unacceptable fecal coliform bacteria levels.

There are several growing areas in Dare County identified as discussed in detail below. Copies of maps illustrative the shellfish areas as of December 2021 are provided in the Section One map supplement. Copies of sanitary survey reports for each area are available on the State's digital collections webpage at <https://digital.ncdcr.gov/digital>. Within each growing area are a number of sampling stations which are used by the Division of Marine Fisheries staff for testing and monitoring of water quality. The sanitary surveys include a map of the testing sites, description of the site's location, and test results for the survey's timeframe.

Table 24 Sanitary Survey Information for Dare County

Growth Area G-5	
Location: Pamlico Sound between Sandy Point and Long Point – Pains Bay in Dare County	
Date of Sanitary Survey	October 2013-October 2018
Total Shellfish Area	45,953 acres
Prohibited/Closed for Harvesting:	1,140 acres
Number of Sampling Stations	17
Potential Point Source Pollutions	None
Potential Non-Point Source Pollutions	Marinas, Stormwater, Subdivisions, Wastewater treatment plants, Onsite wastewater, Wildlife and domestic animals
Assessment: Review of the survey results indicated little overall change in pollution sources impacts since 2012 report. There were some declines in water quality noted at creeks and rivers in the area but these were already located in Prohibited waters.	

Growth Area G-7	
Location: Pamlico Sound – No sanitary Survey for Area	
Growth Area H-1	
Location: Includes Roanoke Sound, Shallowbag Bay, Broad Creek and Mill Creek	
Date of Sanitary Survey	July 2011 to March 2016
Total Shellfish Area	21,340 acres
Prohibited/Closed for Harvesting:	2,386 acres
Number of Sampling Stations	20
Potential Point Source Pollutions	Manteo WWTP discharge into Shallowbag Bay
Potential Non-Point Source Pollutions	Marinas, Stormwater, Subdivisions, Wastewater treatment plants, Onsite wastewater, Wildlife and domestic animals
Areas of Concern: Wanchese Industrial Park has 37 seafood and boat construction/repair businesses. Chemicals such as gas and oil could have impact on waters but there is a large Prohibited area surrounding the harbor, so impacts most likely do not extend to the Approved shellfishing waters.	
Assessment: Review of the survey results indicates some improvement in bacteriological water quality and all sampling stations met the Approved status.	
Growth Area H-2	
Location: Portion of Croatan Sound including several small creeks and tributaries, bordered by Roanoke Island to the east and Manns Harbor to the west.	
Date of Sanitary Survey	Nov 2013 to Nov 2018
Total Shellfish Area	41,103 acres
Prohibited/Closed for Harvesting:	726 acres
Number of Sampling Stations	17
Potential Point Source Pollutions	None
Potential Non-Point Source Pollutions	Marinas, Stormwater, Subdivisions, Wastewater treatment plants, Onsite wastewater, Wildlife and domestic animals
Assessment: Review of the survey data indicates little overall change in pollution source impacts or bacteriological water quality since previous survey, although some problems were noted around the southern tip of Wanchese. An expanded closure surrounding this area will be made and monitored. Several canals along Baumtown Road in Wanchese, as well as a silviculture drainage canal along Point Peter Road in Stumpy Point will also be closed as a result of this report. New sampling stations will be added outside both of this canal networks to ensure these new closures are adequate.	
Growth Area H-3	
Location: Stumpy Point Bay north and west of a line running from Old Point to Sandy Point.	
Date of Sanitary Survey	Feb 2010 to Dec 2014
Total Shellfish Area	5,790 acres
Prohibited/Closed for Harvesting:	376 acres
Number of Sampling Stations	17
Potential Point Source Pollutions	Stumpy Point WWTP
Potential Non-Point Source Pollutions	Marinas, Stormwater, Wildlife and domestic animals
Areas of Concern: Dredging of the emergency ferry terminal located on the western side of Stumpy Point Bay may cause temporary increases in sedimentation around the area of work.	

Assessment: Review of the survey results indicates little change since previous survey, no changes in classifications recommended. And all sampling stations meet the requirements for Approved status. Emergency closures may be necessary as a result of extreme rainfall events.	
Growth Area H-4	
Location: all waters along Hatteras Island between Hatteras inlet and Brooks Point.	
Date of Sanitary Survey	June 2012 to April 2017
Total Shellfish Area	6,917 acres
Prohibited/Closed for Harvesting:	286 acres
Number of Sampling Stations	12
Potential Point Source Pollutions	None
Potential Non-Point Source Pollutions	Marinas, Stormwater, Subdivisions, Wastewater treatment plants, onsite wastewater.
Areas of Concern: The US Coast Guard and the NC Ferry Service occupy the same marina basin at the western edge of Hatteras village. The Coast Guard facility is home to the three large life-saving vessels and any hazardous materials generated at the site are collected and transported elsewhere for disposal. The Ferry service maintains ten boats, each of which an onboard wastewater system. Runoff from impervious surfaces at both facilities likely impacts the surrounding water quality although there is a Prohibited area extending about 1000 feet outside of the basin.	
Assessment: Review of the bacteriological and shoreline survey data collected indicate little widespread change in bacteriological water quality or pollution source load impacting the area and no changes in classifications or sampling stations locations are necessary at this time. Emergency closures may be necessary as a result of extreme rainfall events.	
Growth Area H-5	
Location: Runs along the Outer Banks in the northern portion of the state between Pamlico Sound and the Atlantic Ocean.	
Date of Sanitary Survey	August 2012 to April 2017
Total Shellfish Area	57,311 acres
Prohibited/Closed for Harvesting:	204 acres
Number of Sampling Stations	10
Potential Point Source Pollutions	None
Potential Non-Point Source Pollutions	Marinas, Stormwater, Subdivisions, Wastewater treatment plants, Onsite wastewater, Wildlife and domestic animals
Areas of Concern: Construction of the Oregon Inlet bridge and New Inlet bridge will result in short term sedimentation and wetland disturbance impact during construction activities. The manmade canal of Port Avon Subdivision and Spencer Creek receive runoff from surrounding imperious areas resulting in closure of these areas for shellfishing.	
Assessment: Review of the bacteriological data collected indicate little widespread change in bacteriological water quality. However, two residential canals in Avon will be closed as a result of the shoreline survey. Changes in water levels within the Pea Island waterfowl impoundments and sampling results, the conditional management plan for the area will be discontinued. The area surrounding the impoundments will continue to be monitored as part of monitoring program. Emergency closures will continue following extreme rainfall events.	

Growth Area H-6	
Location: Pamlico Sound	
Date of Sanitary Survey	No survey report for this area
Growth Area I-2	
Location: Northern portion of Outer Banks near the towns of Nags Head, Kill Devil Hills, and Kitty Hawk.	
Date of Sanitary Survey	June 2006 to May 2011
Total Shellfish Area	54,504 acres
Prohibited/Closed for Harvesting:	5,410 acres
Number of Sampling Stations	21
Potential Point Source Pollutions	None
Potential Non-Point Source Pollutions	Marinas, Stormwater, Subdivisions, Municipal wastewater treatment plants, package wastewater treatment plants, Onsite wastewater, Wildlife and domestic animals
Assessment: The monitoring of this area adheres to the systematic random sampling strategy outlined by the National Shellfish Sanitation Program. Area 1-2 is classified property and no changes are recommended at this time.	
Growth Area I-4	
Growing Area I-4 Location: Alligator River watershed and a portion of the Albemarle Sound.	
Date of Sanitary Survey	August 2012 to April 2017
Total Shellfish Area	514,792 for total "I" areas of the report
Prohibited/Closed for Harvesting:	254,752 for all of "I" areas covered in the report.
Number of Sampling Stations	38 stations used for all of the "I" growing areas covered in the report.
Potential Point Source Pollutions	None in I-4.
Potential Non-Point Source Pollutions	Marinas, Stormwater, Subdivisions, Wastewater treatment plants, Onsite wastewater, Wildlife and domestic animals, silviculture
Assessment: Much of the area is composed of either farmland or the Alligator River Wildlife Refuge. There have been very few changes in the growing area since the 2009 survey.	
Growth Area I-15	
Location: Albemarle Sound	
Date of Sanitary Survey	August 2012 to April 2017
Total Shellfish Area	514,792 for total "I" areas of the report
Prohibited/Closed for Harvesting:	254,752 for all of "I" areas covered in the report.
Number of Sampling Stations	38 stations used for all of the "I" growing areas covered in the report.
Potential Point Source Pollutions	None in I-15

Potential Non-Point Source Pollutions	Marinas, Stormwater, Subdivisions, Wastewater treatment plants, Onsite wastewater, Wildlife and domestic animals, golf courses
Assessment: Little change in water quality since 2010 survey report so no changes in classifications as a result of this report.	
Growth Area I-16	
Location: Currituck Sound watershed.	
Date of Sanitary Survey	August 2012 to April 2017
Total Shellfish Area	514,792 for total "I" areas of the report
Prohibited/Closed for Harvesting:	254,752 for all of "I" areas covered in the report.
Number of Sampling Stations	38 stations used for all of the "I" growing areas covered in the report.
Potential Point Source Pollutions	Wastewater treatment plants.
Potential Non-Point Source Pollutions	Marinas, Stormwater, Subdivisions, Wastewater treatment plants, Onsite wastewater, Wildlife and domestic animals, golf courses
Assessment: Little change in water quality since 2010 survey report so no changes in classifications as a result of this report.	

Floods, Storm Surge and Other Natural Hazards Areas

There are many natural hazards that have the potential to affect Dare County. In order to receive federal disaster assistance, Dare County must adopt a hazard mitigation plan and update the plan every five years. The latest update of the plan was adopted in May 2020 and lists the following natural hazards for Dare County:

Coastal hazards (erosion, rip current, and sea level rise)

Drought

Earthquake

Extreme Heat

Flood

Hurricane and Tropical Storm

Severe Weather (thunderstorm, wind, lighting, and hail)

Severe winter storm

Tornado

Wildfire

Some of these hazards, such as an earthquake, have a low likelihood of occurrence. Some hazards, such as flooding, have an extremely high likelihood of occurrence and are discussed as follows:

Flooding is the predominant threat to unincorporated Dare County due to the close proximity of the Atlantic Ocean and the surrounding estuarine water bodies. Flooding can occur for many reasons: hurricanes and storm events, storm surge, or heavy rain events. Many areas of unincorporated Dare County are classified as special flood hazard areas (SFHA) or flood zones by the Federal Emergency Management Agency (FEMA). Special flood hazard areas are those areas that represent a 1% annual chance of flooding. The Federal Emergency Management Agency (FEMA) produces flood maps (Flood Insurance Rate Maps or FIRMs) for all of Dare County depicting the various flood zones that apply in Dare County.

The FIRMs depict flood zones using the following designations:

ZONE AE	Base flood elevations determined, areas of stillwater flooding subject to 1% annual chance of flooding.
ZONE VE	Base flood elevations determined, stillwater flooding with coastal flood velocity (wave action).
SHADED X	Areas that represent 0.2% annual chance of flooding.
X ZONE	Areas that have been determined to be out of the special flood hazard area.

In order to mitigate flood hazards, construction techniques, such as elevation of buildings, are commonly used in Dare County. The current Flood Insurance Rate Maps for Dare County become effective on June 19, 2020. These revised FIRMS remove large numbers of properties from the flood zones and reclassify them as Shaded X or X zones. Shaded X and X zone properties are not subject to mandatory flood insurance purchase requirements associated with a federally insured mortgage.

Table 25- Flood Zone Acreages for Unincorporated Dare County

2020 FIRMS	SFHA acres (VE+AE+AO)	VE (acres)	AE (acres)	AO (acres)	Shaded X TOTAL	X Zone
Avon	941	96	844	1	217	186
Buxton	1476	9	1467	0	184	317
Colington	1387	0	1387	0	251	490
East Lake	5208	0	5208	0	3	20
Frisco	1686	0	1686	0	29	68
Hatteras	732	43	674	15	99	54
Manns Harbor	3192	0	3192	0	92	195
Manteo Out	2579	0	2579	0	171	2471
Martin's Point	169	0	159	0	52	123
RWS	898	125	749	24	520	74
Stumpy Point	1519	0	1519	0	0	0
Wanchese	5262	307	4955	0	107	530
TOTALS	25039	580	24419	40	1725	4528

Due to the large number of properties reclassified, there was a concern that many property owners may interpret the designation of their property as a Shaded X or X zone as not being at risk to flood hazards. This is not true. Because of this perceived lower flood risk, property owners may choose to not continue to carry flood insurance coverage. In response to this concern, Dare County and the other municipalities in Dare County adopted a local elevation standard for the Shaded X and X zones, which imposes elevation requirements and other floodplain management tools typically associated with AE zones and VE zones.

Historical copies of past flood maps are available in the office of the Dare County Planning Department. For the FIRM effective 2020, the maps can be viewed on-line at the North Carolina Flood Risk Information System (FRIS) webpage.

There are other flood risks that are not reflected on the flood maps. Flood maps only depict the 1% annual chance of flooding. Rainfall from hurricanes and other storms can cause flooding. Even structures in areas that generally do not flood or areas in X zones can flood due to flash flooding from rain, high groundwater levels and the naturally low elevations of the island topography of the Outer Banks. Alteration of natural drainage patterns and wetland areas can result in increased risk of flooding. Drainage ditches and streams that are clogged can contribute to flooding. Heavy rain and surface runoff may overwhelm stormwater improvements resulting in floodwaters overflowing into roads and buildings. Heavy rain events over the past five years, such as Hurricane Matthew, resulted in flooding in many areas of Dare County including the north end of Roanoke Island, Colington, Avon, Salvo and Martin's Point.

Dare County participates in the Community Rating System, a voluntary program that results in discounts on flood insurance policies. Participating communities must complete annual outreach activities on flood hazards and adopt higher regulatory standards than the federal guidelines. Dare County is currently classified as a Class 6 CRS community with a 20% discount applied to flood insurance policies in AE and VE zones. One example of the higher regulatory floodplain regulations adopted by Dare County is a freeboard elevation standard added to the base flood elevations established by the flood insurance rate maps.

Wind-driven tides not associated with named hurricanes or tropical storms also can result in flooding in the low lying areas of unincorporated Dare County. The impacts depend on the direction of the wind and the specific geographic location. Strong northwest winds or southwest winds impact Colington, Martins Point, Roanoke Island, Mainland Dare County and the four northern villages on Hatteras Island. These wind-driven tidal events can result in flooding of roads and depending on the severity of the weather system, flooding of non-elevated homes. Strong northeast winds can impact all of Hatteras Island, especially for extended periods of higher-than-normal ocean tides because of high wind and/or lunar events.

These events can result in minor nuisance flooding or more severe flooding with overwash on NC 12 resulting in road closures. Erosion along the immediate ocean shoreline can result in collapsed structures.

Storm surge and the increased water levels associated with hurricanes and tropical storms is also an issue in Dare County. Storm surge can be several feet above the average high tide and result in increased erosion and damage to infrastructure and buildings. The extent of areas impacted by storm surge depends on each storm and its intensity, forward speed, and angle of approach to the Dare County shoreline. FEMA produces storm surge models based on the Saffir-Simpson hurricane ranking chart (category 1-5). Copies of these maps are included in the Section One map supplement.

Coastal erosion along the Atlantic Ocean is also a hazard that impacts unincorporated Dare County. As discussed earlier in this plan, there are setbacks along the Atlantic Ocean that are established as part of the Coastal Area Management Act. These setbacks are based on annual erosion rates that are applied for development activities along the oceanfront. The northern area of Rodanthe village has some of the highest annual erosion rates in the State of North Carolina. A map of the annual erosion rates for all of Hatteras Island are found in Section Two Map Supplement.

As noted above, there are other various natural hazards that impact unincorporated Dare County as outlined in detail in the 2020 Outer Banks Hazard Mitigation Plan. A copy of this plan can be accessed at <https://www.darenc.com/departments/emergency-management/about>.

Non-coastal Wetlands

Non-coastal wetlands are those wetlands that are inland or non-tidal wetlands. They are commonly found in low-lying areas surrounded by dry land where the groundwater intercepts with ground level and are frequently saturated by rainfall. Some non-coastal wetlands areas may be dry at times. Even during dry periods, non-coastal wetlands provide critical habitat for wildlife. Non-coastal wetlands or “freshwater” wetlands are regulated by the Corps of Engineers under the Clean Water Act. As defined by the Corps, non-coastal wetlands are “areas that are inundated or saturated by surface or groundwater at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” Certain land development activities in freshwater wetlands or in proximity to freshwater wetlands may be permitted by the Corps of Engineers. Individual lot evaluations to determine the presence and extent of freshwater wetlands must be undertaken by property owners.

Water Supply Watersheds –Wellhead Protection

Although there are no water supply watersheds in unincorporated Dare County, the regional water system for includes five water plants. These plants rely groundwater on the Yorktown aquifer and the surficial aquifer of the Buxton Woods area. The County uses a variety of techniques to purify and desalinate raw water. Water from these aquifers is drawn from deep wells. A Wellhead Protection Plan was prepared by Dare County in 2014 and approved by the State of North Carolina. The plan delineates the wellhead protection areas, identifies potential contaminants, and outlines outreach activities used for protection of the wellhead areas. Maps of these wellhead protection areas are included in the Section Two Map Supplement.

Primary Nursery Areas

The Division of Marine Fisheries also applies classifications to salt marshes and estuaries that serve as the nursery grounds for the vast majority of our state's fisheries. There are three categories of nursery areas used by the Division of Marine Fisheries – primary nursery areas, secondary nursery areas, and special secondary nursery areas. Primary nursery areas (PNAs) are located in the upper portions of creeks and bays. These areas are usually shallow areas with soft, muddy bottoms and are surrounded by marshes and wetlands. Low salinity and the abundance of food in these areas are ideal for young fish and shellfish. To protect these juvenile fisheries, many commercial fishing activities are prohibited in these waters, including the use of trawl nets, seine nets, dredges or any mechanical methods used for taking clams or oysters. Maps of the specific areas in Dare County that are designated as PNAs can be found in the Section Two Map Supplement. Secondary nursery areas are located in the lower portions of creeks and bays. As young fish and shellfish (primarily blue crabs and shrimp) develop and grow, they move into the secondary nursery areas. Trawling is not permitted in designated Secondary Nursery Areas. These areas as established in NCAC 03R.0103 include more waterways than the primary nursery areas designated for inland waters by the Division of Waters Resources.

In unincorporated Dare County, the following areas of designated as NC Division of Wildlife Resources primary nursery areas as delineated in NCAC 10C.0503 for inland waters under their jurisdiction.

Alligator River – East Lake –Dare County- inland waters
Currituck Sound – Martin's Point Creek – Jean Guite Creek
Albemarle Sound – Peter Mashoes Creek
Croatan Sound – Spencer Creek

Environmentally Fragile Areas

There are many fragile areas found in unincorporated Dare County that many are protected by federal or state ownership or subject to federal, state or local regulations due to their vulnerability to inappropriate development activities. The Coastal Area Management Act (CAMA) is one example of state regulations designed to protect natural resources found in coastal counties. Other State and federal regulations apply to mineral extraction and mining on private lands. Under NC law, mining activities that involve more than one acre are subject to State regulations. Mining activities that involve less than one acre are not regulated by the State or local regulation although most of the zoning districts in Dare County do not permit large-scale sand mining. Dare County also has zoning regulations that preclude alteration of inland dunes unless authorized by Dare County. The main area used for sand mining is a property in East Lake that was permitted decades ago and continues to be used as a sand resource.

Wetlands

As discussed in the previous sections, coastal wetlands and non-coastal wetlands are important resource areas. Wetlands serve vital roles in primary and secondary nursery areas for fisheries resources and other wildlife habitat. They also serve as natural buffers for stormwater runoff and offer protection from flooding. Depending on the nature of the wetlands, state or federal regulations may apply to development activities or prohibit development activities. North Carolina has implemented a wetlands evaluation program – Coastal Regional Evaluation of Wetland Significance (CREWS) that ranks the functional significance of wetlands. The evaluation rates wetlands as having exceptional, substantial, or beneficial functional significance depending on the ability and opportunity of each wetland type to provide water quality, hydrologic, and wildlife habitat functions.

Under the NC-CREWS a wetland is rated as exceptional when it performs well above normal levels or when any two of the primary wetland functions (water quality, hydrology and wildlife habitat) are rated as exceptional. The CREWS system also rates wetlands as exceptional if they are located adjacent to primary nursery areas, unique natural ecosystems, or if they contain threatened or endangered species.

A wetland is rated as substantial when the wetland performs the three wetland functions at normal or slightly normal level. A wetland that serves as a buffer to an exceptionally rated wetland is ranked as substantial.

A wetland that is rated as beneficial when it performs the three wetland functions at below normal levels, or in some cases, not at all. A wetland is rated as beneficial when any two of the primary wetland functions are rated low and none are rated high.

Additional information on the NC-CREWS system can be found at the Division of Coastal Management webpage at <https://deq.nc.gov/about/divisions/coastal-management>.

Natural Heritage Areas

The North Carolina's Natural Heritage Program identifies and inventories information about rare species and natural communities in North Carolina. This information can be used by landowners and developers to evaluate potential ecological impacts of conservation and development projects. A 2014 report by the NC Department of Environment and Natural Resources was prepared for Dare County. This report inventories the most significant natural areas in Dare County, describes their features, and documents all natural communities and rare species of plants and animals found in Dare County. A total of 34 areas of outstanding ecological significance are identified using criteria established by the North Carolina Natural Heritage Program. The majority of these sites are located within existing protected areas such as the Alligator River National Wildlife Refuge and the Cape Hatteras National Seashore. Some of the areas are located within municipal areas of Dare County but included in the LUP as noted in the list below:

1. Alligator River Refuge – Southeast Marshes
2. Alligator River Swamp Forest
3. Alligator River/South Lake Swamp Forest
4. Bodie Island Lighthouse Pond
5. Bodie Island Ponds, Marshes and Dunes
6. Buxton Woods
7. Cape Hatteras Point
8. Clam Shoal
9. Dare County Pocosin
10. Durant Island
11. Faircloth Road Pine Pocosin
12. Fort Raleigh Maritime Forest
13. Gull Island
14. Hatteras Inlet Bird Nesting Islands
15. Hatteras Island Middle Section
16. Hatteras Sand Flats
17. Jockey's Ridge State Park (Town of Nags Head)
18. Kitty Hawk Bay Islands
19. Kitty Hawk Woods (Town of Kitty Hawk)
20. Mashoes Woods
21. Mashoes Pocosin
22. Mother Vineyard Natural Area
23. Nags Head Woods/Run Hill (Town of Nags Head and Kill Devil Hills)
24. Oregon Inlet/Roanoke Sound Bird Nesting Islands
25. Pea Island National Wildlife Refuge
26. Pine Island Audubon Sanctuary/Currituck County Natural Area
(Currituck County)

- 27. Pine Road Swamp
- 28. Roanoke Island Juncus Marsh
- 29. Roanoke/Stumpy Point Marshes and Pocosin
- 30. Southern Shores Cypress Swamp (Town of Southern Shores)
- 31. Taylor Road Natural Area
- 32. Turtle Pond and Cape Hatteras Lighthouse Pond
- 33. West Roanoke Island Marshes
- 34. Wright Brothers Dune Barrens (Town of Kill Devil Hills)

A map illustrating these areas from the 2014 report is included in Section Two Map Supplement

Areas Containing Endangered/Threatened Species

An endangered plant or animal is a species that is at risk of extinction due to a sudden rapid decrease in population of the species or a loss of its critical habitat. The federal list of endangered species is managed under the 1973 Endangered Species Act. Threatened species are also protected by the federal government. The US Fish and Wildlife Service and the National Marine Fisheries Service oversee the listing and protection of animal, marine and plant species. A report of endangered and threatened species in Dare County prepared by the US Fish and Wildlife Service is included as Appendix F.

Prime Wildlife Habitats

As discussed in the previous sections, there are abundant natural resources in Dare County that serve as prime wildlife habitats and as such have been identified by the NC Natural Heritage Program or are located within the federal wildlife refuges and the national seashore of 40-42unincorporated Dare County.

Maritime Forests/-Forest Lands

The Buxton Woods maritime forest is protected by local zoning regulations and through ownership interests of the State of North Carolina of the 900-acre Buxton Woods coastal reserve.

Commercial forestry does not occur frequently in Dare County. Occasionally small-scale timber harvesting occurs on private property.

Productive Agricultural Lands

There productive agricultural lands in Dare County are located on the Mainland but much of the acreage is included in the Alligator River Wildlife Refuge and protected from development by this federal ownership. Dare County also owns agricultural lands that are leased by private farmers for use.

Anadromous Fish Spawning Areas

Anadromous fish spawning areas are areas identified by the NC Division of Marine Fisheries and the NC Wildlife Resources where sampling has verified spawning of fish eggs or fish larvae. Maps of the areas in unincorporated Dare County are found in Section Two Map Supplement. These areas are generally tributaries of the Alligator River.

Submerged Aquatic Vegetation

Submerged aquatic vegetation (SAVs) are plants that grow in the ground under the surface of the water during all tidal stages. SAVs are often referred to as sea grass, eel grass, underwater grass and others. There are eight species of SAVs in North Carolina, some native species and some introduced species. SAVs shelter juvenile and adult fish and invertebrates from water current and other predators. SAVs also help to dissipate energy in waves thereby reducing erosion and sediment in the nearby waters.

While the majority of SAVs serve an important function in the function of fish and aquatic animal habitats, some non-native SAVs, such as Eurasian watermilfoil, are considered noxious species. It crowds out other native species and can be damaging to habitats for fish, birds and other aquatic animals.

2.3 Environmental Conditions

Water Quality

Basinwide management plans for the seventeen major river basins in North Carolina have been prepared by the State of North Carolina. The goals of the basin plans are to identify water quality problems and to protect high value resource waters. Dare County is located in the Pasquotank River Basin and the Tar-Pamlico River Basin. An update to the Pasquotank basin report was prepared in 2021 and was still in its “draft form” during the update of the Dare land use plan. Although still in its draft form, the report was consulted for more current data instead of the 2007 original basinwide report. The 2021 report references the shellfish sanitation reports prepared by the Division of Marine Fisheries as discussed earlier in this LUP. The report also contains a review of point sources and nonpoint sources of pollutants. The areas of unincorporated Dare County covered by this report include sections of the Albemarle Sound including the Alligator River, the Croatan Sound, the Currituck Sound and the Roanoke Sound and their associated tributaries. Agriculture, forestry, stormwater, failing onsite septic systems, altered hydrology and climate change are identified as potential sources of impacts on water quality in this basin.

The 2021 version uses the federal Hydrologic Unit Codes instead of the sub-basin designations used in the 2007 basin report. In the 2007 basin report sub-basins 03-01-51, 03-01-55 and 03-01-56 are located in Dare County.

Sub-basin 03-01-051 is designated as HUC0301020509 in the 2021 report. The area is 38,420 acres and the primary surface water quality classification is SC, supplemental classification: SW and Outstanding Resources Water designation. The ORW supplemental classification is intended to protect waters exhibiting excellent water quality. Nutrients, fecal coliform and turbidity readings in the area are relatively low compared to other rivers in the area that contribute to the Albemarle Sound. However, the Alligator River is on the 2018 impaired waters lists for copper and iron.

Sub-basins 0301-55 and 03-01056 in the 2007 basin plan are now identified as the Albemarle Sound-Croatan Sound HUC0301020514 and the Croatan Sound HUC0301020515. The Albemarle Sound –Croatan Sound HUC includes 407 square miles of land across several counties including eastern Dare County with 82% of this area being open water. Potential sources of pollutants include wastewater treatment plants, marinas, stormwater, subdivisions, onsite septic systems, golf courses, and domestic animals and wildlife.

The 2021 draft Pasquotank River basinwide plan can be accessed at <https://deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/pasquotank>.

The Tar-Pamlico basin report was originally prepared in 1994 with the most recent update in 2014. The Tar River originates in north central North Carolina and empties into the Pamlico Sound. The entire basin is classified as Nutrient Sensitive Waters (NSW). Nutrient enrichment of the waterbodies in the basin is the main water quality issue and has the focus of regulatory activities and management strategies for wastewater dischargers, stormwater and agriculture. Despite these strategies water quality standards have not been met.

The Pamlico Sound Sub-basin 03020105 includes portions of Dare County (Hatteras Island) in addition to areas of Carteret, Hyde and Pamlico counties. There is 549,036 acres of saltwater in the sub-basin. 484,075 acres are classified as SA, HQW, 24,125 classified as SA, ORW, 40,648 acres classified as SC, 135 acres classified as SC, HQW and 54 acres classified as SC, ORW. This sub-basin includes Marine Fisheries growing areas G-5, H-4, H-5 and H-6 in unincorporated Dare County. In this subbasin, use support was assigned for aquatic, recreation, shellfish harvesting, fish consumption and water supply categories. Water are supporting, Not Rated or No Data in the aquatic and recreation categories. Waters are Impaired for fish consumption and Supporting for the water supply category. There are 519,897 acres classified as shellfish harvesting with 2,419 acres listed as Impaired due to fecal coliform contamination.

The 2014 Tar-Pamlico Basinwide Plan can be downloaded at <https://deq.nc.gov/about/divisions/water-resources/water-planning/basin-planning/river-basin-plans/tar-pamlico#2014-tar-pamlico-basin-plan>.

Also, water quality information for water bodies in Dare County and the Albemarle region can be researched at <https://mywaterway.epa.gov>. This website managed by the US Environmental Protection Agency includes a searchable database by address to check local waterbodies for different use groups such as aquatic life, fish and shellfish consumption, and recreational uses.

303(d) List of Impaired Waters

Section 303(d) of the Clean Water Act requires all states to develop a list of waters not meeting federal water quality standards or waters that have impaired uses. Any waters included on the 303 (d) list must be prioritized and management strategies developed for all waters appearing on the list. For North Carolina, the Division of Water Resources is responsible for preparing the list of North Carolina waters. The 2020 list includes various water bodies in unincorporated Dare County. The pertinent sections of the 303(d) for unincorporated Dare County are included as Appendix G of the land use plan.

Shellfish Closures

The waters surrounding Dare County are abundant shellfish and fisheries resources. As discussed earlier, the Division of Marine Fisheries classifies waters for shellfish harvesting purposes and monitors water quality. Sanitary survey reports are prepared by DMF. The DMF website contains up-to-date information about the permanent and temporary closure orders issued by the agency -- <https://deq.nc.gov/about/divisions/marine-fisheries/shellfish-sanitation-and-recreational-water-quality/shellfish-growing-areas>. An analysis of the sanitary survey reports for each of the growing areas located in Dare County was completed by the Planning Department as documented in Table 26.

Table 26 Shellfish Growing Areas

<i>Growing Area G-5</i>	2018 Report	2015 Report	2012 Report
Total Shellfish Area	45,953 acres	45,953 acres	45,953 acres
Prohibited/Closed	1,140 acres	762	1,523
Prohibited/Closed %	2.4%	1.7%	3.3%
<i>Growing Area G-7</i>	<i>Pamlico Sound No Data</i>		
<i>Growing Area H-1</i>	2016 Report	2013 Report	2010 Report
Total Shellfish Area	21,340 acres	21,340 acres	21,340 acres
Prohibited/Closed	2,386 acres	2,386 acres	2,386 acres
Prohibited/Closed %	11.2%	11.2%	11.2%
<i>Growing Area H-2</i>	2018 Report	2014 Report	2012 Report
Total Shellfish Area	41,103 acres	41,103 acres	41,103 acres
Prohibited/Closed	726	750	865
Prohibited/Closed %	1.7%	1.8%	2.1%

<i>Growing Area H-3</i>	2016 Report	2012 Report	2009 Report
Total Shellfish Area	5,790 acres	5,790 acres	5,790 acres
Prohibited/Closed	376	376	376
Prohibited/Closed %	6.5%	6.5%	6.5%
<i>Growing Area H-3</i>	2017 Report	2014 Report	2010 Report
Total Shellfish Area	6,917 acres	6,917 acres	6,917 acres
Prohibited/Closed	286	272	261
Prohibited/Closed %	4.1%	3.9%	3.8%
<i>Growing Area I-2</i>	2011 Report	2008 Report	
Total Shellfish Area	54,504 acres	54,504 acres	NA
Prohibited/Closed	5,410	5,410	NA
Prohibited/Closed %	9.9%	9.9%	NA
<i>Growing Area I-4, 1-15, 1-16</i>	2017 Report	2012 Report	2005 Report
Total Shellfish Area	514,792 acres	514,792 acres	514,792 acres
Prohibited/Closed	254,752 acres	254,752 acres	254,752 acres
Prohibited/Closed %	49.4%	49.5%	49.4%

Overall, the areas of shellfish closures have remained consistent over the past decade. Each of the sanitary survey reports note that temporary closures are issued following heavy rain events and these closures have become more frequent in the past several years.

Nonpoint Source pollution

The closure of water temporarily for shellfish harvesting after heavy rain events also is needed for swimming and other recreational water uses. The runoff from adjoining lands and domestic and wildlife sources results in these temporary closures. Other than these temporary closures that typically occur in the summer months, there are no public health problems associated with nonpoint source pollution.

In late 2021, Dare County was received notice of a moratorium on new wastewater connections at the Kinnakeet Shores Soundside wastewater treatment plant in Avon. The moratorium, implemented by the NC Division of Water Resources, was in response to a lack of maintenance at the privately-owned plant. According to reports from the NCDWR staff, there has been no maintenance performed at the plant for several years. Resolution of the situation will be handled by the State and it is unforeseen how long it will take for the moratorium to be discontinued.

Areas Subject to Recurrent Flooding, Storm Surge and High Winds

Many areas of Dare County are located in flood hazard areas or storm surge areas due to the close proximity of the Atlantic Ocean and the surrounding estuarine water bodies. Special flood hazard areas, or flood zones, are those areas that represent a 1% annual chance of flooding. The Federal Emergency Management Agency (FEMA) produces flood maps (Flood

Insurance Rate Maps or FIRMs) for all of Dare County depicting the various flood zones that apply in Dare County.

The FIRMs depict flood zones using the following designations:

<i>ZONE AE</i>	Base flood elevations determined, areas of stillwater flooding subject to 1% annual chance of flooding.
<i>ZONE VE</i>	Base flood elevations determined, stillwater flooding with coastal flood velocity (wave action).
<i>SHADED X</i>	Areas that represent 0.2% annual chance of flooding.
<i>X ZONE</i>	Areas that have been determined to be out of the special flood hazard area.

In order to mitigate flood hazards, construction techniques, such as elevation of buildings, are commonly used in Dare County. The current Flood Insurance Rate Maps for Dare County become effective on June 19, 2020. These revised FIRMS remove large numbers of properties from the flood zones and reclassify them as Shaded X or X zones. Shaded X and X zone properties are not subject to mandatory flood insurance purchase requirements associated with a federally insured mortgage. Table 25 on page 32 details the flood zone acreages for unincorporated Dare County. Due to the large number of properties reclassified, there was a concern that many property owners may interpret the designation of their property as a Shaded X or X zone as not being at risk to flood hazards. This is not true. Because of this perceived lower flood risk, property owners may choose to not continue to carry flood insurance coverage. In response to this concern, Dare County and the other municipalities in Dare County adopted a local elevation standard for the Shaded X and X zones, which imposes elevation requirements and other floodplain management tools typically associated with AE zones and VE zones.

Historical copies of past flood maps are available in the office of the Dare County Planning Department. For the FIRM effective 2020, the maps can be viewed on-line at the North Carolina Flood Risk Information System (FRIS) webpage.

There are other flood risks that are not reflected on the flood maps. Flood maps only depict the 1% annual chance of flooding. Rainfall from hurricanes and other storms can cause flooding. Even structures in areas that generally do not flood or areas in X zones can flood due to flash flooding from rain, high groundwater levels and the naturally low elevations of the island topography of the Outer Banks. Alteration of natural drainage patterns and wetland areas can result in increased risk of flooding. Drainage ditches and streams that are clogged can contribute to flooding. Heavy rain and surface runoff may overwhelm stormwater improvements resulting in floodwaters overflowing into roads and buildings. Heavy rain events over the past five years, such as Hurricane Matthew, resulted in flooding in many areas of

Dare County including the north end of Roanoke Island, Colington, Avon, Salvo and Martin's Point.

Dare County participates in the Community Rating System, a voluntary program that results in discounts on flood insurance policies. Participating communities must complete annual outreach activities on flood hazards and adopt higher regulatory standards than the federal guidelines. Dare County is currently classified as a Class 6 CRS community with a 20% discount applied to flood insurance policies in AE and VE zones. One example of the higher regulatory floodplain regulations adopted by Dare County is a freeboard elevation standard added to the base flood elevations established by the flood insurance rate maps.

As noted in the previous section, flooding, storm surge, and high winds are all hazards that affect Dare County. Flooding can occur from storm surge along the oceanfront and estuarine shoreline and depending on the severity of the storm, can extend great distances from the immediate shoreline. Flooding can also result from heavy rains.

Because of the island geography of unincorporated Dare County, many areas are subject to recurrent flooding. Dare County prepared a Repetitive Loss Area Analysis in 2015 in conjunction with the County's participation in the Community Rating System. This plan was updated in 2020 and identifies those areas in unincorporated Dare County that have experienced repetitive flood losses as documented through flood insurance claims filed with the National Flood Insurance Program. The repetitive structure list is updated annually by the NFIP and Dare County reviews this list for corrections and makes note of any new structures that have been added to the list because of flood events. As of December 31, 2021, there were 1,094 structures on the NFIP repetitive loss list.

Storm surge is one of the most hazardous threats from coastal storms and can produce damaging floods to structures along the immediate shoreline of the Atlantic Ocean and other water bodies of Dare County. Maps from the National Weather Service of storm surge areas are included in the Section Two Map Supplement. In an effort to educate property owners and visitors on the potential impacts of storm surge, the Dare County Emergency Management department installed storm surge poles throughout Dare County to illustrate the above ground levels of storm surge. These color-coded poles provide a realistic example of water heights.



Coastal erosion along the Atlantic Ocean is also a hazard that impacts unincorporated Dare County. As discussed earlier in this plan, there are setbacks along the Atlantic Ocean that are established as part of the Coastal Area Management Act. These setbacks are based on annual erosion rates that are applied for development activities along the oceanfront. The northern area of Rodanthe village has some of the highest annual erosion rates in the State of North Carolina. Maps of the annual erosion rates for all of Hatteras Island are found in the Map Supplement.

High winds are a frequent condition in Dare County and Dare County is designated a special wind zone hazard area in the North Carolina residential and building codes. New construction must be designed and constructed to withstand hurricane force winds of 130 mph. The building code includes provisions for impact resistant glass in response to these wind zone requirements.

[Impacts of Development on Fragile Areas and Natural Resources](#)

As discussed in the previous sections, many of the fragile and natural resources of unincorporated Dare County are publicly owned or regulated by federal, state and local regulations. The large amount of publicly owned lands serve as protection for many of the environmentally fragile areas and natural resources of the area. This public ownership serves as the highest level of protection for these resources from development impacts.

The environmentally fragile natural resources found in the Cape Hatteras National Seashore, the Pea Island National Seashore, the Alligator River Wildlife Refuge and Fort Raleigh National Park are owned by the federal government and protected by this federal ownership. Many of the natural heritage areas identified previously are found in areas owned by the federal or state government.

The Division of Coastal Management regulates the natural resources found along the ocean and estuarine shorelines, public trust waters and coastal wetlands. These regulations serve to protect these environmentally fragile areas from incompatible development activities. The setbacks along the oceanfront have been successful in protecting the public trust areas of the oceanfront and limiting the impacts of incompatible or unmanaged development activities. The CAMA regulations for public trust waters and along the estuarine shoreline are important tools in managing the negative impacts of development. Other State agencies under the NC Department of Environmental Resources also have regulations that address water quality, wastewater systems, stormwater and other resource protection programs. These State programs are effective in protecting the resources and managing development in unincorporated Dare County.

Resources such as the maritime forests in Dare County are protected by State ownership in the Buxton Woods Reserve and by special environmental zoning regulations of Dare County. The CAMA AEC that applies to the wellfield area in the maritime forest protects the shallow aquifer found in the area. The combination of public ownership and land use regulations are appropriate measures for the protection of the maritime forest and the wellfield area.

The majority of the endangered or threatened species discussed in this update are protected by federal management programs or located on federally owned lands.

The Corps of Engineers manages the Clean Water Act that applies to freshwater wetlands. These resources are protected under Section 404 of this act. It is unlikely the regulation of freshwater wetlands will be eliminated by federal legislation due to the importance of freshwater wetlands.

Existing Land Use and Development

Existing Land Use Patterns

There are two predominant factors influencing the land use patterns of unincorporated Dare County – the island topography and the vast amount of publicly-owned lands. The villages of unincorporated Dare County are interspersed among the islands and the acres of public ownership. The narrowness of the area limits the location of transportation improvements. Commercial development is generally found along the main transportation routes of US 64, NC 12 and US 158. Residential areas are located in other areas and accessed by smaller roads

and streets. The majority of existing land use is dedicated to residential development, primarily detached one-family dwellings. Each village has some commercial development, mostly retail and service oriented. The incorporated towns of Dare County are developed in a more urban fashion and provide support to the residential areas of unincorporated Dare County.

CAMA guidelines require the development of existing use maps to depict land use patterns as part of the land use plan update process. Maps for unincorporated Dare County have been developed and are included in the Section One map supplement.

General land use categories used to develop these maps are as follows:

<i>Residential</i>	<i>single-family homes, duplexes, multifamily structures, mobile homes.</i>
<i>Commercial</i>	<i>retail, food stores, hotels, professional and medical offices, sales, service establishments, and other business uses.</i>
<i>Industrial</i>	<i>boat building facilities, contractors' offices, warehouses, manufacturing, concrete plants, wholesale and distribution facilities.</i>
<i>Institutional</i>	<i>churches, schools, utilities, fire stations, community buildings, recreational areas, improved government property.</i>
<i>Public</i>	<i>undeveloped Federal, State or County property</i>
<i>Other Federal</i>	<i>Other federal-owned lands used by US military</i>
<i>Undeveloped</i>	<i>privately-owned vacant land</i>

Examples of residential category



Year-round neighborhood in Colington



Oceanfront residential structures, typically used as seasonal vacation accommodations.

Examples of Commercial Category



Commercial retail structure on Hatteras Island.



Large multi-unit commercial structure

Examples of Industrial Category

*Warehouse structures in the
Wanchese Marine Industrial Park*



Concrete manufacturing plant components

Examples of Institutional Category

Churches are classified as institutional.



Public buildings such as fire stations are also classified as institutional land uses.



Table 27—Acreage Calculations for Existing Uses

	Resd	Comm	Indus	Instu	Public	Undv	Oth Fed	TOTAL
Colington/ KDH Out	1,035	28	6	38	618	408	0	2,133
Martins Point	279	9	0	1	1	43	0	333
Rodanthe	226	25	0	53	86	130	0	520
Waves	148	104	0	3	79	95	0	429
Salvo	254	7	6	9	245	155	0	676
Avon	579	58	5	126	138	431	0	1,337
Buxton	579	98	9	3,092	873	379	0	5,030
Frisco	600	48	3	1,257	583	569	0	3,060
Hatteras	395	59	4	48	117	325	0	948
Manteo Out	1,411	43	28	775	1,878	1,085	0	5,220
Wanchese	1,122	45	99	208	1,136	3,190	0	5,800
Manns Harbor/ Mashoes	817	16	26	2,124	32,096	1,553	0	36,632
East Lake	1,094	1	24	25,160	39,323	3,825	23,898	93,325
Stumpy Point	372	4	3	56	34,305	1,078	22,076	57,894
TOTAL	8,911	536	213	32,949	111,457	13,266	45,974	213,326

An analysis of vacant land in unincorporated Dare County is found under the discussion of “Future Land Use Needs” located at the end of this section.

Individual Village Descriptions

Martin’s Point – The Martin’s Point Subdivision is located adjacent to the Town of Southern Shores with commercial development along the frontage of US 158. The majority of the subdivision is platted as residential lots. A controlled gate limits access to the residential section. The area is bounded to the west and north by the Currituck Sound. Some of the residential lots front on Jean Guite Creek which runs along the east side of the subdivision adjacent to the Town of Southern Shores. For many years, Martin’s Point was under the extraterritorial zoning jurisdiction of Southern Shores. However, the residential portions of the subdivision reverted back to the County’s jurisdiction in October 2000 and the commercial portions reverted back to the County in October 2023. Development in Martin’s Point will be limited in the next five years to the existing vacant lots in the subdivision. Of the platted residential lots, about 80% of these lots have already been developed with residential dwellings. Some portions of the vacant lots may be located in flood hazards areas or in CAMA AECs along the Currituck Sound. Recognized construction techniques, such as elevation of the structures and setbacks from the shoreline, are utilized to address any limitations associated with the natural features of the area. Of the 10 platted commercial lots, 100% of these lots have already been developed with commercial structures.

KDH Outside/Colington – The KDH Outside tax district includes the area known as Baum Bay and is located adjacent to the Kill Devil Hills municipal boundary and continues to the first bridge on Colington Road. The Colington tax district includes Little Colington and Big Colington islands. A zoning map for the area was adopted in 1997. The map was based on existing land uses along Colington Road and the residential areas located off Colington Road. Commercial fishing and traditional land uses played an important role in the development of the Colington zoning map. The largest subdivision in the area, Colington Harbour, was zoned in 1985. Both areas continue to serve as year-round communities with a mix of residential dwellings, mobile homes and a handful of commercial uses. Commercial fishing and crabbing continue to influence the community. The adjacent estuarine waters are a source of recreational pleasure for visitors. The close proximity of the First Flight Schools campus serves as an attraction to many families.

Development in the KDH Outside/Colington area is expected to occur during the next five years following the established patterns of development in those commercially zoned areas with residential development occurring in the numerous subdivisions and the handful of mobile homes parks. Redevelopment activities will consist of replacement of older homes with newer structures. As land prices rise, the potential transition of some of the mobile home parks and mobile home lots to more traditional single-family neighborhoods may occur. The KDH Outside/Colington area is impacted by the limitations associated with the development along water bodies and the typical island topography of low ground elevations. Elevation of structures to mitigate flood risks and shoreline setbacks are used to address hazards associated with the natural features of the area.

Rodanthe – Traveling south from Oregon Inlet on NC 12, Rodanthe is the first Hatteras Island village after the Pea Island Wildlife Refuge. NC 12 is the only major transportation route on Hatteras Island and most commercial development is found along the NC 12 frontage. Elsewhere, residential lots and structures of various sizes and ages can be found throughout the village.

S-1 zoning was adopted for Rodanthe in 1987, which allows all uses but does establish building setbacks, parking regulations, density controls, and other dimensional regulations. Property owners and residents remain resistant to more restrictive zoning regulations despite the potential for conflicting or incompatible uses.

At times, NC 12, is inaccessible due to ocean overwash. The reliability of NC 12 was cited as a primary concern of property owners responding to the 2018 Land Use Plan survey. The replacement bridge over Oregon Inlet opened in April 2019 and construction on the Rodanthe Bridge started in 2019. These bridge improvements should address some of the hot-spot overwash areas.

Over the next five-year planning period, development along the NC 12 corridor is expected to follow the existing patterns of visitor-oriented businesses and commercial development. Residential development for seasonal visitors is anticipated along the oceanfront and near

shore areas. Year-round residential development can be expected in the platted subdivisions. Re-development of older seasonal rentals will occur as owners upgrade their property to compete with the amenities of newer and larger vacation rentals. Some multifamily development may occur. Engineered on-site wastewater systems will be used to address development in some of the poorly drained areas. Erosion along the oceanfront is severe in some locations near the north end of the village and near the Rodanthe pier. Annual erosion rates average 13 feet per year in some areas. VE flood zones apply along the immediate oceanfront with AE and Shaded X zones applied elsewhere in the village.

Waves – The village of Waves is predominantly detached residential structures with some commercial development along the NC 12 corridor. With the S-1 zoning, free market forces have established themselves along NC 12. In addition, a number of large travel trailer parks, campgrounds, and other tourist-oriented businesses are located in Waves. Wind Over Waves, a multi-phase subdivision on the soundfront and oceanfront, was recorded in the mid-2000s. This large subdivision features mainly seasonal homes and will continue to be developed over the next several years.

Commercial development along the NC 12 corridor will continue over the next five years. A limited amount of residential development may be multifamily structures, but most will be seasonal homes. Kiteboarding in the Pamlico Sound is a popular activity in Waves and the other villages on Hatteras Island. There are coastal wetlands along the estuarine shoreline, which are protected by existing CAMA and Corps of Engineers regulatory programs. The use of buffers and setbacks will be used to address the limitations associated with these natural features. Existing soil conditions can generally be modified to qualify for on-site wastewater systems. AE and Shaded X zones are the predominant flood zone in Waves.

Salvo – Salvo is bordered by the village of Waves on the north end and the Cape Hatteras National Seashore on the south end. The development of Salvo is similar to Rodanthe and Waves with both residential and commercial structures located along NC 12. Commercial development is focused mainly on providing services to the seasonal population. Salvo is also zoned S-1 and all uses are permitted in this district. Salvo will continue to develop following the established patterns with a mix of permanent homes and businesses along NC 12 and seasonal residents along the immediate ocean and estuarine shorelines. Year-round residential development can be expected in the older platted subdivisions. Redevelopment of some of the older seasonal rentals will occur as owners upgrade their property to compete with amenities of newer and larger vacation rentals. Limited multi-family development is expected. Erosion along the oceanfront shoreline of Salvo is not as severe as Rodanthe. Although there may be some VE zones along the immediate shoreline, most of Salvo is located in AE flood and Shaded X zones. There are coastal wetlands along the estuarine shoreline which are protected by existing CAMA and Corps of Engineers regulatory programs. The use of buffers and setbacks will be used to address the limitations associated with these natural features. Existing soil conditions can generally be modified to qualify for on-site wastewater systems.

Avon – Avon village has two distinct areas. The first is the residential development and businesses along the NC12 corridor established to serve the seasonal visitors. The second is the predominantly year-round community located within the old village of Kinnakeet. Along the NC 12 corridor, most of the land is developed with mostly residential structures offered for resort rentals or platted as residential lots. The commercial establishments along NC 12 cater to the seasonal population's needs but also provide services to the year-round populations as evidenced by the island's only franchise grocery store. Inside Kinnakeet village, year-round residences are a mixture of single-family homes and mobile homes.

Commercial businesses along NC 12 Highway in Avon

Over the past decade residential development has occurred in the multi-phase Kinnakeet Shores Soundside Subdivision. It is expected that this subdivision will continue to develop over the next five years. Commercial development will occur along the NC 12 corridor with an emphasis



on visitor-related goods and services. Residential development in Kinnakeet village will follow existing patterns of single family homes and mobile homes. There are limited areas in Avon zoned for multi-family development. AE, Shaded X and X zones apply in Avon. Erosion along the oceanfront in the general area of the Avon pier south has become an issue since 2016. Several storms with ocean overwash have resulted in damage to pools and ground floor enclosures along Ocean Drive in the Kinnakeet Shores oceanfront areas and NC 12. There are coastal wetlands along the estuarine shoreline which are protected by existing CAMA and Corps of Engineers regulatory programs. The use of buffers and setbacks will be used to address the limitations associated with these natural features. Existing soil conditions can generally be modified to qualify for on-site wastewater systems. Development in the Kinnakeet Shores soundside portions are not impacted by soil conditions since they are served by a privately-owned wastewater treatment plant.

Buxton – Buxton is the commercial and institutional mid-point of Hatteras Island. The Cape Hatteras Secondary School and Cape Hatteras Elementary School are both located in the village. Buxton is comprised of mostly year-round residents and serves as a commercial hub for the entire island. The Dare County Fessenden Center is widely used for recreational sports and other community gatherings.

The Buxton Woods maritime forest influences much of the residential development occurring in Buxton. Development in the Buxton Woods forest must comply with the County's special zoning regulations established to preserve the maritime forest setting. Buxton will continue to serve as the commercial and institutional center of Hatteras Island with a mix of single-family homes and modest residential development serving the year-round residents of the area.

Commercial development in Buxton will follow the NC 12 corridor according to the zoning map for this area. Although there are a few hotels and rental cottages located in the northern end of the village, Buxton is not characterized by a large number of seasonal resort rentals as is the case in other Hatteras Island villages. There are some X zones in the Buxton Woods area but most of Buxton is located in AE flood zones. Soil conditions are similar to other areas of Hatteras Island and are generally addressed by the placement of fill on low-lying properties to meet wastewater regulations. Wetland areas are protected by the appropriate State and Federal agencies. The SED-1 zoning regulations also include a wetland buffer setback from structural improvements. Erosion along the oceanfront area has long been a problem, with ocean overwash often resulting in flooding on NC 12 at the northern end of the village. A beach nourishment project in this area was completed in late 2017 and has provided protection for the structures in this area.

Frisco – Similar to Buxton, development in Frisco is influenced by the maritime forest known as Buxton Woods. Several older subdivisions on the soundside of Frisco are developed with seasonal and year-round homes. S-1 zoning applies to all of Frisco except for the maritime forest areas, which are zoned SED-1. The minimal zoning regulations of the S-1 district permits all uses. As a result, commercial development has continued to dominate the NC 12 road corridor. This pattern of development is expected to continue in Frisco due to the restrictive nature SED-1 zoning of Buxton Woods and the lack of use-specific guidelines of the S-1 zoning. Over the next five years, the NC 12 corridor is expected to develop with commercial uses.

The broad range of the S-1 district may result in land uses in Frisco that are not permitted in Avon, Buxton or Hatteras, which all have use-specific zoning maps. Residential development will occur in the older subdivisions, such as Brigands Bay, and along those oceanfront divisions platted in the late 1980s-early 1990s, although most of these oceanfront areas are developed already.

Development in Frisco will be impacted by the SED-1 zoning in those portions of Buxton Woods located in Frisco. There are some X zones in the Buxton Woods area but most of Frisco is located in AE flood zones. Soil conditions are similar to other areas of Hatteras

Island and generally can be addressed by the placement of fill on low-lying properties to meet wastewater regulations. Wetlands areas are protected by the appropriate State and Federal agencies. The SED-1 zoning regulations also include a wetland buffer setback from structural improvements. Soundside flooding has become an issue in Frisco, with severe flooding from Hurricane Matthew in 2016 and Dorian in 2019 affecting numerous older homes that are not elevated.

Hatteras – Hatteras village is the southern-most village of Hatteras Island and serves as an entry point for Dare County with the location of the Hatteras-Ocracoke ferry landing at the County boundary. The influence of commercial fishing and recreational fishing is evident in Hatteras village and many year-round residents make their homes in Hatteras. Large seasonal resort homes line the oceanfront of Hatteras village. Commercial development is centered along the NC 12 corridor through the village. A commercial hub has also developed around the ferry landing. Hatteras retains its coastal village character while accommodating growth directed to the seasonal population.

Commercial and recreational fishing influences land use in Hatteras village.



There are several large parcels of oceanfront property that will most likely be developed over the next five years. Some of these parcels are zoned with a commercial designation that allows hotels and multifamily structures, so the potential exists. Commercial development will follow NC 12 in those areas zoned for commercial uses on the Hatteras zoning map. Most of the commercial development can be expected to focus on visitor-oriented goods and services especially in the area surrounding the Hatteras ferry landing. Although there are some VE zones along the immediate shoreline, most of Hatteras is located in AE flood zone with pockets of Shaded X zones. Soundside flooding in Hatteras is a concern with numerous flooding events occurring since Hurricane Irene in 2011. Many of the older homes have been elevated to mitigate flood damage. There are coastal wetlands along the estuarine shoreline which are protected by existing CAMA and Corps of Engineers regulatory programs. The use

of buffers and setbacks will be used to address the limitations associated with these natural features. Existing soil conditions can generally be modified to qualify for on-site wastewater systems.

Manteo Outside tax district – This area of Dare County is predominantly made up of a year-round population. A mixture of single-family residential structures and mobile homes are located in the area. This area is one of the oldest settings of year-round residency. The location of central sewer lines along a portion of US 64 that stretches from the southern Manteo town boundary to the Pirates Cove development has influenced the commercial development of Roanoke Island. Commercial developments have been constructed along this section of US 64 with connections to the Town of Manteo sewer. Commercial development connecting to the Town's wastewater must comply with Town of Manteo zoning regulations. The availability of central sewer from Manteo to US 64/NC 345 intersection will continue to influence this area of Roanoke Island. The Outer Banks Visitors Bureau and the Dare County governmental complex are located in this area. The College of the Albemarle is located on Roanoke Island and there are plans for major expansion of the facilities in 2020. Roanoke Island is also home to the Dare County regional airport and several cultural facilities, including the North Carolina Aquarium, the Fort Raleigh historic site, and Elizabethan Gardens complex.



Some commercial development on Roanoke Island will likely center around the US 64/NC 345 intersection near the Dare County governmental complex. This area is within the Town of Manteo's central wastewater service boundary and connection to this wastewater facility can be used to address limitations of soils that may be found in this area of Roanoke Island. Residential development for mostly year-round residents will continue at a steady pace over the next five years with little multifamily development anticipated. Setbacks along the estuarine shorelines are used to address the regulatory limitations associated with wetland areas. The Manteo Outside tax district includes the Skyco area just south of the Washington

Baum Bridge along NC 345. A large wetland area separates Skyco from the village of Wanchese. The Skyco area is predominately single-family residences along NC 345 and Skyco Road and Toler Road. There are scattered commercial uses in the Skyco area along NC 345, including storage warehouses and an automobile repair shop. The Skyco area was zoned in 2007 with a SNC, Skyco neighborhood commercial designation. The UNC Coastal Studies Institute was constructed in the Skyco area in 2012 and serves as a research facility for the UNC educational system.

Wanchese – Located at the southern end of Roanoke Island, Wanchese is best described as a coastal fishing community with land development supporting this industry. A large portion of the community has been developed as the Wanchese Seafood Industrial Park by the State. The Park is developed with boat building facilities, restaurants and other maritime-related businesses. Several other boat building businesses are located in Wanchese outside of the Park. Other commercial development is devoted to the immediate community needs. The population is predominantly year-round residents of extended families. Residential development is a mixture of single-family homes and mobile homes. Wanchese was zoned in 2006 with eleven zoning districts promoting the traditional land use activities of Wanchese, while limiting land development activities perceived as incompatible with the village's coastal character.

For the Wanchese community, development will be limited to what is needed to support the residential and commercial needs of the community. Some larger-scale commercial development may occur in the Wanchese Seafood Industrial Park. Multi-family development is not permitted in any of the Wanchese zoning districts. Wanchese is characterized by low-lying areas due to its proximity to the surrounding waters. All development activity must contend with the limitations associated with the low elevations and poorly drained soils. Traditional construction practices, such as building elevations and setbacks from water bodies, will be used to address the limitations of the natural conditions in the Wanchese community. Soils can generally be supplemented with fill material to meet environmental health requirements for wastewater systems.

Manns Harbor – Manns Harbor is located on the Mainland of Dare County. Rural in nature, Manns Harbor is comprised mostly of year-round residents with limited commercial development. The landing of the Virginia Dare Memorial Bridge, constructed in 2003, is located at the US 64 intersection in Manns Harbor and commercial development is grouped near this landing. The NCDOT ferry maintenance yard is also located in Manns Harbor. Zoning regulations were adopted for Manns Harbor in 2007 with two zoning districts. One district is specifically designated to reflect existing development patterns of primarily residential uses, with a mix of service and maritime-related commerce. The second district encompasses properties along the Hwy 64 corridor near the Virginia Dare Bridge landing and is designed to accommodate a greater variety of uses. Manns Harbor is the largest of the Mainland villages.

It is anticipated that development in Manns Harbor will be limited to what is needed to support the residential and commercial needs of the community. Multi-family development is not permitted in either of the Manns Harbor zoning districts. The majority of commercial development will occur along the US 64-264 corridor consistent with the zoning regulations. Most of Manns Harbor is located in AE flood zone and any development will be elevated according to FEMA standards. Setbacks from any water body will be used for compliance with CAMA estuarine regulations. Soils can generally be supplemented with fill material to meet environmental health requirements for wastewater systems. There is no central water in Manns Harbor.

Mashoes – The village of Mashoes is located off US 64 in Manns Harbor. It is a small community with a handful of year-round residents and no commercial land uses. The area relies on private wells and individual on-site septic systems for wastewater treatment. Mashoes was zoned in 2007. The zoning accommodates and preserves the primarily residential nature of Mashoes. Only minor residential development is expected in Mashoes over the next five years.

East Lake – The majority of the Mainland area is under the jurisdiction of the Federal government as either the Alligator River Wildlife Refuge or the US Navy/Air Force bombing range. There is little development in East Lake except for the residential uses for the area's handful of permanent residents. Most homes are located along US 64. Dare County's heritage as a rural area and sportsman paradise remains evident in East Lake. A zoning map for East Lake was adopted in 2013 with pockets of commercial zoning located along US 64. The replacement of the Alligator River Bridge and expansion of US 64 to four lanes has been proposed by the NC Department of Transportation but has not been funded due to its costs. These infrastructure improvements, when constructed, will impact the physical layout of East Lake. Development is limited by the poorly drained soils in the area. Residential development for year-round residents will be minor in scope as will commercial development over the next five years. There is no central water in East Lake.

Stumpy Point – Located off US 264, Stumpy Point is isolated from the other areas of Dare County with a majority of its property owners being permanent residents. The influence of commercial fishing is evident in Stumpy Point due to its proximity to the Pamlico Sound. Poor soils and low elevations have limited development in Stumpy Point despite being a waterfront community. A central water system for Stumpy Point was constructed by the County to provide more suitable potable water for the residents, who previously used private wells with an undesirable water quality. A centralized wastewater treatment facility was constructed in 2010 to address water quality issues from older malfunctioning septic systems. This centralized system is designed to serve the community and not as an incentive to development. The zoning regulations for Stumpy Point limit development to mainly residential uses with some commercial zoning applied along the Highway 264 area.



There is no significant residential and commercial development anticipated in Stumpy Point over the next five years. The remoteness of the area from the other portions of Dare County contributes to the lack of development activities for seasonal visitors. Any residential development that may occur will be housing for year-round residents.

Historic, Cultural, and Scenic Areas

Dare County is renown for our historic, cultural, and scenic areas with numerous national parks, historic sites, maritime forests, and various nature preserves that are protected by federal and state ownership. In unincorporated Dare County, these areas include Fort Raleigh on Roanoke Island, the Alligator River Wildlife Refuge on Mainland Dare County and on Hatteras Island, the Pea Island Wildlife Refuge, the Cape Hatteras National Seashore, and the Buxton Woods Coastal Preserve. NC 12 on Pea Island and Hatteras Island is designated as a federal scenic highway. In addition to the historic and cultural significance of these areas, the scenic vistas offered by the miles of unspoiled beaches and estuarine shorelines are unparalleled in North Carolina and the East Coast. A map of these sites is found in the Section Two Map Supplement.

There are many areas in Dare County, due to their historical significance or rich abundance of natural resources, that are in public ownership and protected from development. The two most important sites are the site of the first English settlement on Roanoke Island and the Wright Brothers National Monument in Kill Devil Hills where the first powered flight occurred in 1903. Other such sites include Jockey's Ridge in Nags Head, the Cape Hatteras National Seashore, Pea Island Wildlife Refuge, the Alligator River Wildlife Refuge, and the Buxton Woods coastal reserve.

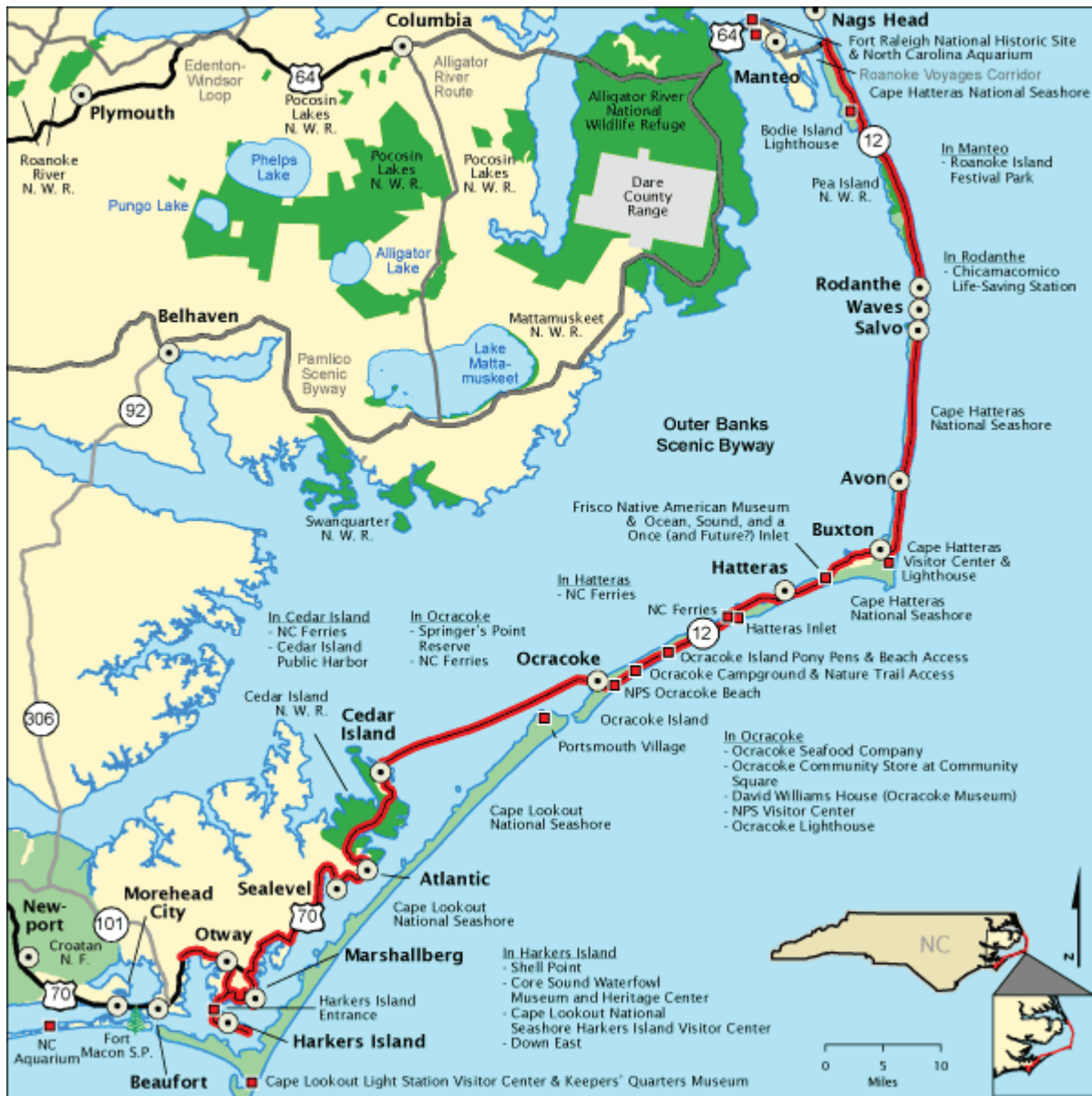
In addition to the State-owned land in the Buxton Woods maritime forest on Hatteras Island, Dare County has applied special environmental zoning regulations to Buxton Woods.

The NC Natural Heritage Program (NHP) is a non-regulatory program that maintains a list of Significant Natural Heritage Areas. These areas were discussed earlier in Section 1. Many of the historic places are included on the National Register of Historic Places. This list includes locations in both unincorporated Dare County and the municipal areas and both publicly owned sites and privately-owned sites. Privately-owned sites are under no restriction if private funds are used for maintenance of the site. However, if federal funds are used for restoration or repairs, then there are certain architectural guidelines that must be followed. A complete listing of these sites can be found at the NC State Historic Preservation Office webpage at <https://www.ncdcr.gov/about/history/division-historical-resources/nc-state-historic-preservation-office/architectural-O>.

The historic structures in unincorporated Dare County are listed below and are illustrated on a historic structure map in the Section Two Map Supplement.

Ellsworth and Lovie Balance House (Hatteras, private)
Bodie Island Lifesaving/Coast Guard Station (Pea Island, public)
Bodie Island Light Station (Pea Island, public)
Cape Hatteras Lighthouse(Buxton, public)
Chicamacomico Lifesaving Station(Rodanthe, public)
John T Daniels House (Roanoke Island, private)
Fort Raleigh (Roanoke Island, public)
Hatteras Weather Bureau Station (Hatteras, public)
Rasmus Midget House (Rodanthe, private)
Oregon Inlet Station (Pea Island, public)
Salvo Post Office (Salvo, private)

On Hatteras Island, NC 12 is part of the National Outer Banks Scenic Byway. The beginning of the route is Whalebone Junction intersection in Nags Head and continues through Hatteras Island, includes ferry routes to Hyde County Ocracoke Island and NC 12 on Ocracoke Island, then onto Carteret County among the Cedar Island Ferry and then landward Highway 70 to the intersection of Merrimon Road. It encompasses 138 miles on land and 25 miles on ferries. The National Scenic Byways program is a federal voluntary program administered by the US Federal Highway Administration. The program recognizes outstanding highways for their scenic, natural, archaeological, recreational, cultural or historical value. The program promotes balancing of economic development and resource conservation.



Land Use-Water Quality Conflicts

Runoff from developed lands and impervious surfaces, such as roads and parking lots, often impacts water quality. The use of buffer programs to prevent the location of impervious surfaces in close proximity of water bodies is one regulatory approach that can be effective in addressing runoff concerns. The 30-foot CAMA buffer along estuarine shorelines and other water bodies was enacted by the State of North Carolina in 2000 to limit impervious coverages immediately adjacent to these waters. The State also has stormwater management regulations that apply to the 20 coastal counties. Dare County relies on the State's stormwater management program and does not have any local stormwater regulations. The State does

have a water monitoring program that tests water quality on a routine basis. These tests monitor for levels of enterococci, the federal standard for water quality.

Land Use Compatibility Issues

Eighty percent of all land in Dare County is publicly owned, thereby forcing all development on the remaining twenty percent of privately-owned land. Development geared for seasonal visitors and the needs of year-round population compete for the limited amount private land. The shopping and housing needs of the permanent population varies from the type of businesses and housing frequented by seasonal visitors. The numerous tourist-oriented establishments for shopping and entertainment is one example of this difference. This is also the case for residential development. Although, there are thousands of residential dwellings constructed in Dare County, many are used as vacation rentals and are not offered for year-round occupancy. Their location, size, and layout are more suitable as vacation rentals. One issue associated with the vacation-home rental industry arises when vacation rentals are located in primarily year-round neighborhoods. Noise, parking, and occupancy conflicts often occur. Another issue is the acute demand for reasonably priced housing for long-term occupancy. Many property owners of rental homes choose to lease the homes for short-term vacation rentals versus long-term occupancy thus creating a lack of adequate homes for the permanent population. In the last several years, the popularity of short-term rentals marketed through social media versus property management firms has added to the housing shortage. These short-term rentals often involve the rental of a room or a portion of an owner-occupied structure in established neighborhoods.

Additionally, the island geography of Dare County results in increased pressure on privately-owned lands. Although, all of unincorporated Dare County is zoned, Rodanthe, Waves, Salvo and portions of Frisco have S-1 zoning. The S-1 district permits all uses and does not distinguish between residential, commercial, or industrial land uses. Under the S-1 zoning, there are no restrictions to preclude industrial uses, such as a concrete plant, from locating next to a residential dwelling. However, public sentiment in the S-1 zoned areas is resistant to more traditional land use controls as found in other villages. This will continue to result in the land use conflicts in the S-1 zoned areas.

Setbacks and buffers along water bodies are examples of two regulatory tools used to mitigate development impacts on the abundant natural resources of Dare County. Manmade hazards associated with the Dare County Regional Airport on Roanoke Island are addressed through the use of building height limits and setbacks of the airport overlay zoning district. The Dare County bombing range is located on the Mainland. The hazards associated with activities on the range are mitigated by the vast acreage of the federal lands separating the range from private lands.

Development Trends and Projections

Table 28 details building permit activity in unincorporated Dare County from 2010 to 2020. The building permit activity was analyzed with the total number of permits issued for each year and the number of new residential construction permits issued for each year as summarized in the table. A review of this information indicates building permit activity has increased each year. This steady pace of construction is expected to continue over the next five years although not at the same robust levels as experienced in period of 2003 to 2008. This is due to the finite amount of vacant land. However, there has been a significant upswing in construction and real estate sales during 2020. This activity is attributed to more people working remotely from home and realizing that this remote work option will allow relocation to the Outer Banks. Redevelopment activity of existing older structures will continue. Limited commercial development will occur although the bulk of development will involve residential construction as has been the norm for decades in unincorporated Dare County. Development on Hatteras Island will most likely continue to outpace the development of the other areas of unincorporated Dare County especially with the completion of the bridge over Oregon Inlet in 2019 and the completion of the Rodanthe Bridge in 2022.

Table 28 – Building Permit 2010-2020

(Source: Dare County Planning)

	New Residential Construction	Other Permits	TOTAL
2010	58	667	725
2011	65	617	682
2012	91	769	860
2013	73	914	987
2014	76	823	899
2015	120	1,000	1,120
2016	110	989	1,099
2017	89	947	1,036
2018	109	1,314	1,423
2019	113	1,474	1,587
2020	121	1,330	1,451
TOTAL	1,025	10,844	11,869

The continued use of engineered wastewater systems for the more advanced treatment of wastewater will also influence future land use needs. The use of engineered wastewater systems has become more prevalent over the past decade. Regulations on stormwater management, wetland alteration and fill, vegetative buffers and other similar regulations will continue to impact the scope of development.

*Table 29 Single Family Home Permits 2010-2020**(Source: Dare County Planning)*

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Hatteras Island	27	29	33	24	26	30	43	48	28	49	39
Colington-Martin's Point	18	13	18	25	28	40	35	22	36	31	34
Roanoke Island Mainland	12	24	26	22	19	30	26	36	29	33	48
Total	57	66	77	71	73	100	104	106	93	113	121

Table 30 is a listing of the undeveloped acres in private ownership as calculated on the existing use maps prepared by Dare County GIS. Table 31 is a breakdown of the vacant acreage in terms of platted as subdivision lots and parcels larger than one acre in size.

*Table 30 – Vacant Private Land 2020**(Source Dare County Tax Records January 2021)*

Tax District	Vacant Private Lands (acres)
Avon	486
Buxton	397
Colington/KDH Outside	427
East Lake	3,830
Frisco	569
Hatteras	324
Manns Harbor/Mashoes	2,661
Manteo Outside	1,129
Martin's Point	43
Rodanthe	118
Salvo	160
Stumpy Point	1,078
Waves	89
Wanchese	3,506
TOTAL	14,817

Table 31 -- Vacant Private Lands – Platted Lots and Larger Parcels
(Source Dare County Tax Records January 2021)

Tax District	Platted Lots	Parcels > 1 acre in size
Avon	405	41
Buxton	127	71
Colington/KDH Outside	295	20
East Lake	25	43
Frisco	270	57
Hatteras	121	44
Manns Harbor/Mashoes	54	68
Manteo Outside	492	63
Martin's Point	37	0
Rodanthe	151	9
Salvo	242	8
Stumpy Point	0	104
Waves	75	11
Wanchese	103	104
TOTAL	2397	643

Analysis of Community Facilities

The growth and development experienced in the past two decades by both unincorporated Dare County and the municipalities has resulted in the need to expand infrastructure capacity for water systems, education facilities, and other government services. Dare's infrastructure serves the permanent population but must also have capacity to handle the fluctuations in seasonal populations. The influx of large crowds during the summer tourist season must be accommodated by the infrastructure improvements. A discussion of these community facilities follows:

Public and Private Water Supply

The Dare County Regional Water Supply System (DRWSS) is the sole producer of water for Dare County, including the municipalities. A public water supply is available to all areas with the exception of the mainland communities of Manns Harbor, Mashoes, and East Lake. The areas not served by public water utilize private wells for drinking water.

The Dare County Water system provides wholesale water to the Towns of Nags Head, Manteo, and Kill Devil Hills. The three towns have separate water distribution systems that they maintain and use to distribute water to their customers. The remaining areas outside the towns' limits receive their water from Dare County's five separate distribution systems: the Northern Beaches, Roanoke Island, Rodanthe-Waves-Salvo, Stumpy Point and Hatteras distribution systems.

The Dare Regional Water Supply System (DRWSS) was formed in the 1970s to develop an adequate water supply for the northern beaches of Dare County. The first municipality to receive water from the DRWSS was the Town of Manteo in 1980, followed by the Towns of Kill

Devil Hills and Nags Head. Water service was extended to the Towns of Southern Shores and Kitty Hawk, and then to the Village of Duck, in late 1980. The initial installation of water meters was approximately 1000 meters. In August 2019, there was a total of 20,200 customers on the County's system.

North of Oregon Inlet, all groundwater delivered by the DRWSS is produced at either the Skyco plant on Roanoke Island or the North Reverse Osmosis desalination plant (NRO) in Kill Devil Hills. The Skyco plant is located on the southern portion of Roanoke Island and is supplied by a series of wells drilled down to between 170 and 200 feet below the surface into the Yorktown aquifer. The NRO plant is located in Kill Devil Hills. There are fourteen wells used to provide water to this plant for a production capacity of over five million gallons per day of water. Combined with the Skyco Plant, the total production capacity is 11.50 million gallon per day (MGD) with a distribution capacity of 13.250 million gallons per day with 200 miles of distribution line available.



*Dare County Reverse Osmosis Plant
in Kill Devil Hills*

On Hatteras Island, the villages of Rodanthe, Waves, and Salvo are served by a reverse osmosis plant, which came online in 1996 with 26 miles of distribution line available. Previously, property owners in these villages relied on privately owned wells for potable water. Construction of this reverse osmosis plant has enabled the property owners to connect to a reliable source of water and provide water for firefighting protection. The production capacity of this plant is 1.2 MGD. The four southern villages of Hatteras Island are served by a central water system operated by Dare County. This central system was privately owned and operated for many years as the Cape Hatteras Water Association. In 1997, Dare County assumed responsibility for this system and constructed a new water treatment plant in 2000. The total capacity of this system is 2.0 million gallons per day and supplies 81 miles of distribution line.

In the village of Stumpy Point, a reverse osmosis plant was constructed by Dare County in 2002 to provide the residents of Stumpy Point with a clean, safe drinking water supply to replace individual private wells that were deemed unsafe based on water testing performed by the County in the late 1990s. A grant from the NC Clean Water Trust Fund was used to construct a water treatment plant for Stumpy Point. This is a small plant for the village with a production capacity of 0.085 MGD via three miles of distribution line.

All of the water facilities, including the elevated water storage tanks, are listed as good, very good, or excellent condition. Table 30 lists the conditions for the water system infrastructure.

Table 32 – Dare County Water Facilities
(Source: Dare County Water Department)

Facility	Location	Year Built or Acquired	Condition
Cape Hatteras 3 MG Reservoir	Frisco	2000	Very Good
Cape Hatteras Water Treatment Plant	Frisco	1999	Very Good
Cape Hatteras Pump Station	Frisco	1999	Very Good
NRO WTP 10 Million Gal Reservoirs	Kill Devil Hills	1989	Very Good
North Reverse Osmosis Plant	Kill Devil Hills	1990	Very Good
RWS 1 Million Gallon Reservoir	Rodanthe	1995	Very Good
RWS Elevated Tank	Rodanthe	1995	Very Good
RWS Reverse Osmosis Plant	Rodanthe	1995	Very Good
2 Million Gallon Reservoir	Skyco	1978	Good
Skyco Elevated Water Tank	Skyco	1978	Good
Skyco Water Treatment Plant	Skyco	1978	Good
Skyco Nanofiltration Plant	Skyco	2017	Excellent
Stumpy Point Desalination Plant	Stumpy Point	2003	Very Good
Wastewater Tank	Frisco	1968	Good
500,000 Gallon Elevated Water Tank	Colington	1997	Very Good
1 Million Gallon Elevated Water Tank	Duck	1988	Very Good
650,000 Water Reservoir	Kitty Hawk	1978	Good
Pump Station	Kitty Hawk	1978	Good
Water Maintenance Facility	Rodanthe	1996	Good
400,000 Gallon Elevated Water Tank	Buxton	1986	Good
500,000 Gallon Elevated Water Tank	S. Shores	1988	Good
Water Maintenance Building	Colington	1990	Good
Water Maintenance Shed	Colington	1990	Good
400,000 Gallon Elevated Water Tank	Avon	1993	Very Good
300,000 Gallon Elevated Water Tank	Hatteras	1993	Very Good

Additional capacity for water system production equipment has been included in a Water System Capital Improvements Plan, which is updated annually. The NRO Plant has a future expansion capacity of 3 MGD with the addition of four new wells. The Cape Hatteras Water

Plant can be expanded by an additional 1.0 MGD with the installation of a nanofiltration unit that will treat water from the shallow fresh water well field currently not fully utilized. Based on current demand as a percentage of supply, by 2030 the water system will be at 97% but as noted above there is room to expand the system.

Table 33 Metered Users

TYPE	METERS	Average Use (MGD)
Residential	14,697	1.8580
Commercial	563	0.2420
Industrial	0	0.0000
Institutional	26	0.0120

Table 34 Demand v/s Percent of Supply (MGD)

	2020	2030	2040	2050	2060	2070
Total Available Supply	9.5168	12.4168	12.4168	12.4168	12.4168	12.4168
Service Area Demand	4.3903	12.0564	12.2921	12.5277	12.7634	12.9991
Demand as % of Supply	73%	97%	99%	101%	103%	105%

Table 35 Future Water Usage Projections (MGD)

	2020	2030	2040	2050	2060	2070
Residential	1.8580	2.0000	2.2000	2.4000	2.6000	2.8000
Commercial	0.2420	0.2600	0.2700	0.2800	0.2900	0.3000
Institutional	0.0120	0.0000	0.0000	0.0000	0.0000	0.0000

Dare County has begun an automated meter reading system installation that will provide the capability to read meters within the distribution system on a daily basis. This system will allow the water system to quickly identify leaks and will provide water accountability data which will allow the water system to monitor how users affect the supply during peak demand periods. This data could be used to restructure rates to reduce peak demands and delay the need for water production expansion projects by making better use of the current resources.

There are not any water quality issues associated with the five water treatment plants. There have not been any overflows, bypasses or other problems that may degrade water quality or constitute a threat to public health as documented by the NC Division of Water Resources.

The future provision of central water to other areas of the Dare County not served by central water will be affected by economic conditions and the geographic challenges of constructing infrastructure improvements in the various area of unincorporated Dare County. With the

completion of the Roanoke Island water system, the only remaining areas of unincorporated Dare County not served by central water are the Mainland communities of Manns Harbor, Mashoes and East Lake. The provision of central water systems to these areas will be based on the need to provide a clean, safe potable water supply and not by anticipated development of seasonal homes. As noted in the preceding paragraphs, future expansions of the existing water facilities currently operated by Dare County are outlined in the Dare County Capital Improvements Plan which is updated on an annual basis and approved by the Dare County Board of Commissioners. A copy of the 2021-2025 CIP is included as Appendix D.

Maps of the service districts of the Dare County water system are in the Section One map supplement.

Wastewater Systems

All wastewater treatment facilities, whether publicly or privately owned, are subject to review and approval by either the state Department of Environmental Health or its local subsidiary. Publicly owned wastewater treatment service in certain portions of Roanoke Island is available from the Town of Manteo, which operates a central wastewater treatment plant. The Town does offer wastewater service to projects within the unincorporated areas of Roanoke Island that are adjacent to its service boundaries. It is recognized that projects using the central wastewater treatment from Manteo may eventually be annexed by the Town.

In 2010, Dare County implemented a 50,000 gpd wastewater collection facility in the Stumpy Point village. The plant was constructed to eliminate the use of old malfunctioning private septic systems. The capacity of the plant was not designed to facilitate future growth or economic development in Stumpy Point but to eliminate older on-site septic systems. The system consists of a low-pressure STEP sewer systems serving 128 units with a series of pump stations and approximately 19,700 linear feet of 2.5-6 inch sewer main. There are no plans at this time to seek expansion of this facility.

There are several privately-owned and operated central wastewater treatment plants in Dare County. Three are located within the County's unincorporated boundaries. The Baycliff Subdivision in Colington features a small package treatment plant (20,000 gpd) for this residential subdivision. The Kinnakeet Shores Soundside Subdivision is also serviced by a central package treatment plant (350,000 gpd). The soundside residential phases of this division and the commercial complex known as the Hatteras Island Plaza are connected to this treatment plant. The third plant serves the Slash Condominiums in Hatteras Village (18,000 gpd). A number of other package treatment plants exist both within and outside of the Dare County unincorporated boundaries.

In October 2021, the Kinnakeet Shores WWTP was issued a notice of violation that included a moratorium on new connections to the wastewater treatment plant. This moratorium prevents Dare County from issuing any permits for construction of new homes in the soundside portions of the Kinnakeet Shores Subdivision. The NC Utilities Commission and the NC Division of

Environmental Quality are working to resolve this matter. The owner of the privately-owned plant has not performed needed maintenance at the site, which has resulted in the implementation of the moratorium. It is uncertain how this situation will be resolved by the State agencies. The Utilities Commission has the authority to implement emergency procedures and such procedures may be needed to force repairs at the Kinnakeet Shores WWTP.

The capacity of the Baycliff and Slash Condominium plants is based solely on providing wastewater to their respective developments. The capacity of the Kinnakeet Shores Subdivision is adequate to serve the commercial users at Hatteras Island Plaza and the Kinnakeet Shores Soundside residential users. However, the lack of maintenance at the plant and the resolution of this issue will need to be addressed before any future connections are allowed. Dare County cannot issue permits until advised by the State the moratorium has been discontinued. This situation is most likely to take months to resolve.

On-site septic tank and drainfield systems continue to serve as the predominant method of wastewater treatment in Dare County. In situations where the intensity of land use or soil limitations preclude the use of a traditional septic system, alternative engineered methods of wastewater treatment have become more prevalent. The increased use of engineered wastewater systems is anticipated to continue to address the permanent seasonal population needs of unincorporated Dare County as outlined in Table 4 and projected population increases as detailed in Tables 7 and 9. The permanent population is projected to increase by 2,851 from 2025 to 2050. The seasonal population is estimated to increase by 28,977 from 2025 to 2050. Dare County will continue to rely on the administration of State wastewater rules in determining the type, location and capacity of systems for wastewater purposes.

Soil limitations will continue to influence the size of individual wastewater systems thereby limiting the intensity and density of future development on a site-specific basis. In some areas, the provision of publicly owned, centralized wastewater systems in undeveloped areas is frequently used to direct growth. This is not the case in unincorporated Dare County. The majority of wastewater needs of future development will continue to be addressed through the use of on-site septic systems, engineered wastewater systems and when mandated by ordinance, on-site community wastewater systems. Publicly owned centralized wastewater for unincorporated Dare County is not likely due to the land constraints associated with dispersal of the effluent, permit difficulties, and the high costs of providing the collection infrastructure throughout the island geography of Dare County.

Transportation Systems

The island geography of Dare County greatly influences our transportation infrastructure. Bridges are a key component of this infrastructure and serve as entryways to Dare County, except on the southern end of Hatteras Island, which is accessed by ferry service from Ocracoke Island. Most travel within the County occurs on three arterial routes, US 64/264, NC 12, and US 158. US 158 runs north-south from Southern Shores to the Whalebone area of Nags Head. NC 12 runs north-south from the Dare/Currituck line north of Duck to the southern end of the County in Hatteras Island. US 64 follows an east-west path from Tyrrell County, while US 264 follows a primarily north-south route from Hyde County. The two highways merge at a point west of Manns Harbor, and then serve as the primary route through the village of Manns Harbor, and the northern portions of Roanoke Island. Movement on and off the barrier islands to the west is along US 64/264 on the Mainland via both the Virginia Dare Memorial and William B. Umstead Memorial bridges or from US 158 to the north along the Wright Memorial (Currituck Sound) Bridge. Ferry service from Hatteras village also serves as an alternative egress from Hatteras Island.

The island geography of Dare County greatly impacts transportation improvements. The lack of alternative transportation routes beyond the three main arterial routes noted above results in a mix of uses along these corridors than what may be found in other non-island counties. Residential structures, commercial structures and institutional structures may be located adjacent to or in close proximity to each other.

This is especially true on Hatteras Island along NC 12. Residential developments do occur off the main transportation corridors in the unincorporated Dare County, but the linear nature of our transportation improvements affect the patterns of our development. The location of the ferry terminal in Hatteras village also influences the development around that immediate vicinity with commercial structures surrounding the ferry landing to serve the seasonal visitors that use the ferries to Ocracoke.

A Comprehensive Transportation Plan was completed by NCDOT in 2015. This CTP has been adopted by Dare County and all of the towns. The CTP discusses existing transportation improvements, adequacies of these improvements to serve future needs, and future projects that were identified during the development of the CTP process. Maps of the highway and bicycle pedestrian improvements from the CTP are located in the Section Two Map Supplement.

Traffic counts within the County vary according to the roadway section, season, and day of the week. Typical of a resort area, the roadway system in Dare County experiences sizable variations in traffic demands. The following table illustrates average daily traffic counts provided by NCDOT for several key locations in Dare County.

Table 36 – NCDOT Average Daily Traffic Counts
(Source: NC Department of Transportation)

Approximate Location of Counter	Vehicle Counts	Year
US 158 Kitty Hawk near Wal-Mart/Home Depot	26,000	2017
NC 12 Southern Shores	13,500	2017
US 158 Kitty Hawk –Kitty Hawk Road intersection	38,000	2017
US 158 KDH Colington Road intersection	37,500	2018
NC 12 KDH Colington Road intersection	5,300	2018
US 158 North of Whalebone Junction	22,500	2018
NC 12 Nags Head Pea Island Entrance	5,500	2018
NC 12 Oregon Inlet Bridge	5,000	2018
US 64 Manteo Causeway	20,000	2017
Approximate Location of Counter	Vehicle Counts	Year
US 64 Roanoke Island – COA entrance	18,500	2018
US 64 Virginia Dare Bridge	5,200	2018
NC 345 south of US 64 intersection	6,700	2018
US 64/264 Intersection Mainland	4,100	2018
US 64 East Lake	3,400	2018
NC 12 Rodanthe midway of village (2006)	5,100	2018
NC 12 Avon at entrance of village	4,300	2018
NC 12 Buxton near SR 1482 intersection	7,300	2018
NC 12 Hatteras north end of village	4,100	2018
NC 12 Hatteras near ferry landing	2,400	2018

Because of our island geography, bridges are essential especially when evacuation orders are issued in response to impending weather systems. When necessary, evacuation orders are timed to allow for evacuation to occur during daylight hours. Maintaining free-flowing traffic is paramount during evacuations. The aged, obsolete two-lane draw bridge over the Alligator River is of concern to Dare County. Plans to replace this bridge in conjunction with four-laning of Highway 64 in East Lake have been developed but costs to construct the improvements are extremely high and have not been funded in the State's Transportation Improvement Plan. Dare County will continue to lobby for these improvements in light of the importance of the Alligator River Bridge to Dare County's economy and evacuation route system.

A new bridge spanning Oregon Inlet opened to traffic in the spring of 2019 after a decades long process to fund and build the replacement bridge. The new bridge provides a stable reliable route across Oregon Inlet. Another bridge from the southern end of Pea Island Wildlife Refuge to the northern end of Rodanthe village opened in April 2022. This 2.4 mile long bridge, known locally as the jug handle bridge due to its design, will eliminate several sections of NC 12 that routinely experience ocean overwash. When completed, NC 12 will be a more reliable transportation route with the elimination of several areas frequently inundated with ocean overwash.

The NC State Transportation Improvement Plan identifies projects funded by NCDOT for construction over ten-year periods. This plan is updated every two years and potential projects are scored based on a formula developed by the NC Board of Transportation using specified criteria. Information and maps from the 2020-2029 STIP are in Appendix E. The current STIP includes R-5014, improvements to Colington Road (SR 1217) and R-3419, a project is described as “access management improvements from the US64/NC 12 intersection to the eastern end of the Currituck Bridge.

Ferries are also part of the NC Department of Transportation system with ferry service from Hatteras village to Ocracoke providing access to Ocracoke Island via vehicular ferries and a passenger ferry implemented in 2019. Emergency ferry service from the Rodanthe public access point has been used in the past on several occasions when storms or other conditions impacted NC 12 on Hatteras Island. The emergency ferry service originates in Stumpy Point and across the Pamlico Sound to Rodanthe. The emergency ferries have been used to transport goods and residents to Hatteras Island.

Example of one of the ferries operated by NCDOT between Hatteras village and Ocracoke Island



Bicycle paths /walkways along many of the major transportation routes in the County are popular alternative transportation routes among

residents and visitors to the area. Sections of the Hatteras Island Pathway have been constructed in Rodanthe, Waves, Salvo and Avon with plans to construct other sections in Buxton, Frisco and Hatteras in the future.

Air transportation is limited to the Dare County Regional Airport on Roanoke Island, the First Flight Airport in Kill Devil Hills, and the Billy Mitchell Airstrip on Hatteras Island. At present, there are no scheduled passenger services by a regional carrier. In addition to serving the civil aviation needs of Dare County, these three airports have served as important staging centers for aviation-related activities during hurricanes and other storm events.

NCDOT maintains a vibrant webpage which includes a copy of the STIP and maps of high profile projects such as the Rodanthe Bridge which is currently under construction. This webpage can be consulted for more details on State transportation projects.

Dare County is not served by any bus or railroad operations. There are a number of taxi services available for hire.

Dare County operates a public transportation system of vans for its residents who do not have transportation or are unable to drive. There is a small ridership fee and passengers must schedule pick-up in advance.

There are no segments of the transportation infrastructure system in Dare County that have been deemed as having unacceptable service levels.

Stormwater Systems

Stormwater runoff is affected by the relatively flat topography of Dare County. While no county-maintained stormwater system is in place, the County does have several zoning and subdivision regulations which mitigate the effects of stormwater runoff. Minimum lot size requirements, building setbacks, and maximum lot coverage requirements are used to address stormwater on both the built and natural environment. For projects larger in scope, the County relies on state and federal permitting agencies to augment local management strategies. The Division of Land Resources' Sedimentation and Erosion Control Permit and the Division of Water Quality's Stormwater Management Permit are integral in Dare County's ability to mitigate effects of stormwater runoff.

Lack of ditch maintenance contributes to stormwater management issues. Existing ditches are affected by natural sediment transport and human activities, such as landscaping or placement of vegetative debris in ditches. Under North Carolina law, counties do not have regulatory authority to construct or maintain roads and drainage ditches. Many of the drainage ditches in NCDOT rights-of-way are not regularly maintained and ditches along private roads are seldom maintained by the property owners who use the roads. Periods of heavy rainfall lead to ponding and standing water in many areas of Dare County.

Groundwater levels also become elevated following periods of heavy rainfall, contributing to the stormwater issues.

Ponding water after heavy rainfall



In 2001, Dare County initiated a study of stormwater issues culminating in a Stormwater Management Plan, which is on file with the Dare County Planning Department. The stormwater plan is scheduled to be updated in 2024 with funding from FEMA. The analysis was able to identify certain areas exhibiting historic, existing, or potential stormwater drainage concerns. Another study was conducted by NCDOT in 2018 for the north end of Roanoke Island in response to excessive rainfall amounts in July 2018. The results of this analysis were presented to NCDOT and Dare County in September 2019. The report identified three phases of improvements designed to increase drainage on the north end of Roanoke Island. Funding of the recommended improvements in this study has not been allocated by NCDOT.

Following Hurricane Matthew, Dare County implemented emergency floodwater pumping measures in Colington and Martin's Point. Floodwaters were pumped into estuarine waters following approval by the NC Division of Water Resources. Similar measures were implemented in July 2018 in Colington and Martin's Point. During that same time, Dare County also pumped several neighborhoods on Roanoke Island and hauled stormwater by pumper truck to vacant land beside the Dare County Emergency Operation Center for dispersal. Since the water was not being pumped into estuarine waters, no state approval was needed.

There are no identifiable point sources of stormwater discharge within unincorporated Dare County. Other sources of point-source discharge of pollutants are monitored by the Environmental Protection Agency (EPA) under the authority of the National Pollutant Discharge Elimination System (NPDES). A definitive measure of pollutant impact, even that of non-point sources, on surrounding water bodies is difficult to determine. Portions of Dare County's surrounding SA waters have been closed to shellfishing due to elevated levels of pollutants, which may be indicative of the effects of stormwater runoff.

Dare County does not contain, and is not located within, an "urbanized area" as delineated by the U.S. Census Bureau. The County also does not operate a small municipal separate storm

sewer system (MS4), or other similar utility. Therefore, the County is not subject to coverage by the NPDES Phase II Final Rule and its subsequent stormwater discharge management controls.

Stormwater management will continue to be an issue over the next five years. The Stormwater Management Plan for Dare County will be updated in 2022-2023. The use of emergency pumping can be used after storm events. The lack of drainage improvements in many developed neighborhoods will be a challenge in addressing stormwater. For those developments with ditches and swales, lack of maintenance presents challenges. Implementation of projects to address stormwater issues may require the imposition of stormwater districts and associated fees to fund improvements. Such fees are used by other government agencies in Dare County and North Carolina and may be a viable option for Dare County to consider in the future.

Schools

The public education system in Dare County is directed by an elected seven-member Board of Education. A superintendent in charge of the administrative duties of the school system is appointed by the Board of Education. Curriculum development and funding for the school system is a combination of State and local resources administered by the Dare County Board of Education. The school system consists of ten facilities located throughout Dare County.

Table 37 – Public School Enrollment 2019-2020
(NC Dept. of Public Instruction)

School	Enrollment
First Flight Elementary	309
Kitty Hawk Elementary	472
Manteo Elementary	669
Nags Head Elementary	542
Cape Hatteras Elementary	301
Cape Hatteras Secondary	355
First Flight Middle	743
Manteo Middle	429
First Flight High	891
Manteo High	577
Dare Academic Center	33
Total	5,321

There are plans to expand and construct new facilities at the College of the Albemarle –Dare County campus over the next five years. A total of \$7.5 million worth of new facilities are proposed at the Dare County campus with \$1.5 million funded by the State of North Carolina with the remainder being financed by Dare County. Construction is slated to begin in 2020.

East Carolina University, in conjunction with UNC- Chapel Hill and NC State University, manages the Coastal Studies Institute on Roanoke Island. The school has plans to increase enrollment and expand curriculum over the next five years.

Along with Dare County public schools, there are a number of privately-operated pre-kindergarten and kindergarten schools. Heron Pond Montessori School is located in the Town of Kitty Hawk, and offers instruction from kindergarten to 4th grade. Wanchese Christian Academy (WCA), affiliated with Wanchese Assembly of God Church and the Assembly of God denomination, is the only comprehensive private school in Dare County which offers instruction in grades kindergarten through 12.

Public Works

Solid waste collection from both residential and commercial properties in Dare County is handled by local governments. Dare County is responsible for solid waste disposal in the unincorporated portions of Dare County and also contracted by Kitty Hawk for solid waste pick-up in the town. The Towns of Kill Devil Hills, Nags Head and Manteo provide their own solid waste pick-up. Duck and Southern Shores contract with a private firm for solid waste management.

Dare County is part of a regional solid waste authority with several other governments in northeastern North Carolina. Solid waste is collected and transported to the Dare County transfer station in Manns Harbor and then transported to the regional landfill in Bertie County for final disposition.

Parks and Recreation

A full-time Dare County Parks and Recreation Department is responsible for overseeing the recreational needs of County residents. Recreation facilities include the youth center in Kill Devil Hills near the First Flight Schools, Walker Field in Wanchese, a recreational field in Stumpy Point and a beach access site in Rodanthe with oceanfront parking, beach access and restroom facilities. Overall, the Parks and Recreation Department operates athletic fields, basketball courts, neighborhood centers, community centers with gymnasiums, picnic areas, playgrounds, soccer fields, tennis courts, volleyball courts, skate parks, leisure trails, boat ramps, and swimming areas.



Dare County Youth Center in Kill Devil Hills

Dare County also works closely with the Dare County Board of Education for use of the school athletic facilities to increase recreational opportunities for Dare County citizens.

Programmed activities offered by the Parks and Recreation Department include adult aerobics, youth basketball, arts and crafts, soccer,

gymnastics and cultural trips. The most popular are youth basketball, baseball/softball, and youth soccer. Softball and basketball are the most popular adult activities.

Projected recreational and cultural needs of the residents of Dare County are addressed in the Dare County recreational master plan. This plan was last updated in 2013. Copies of this plan are available from the Dare County Parks and Recreation Department. This plan includes information on the adequacy of the County's parks and recreation system over the next ten-year planning period.

Public Health and Safety

Dare County maintains a fully staffed Emergency Management department, which is responsible for emergency preparedness and coordination, while also serving as a liaison between local, state, and federal emergency management agencies during disaster events. The department has emergency operation plans detailing specific procedures the County uses in emergency events. A group of senior level officials consisting of the Dare County Board of Commissioners Chairman, Mayors of the five towns, the NPS Superintendent and the Dare County Sheriff oversee emergency situations and is responsible for issuing evacuation orders, establishing curfews, and implementing re-entry procedures during hurricanes and recovery efforts as needed.

Law enforcement in Dare County is administered at various levels of government ranging from federal enforcement agencies to municipal police departments. The National Park Service has personnel who patrol the south beaches of Dare County that are included in the Cape Hatteras National Seashore. The State Highway Patrol has officers stationed in Dare County with countywide jurisdiction but focus mainly on unincorporated Dare County. The Dare County Sheriff's Department has offices located on Roanoke Island, Hatteras Island and in Colington. The Sheriff's Department is responsible for staffing and managing the Dare County Detention

Center located on Roanoke Island. The Communications Department with E911 capability is also under the supervision of the Sheriff. The municipalities in Dare County operate their own police departments. These departments provide mutual aid to other law enforcement agencies when necessary.

Fire protection is provided throughout the 860 plus square miles of Dare County within seventeen individual fire districts that support eighteen fire stations. The Towns of Southern Shores, Kitty Hawk, Kill Devil Hills, Nags Head, Duck and Manteo make up the six municipal fire districts. The unincorporated fire districts of Dare County are Martin's Point, Colington, Manns Harbor, Stumpy Point, Hatteras, Frisco, Buxton, Avon, Salvo, Rodanthe-Waves, and Roanoke Island. These departments are funded through a fire district tax collected by Dare County and distributed under a fire protection contract. Wild land fire suppression is provided in a joint effort by US Fish and Wildlife, US Park Service, and the NC Department of Forestry and by contractual agreement, the agencies provide service to the US Navy and Air Force bombing ranges. The Dare County Fire Marshal acts as the liaison between the Dare County Board of Commissioners and its fire districts. The Fire Marshal is also responsible for the enforcement of the NC State Fire Code, does fire inspections, and cause and origin determinations. This office maintains a county- wide fire data reporting system and is active in the area of fire prevention, designing education programs for all Dare County citizens.

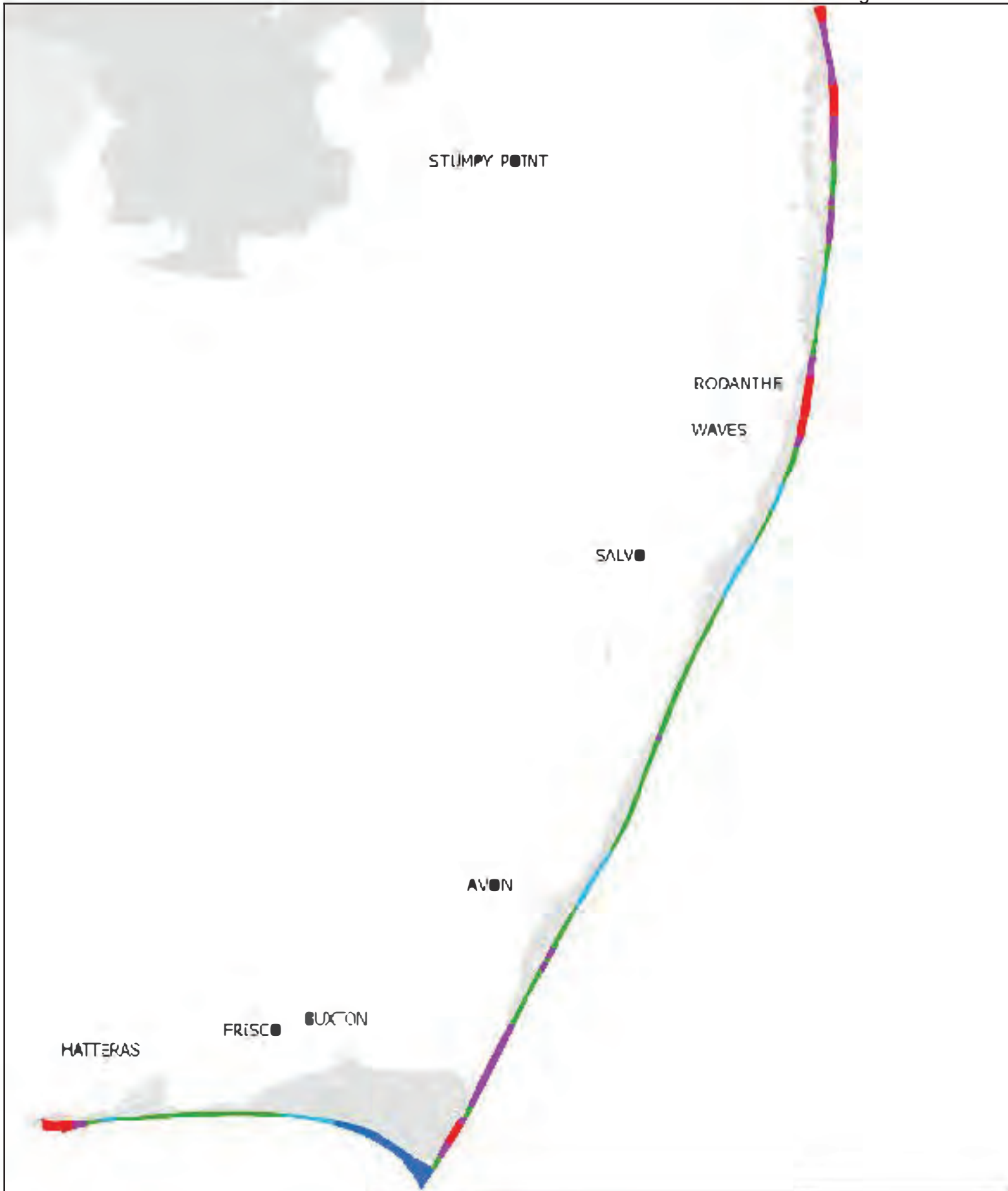
In addition to fire and police protection, Dare County funds a full-time Emergency Medical Department to work with other first responders in all areas of the County. The service is housed in eight response stations. Dare County also operates a medical helicopter, capable of transporting two patients and air crew members (MedFlight). Ambulance transport is most often made to emergency facilities located at Outer Banks Hospital in Nags Head. When required, critical care transport via MedFlight transports patients to Norfolk Virginia or Greenville, North Carolina, depending on the needs of the patient.

*Dare County
Emergency Medical
Helicopter*



Other Public Facilities

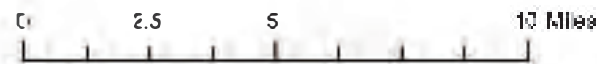
Dare County owns numerous properties throughout Dare County in both unincorporated Dare County and the towns to provide convenient access to County services. These include the Dare County Complex on Roanoke Island which houses the Dare County courthouse, administration building and Dare County Center, the Dare County Health and Human Services building on Roanoke Island, and libraries in Manteo, Kill Devil Hills, and Hatteras village. In early 2019, the Dare County Health and Human Services department began offering their services at an office located in Nags Head providing a second location for citizens to access their services.



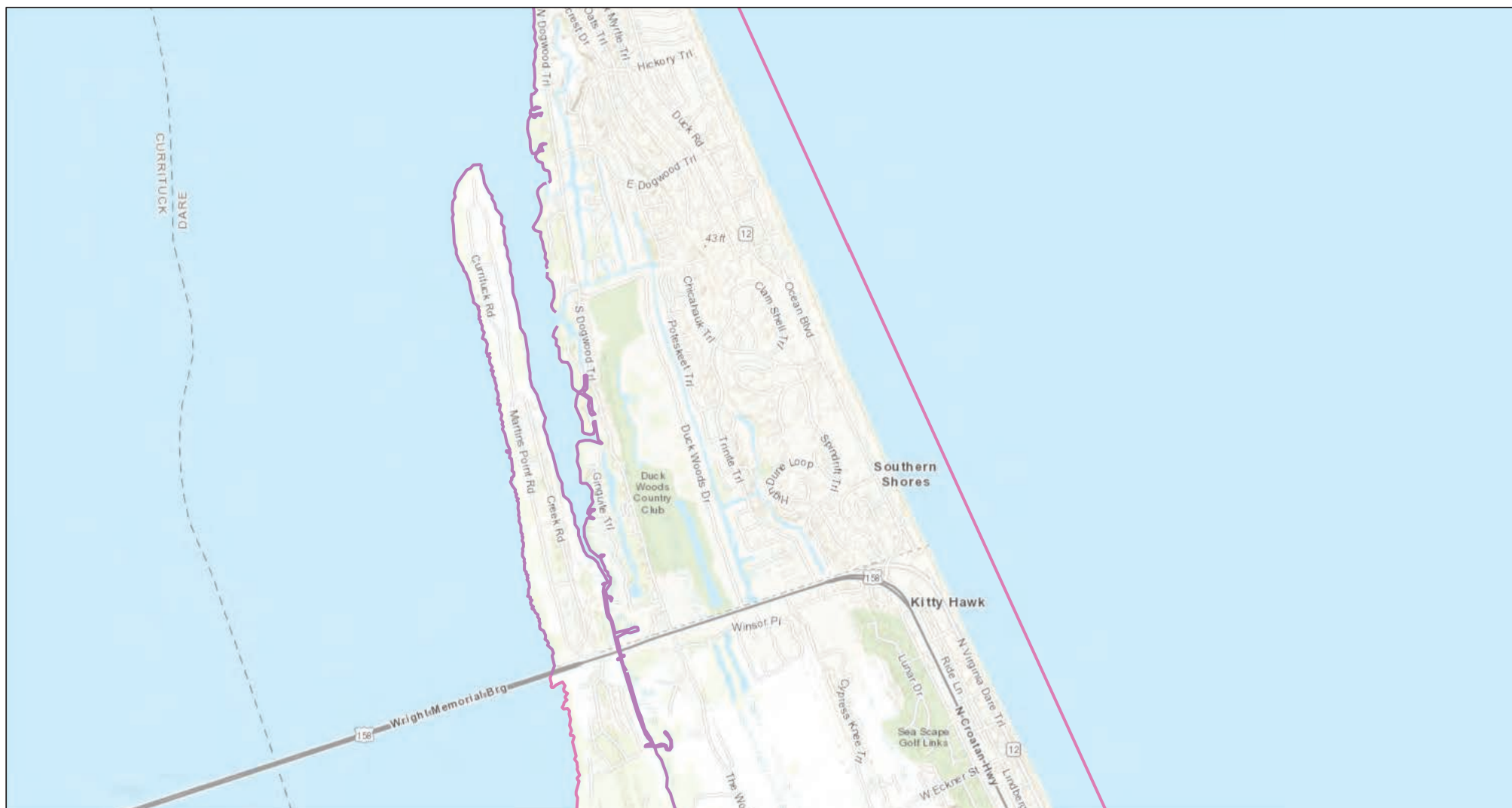
Hatteras Island Erosion / Accretion Rate

Source: North Carolina Division of Coastal Management;
North Carolina's 2015 Cross-Shore Sediment Budgets
and Average Annual Long-Term Erosion Rate Study

- Moderate to High Loss
- Low Loss
- Stable
- Low Gain
- Moderate to High Gain

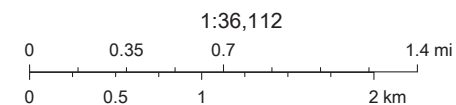


NC Surface Water Classification



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- Classification SC (Tidal Salt Water)



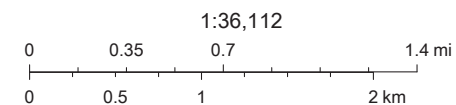
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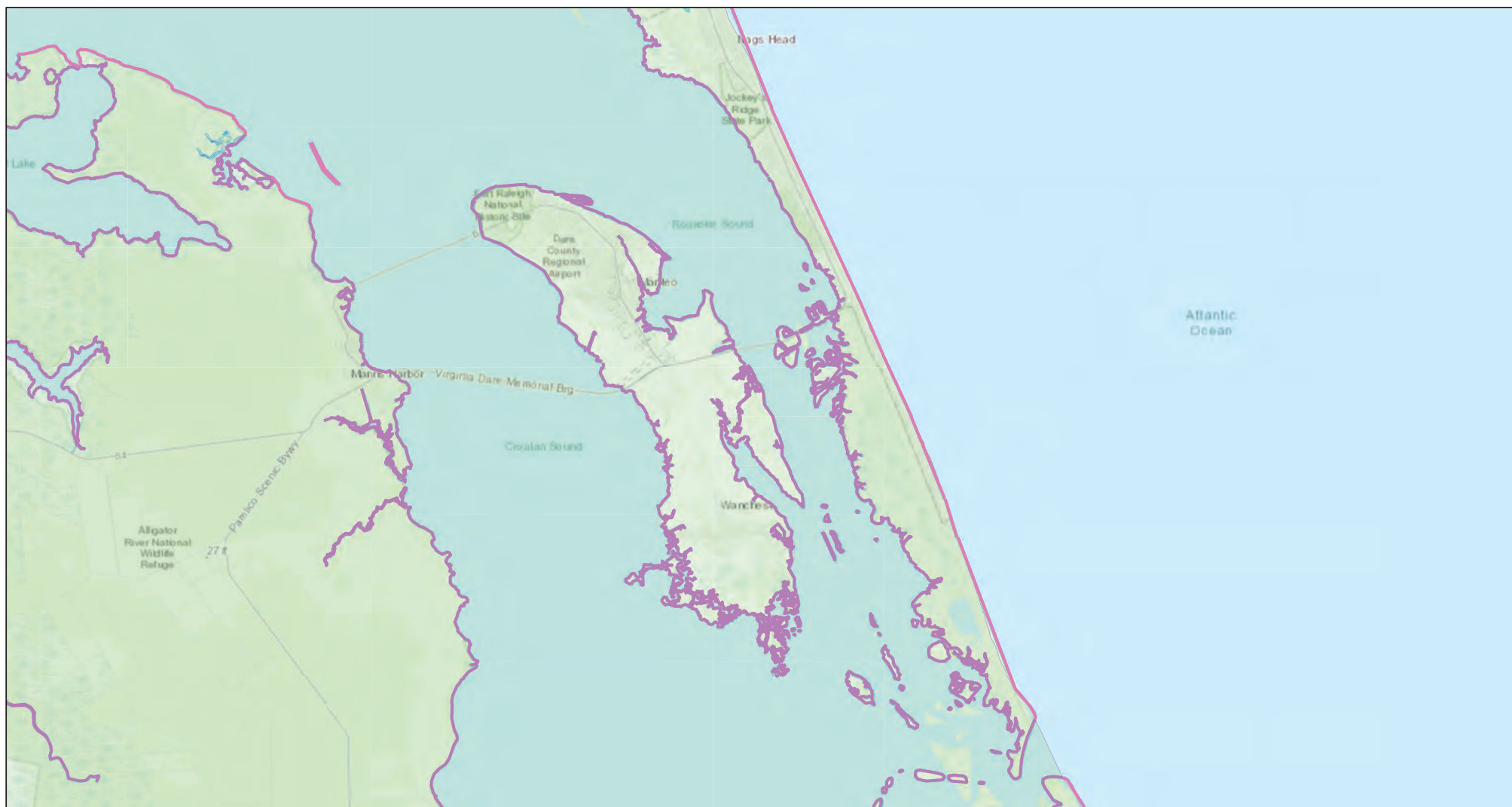
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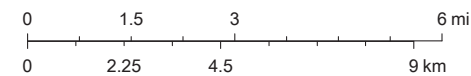
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River Basins

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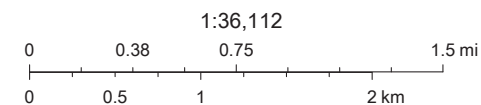
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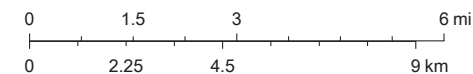
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River Basins

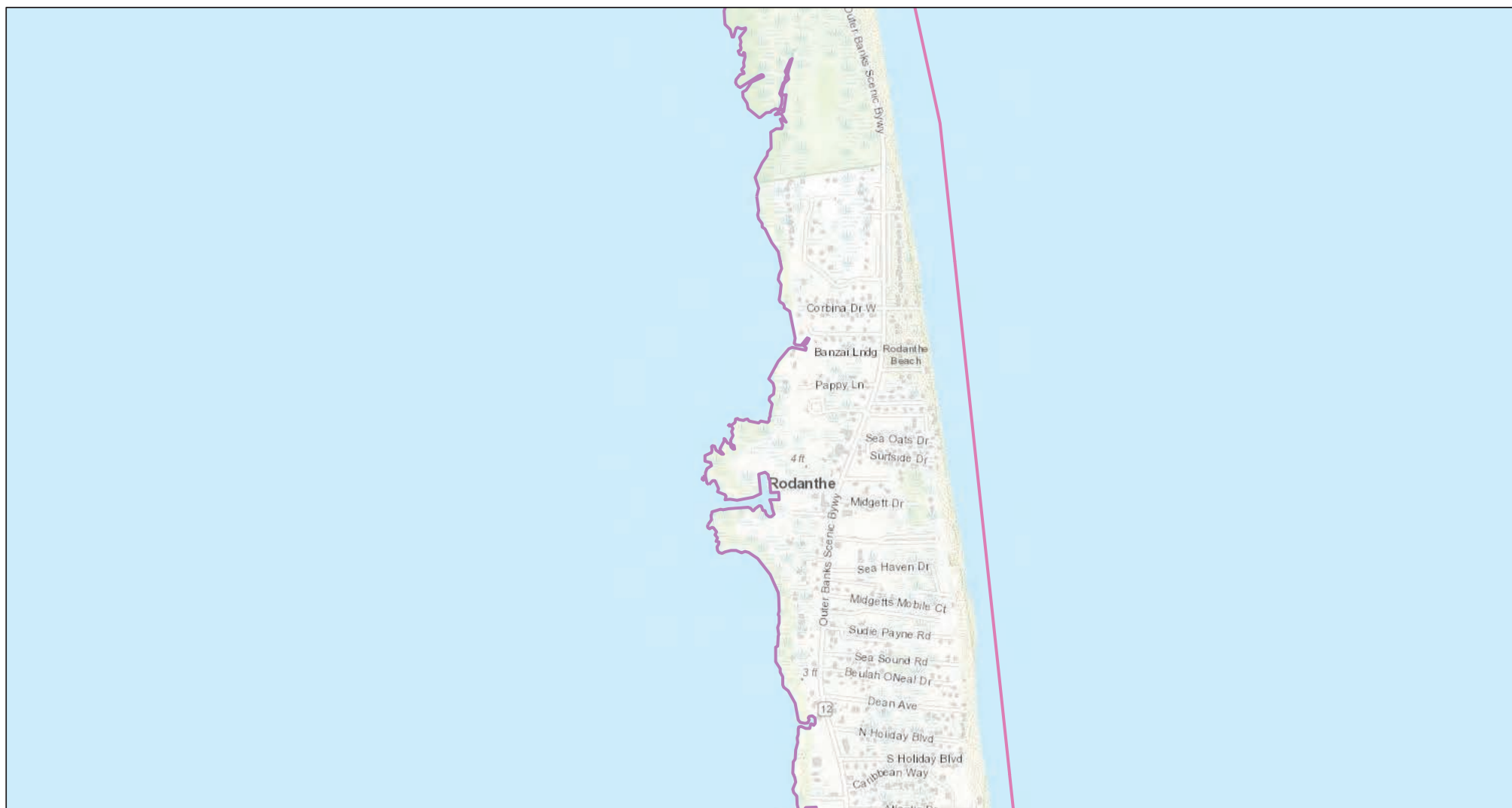
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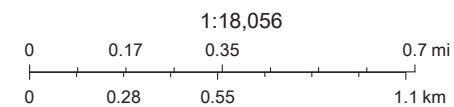
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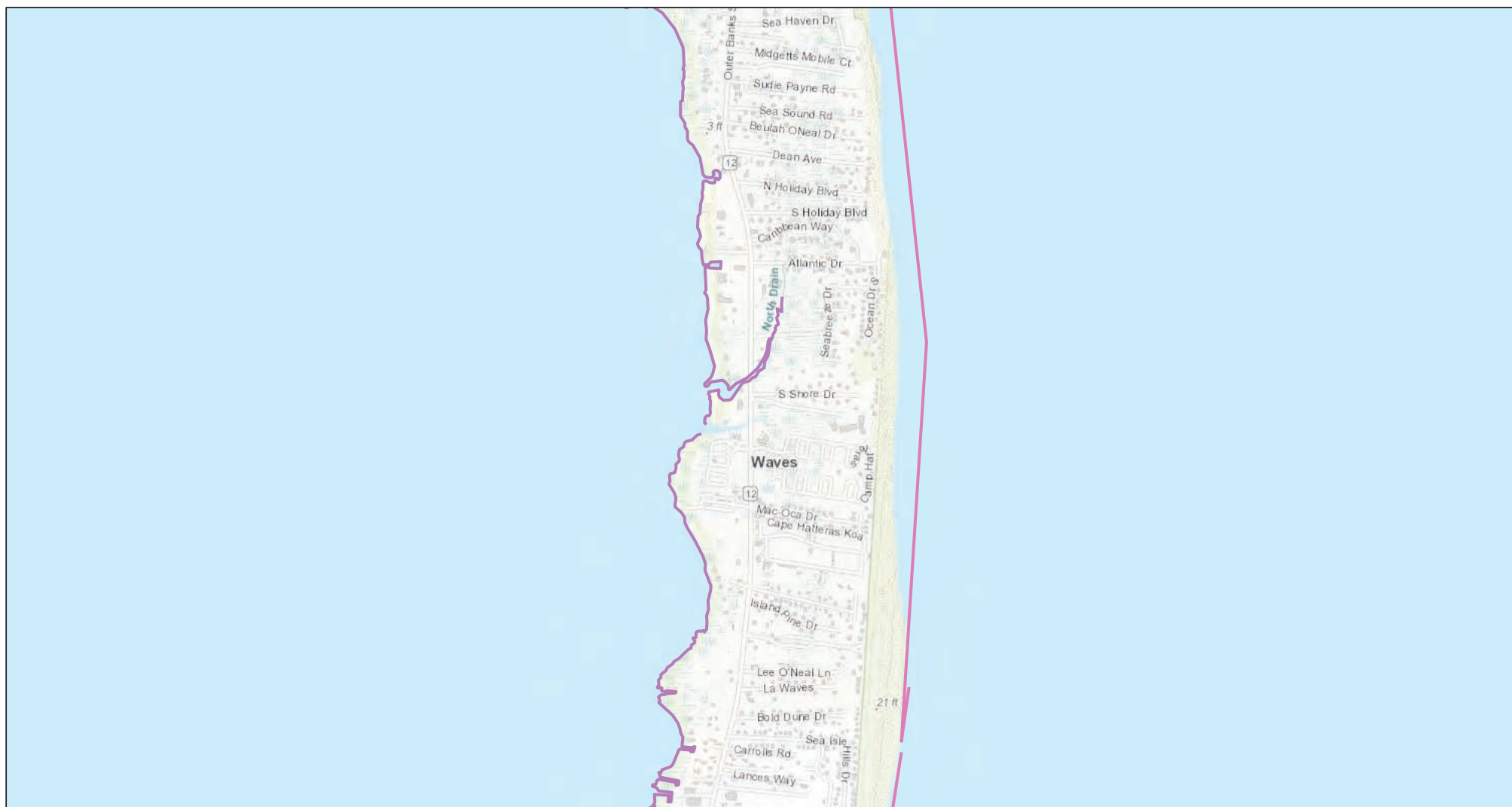
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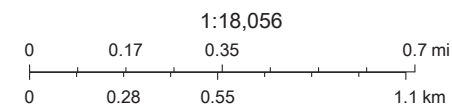
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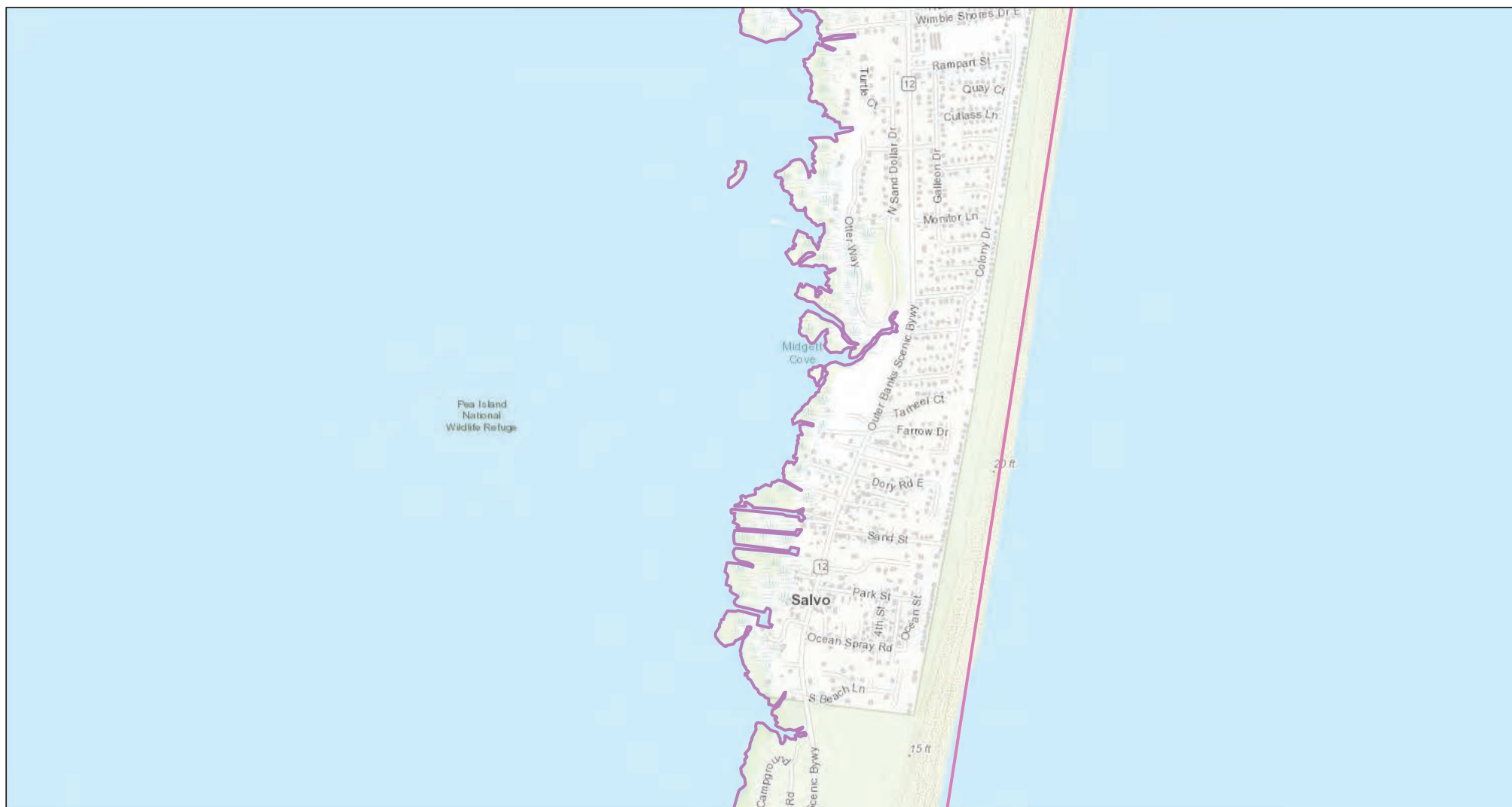
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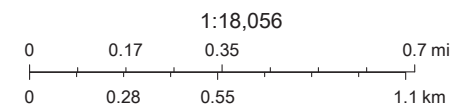
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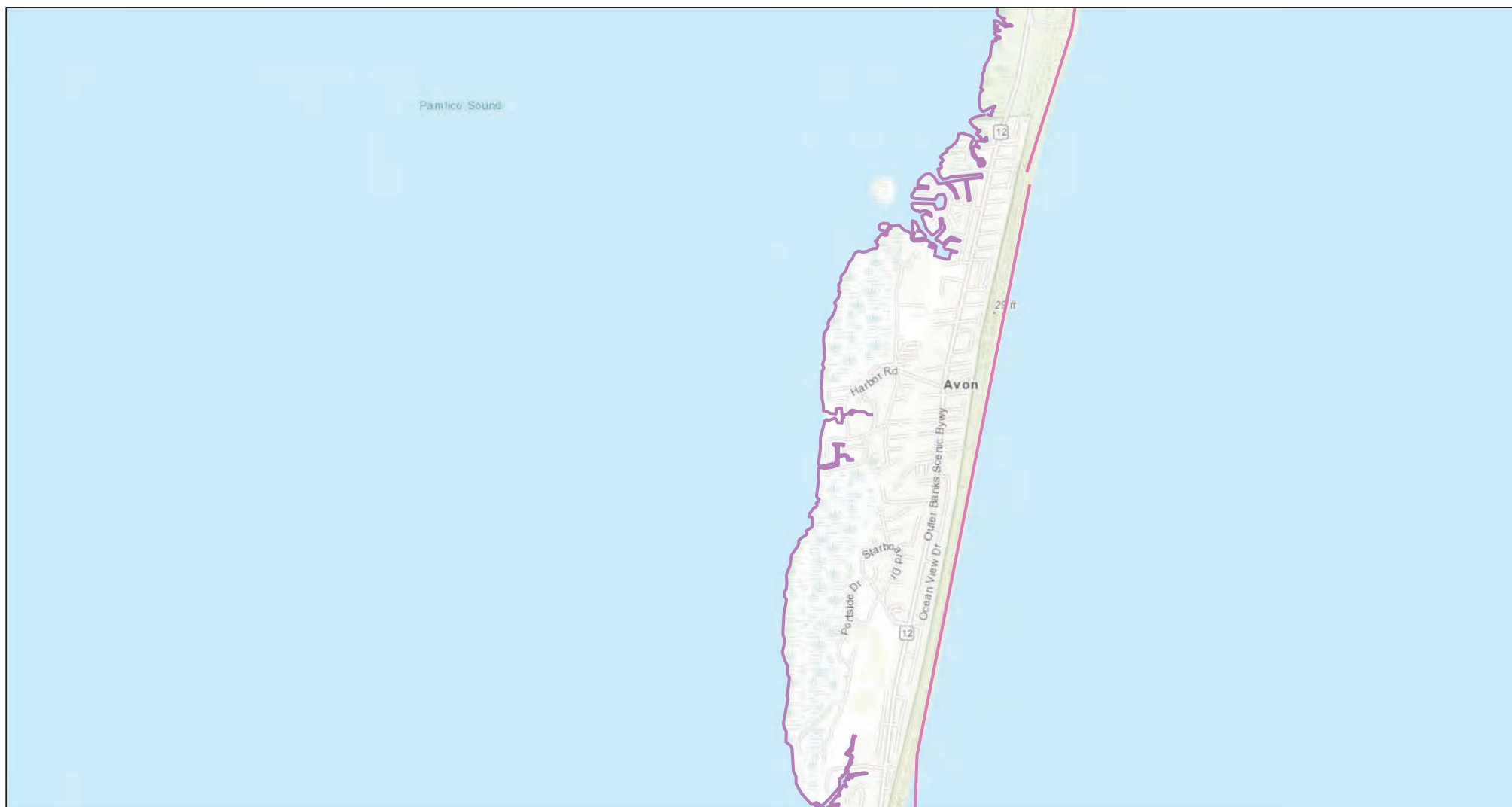
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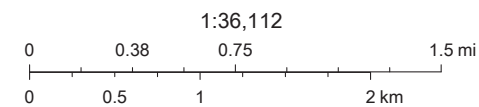
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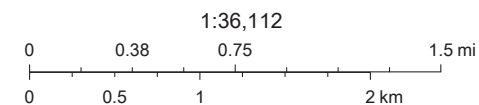
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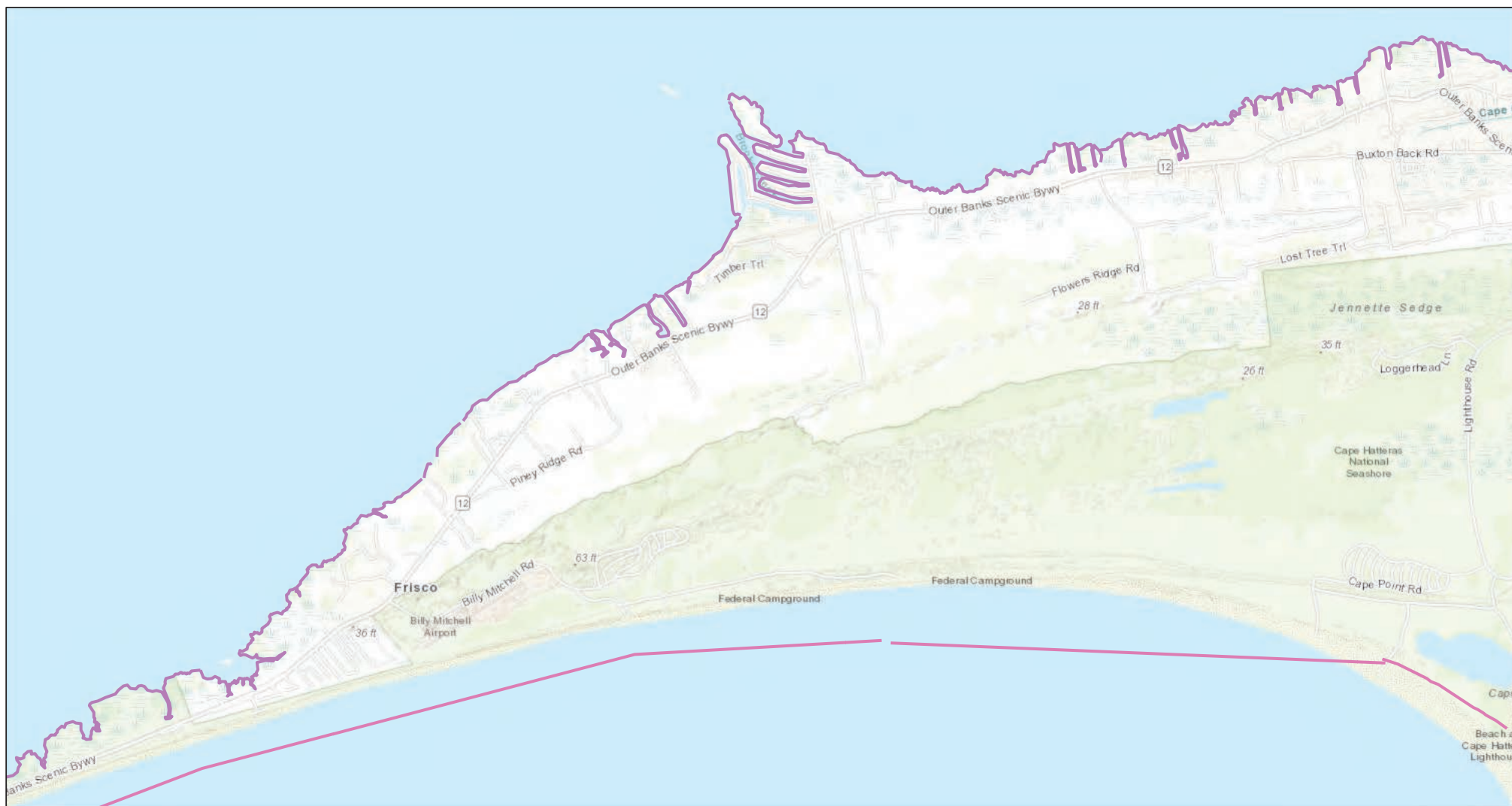
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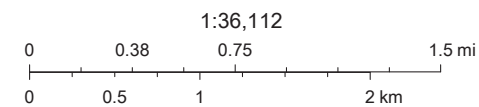
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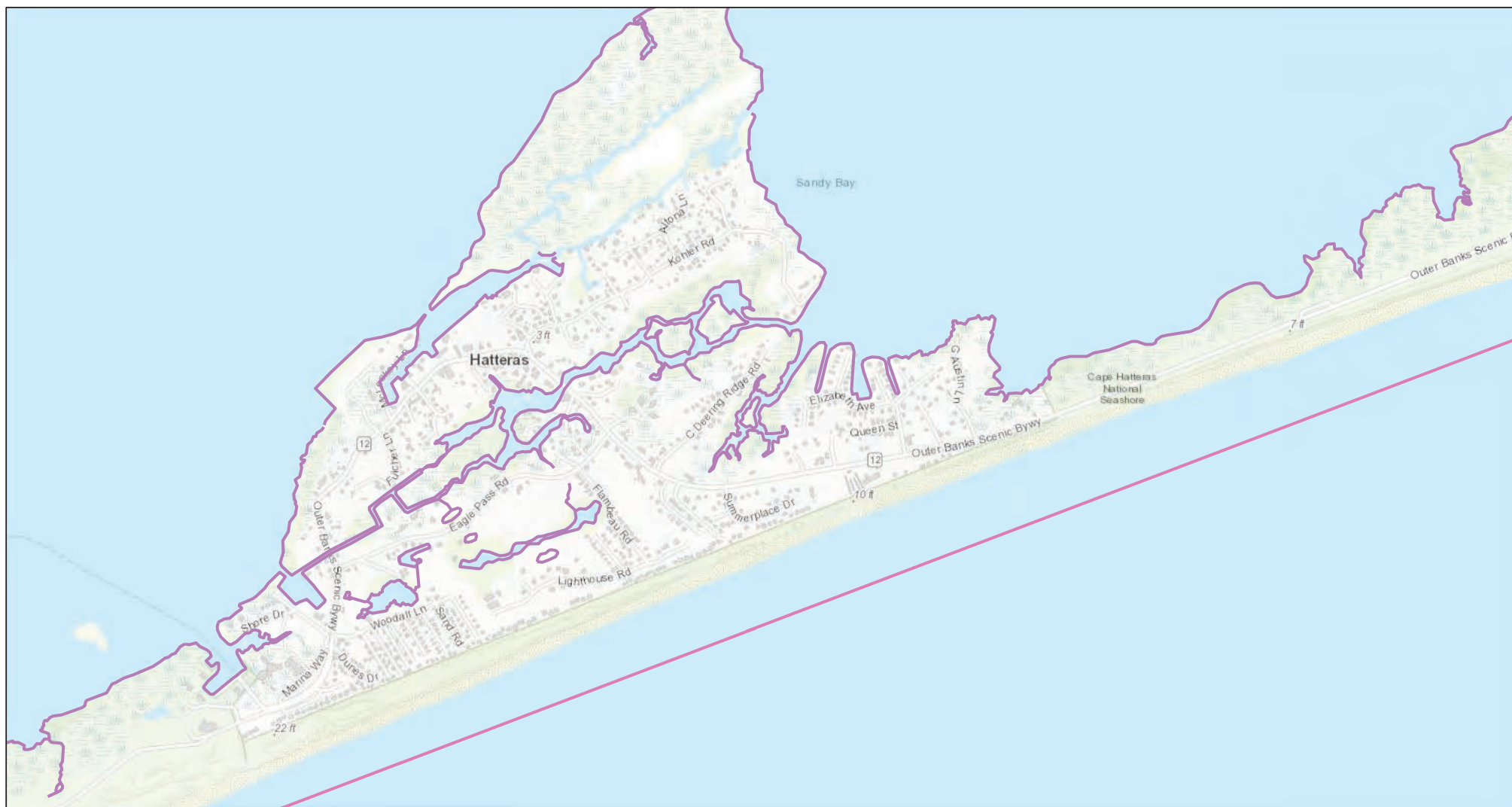
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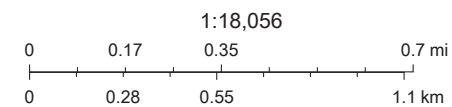
State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

NC Surface Water Classification



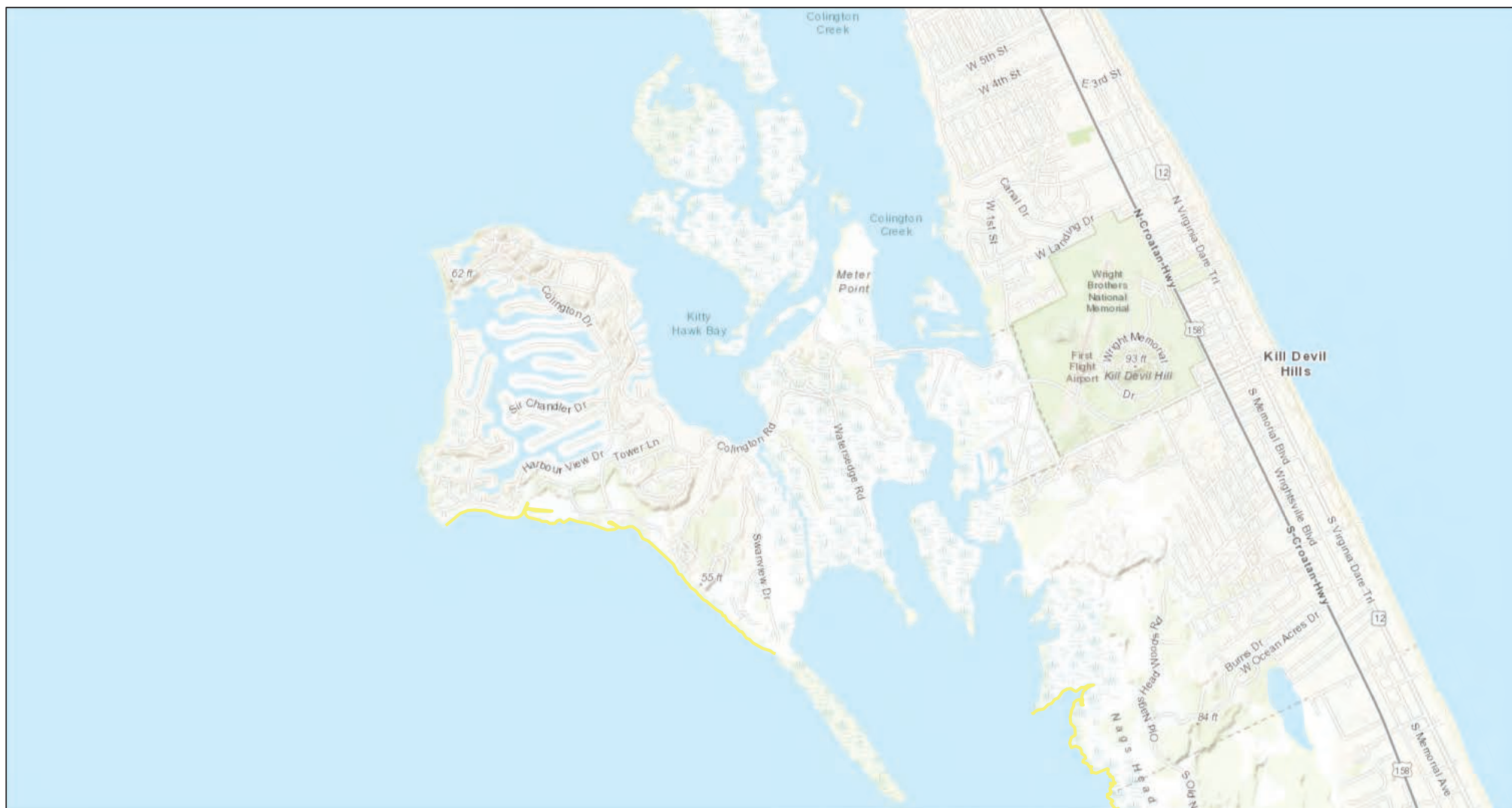
12/21/2021, 7:45:46 AM

- Classification B/SB (Recreation)
- Classification SC (Tidal Salt Water)



State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P,
USGS, METI/NASA, EPA, USDA

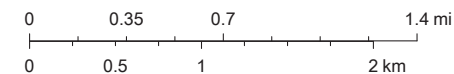
NC Surface Water Classification



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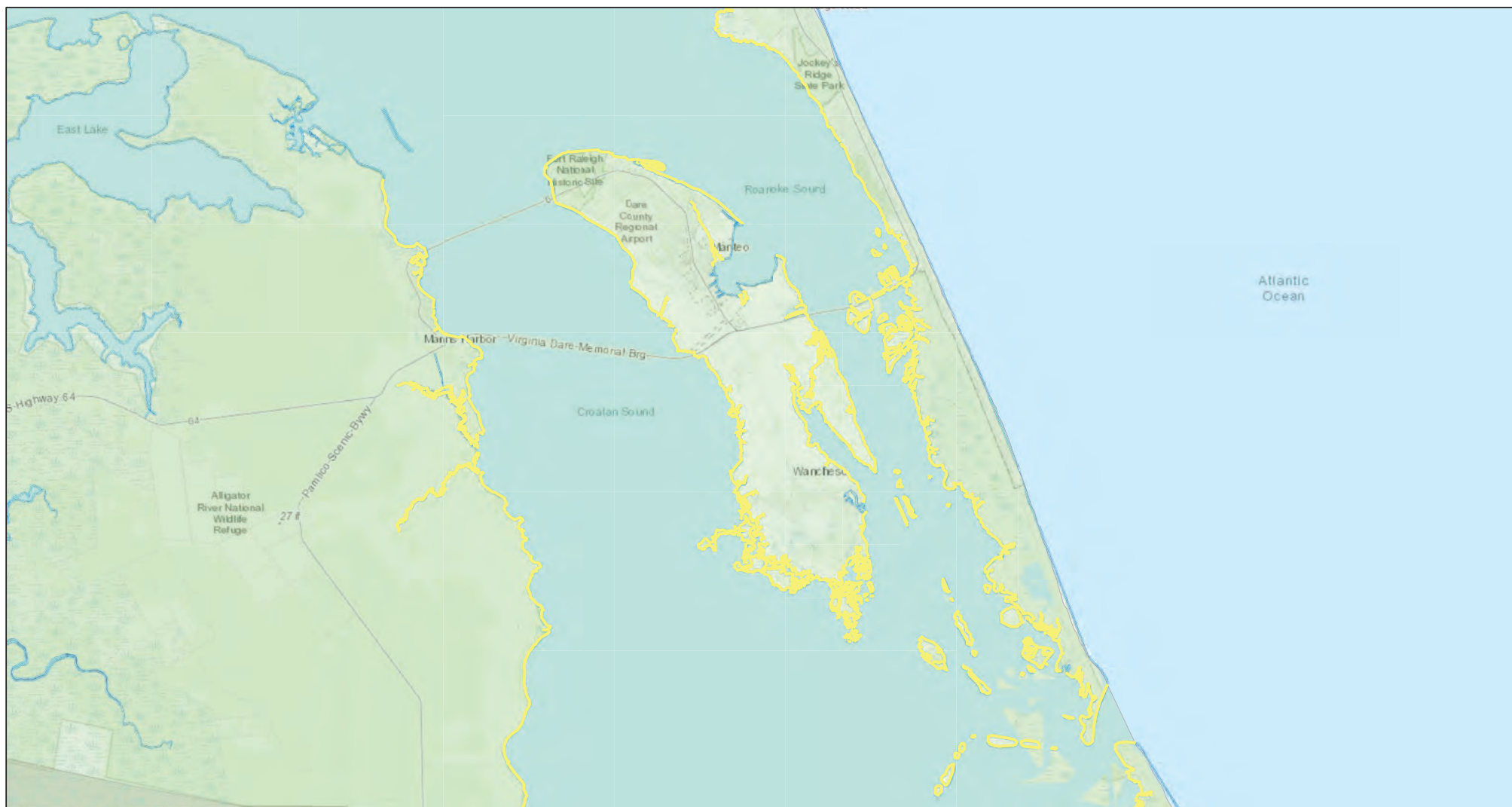
— Classification HQW (High Quality Waters)

1:36,112



State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

NC Surface Water Classification



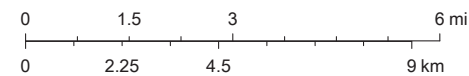
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— DWR_WQ_ClassificationsURL_Basins
 — Classification HQW (High Quality Waters)

River Basins

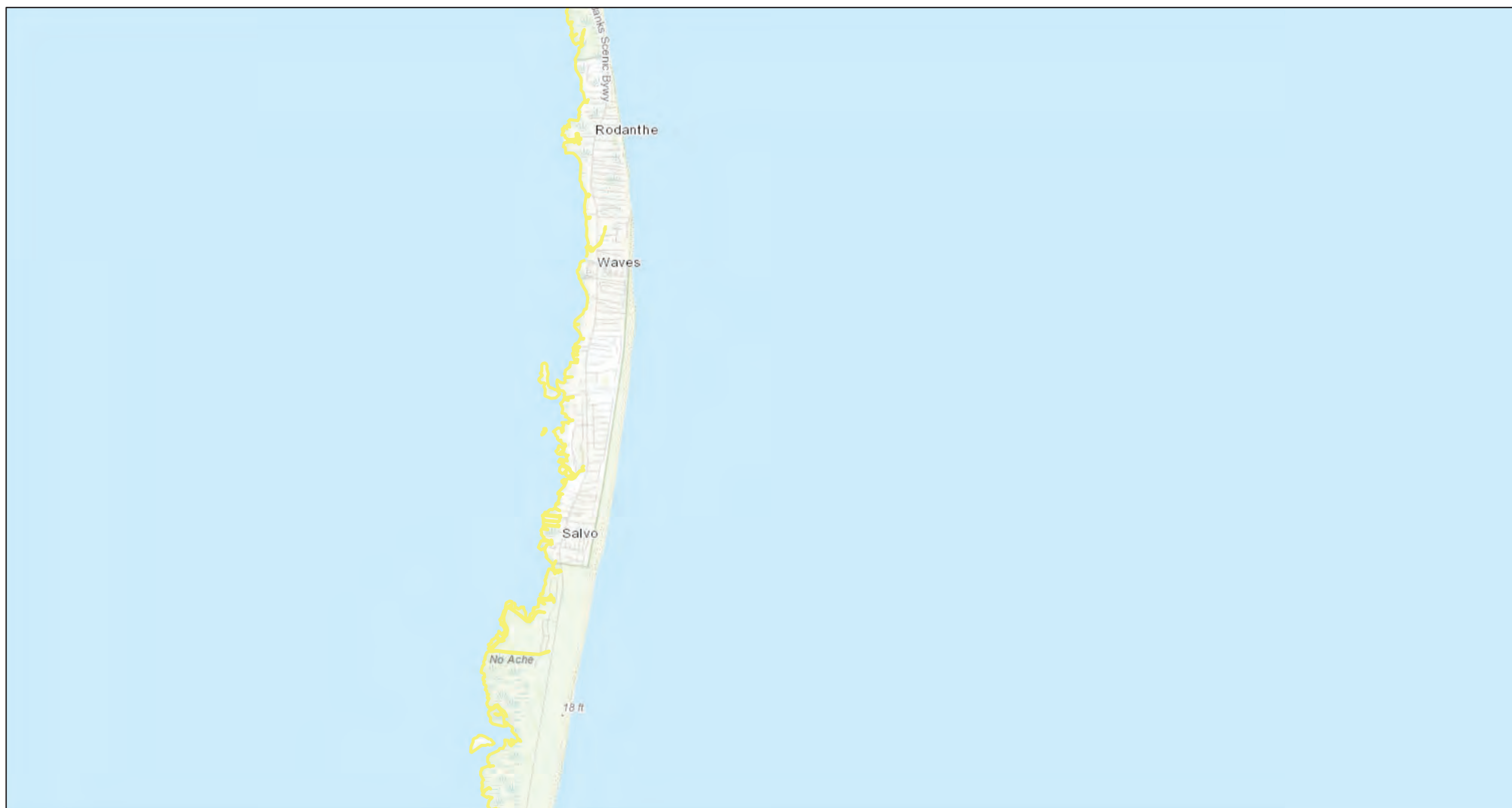
— PAS

1:144,448



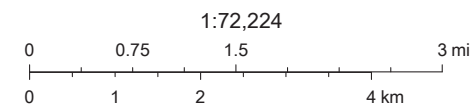
NCDENR - Division of Water Resources, State of North Carolina
 DOT, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS

NC Surface Water Classification



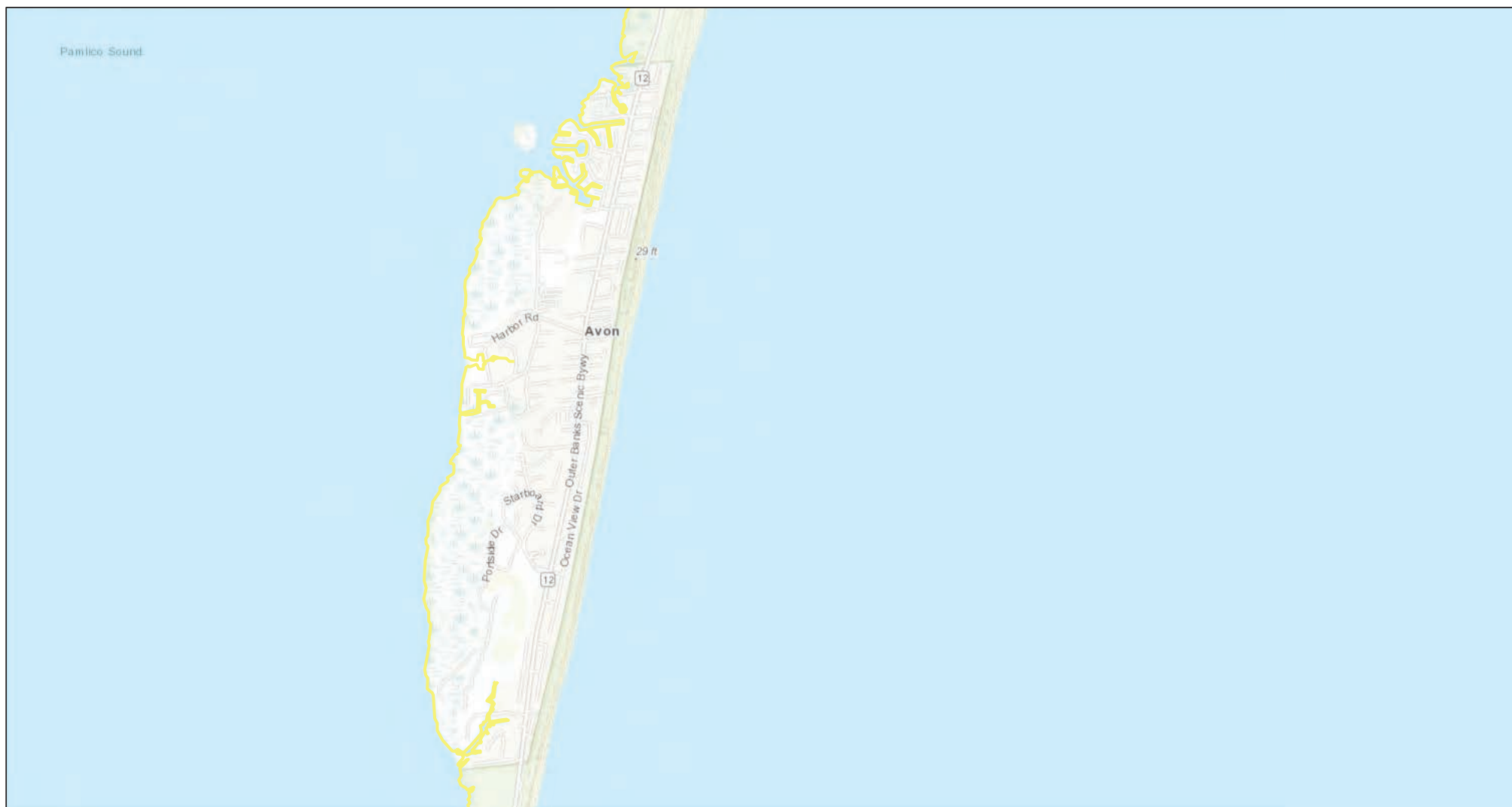
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Classification HQW (High Quality Waters)



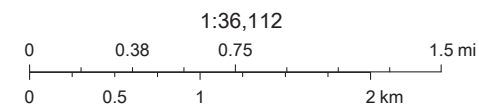
State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA, EPA, USDA

NC Surface Water Classification



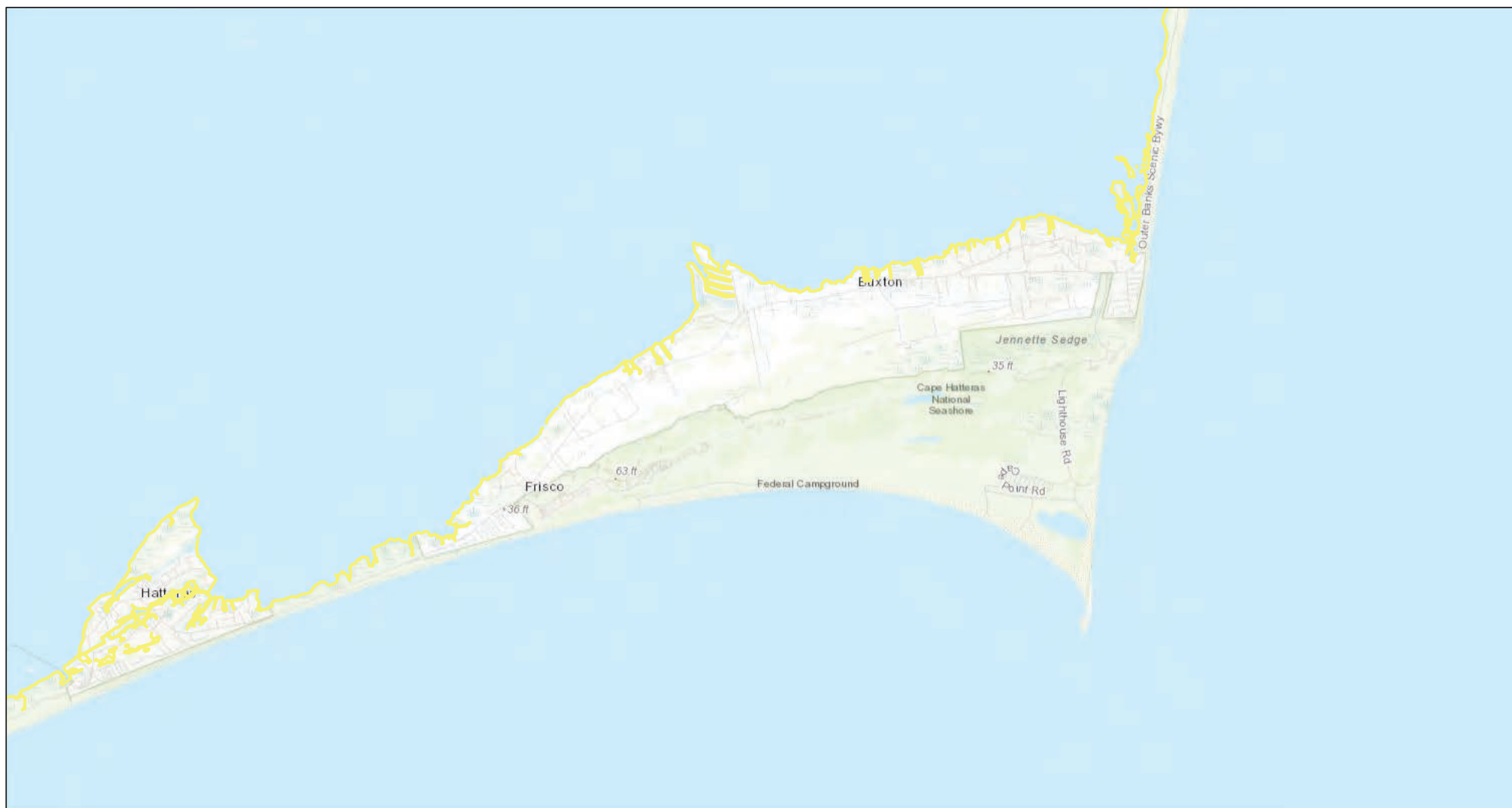
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— Classification HQW (High Quality Waters)



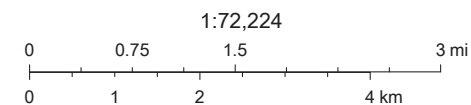
State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, EPA, USDA

NC Surface Water Classification



12/21/2021, 8:10:33 AM

— Classification HQW (High Quality Waters)



State of North Carolina DOT, Esri, HERE, Garmin, INCREMENT P, USGS, METI/NASA, NGA, EPA, USDA

NC Surface Water Classification



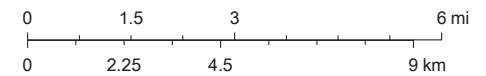
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 — Classification ORW (Outstanding Resource Waters)

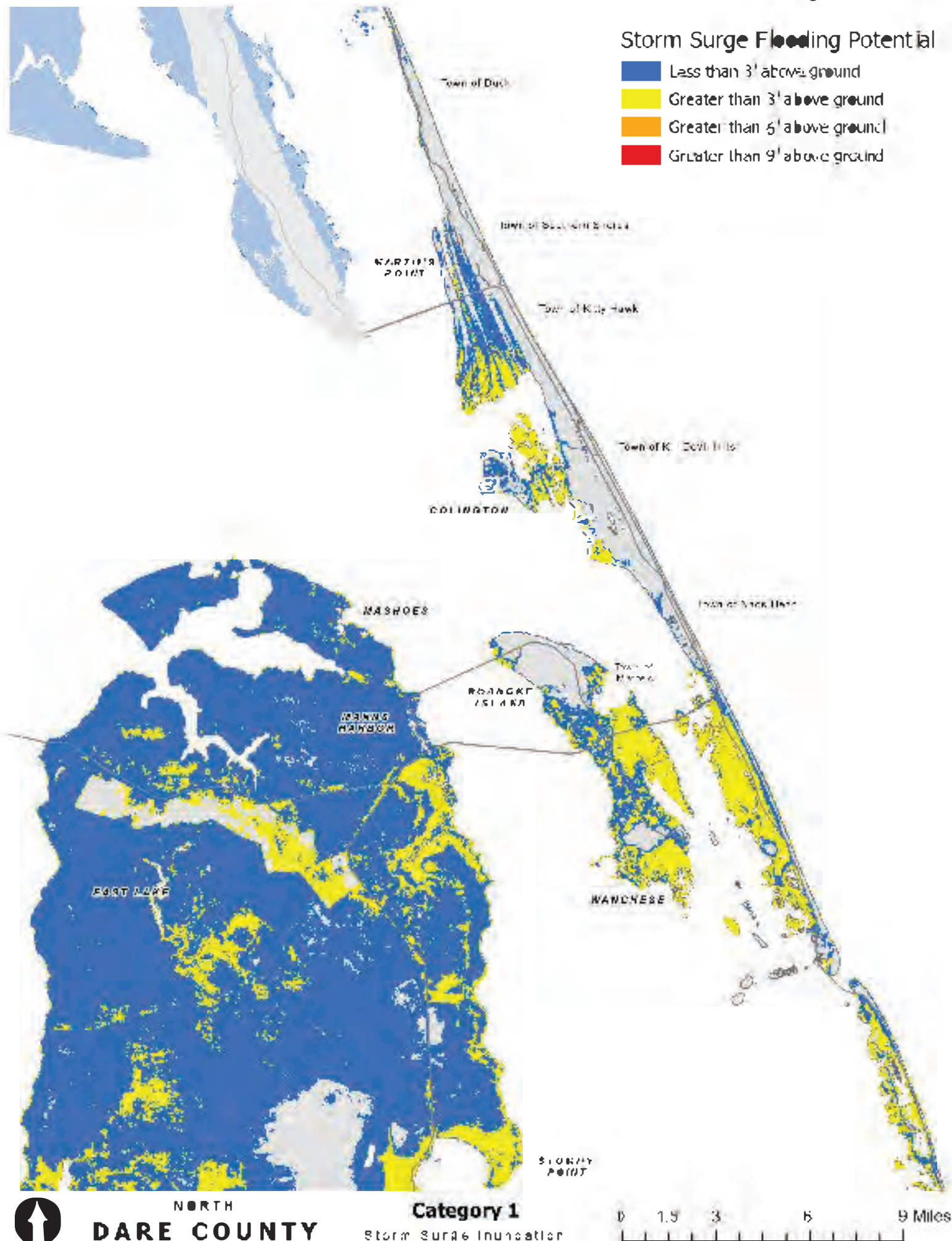
River Basins

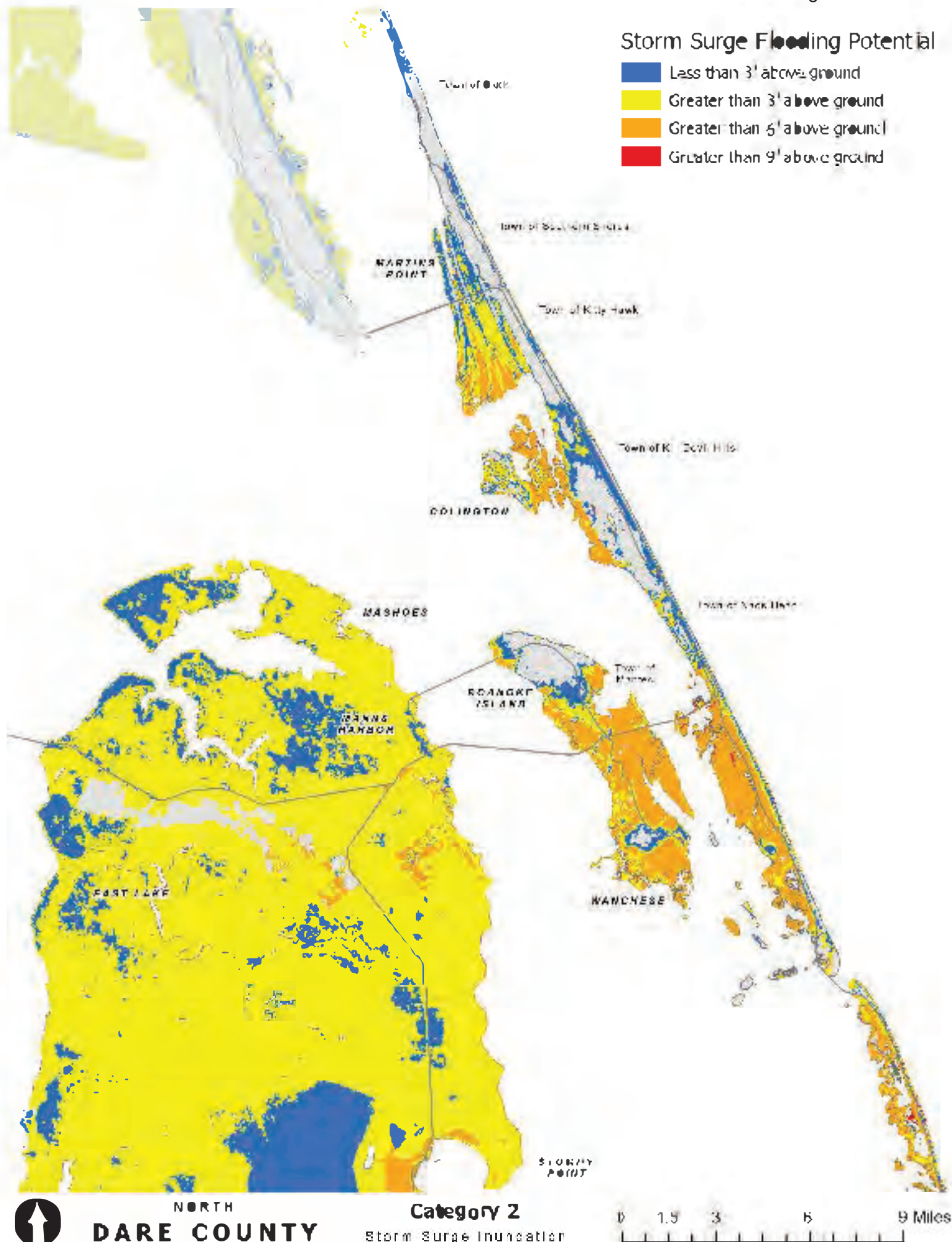
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1:144,448



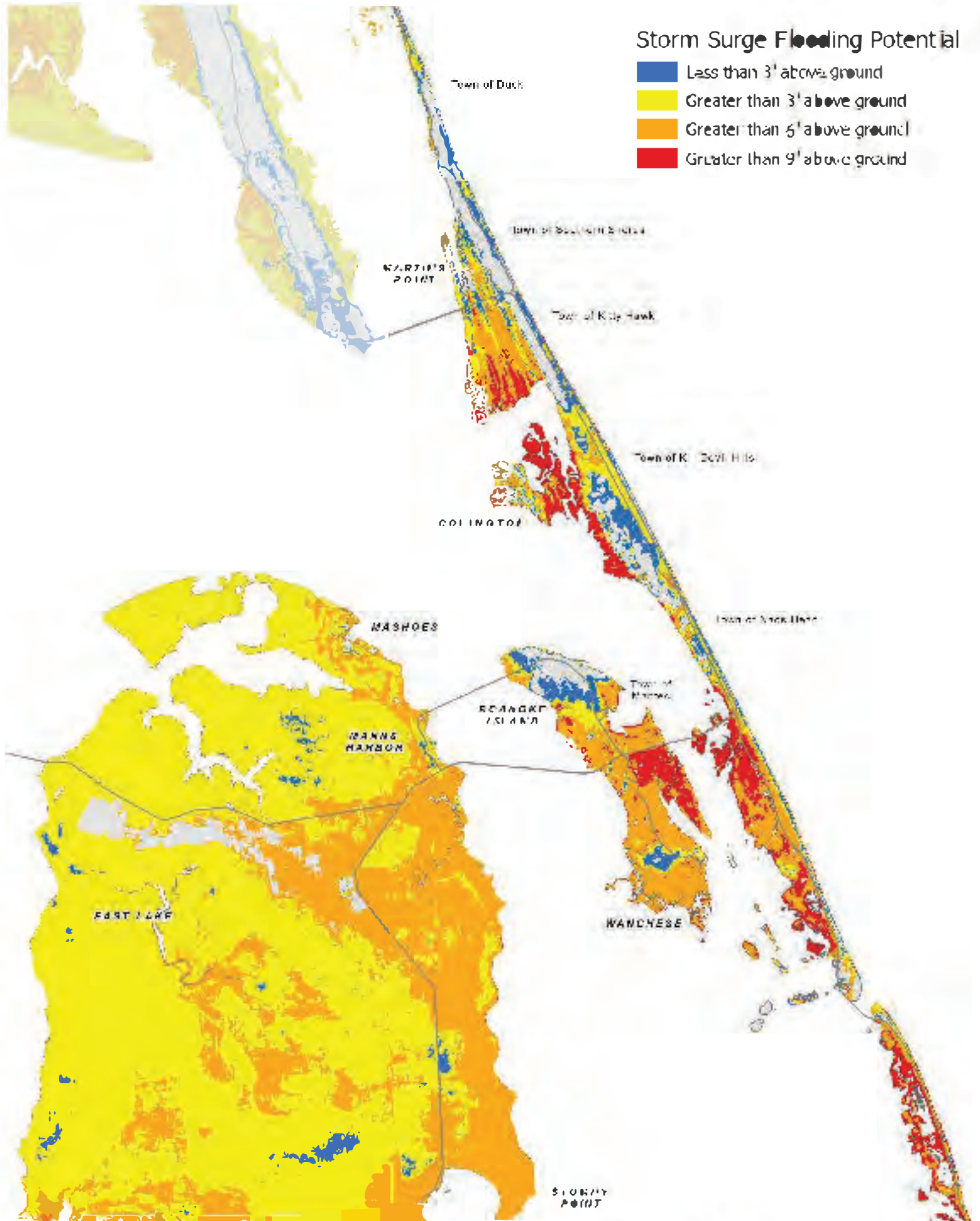
NCDENR - Division of Water Resources, State of North Carolina
 DOT, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS





Storm Surge Flooding Potential

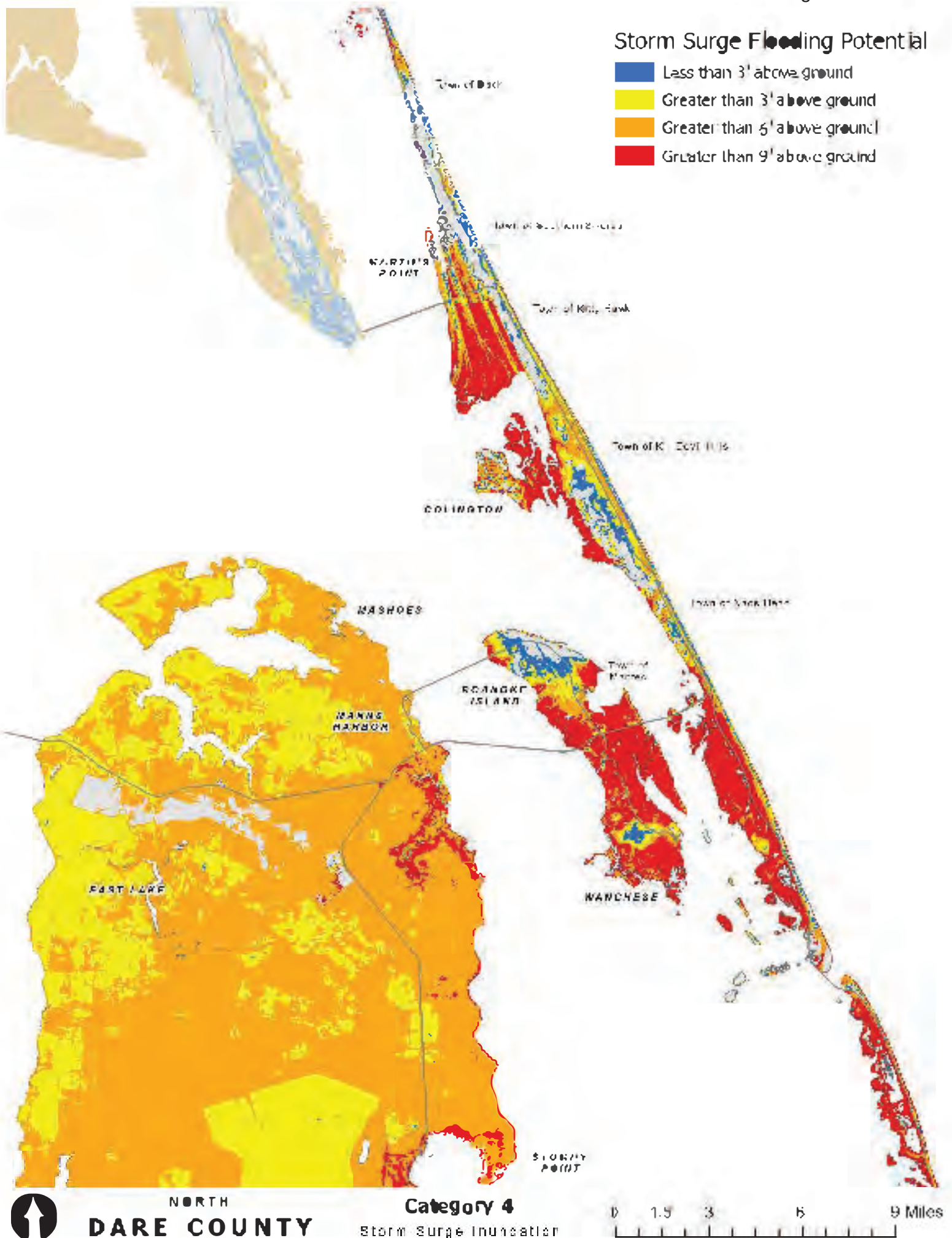
- Less than 3' above ground
- Greater than 3' above ground
- Greater than 5' above ground
- Greater than 9' above ground



NORTH
DARE COUNTY

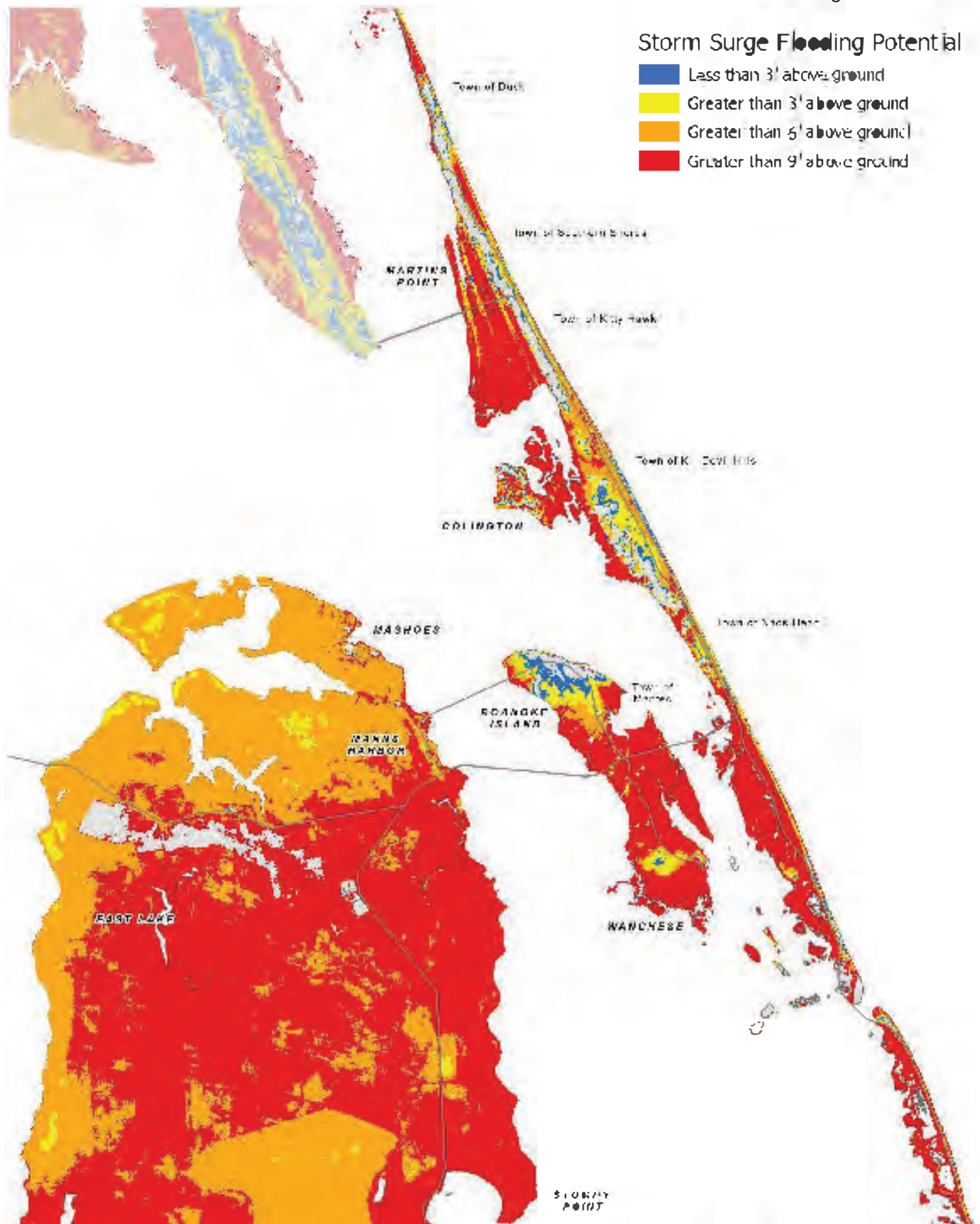
Category 3
Storm Surge Indication

0 1.5 3 6 9 Miles



Storm Surge Flooding Potential

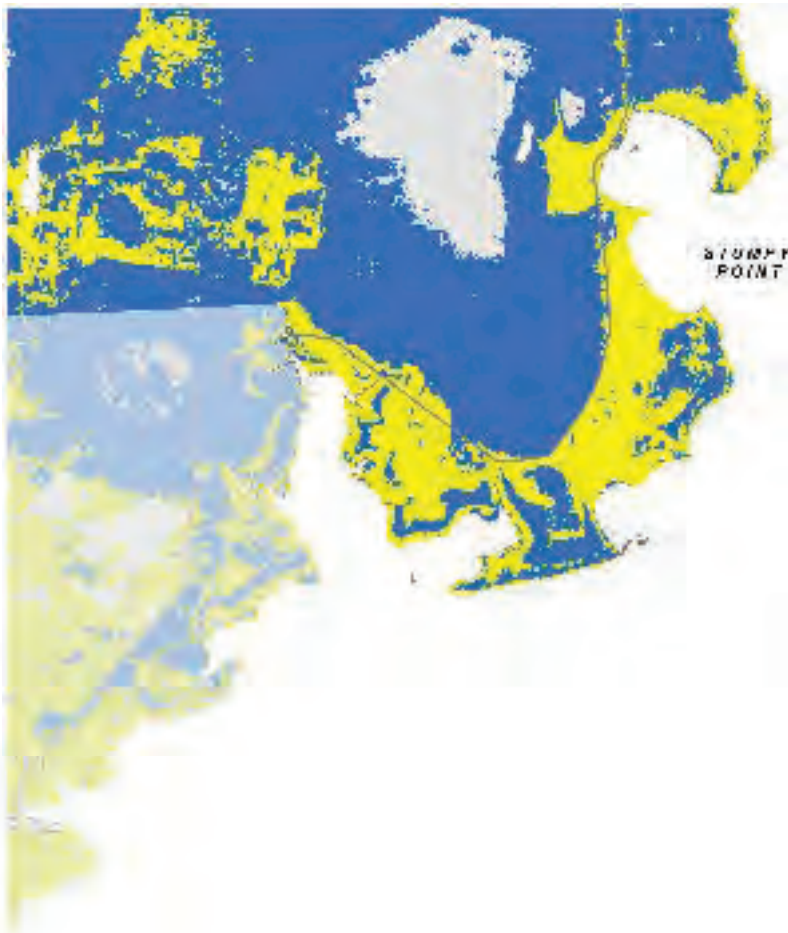
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- Greater than 3' above ground
- Greater than 5' above ground
- Greater than 9' above ground



NORTH
DARE COUNTY

Category 5
Storm Surge Indication

0 1.5 3 6 9 Miles



Storm Surge Flooding Potential

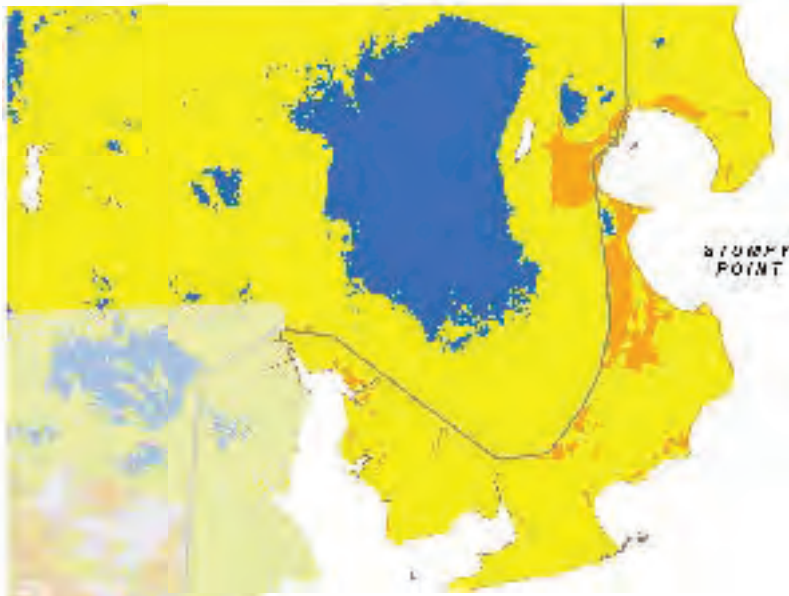
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- Greater than 6' above ground
- Greater than 9' above ground



SOUTH
DARE COUNTY

Category 1
Storm Surge Indication

0 1.5 3 6 9 Miles

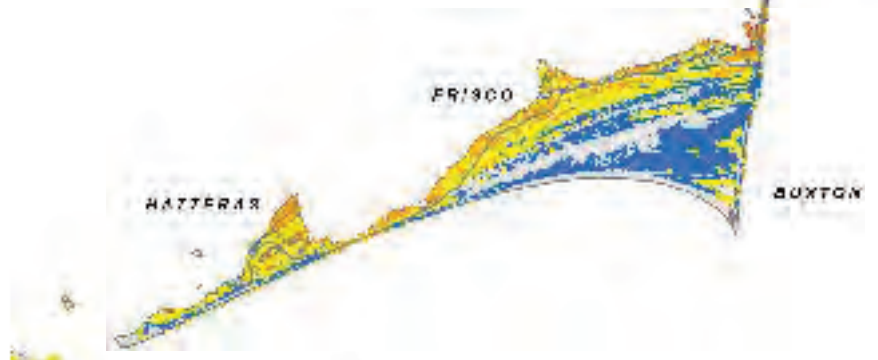


STURGEY
POINT

ROOAN NTKE
WAVE8
SAILIN

Storm Surge Flooding Potential

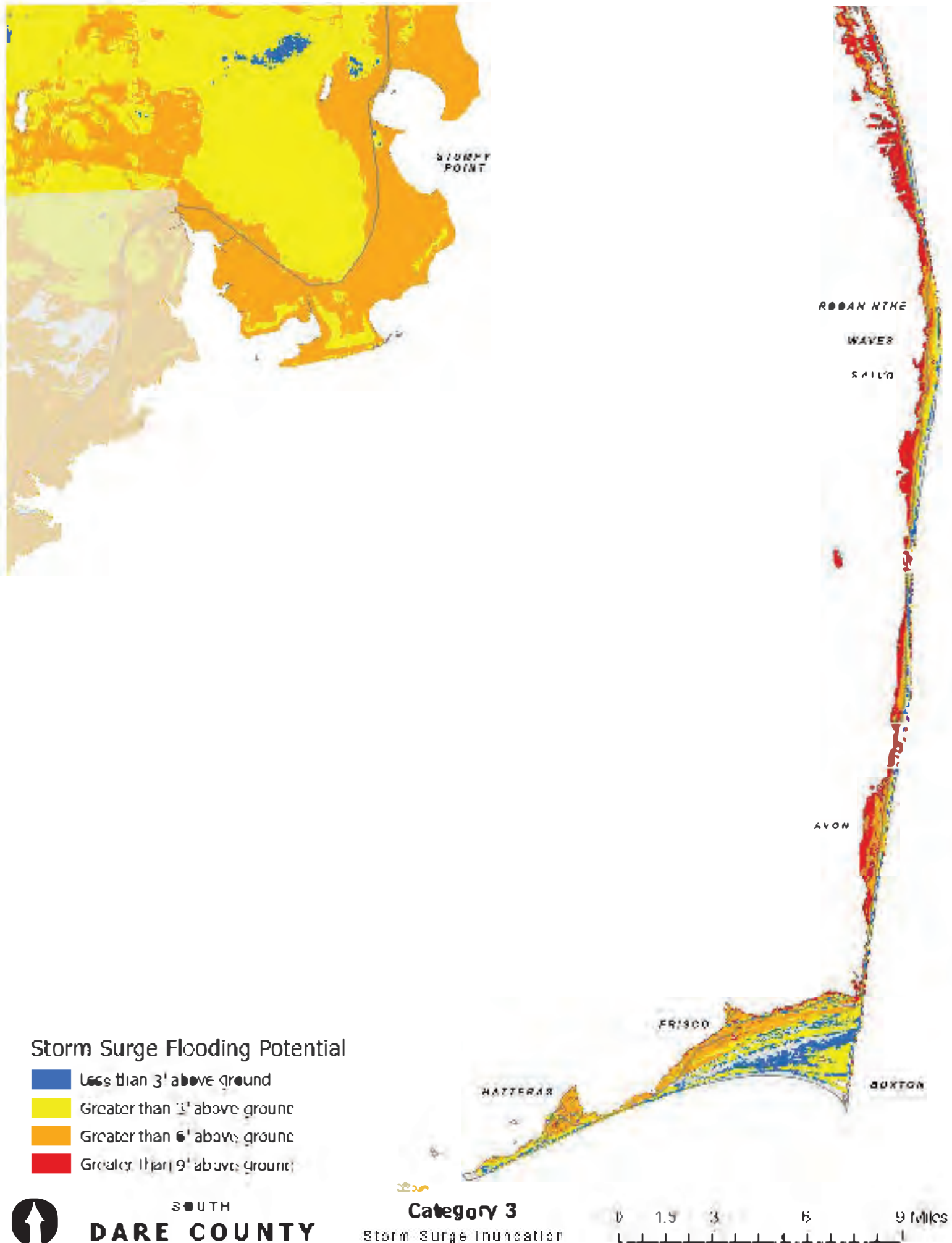
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- Greater than 3' above ground
- Greater than 6' above ground
- Greater than 9' above ground

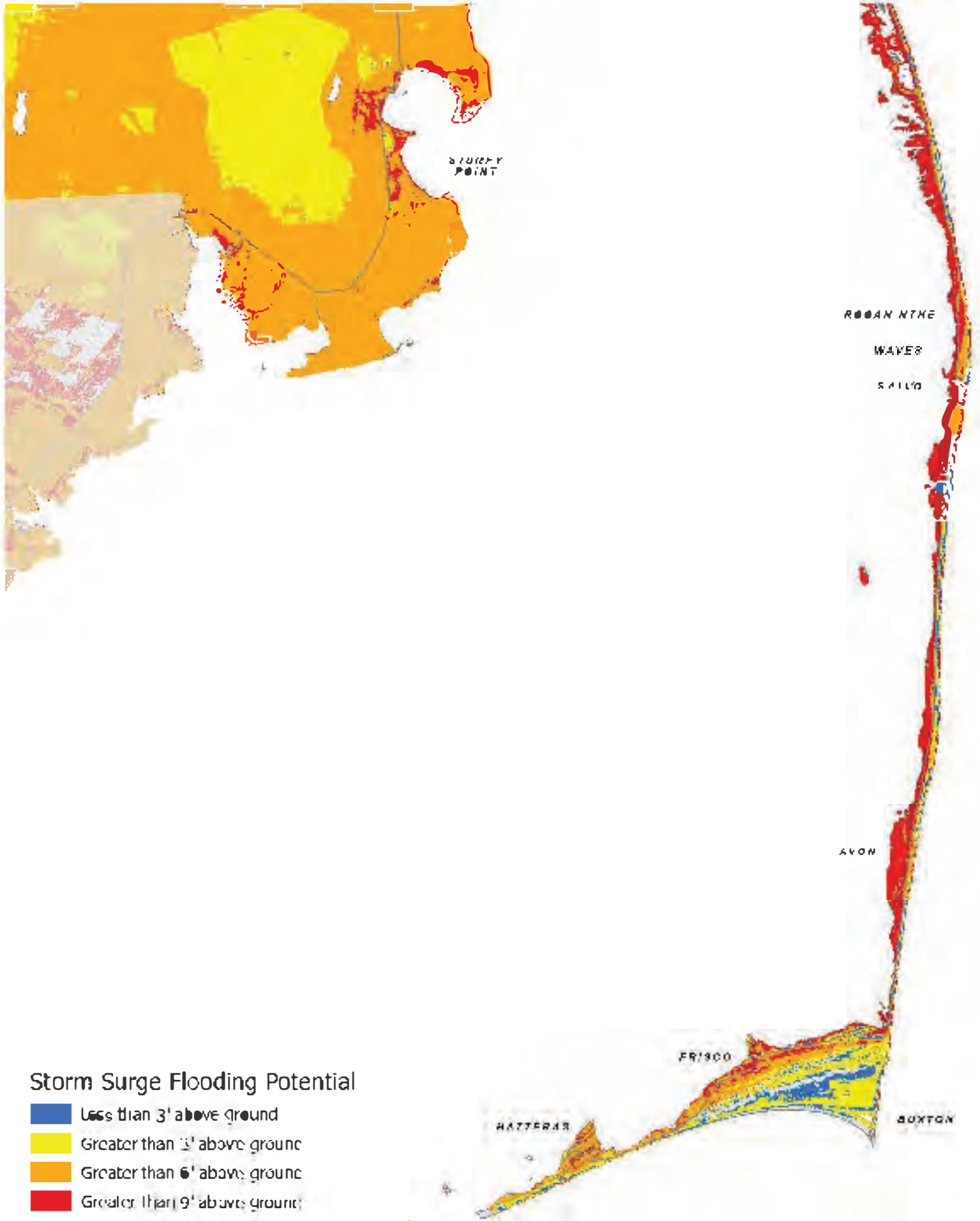


SOUTH
DARE COUNTY

Category 2
Storm Surge Indication

0 1.5 3 6 9 Miles





Storm Surge Flooding Potential

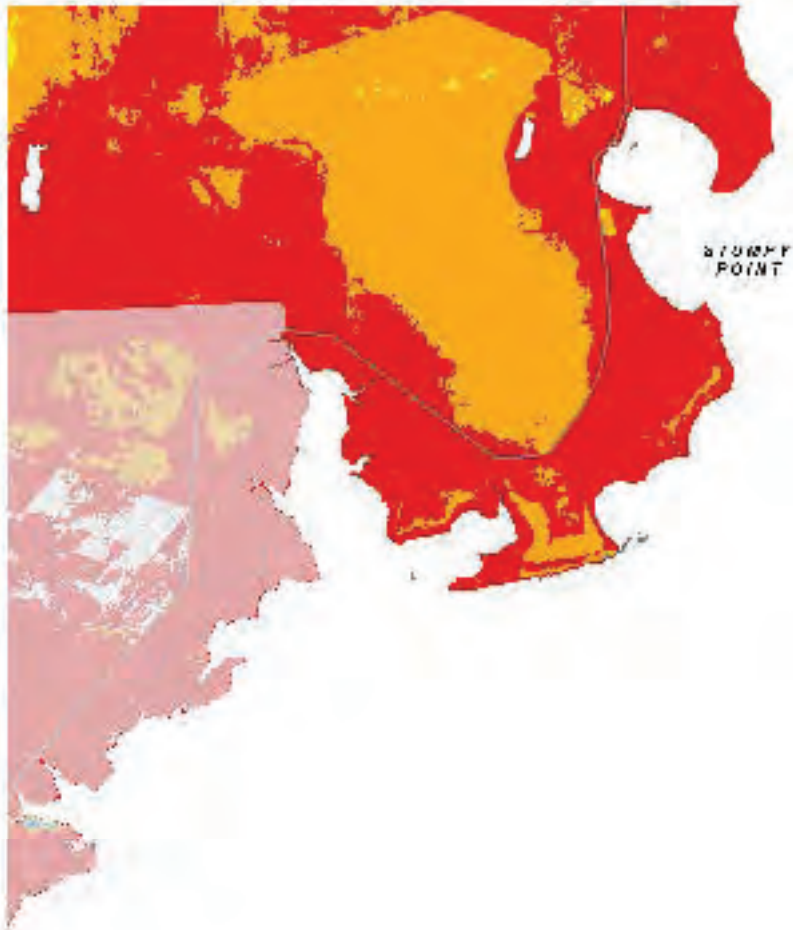
- Less than 3' above ground
- Greater than 3' above ground
- Greater than 6' above ground
- Greater than 9' above ground



SOUTH
DARE COUNTY

Category 4
Storm Surge Indication

0 1.5 3 6 9 Miles



STURDY
POINT

ROOAN NTKE
WAVES
SALVO

AVON

FRISCO

HATTERAS

BOXTON

Storm Surge Flooding Potential

- Less than 3' above ground
- Greater than 3' above ground
- Greater than 6' above ground
- Greater than 9' above ground



SOUTH
DARE COUNTY

Category 5

Storm Surge Indication

0 1.5 3 6 9 Miles

270

Fig. 2 Skyco Plant Wellhead Protection Area





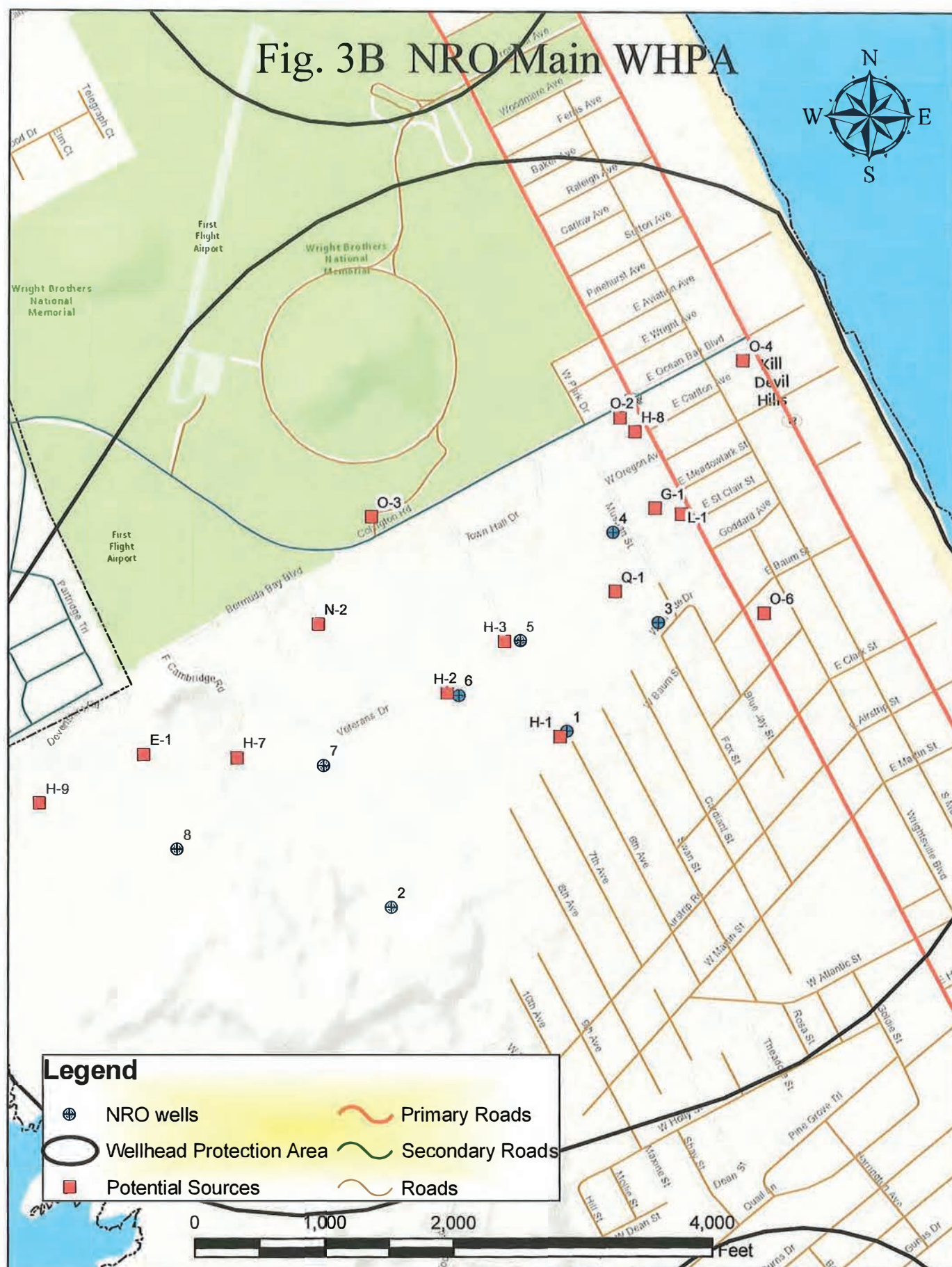


Fig. 3C NRO Kill Devel Hills WHPA

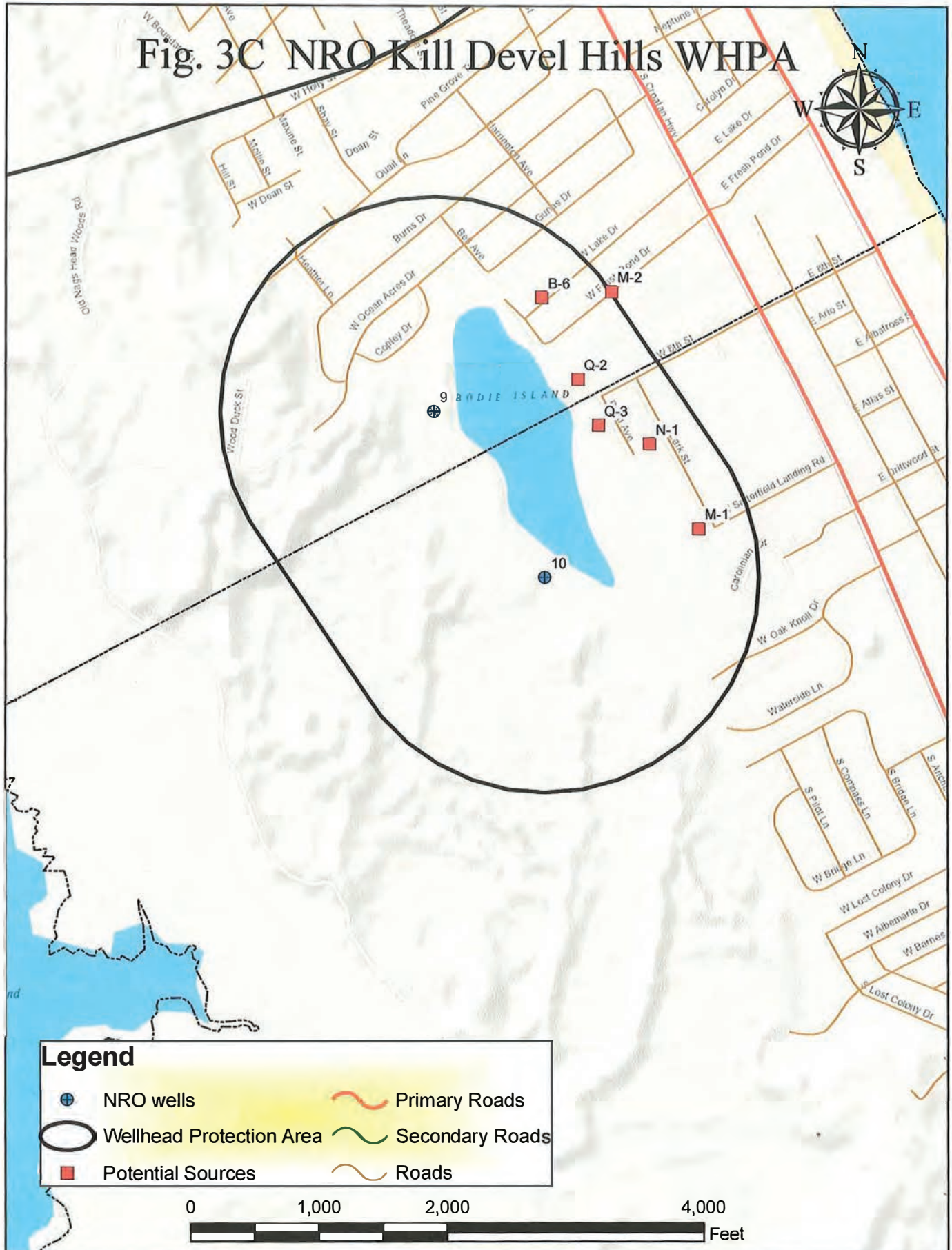
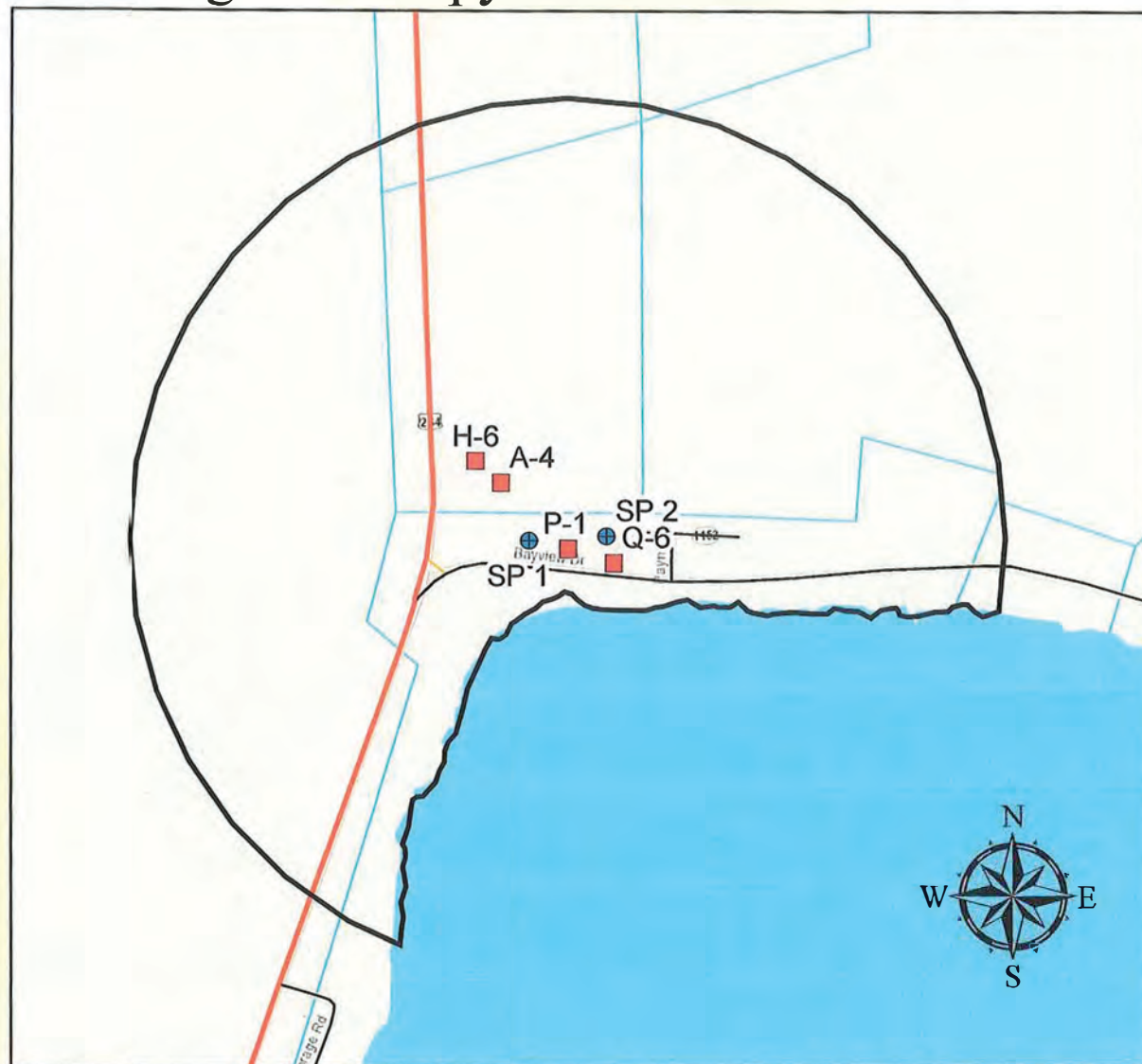




Fig. 4 Stumpy Point Plant WHPA



1,000 500 0 1,000 2,000 3,000 Feet

Legend

- | | |
|--|---|
|  Stumpy Point wells |  Primary Roads |
|  Wellhead Protection Area |  Secondary Roads |
|  Potential Sources |  Roads |

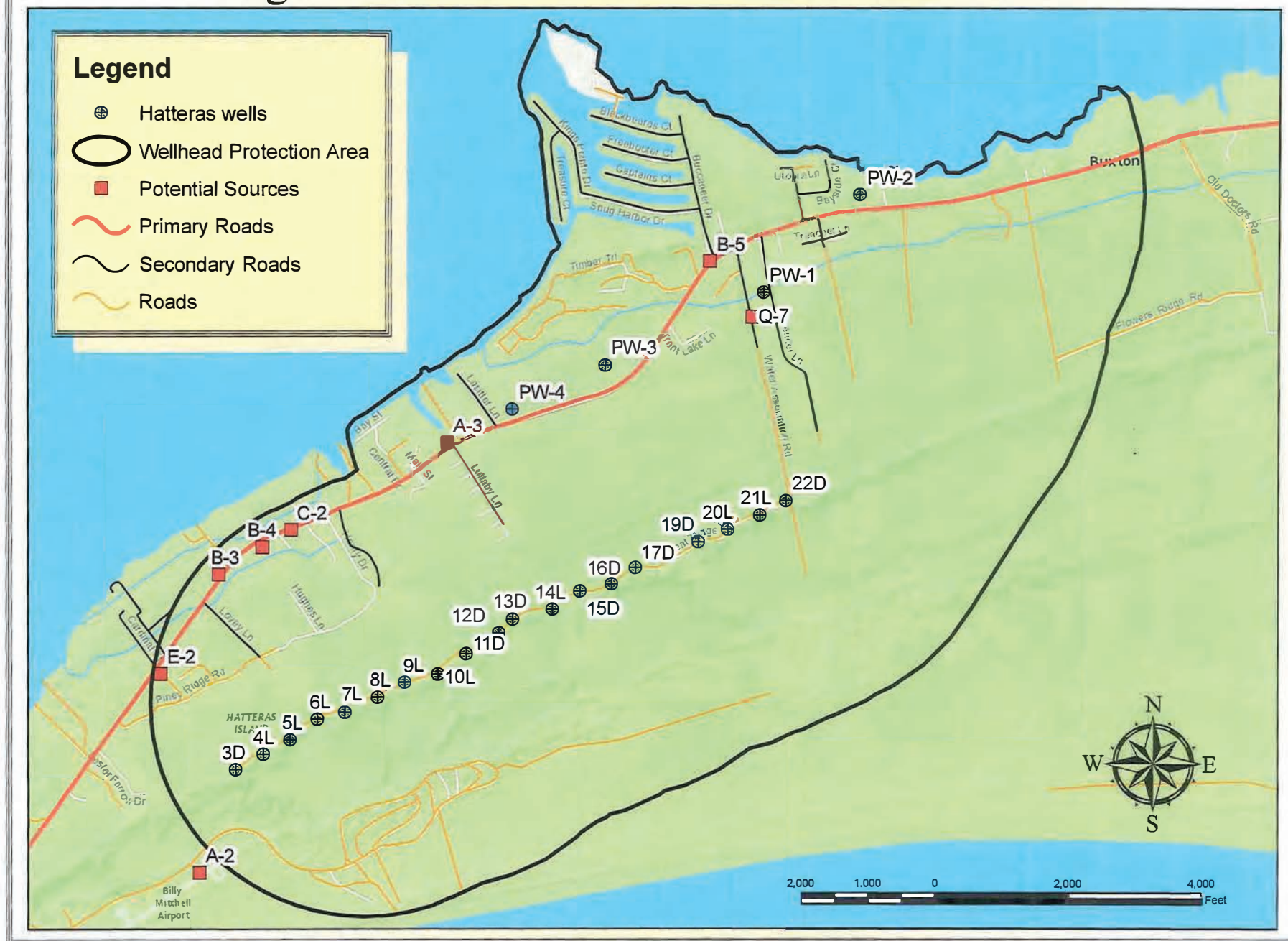
Fig. 5 Mac Midgett Plant WHPA

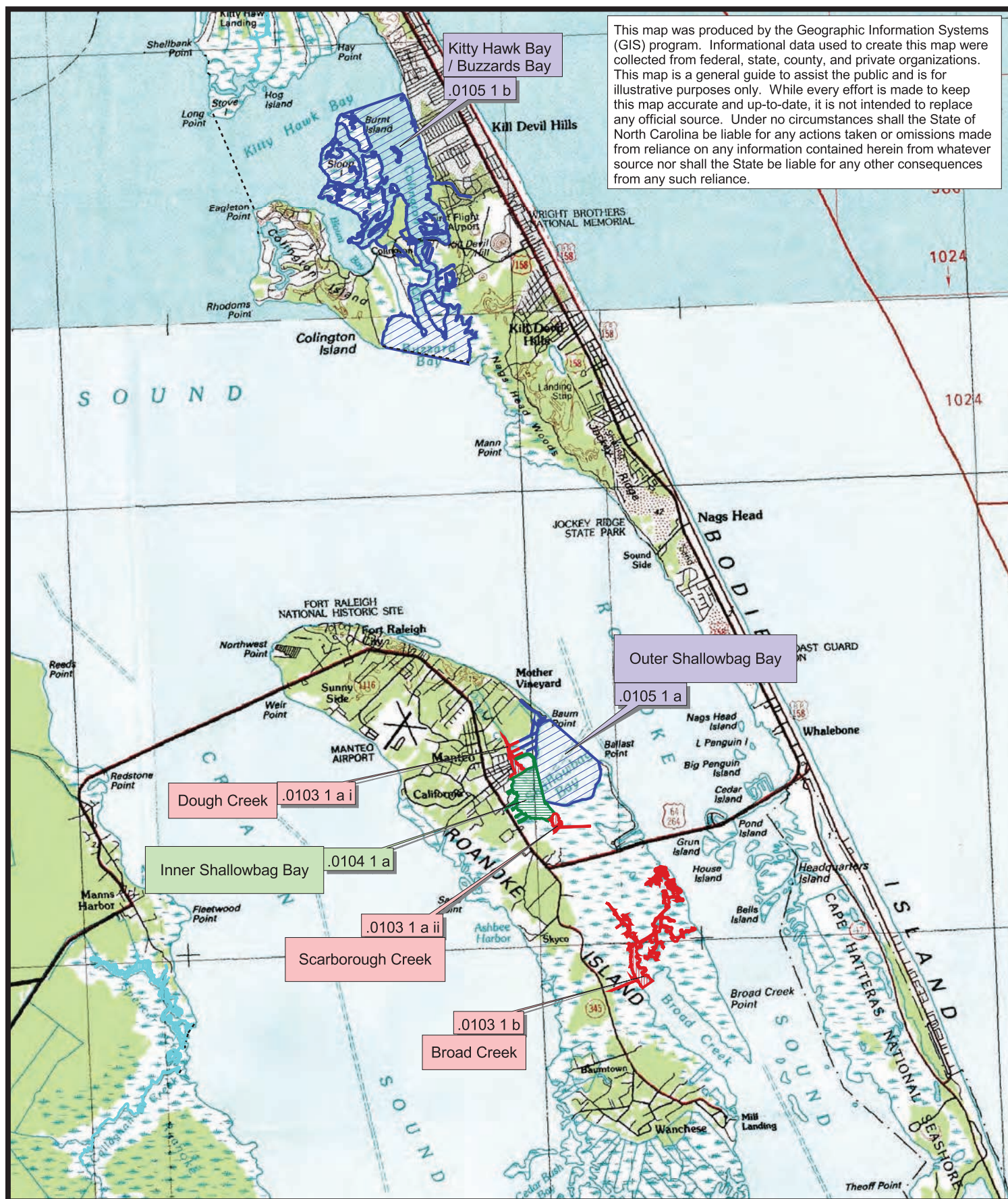


Legend

-  RWS wells
-  Wellhead Protection Area
-  Potential Sources
-  Primary Roads
-  Secondary Roads
-  Roads

Fig. 6 Hatteras Plant Wellhead Protection Area





Background imagery are U.S. Geological Survey 1:100,000-scale planimetric maps.



Fishery Nursery Areas
 Primary
 Permanent Secondary
 Special Secondary

Military Danger Zones and Restricted Areas

Inland waters (WRC jurisdiction)

Fishery Nursery Areas

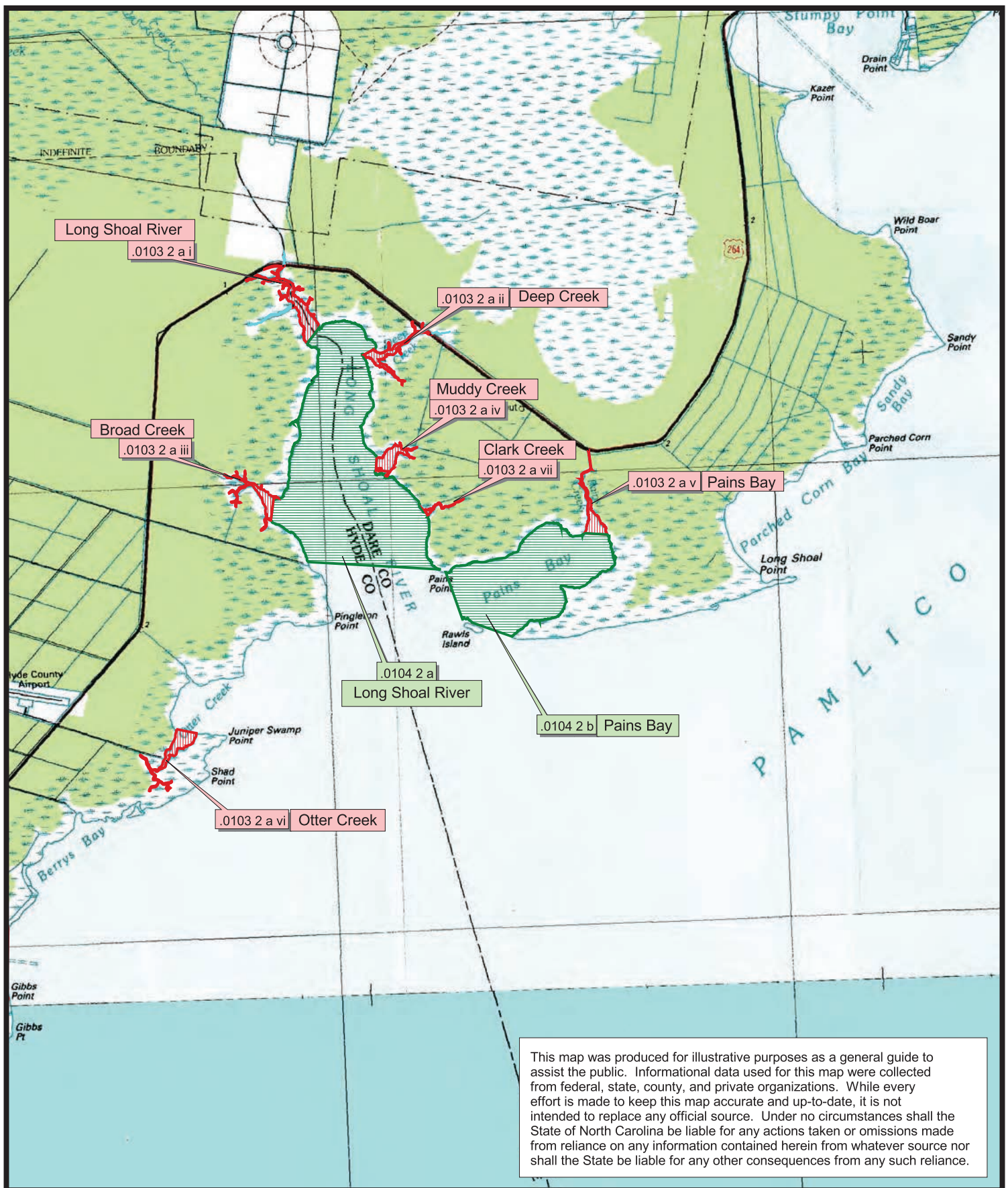
Map 1



Map Datum: NAD83
 Map Projection: NC State Plane
 Map Date: March 2011

1000 0 1000 2000 Yards
 0.7 0 0.7 1.4 Miles





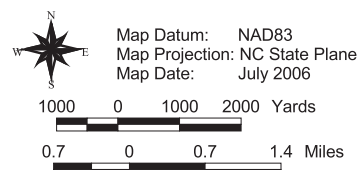
Background imagery are U.S. Geological Survey 1:100,000-scale planimetric maps.

Fishery Nursery Areas

- Primary
- Permanent Secondary
- Special Secondary
- Military Danger Zones and Restricted Areas
- Inland waters (WRC jurisdiction)



Map 7



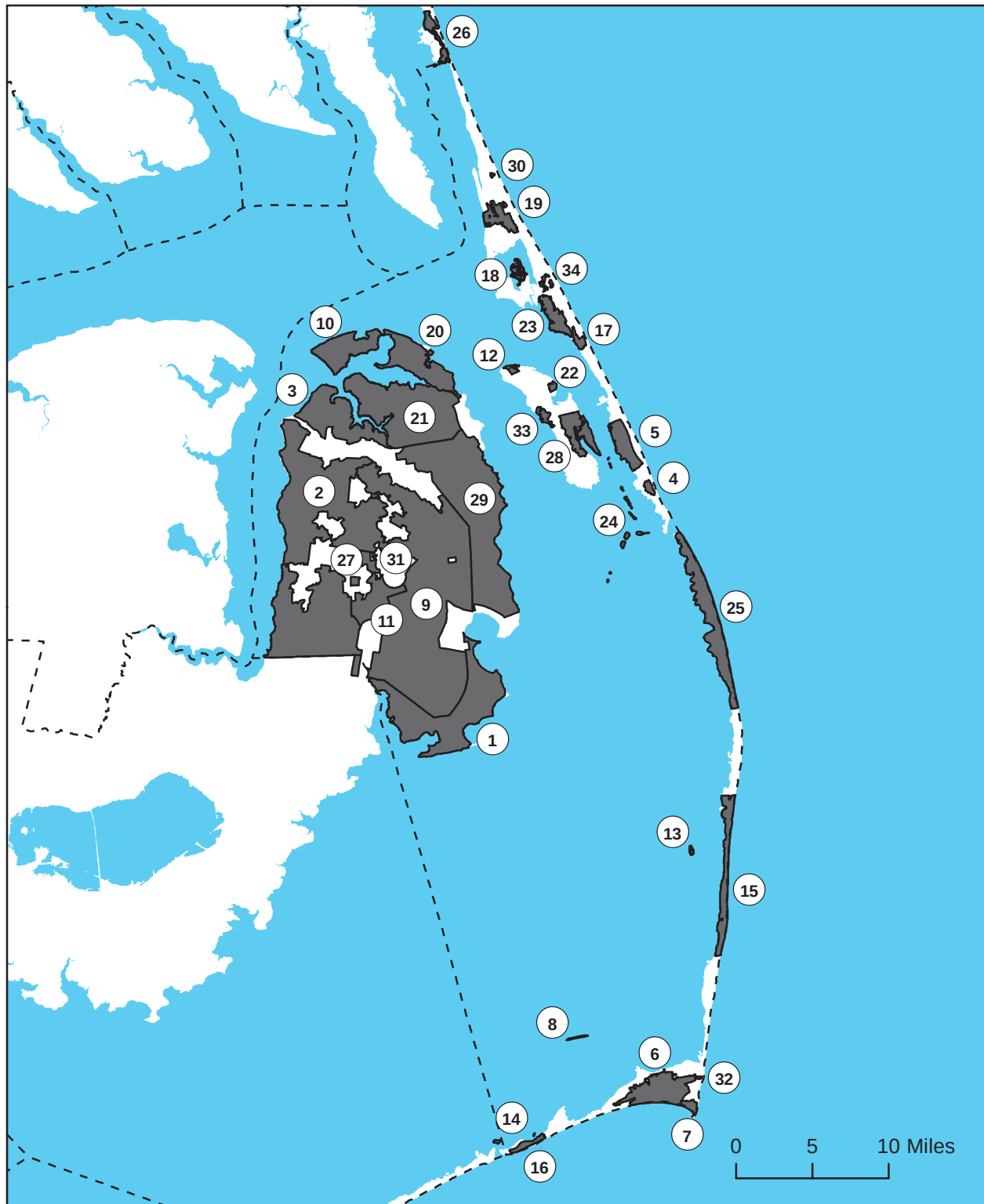
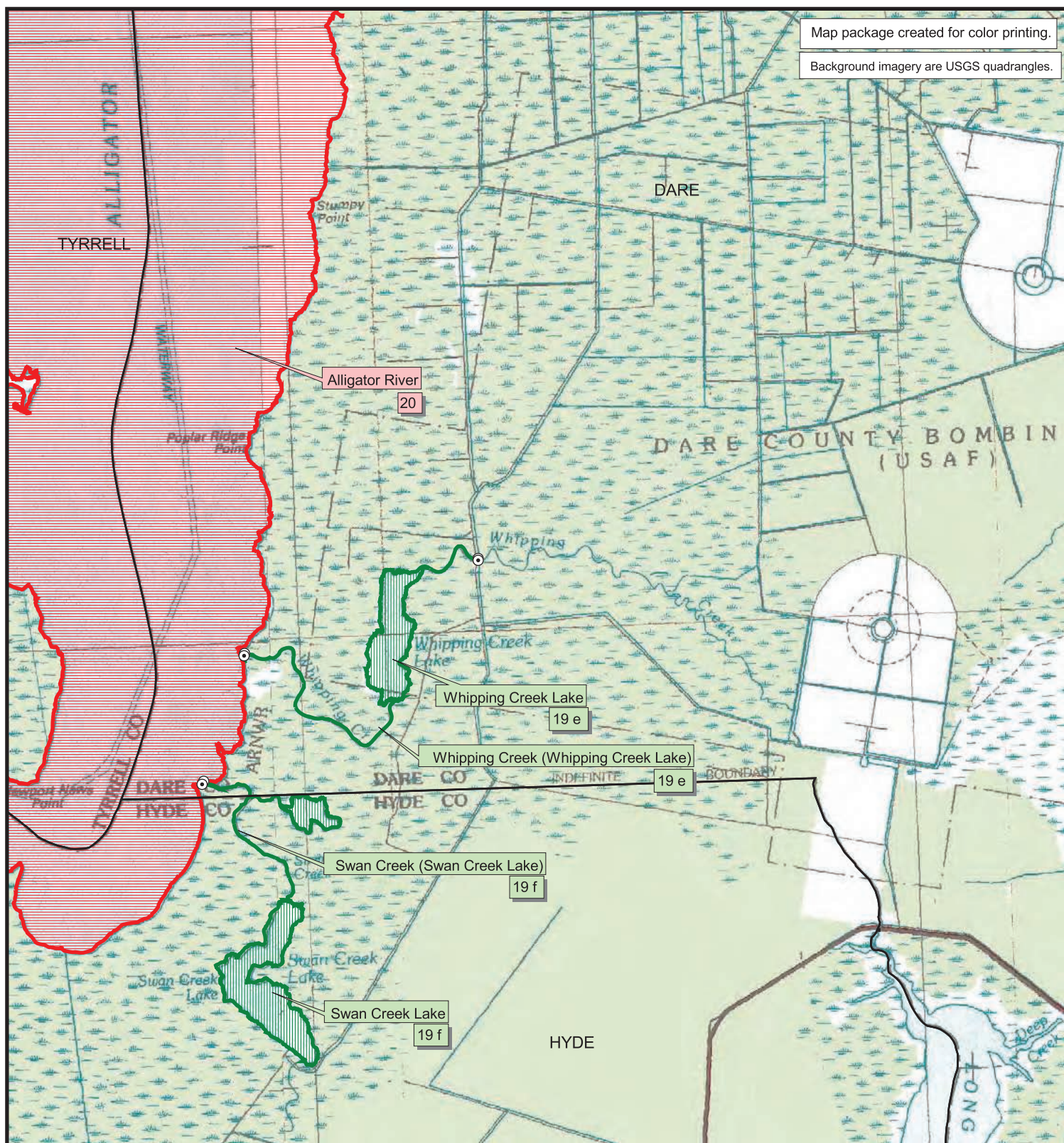


Figure 3. Location of Natural Areas in Dare County, North Carolina.



Legend

Anadromous Fish Spawning Areas (AFSA)

○ latitude/longitude point

— boundary line

— coastal AFSA waters (MFC)

— joint AFSA waters (MFC + WRC)

— inland AFSA waters (WRC)

- MFC and WRC rule identification are located with water body name.

- Marine Fisheries Commission (MFC) AFSA rule boundaries id'd in 15A NCAC 03R .0115.

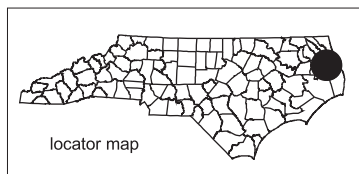
- Waters in both MFC and WRC jurisdictions are id'd in MFC rule.

- Wildlife Resources Commission (WRC) AFSA rule boundaries id'd in 15A NCAC 10C .0603.

Anadromous Fish Spawning Areas (AFSA)

Albemarle Sound Area

Map 20

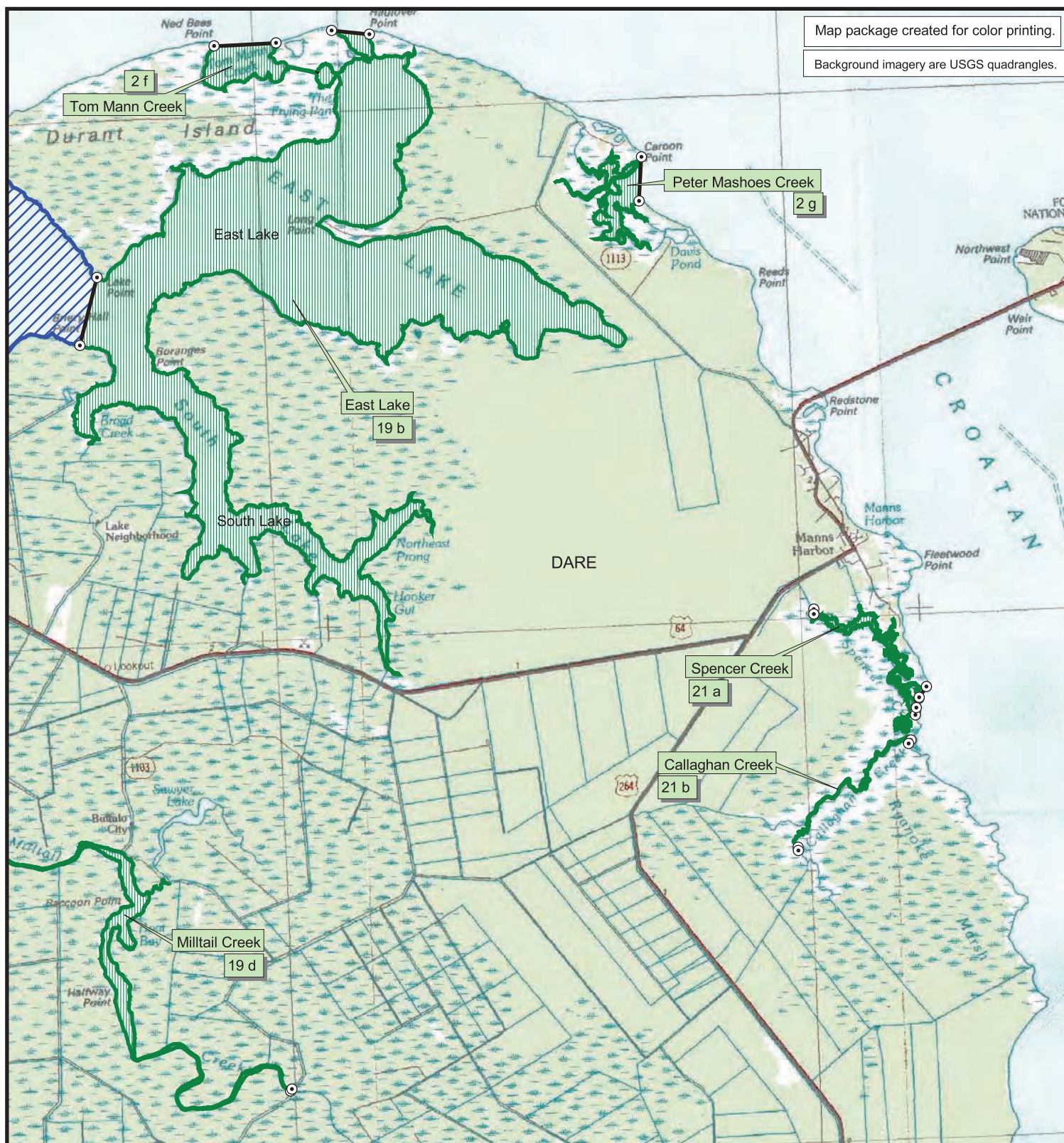


Datum: NAD83
Projection: NC State Plane
Date: December 2007

0.3 0 0.3 Miles



This map was produced by the Geographic Information Systems (GIS) Program. Informational data used to create this map were collected from federal, state, county and private organizations. This map is a general guide to assist the public and is for illustrative purposes only. While every effort is made to keep this map up-to-date, it is not intended to replace any official source. Under no circumstances shall the state of North Carolina be liable for any actions taken or omissions made from reliance on any information contained herein from whatever source nor shall the State be liable for any other consequences from any such action.



Legend

Anadromous Fish Spawning Areas (AFSA)

○ latitude/longitude point

— boundary line

— coastal AFSA waters (MFC)

— joint AFSA waters (MFC + WRC)

— inland AFSA waters (WRC)

- MFC and WRC rule identification are located with water body name.

- Marine Fisheries Commission (MFC) AFSA rule boundaries id'd in 15A NCAC 03R .0115.

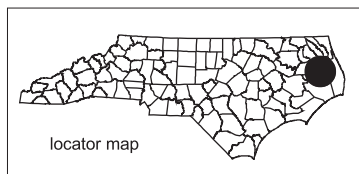
- Waters in both MFC and WRC jurisdictions are id'd in MFC rule.

- Wildlife Resources Commission (WRC) AFSA rule boundaries id'd in 15A NCAC 10C .0603.

Anadromous Fish Spawning Areas (AFSA)

Albemarle Sound Area

Map 18



Datum: NAD83

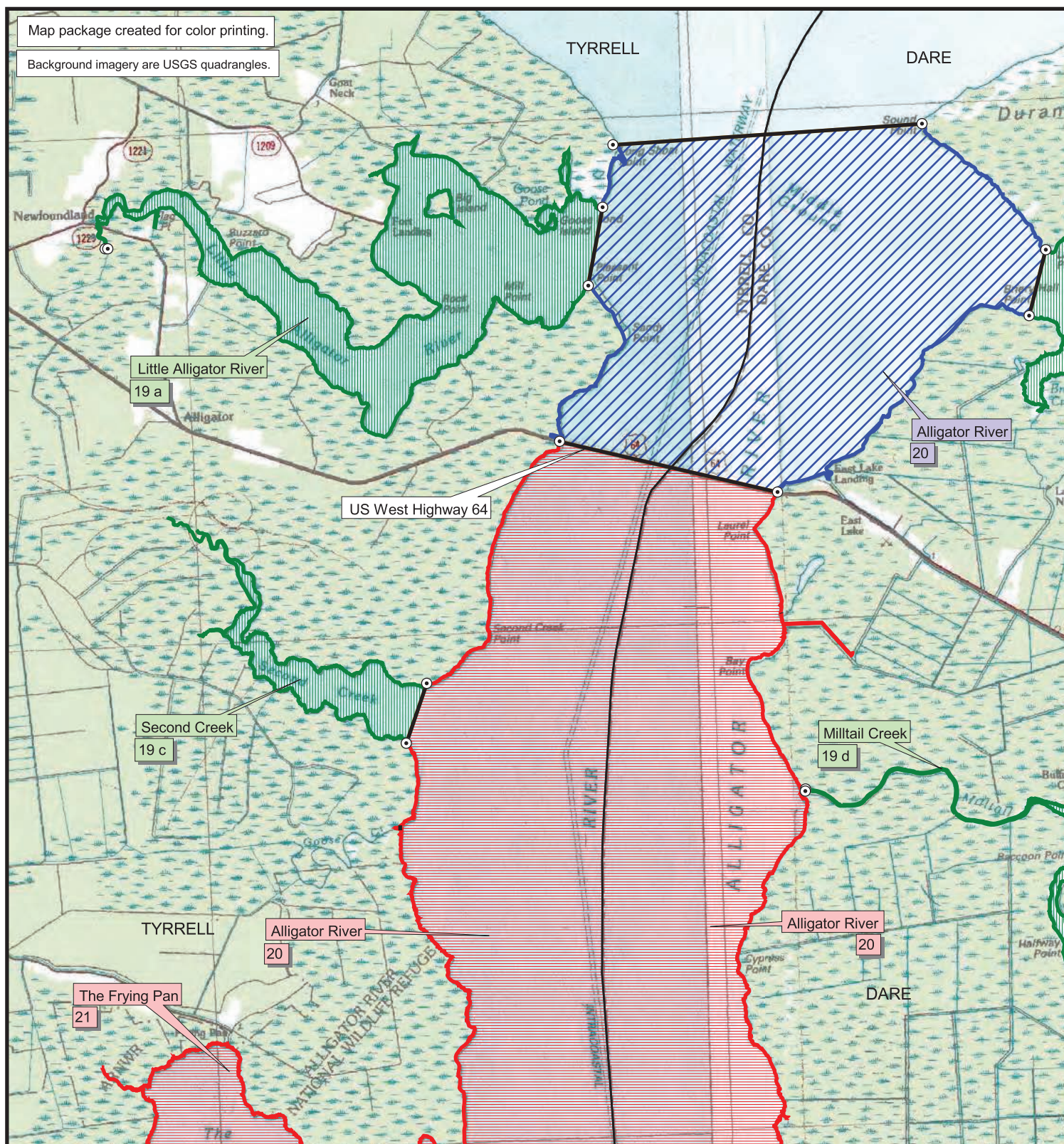
Projection: NC State Plane

Date: December 2007

0.4 0 0.4 Miles



This map was produced by the Geographic Information Systems (GIS) Program. Informational data used to create this map were collected from federal, state, county and private organizations. This map is a general guide to assist the public and is for illustrative purposes only. While every effort is made to keep this map up-to-date, it is not intended to replace any official source. Under no circumstances shall the state of North Carolina be liable for any actions taken or omissions made from reliance on any information contained herein from whatever source nor shall the State be liable for any other consequences from any such action.



Legend

Anadromous Fish Spawning Areas (AFSA)

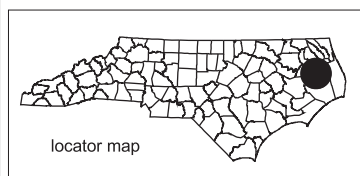
- latitude/longitude point
- boundary line
- coastal AFSA waters (MFC)
- joint AFSA waters (MFC + WRC)
- inland AFSA waters (WRC)

- MFC and WRC rule identification are located with water body name.
- Marine Fisheries Commission (MFC) AFSA rule boundaries id'd in 15A NCAC 03R .0115.
- Waters in both MFC and WRC jurisdictions are id'd in MFC rule.
- Wildlife Resources Commission (WRC) AFSA rule boundaries id'd in 15A NCAC 10C .0603.

Anadromous Fish Spawning Areas (AFSA)

Albemarle Sound Area

Map 17



Datum: NAD83
Projection: NC State Plane
Date: December 2007

0.4 0 0.4 Miles

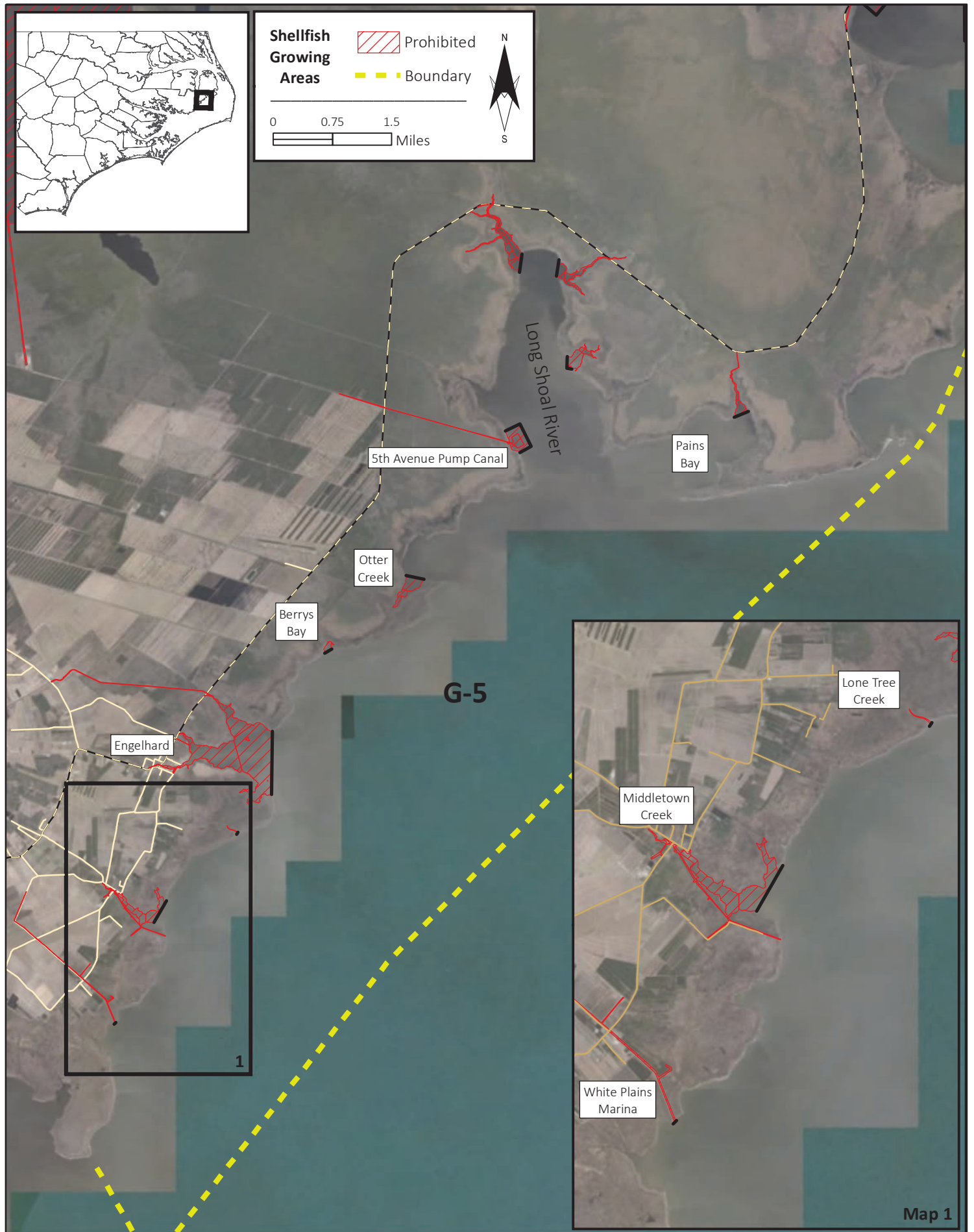


This map was produced by the Geographic Information Systems (GIS) Program. Informational data used to create this map were collected from federal, state, county and private organizations. This map is a general guide to assist the public and is for illustrative purposes only. While every effort is made to keep this map up-to-date, it is not intended to replace any official source. Under no circumstances shall the state of North Carolina be liable for any actions taken or omissions made from reliance on any information contained herein from whatever source nor shall the State be liable for any other consequences from any such action.

PROHIBITED GROWING AREAS

G-5 | LONG SHOAL RIVER AREA

COUNTIES | DARE / HYDE



Map 11

(See back of map for area descriptions)

ENGELHARD AREA**PROHIBITED AREA****HYDE COUNTY**

Area G-5 (Map 11)

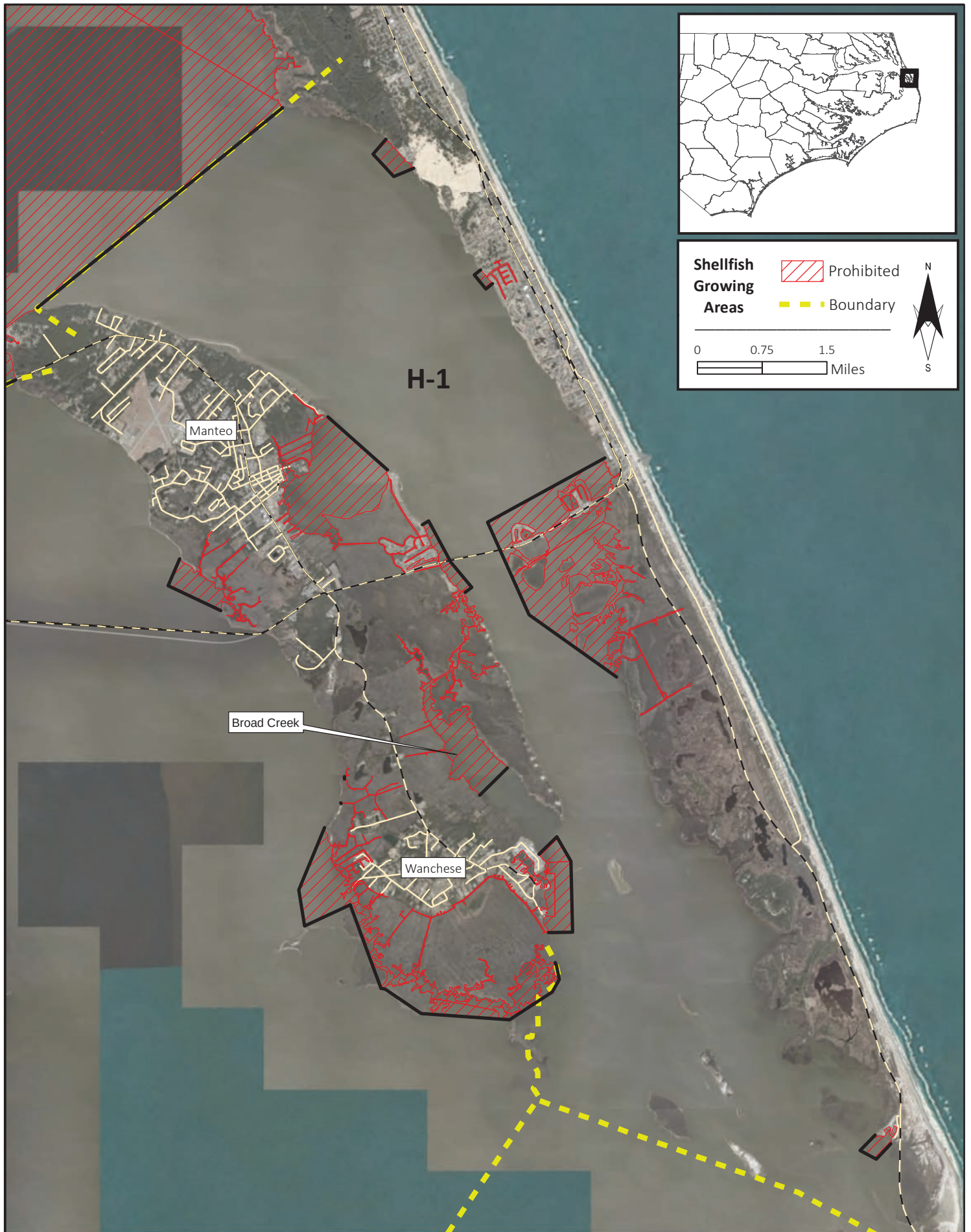
(Prohibited Areas Are Hatched)

- (a) **Far Creek / Waupopin Creek**- All those waters upstream of a line beginning at a point 35° 30.9940' N - 75° 57.7564' W on the north shore of Waupopin Creek; running southerly to a point 35° 30.0506' N - 75° 57.8066' W on the south shore near Gibbs Point.
- (b) **Pains Bay** – All those waters in Pains Bay upstream of a straight line beginning at a point 35° 35.4724' N - 75° 49.1256' W on the west shore; running easterly to a point 35° 35.5538' N - 75° 48.8650' W on the east shore.
- (c) **Otter Creek** – All those waters in Otter Creek upstream of a straight line beginning at a point 35° 33.2583' N - 75° 55.2149' W on the west shore; running easterly to a point 35° 33.1977' N - 75° 54.8937' W on the east shore.
- (d) **Berrys Bay** – All those waters upstream of a straight line beginning at a point 35° 32.1365' N - 75° 56.7504' W on the west shore; running northeasterly to a point 35° 32.1938' N - 75° 56.6185' W on the east shore.
- (e) **Middletown Creek** – All those waters in Middletown Creek upstream of a straight line beginning at a point 35° 28.5094' N - 75° 59.7804' W on the north shore; running southwesterly to a point 35° 28.1892' N - 76° 00.0206' W on the south shore.
- (f) **White Plains Canal** – All those waters within White Plains Marina and extending beyond the dockage facilities 275 feet beginning at a point 35° 26.6890' N - 76° 00.8080' W on the west shore; running northeasterly to a point 35° 26.7096' N - 76° 00.7761' W on the east shore.
- (g) **Long Shoal River**- All those waters in Long Shoal River upstream of a straight line beginning at a point 35° 38.0121' N - 75° 52.9120' W on the north shore; running southerly to a point 35° 37.7430' N - 75° 52.9664' W on the south shore.
- (h) **Muddy Creek** – All those waters in Muddy Creek upstream of a straight line beginning at a point 35° 36.4585' N - 75° 52.1446' W on the north shore; running southerly to a point 35° 36.2840' N - 75° 52.1606' W on the south shore.
- (i) **Fifth Avenue Pump Canal** – All those waters in the 5th Avenue Pump Canal and extending beyond the entrance to the canal beginning at a point 35° 35.3735' N - 75° 53.3162' W on the shore north of the canal; running northeasterly to a point 35° 35.4722' N - 75° 53.0523' W; running southeasterly to a point 35° 35.1331' N - 75° 52.8549' W; running southwesterly to a point 35° 35.0477' N - 75° 53.0686' W on the shore south of the canal.
- (j) **Lone Tree Creek** – All those waters in Lone Tree Creek upstream of a straight line beginning at a point 35° 29.4989' N - 75° 58.4407' W on the north shore; running southwesterly to a point 35° 29.4737' N - 75° 58.4650' W on the south shore.
- (k) **Middletown Creek Canal** – All those waters upstream of a straight line across the mouth of the canal beginning at a point 35° 27.9851' N - 75° 59.8207' W on the north shore; running southerly to a point 35° 27.9803' N - 75° 59.8199' W on the south shore.
- (l) **Deep Creek (Long Shoal River)**- All those waters in Deep Creek upstream of a straight line beginning at a point 35° 37.9086' N - 75° 52.2372' W on the north shore; running southerly to a point 35° 37.6667' N - 75° 52.2984' W on the south shore.

PROHIBITED GROWING AREAS

H-1 | ROANOKE SOUND AREA

COUNTY | DARE



Map 6

Map 6

(See back of map for area descriptions)

ROANOKE SOUND AREA**PROHIBITED AREA****DARE COUNTY**

Area H-1 (Map 6)

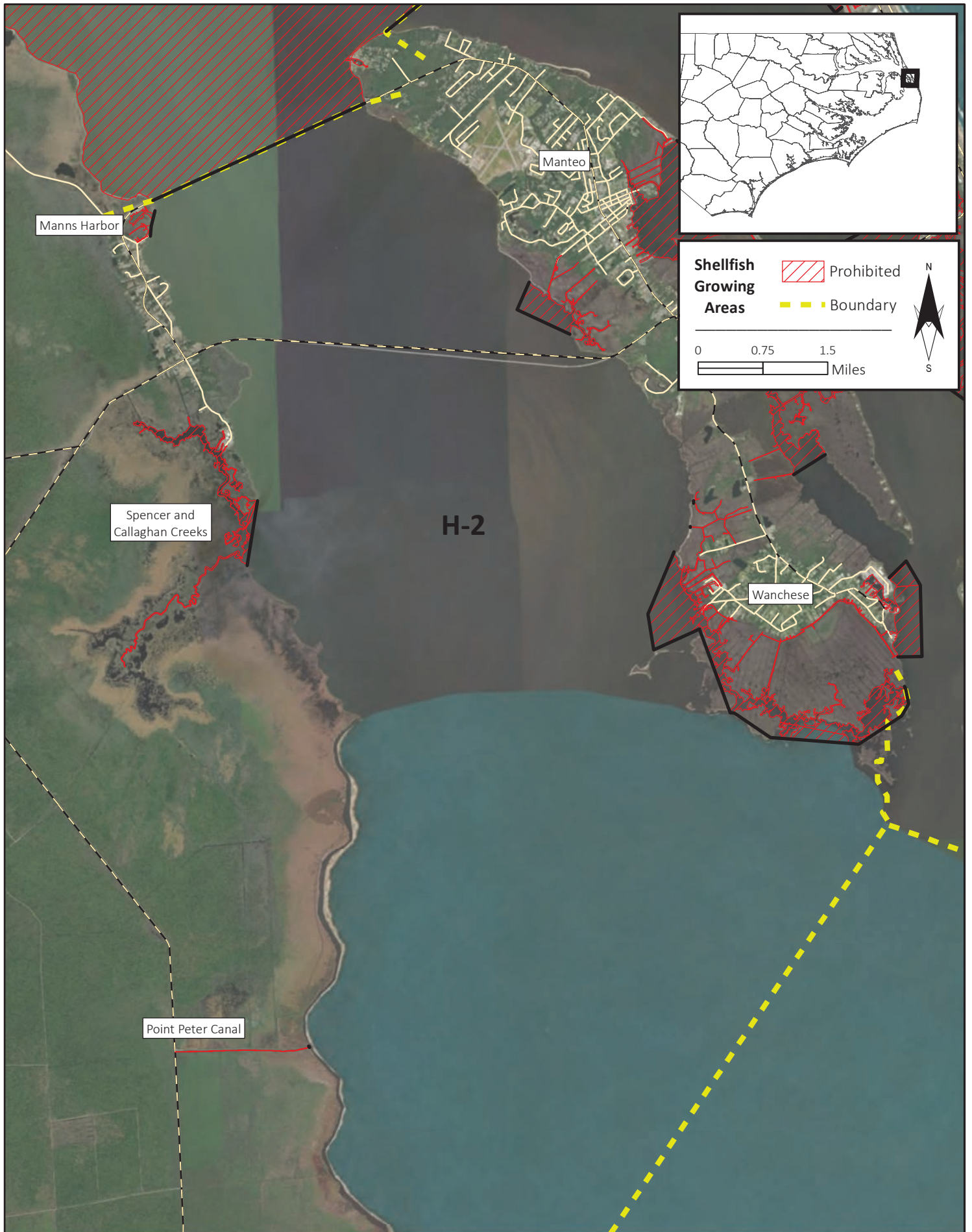
(Prohibited Areas are Hatched)

- (a) **Shallowbag Bay** – All those waters in Shallowbag Bay and its tributaries southwest of a straight line beginning at a point 35° 55.1566' N - 75° 39.5686' W on Baum Point; running southeasterly to a point 35° 54.6041' N - 75° 38.8488' W on Ballast Point.
- (b) **Roanoke Sound Area** – All those waters within a line beginning at the south side of the mouth of Broad Creek at a point 35° 50.6807' N - 75° 37.1362' W; running northeasterly to a point 35° 50.8473' N - 75° 36.9090' W in the sound; running southeasterly to a point 35° 50.5999' N - 75° 36.7475' W in the sound; running southerly to a point 35° 49.8815' N - 75° 36.7543' W in the sound; running westerly 35° 49.8863' N - 75° 37.0581' W on the shore to include Mills Creek and its tributaries.
- (c) **Villa Condominiums** – All those waters around the Villa Condominium WWTP outfall beginning at a point 35° 57.9326' N - 75° 38.7345' W on the north shore; thence running southwesterly to a point 35° 57.7897' N - 75° 38.9000' W in the sound; running southeasterly to a point 35° 57.5558' N - 75° 38.6495' W in the sound; running northeasterly to a point 35° 57.6334' N - 75° 38.4029' W on the shore.
- (d) **Whalebone Area** – All those waters in Roanoke Sound bounded by a line beginning at a point 35° 54.6482' N - 75° 36.1556' W on the north shore near Whalebone; running southwesterly to a point 35° 54.0434' N - 75° 37.6357' W in the sound; running southeasterly to a point 35° 53.0954' N - 75° 37.1584' W; running southeasterly to a point 35° 52.4398' N - 75° 36.1049' W on the shore, to include all creeks and tributaries.
- (e) **Oregon Inlet Fishing Center Area** – All those waters near Oregon Inlet Fishing Center beginning at a point 35° 47.7319' N - 75° 33.1030' W on the shore; running southwesterly to a point 35° 47.5823' N - 75° 33.2903' W in the sound; running southeasterly to a point 35° 47.4898' N - 75° 33.0962' W in the sound near Channel Marker "9"; running northeasterly to a point 35° 47.6392' N - 75° 32.9094' W on the shore.
- (f) **Broad Creek** – All those waters in Broad Creek north of a straight line beginning at a point 35° 51.2951' N - 75° 37.8479' W on the west shore; running northeasterly to a point 35° 51.5616' N - 75° 37.4939' W on the east shore.
- (g) **Old Nags Head Cove** – All those waters within Old Nags Head Cove canal system and extending 650 feet from the last dockage space beginning at a point 35° 56.5871' N - 75° 37.6176' W on the shore north of the canal entrance; running southwesterly to a point 35° 56.5374' N - 75° 37.6961' W in the sound; running southeasterly to a point 35° 56.3908' N - 75° 37.5560' W in the sound; running northeasterly to a point 35° 56.4426' N - 75° 37.4740' W on the shore south of the canal entrance.
- (h) **Pirates Cove Area** – All those waters bounded by a line beginning a point 35° 54.0400' N - 75° 38.4434' W south of Ballast Point; thence in an easterly direction near Beacon "25" to a point 35° 54.0745' N - 75° 38.3640' W; thence in a southeasterly direction to a point at 35° 53.6488' N - 75° 38.1049' W near the Highway 64/264 Bridge; thence continuing in a southeasterly direction to a point at 35° 53.3893' N - 75° 37.8596' W; thence in a southwesterly direction to a point on shore at 35° 53.3430' N - 75° 37.9424' W; to include Pirates Cove and all other tributaries within described area.

PROHIBITED GROWING AREAS

H-2 | CROATAN SOUND AREA

COUNTY | DARE



Map 5

Map 5

(See back of map for area descriptions)

CROATAN SOUND AREA**PROHIBITED****DARE COUNTY**

Area H-2 (Map 5)

(Prohibited Areas are Hatched)

- (a) **Sand Point Area** – All those waters within a line beginning at a point 35° 53.7794' N - 75° 41.4599' W on the shore; running southwesterly to a point 35° 53.5111' N - 75° 41.6198' W in the sound; running southeasterly to a point 35° 53.2434' N - 75° 40.9748' W on the shore, to include all tributaries.
- (b) **Baum Creek Area** – All those waters within a line beginning at a point 35° 51.0208' N - 75° 39.7789' W on the north shore of Baum Creek on Roanoke Island; running southwesterly to a point 35° 50.4013' N - 75° 40.1255' W near Beacon "2"; running southerly to a point 35° 50.0382' N - 75° 40.0710' W; running northeasterly to a point 35° 50.2342' N - 75° 39.4936' W on the shore, to include all creeks and tributaries within said boundary.
- (c) **Spencer and Callaghan Creeks** - All those waters upstream of a straight line beginning at a point 35° 51.6745' N - 75° 44.9086' W on the shore north of Spencer Creek; running southerly to a point 35° 51.0249' N - 75° 45.0629' W on the shore south of Callaghan Creek; to include all of Spencer and Callaghan Creeks.
- (d) **Manns Harbor** - All those waters upstream of a line across the mouth of Manns Harbor beginning at a point 35° 54.6235' N - 75° 46.0589' W on the north shore; running southwesterly to a point 35° 54.4700' N - 75° 46.1079' W on the marsh; running southwesterly to a point 35° 54.3723' N - 75° 46.1251' W on the south shore.
- (e) **Wanchese** – All those waters near the south end of Roanoke Island bordered by a line beginning at a point 35° 49.5841' N - 75° 36.9817' W; running southerly to a point 35° 49.5540' N - 75° 36.9714' W; running southerly to a point 35° 49.4099' N - 75° 36.9416' W; running southwesterly to a point 35° 49.2893' N - 75° 37.0334' W on Marsh Island; running southwesterly to a point 35° 49.0204' N - 75° 37.5719' W; running westerly to a point 35° 49.1169' N - 75° 38.6614' W on the marsh; running northwesterly to a point 35° 49.3747' N - 75° 39.1003' W; running westerly to a point 35° 49.3835' N - 75° 39.1579' W; running northwesterly to a point 35° 50.2342' N - 75° 39.4936' W at the Baum Creek closure line.
- (f) **Baumtown Road Canals** – All those waters in the canals north of Baumtown Road upstream of a line beginning at a point 35° 51.5286' N - 75° 39.5156' W on the north shore; running southerly across the canal mouth to a point 35° 51.5035' N - 75° 39.5166' W; thence running southerly following the shoreline to a point 35° 51.2673' N - 75° 39.5686' W; thence running southerly across the canal mouth to a point 35° 51.2587' N - 75° 39.5681' W on the south shore.
- (g) **Point Peter Canal** – All those waters in the Point Peter Canal upstream of a line beginning at a point 35° 46.1654' N - 75° 44.4955' W on the north shore; running southerly to a point 35° 46.1519' N - 75° 44.4879' W on the south shore.

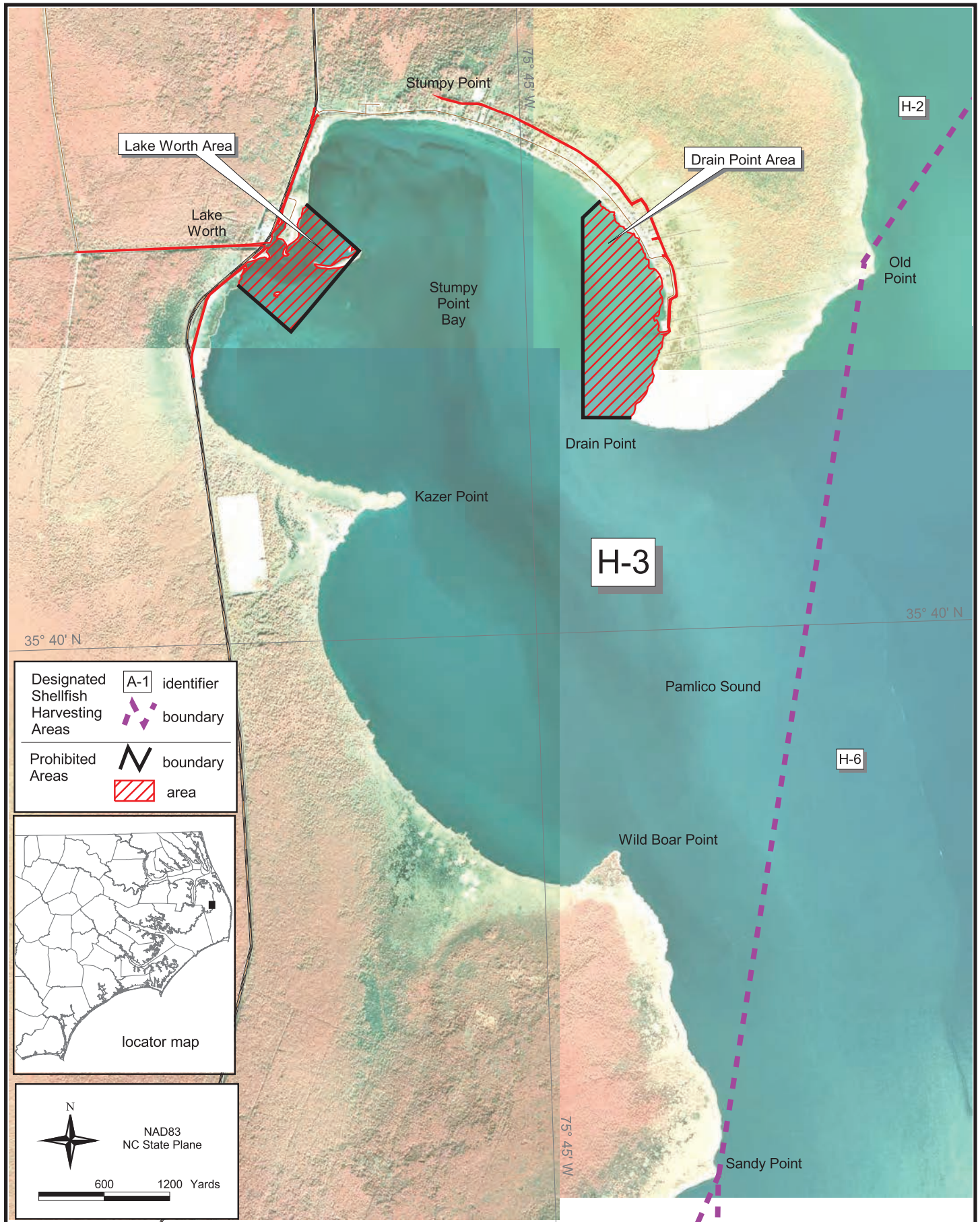
STUMPY POINT AREA

Area H-3 (Map 10)

PROHIBITED TERRITORY

(Prohibited areas are hatched)

COUNTY: DARE



Map 10

(SEE BACK OF MAP FOR
AREA DESCRIPTIONS.)

STUMPY POINT AREA

Area H-3 (Map 10)

PROHIBITED

DARE COUNTY

(Prohibited Areas are Hatched)

- (a) **Lake Worth Area** – All those waters within an area bounded by a line beginning at a point 35° 41.9904' N -75° 46.1803' W on the shore north of the Lake Worth Canal; running southeasterly near Beacon "10" to a point 35° 41.7712' N -75° 45.8930' W; running southwesterly to a point 35° 41.4145' N -75° 46.2860' W; running northwesterly to a point 35° 41.6335' N -75° 46.5733' W on the shore south of the Lake Worth Canal; to include all of the Lake Worth drainage canal.
- (b) **Drain Point Area** – All those waters within an area bounded by a line beginning at a point 35° 41.9615' N -75° 44.5441' W on the northeast shore of Stumpy Point Bay; running southwesterly to a point 35° 41.8876' N -75° 44.6464' W in the Bay; running southerly to a point 35° 40.9836' N -75° 44.6810' W in the Bay; running easterly to a point 35° 40.9752' N -75° 44.4142' W on Drain Point.

PROHIBITED GROWING AREAS

H-4 | HATTERAS - OUTER BANKS AREA

COUNTY | DARE



HATTERAS – OUTER BANKS AREA

Area H-4 (Map 8)

PROHIBITED AREA

DARE COUNTY

(Prohibited Areas Are Hatched)

- (a) **Hatteras Ferry Landing Area / Sandy Bay (The Slash) Area**- All those waters bounded on the west by a line beginning at a point 35° 12.7480' N - 75° 42.0510' W north of the entrance to Teach's Lair; running southwesterly to a point 35° 12.7085' N - 75° 42.4092' W in the sound; running southerly to a point 35° 12.5263' N - 75° 42.4158' W on the shore west of the ferry landing entrance; and bounded on the east by a straight line beginning at a point 35° 13.3177' N - 75° 40.6525' W on the west shore; running easterly to a point 35° 13.2206' N - 75° 40.3188' W on the east shore; to include all creeks, canals and tributaries.
- (b) **Sandy Bay Area**- All those waters bounded on the west by a line beginning at a point 35° 13.2941' N - 75° 41.6113' W on the shore north of the basin; running northwesterly to a point 35° 13.3421' N - 75° 41.6629' W approximately 400 feet from shore in the sound; running southwesterly to a point 35° 13.2514' N - 75° 41.7882' W approximately 400 feet from shore in the sound; running southeasterly to a point 35° 13.2033' N - 75° 41.7367' W on the shore south of the basin; and bounded on the east by a straight line beginning at a point 35° 13.7123' N - 75° 40.8256' W on the north shore; running southerly to a point 35° 13.6680' N - 75° 40.8331' W on the south shore.
- (c) **All those waters** on Hatteras Island east of Duncan Point beginning at a point 35° 13.3760' N - 75° 39.3573' W; thence in a northeasterly direction following the shoreline to a point at 35° 15.3691' N - 75° 35.9606' W; to include all creeks, tributaries and water bodies in the described area.
- (d) **Joe Saur Creek** – All those waters in Joe Saur Creek upstream of a line beginning at a point 35° 13.8333' N - 75° 38.2247' W; running southwesterly to a point 35° 13.7208' N - 75° 38.5064' W.
- (e) **Brooks Point Area** – All those waters bordered on the west by a straight line beginning at a point 35° 16.1442' N - 75° 35.7493' W on Brooks Point; running southwesterly to a point 35° 15.9750' N - 75° 35.8120' W on the south shore of Brooks Creek; and bordered on the north by a straight line beginning at a point 35° 15.9729' N - 75° 35.4967' W on the west shore; running easterly to a point 35° 15.9469' N - 75° 35.4385' W on the east shore.
- (f) **Brigands Bay Canal** – All those waters within a boundary beginning at a point 35° 15.7210' N - 75° 35.7525' W on the shore north of Brigands Bay Canal; running southwesterly to a point 35° 15.6984' N - 75° 35.8267' W; running southeasterly to a point 35° 15.5732' N - 75° 35.7389' W on the shore south of Brigands Bay Canal.
- (g) **Scotch Bonnet and Windhaven Shores Canals Area** - All those waters within a boundary beginning at a point 35° 15.3190' N - 75° 36.0625' W on the shore north of Windhaven Shores Canal; running northwesterly to a point 35° 15.3426' N - 75° 36.0791' W approximately 50 yards in the sound; running southwesterly to a point 35° 15.2691' N - 75° 36.2347' W in the sound approximately 50 yards offshore; running southeasterly to a point 35° 15.2477' N - 75° 36.2196' W on the shore south of Scotch Bonnet Canal.
- (h) **Island Boat Works Canal Area** – All those waters within a boundary beginning at a point 35° 15.2010' N - 75° 36.2923' W on the shore north of the Island Boat Works Canal; running northwesterly to a point 35° 15.3275' N - 75° 36.3984' W approximately 300 yards in the sound; running southwesterly to a point 35° 15.2028' N - 75° 36.6628' W in the sound approximately 350 yards offshore; running southeasterly to a point 35° 15.0545' N - 75° 36.5428' W on the shore south of the Island Boat Works Canal.

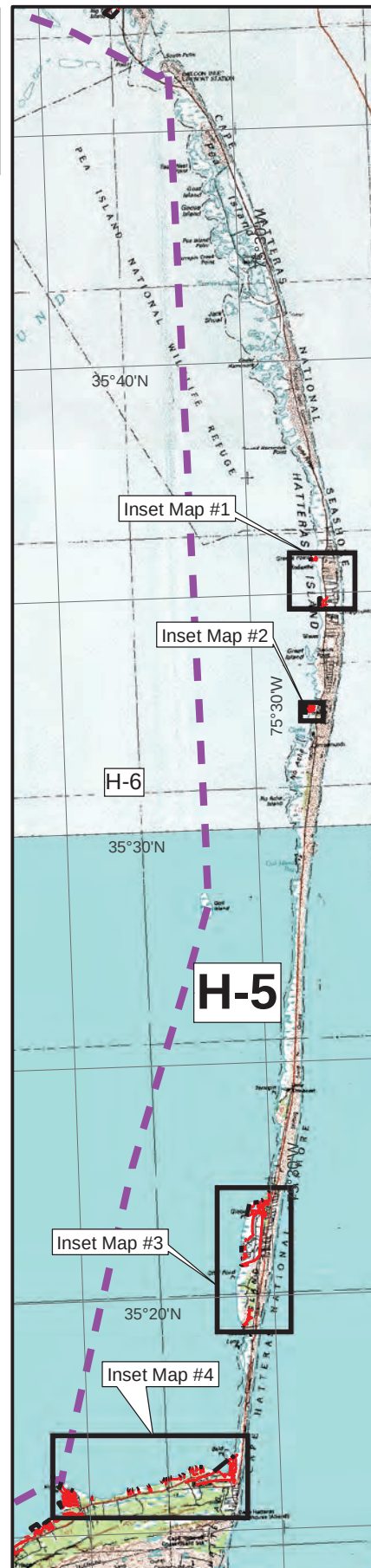
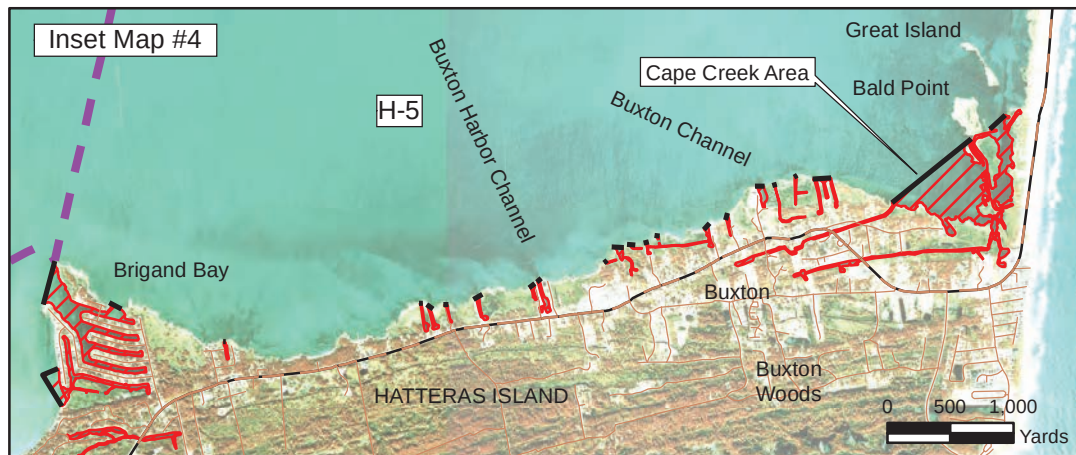
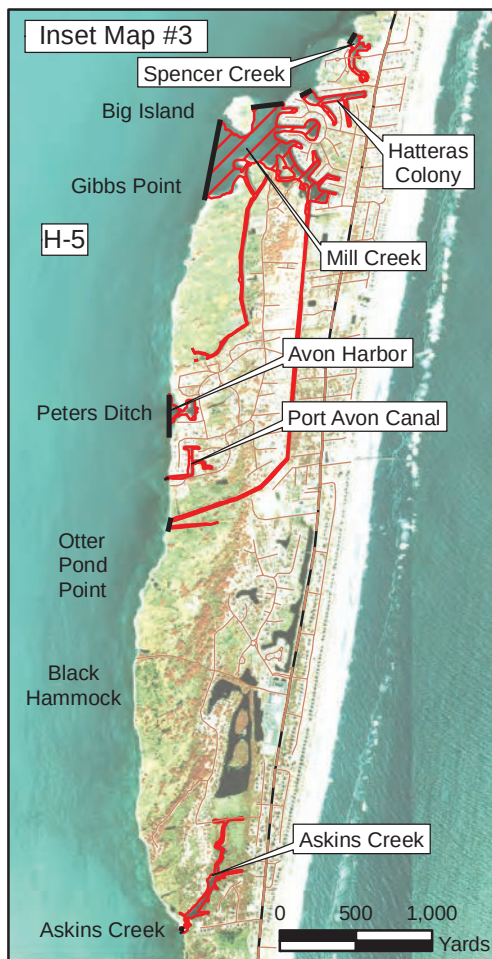
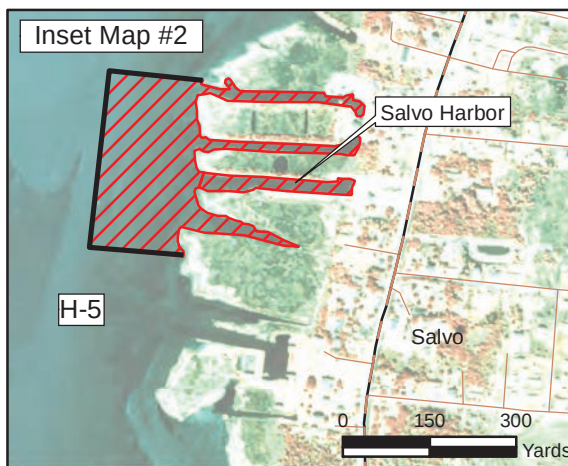
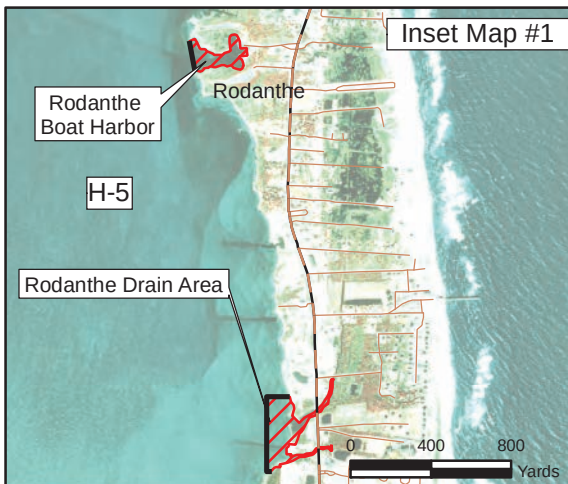
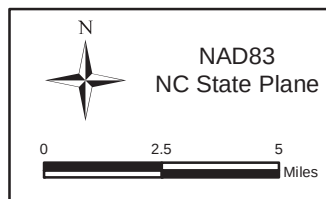
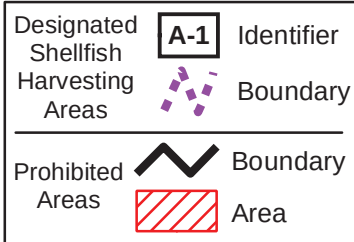
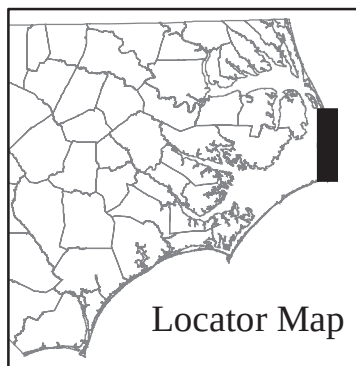
PROHIBITED TERRITORY

OUTER BANKS AREA

Area H-5 (Map 7)

(Prohibited areas are hatched)

COUNTY: DARE



Map 7

Map 7

(SEE BACK OF MAP FOR AREA DESCRIPTIONS.)

OUTER BANKS AREA

Area H-5 (Map 7)

PROHIBITED**DARE COUNTY**

(Prohibited Areas are Hatched)

- (a) **Rodanthe Boat Harbor** – All those waters within Rodanthe Boat Harbor beginning at a point 35° 35.7709' N -75° 28.3766' W on the north shore; running southerly to a point 35° 35.6953' N -75° 28.3625' W on the south shore.
- (b) **Salvo Harbor** – All those waters within a boundary beginning at a point 35° 32.5978' N -75° 28.5698' W on the shore north of Salvo Harbor; running westerly to a point 35° 32.6089' N -75° 28.6691' W; running southerly to a point 35° 32.4583' N -75° 28.6968' W; running easterly to a point 35° 32.4487' N -75° 28.594669' W on the shore south of Salvo Harbor, to include Salvo Harbor and all creeks and tributaries.
- (c) **Avon Harbor** – All those waters within Avon Harbor beginning at a point 35° 21.0710' N -75° 30.8222' W on the north shore; running southerly to a point 35° 20.9312' N -75° 30.8275' W on the south shore.
- (d) **Askins Creek** – All those waters upstream of a straight line across the mouth of Askins Creek beginning at a point 35° 19.3293' N -75° 30.8477' W on the north shore of the Creek; running southeasterly to a point 35° 19.3220' N -75° 30.8425' W on the shore south of the Creek.
- (e) **Mill Creek** – All those waters bounded on the north by a line beginning at a point 35° 22.0021' N -75° 30.3257' W on the north shore; running westerly to a point 35° 21.9937' N -75° 30.4559' W on the northeast end of Big Island; running southerly along the shoreline of Big Island to a point 35° 21.9585' N -75° 30.5796' W on the southwest end of Big Island; running southerly to a point 35° 21.6974' N -75° 30.6530' W on Gibbs Point; and bounded on the south by a straight line beginning at a point 35° 20.6725' N -75° 30.8321' W on the north shore; running southerly across the mouth of the creek to a point 35° 20.6272' N -75° 30.8456' W on the south shore.
- (f) **Cape Creek Area** – All those waters south and east of a line beginning at a point 35° 16.5906' N -75° 31.1858' W on the shore north of Buxton; running southwesterly to a point 35° 16.5321' N -75° 31.2697' W; running northerly following the shoreline to a point 35° 16.4961' N -75° 31.3581' W; running southwesterly to a point 35° 16.2589' N -75° 31.7461' W on the Buxton shoreline, to include all creeks and tributaries in the described area.
- (g) All those waters along Hatteras Island east of Brooks Point in Brigand Bay beginning at a point 35° 15.8052' N -75° 34.9594' W; thence heading in a northeasterly direction following the shoreline to a point at 35° 16.3626' N -75° 32.0343' W; to include all creeks, tributaries and water bodies in the described area.
- (h) **Hatteras Colony** - All those waters within the Hatteras Colony canals and extending 275 feet from the last dockage space beginning at a point 35° 22.0259' N -75° 30.2590' W on the west shore of the canal entrance; running northeasterly to a point 35° 22.0432' N -75° 30.2136' W on the eastern shore of the canal entrance.
- (i) **Rodanthe Drain Area** – All those waters within a boundary beginning at a point 35° 34.8819' N -75° 28.1107' W on the shore north of the "drain"; running westerly approximately 100 yards to a point 35° 34.8840' N -75° 28.1804' W in the sound; running southerly to a point 35° 34.6994' N -75° 28.1885' W in the sound; running easterly to a point 35° 34.6990' N -75° 28.1726' W on the shore south of the "drain"; to include the North Drain and South Drain.
- (j) **Spencer Creek** – All those waters within Spencer Creek upstream of a line beginning at a point 35° 22.1874' N -75° 30.0614' W on the west shore; running northerly across the mouth to a point 35° 22.2233' N -75° 30.0323' W on the east shore.
- (k) **Port Avon Canal** – All those waters within the canal upstream of a line beginning at a point 35° 20.8033' N -75° 30.8444' W on the north shore; running southerly across the mouth to a point 35° 20.7942' N -75° 30.8419' W on the south shore.

(Prohibited areas are hatched)



(SEE BACK OF MAP FOR AREA DESCRIPTIONS.)

Map 3

ALBEMARLE SOUND - COLLINGTON AREA

Area I-2 (Map 3)

PROHIBITED

CURRITUCK, CAMDEN, DARE, TYRRELL COUNTIES

(Prohibited Areas are Hatched)

- (a) **Albemarle Sound** – All those waters north of a line beginning at a point 35° 54.7283' N -75° 46.0781' W near Redstone Point; running northeasterly following the William B. Umstead Memorial Bridge across Croatan Sound to a point 35° 55.6360' N -75° 43.4169' W on Roanoke Island; running northerly following the shoreline to a point 35° 56.3553' N -75° 43.1208' W near the Fort Raleigh National Historic Site; running northeasterly across Roanoke Sound to a point 35° 58.2858' N -75° 40.0005' W near Manns Point and Nags Head Woods on Bodie Island, to include all of Albemarle Sound, Currituck Sound, North River, Pasquotank River, Little River, Perquimans River, Bull Bay and Alligator River.

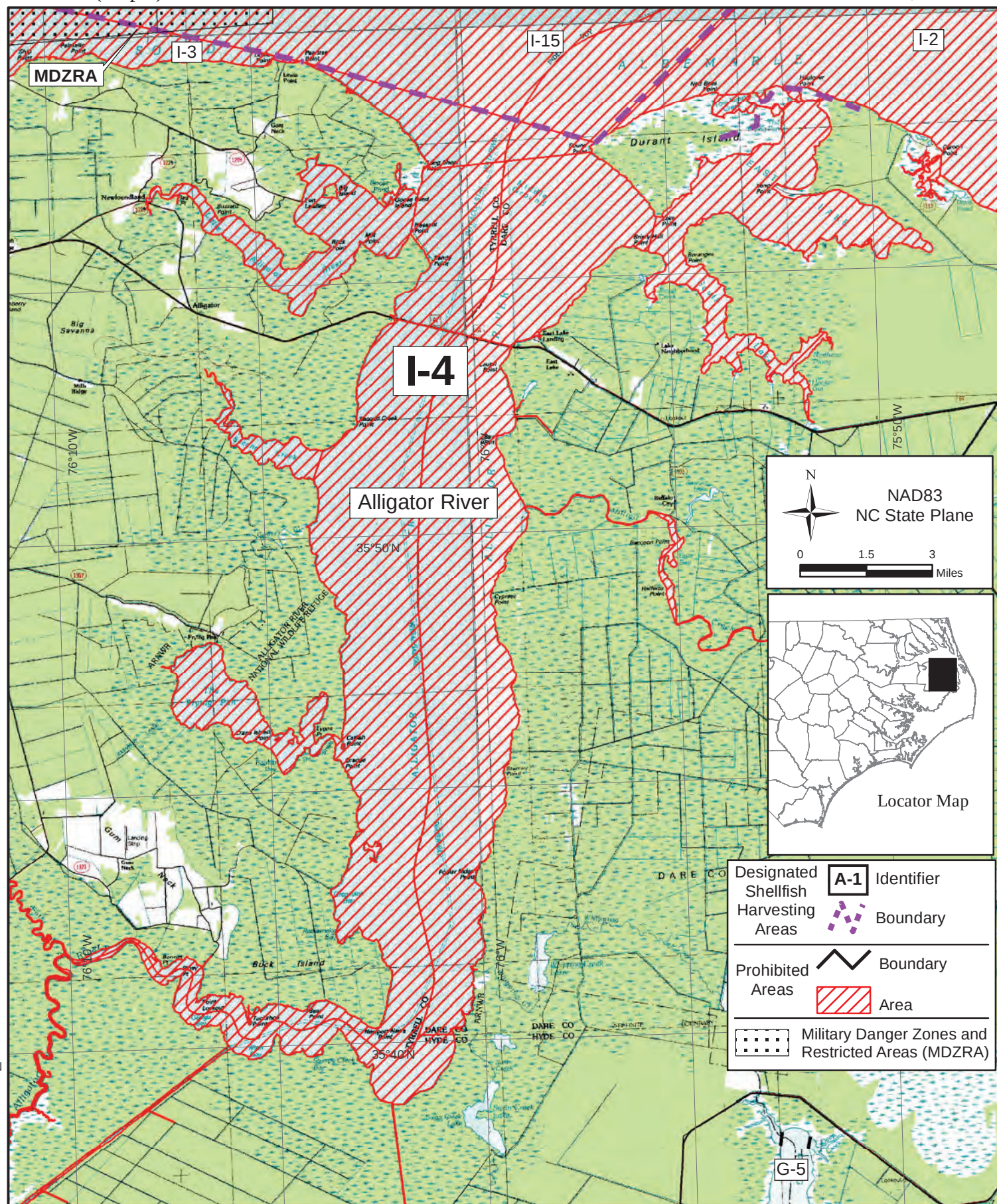
PROHIBITED TERRITORY

ALLIGATOR RIVER

Area I-4 (Map 4)

(Prohibited areas are hatched)

COUNTIES: DARE, TYRELL



Map 4

Map 4

(SEE BACK OF MAP FOR
AREA DESCRIPTIONS.)

ALLIGATOR RIVER AREA

Area I-4 (Map 4)

PROHIBITED

TYRRELL, DARE COUNTIES

(Prohibited Areas are Hatched)

- (a) **Albemarle Sound** – All those waters north of a line beginning at a point 35° 54.7283' N -75° 46.0781' W near Redstone Point; running northeasterly following the William B. Umstead Memorial Bridge across Croatan Sound to a point 35° 55.6360' N -75° 43.4169' W on Roanoke Island; running northerly following the shoreline to a point 35° 56.3553' N -75° 43.1208' W near the Fort Raleigh National Historic Site; running northeasterly across Roanoke Sound to a point 35° 58.2858' N -75° 40.0005' W near Manns Point and Nags Head Woods on Bodie Island, to include all of Albemarle Sound, Currituck Sound, North River, Pasquotank River, Little River, Perquimans River, Bull Bay and Alligator River.

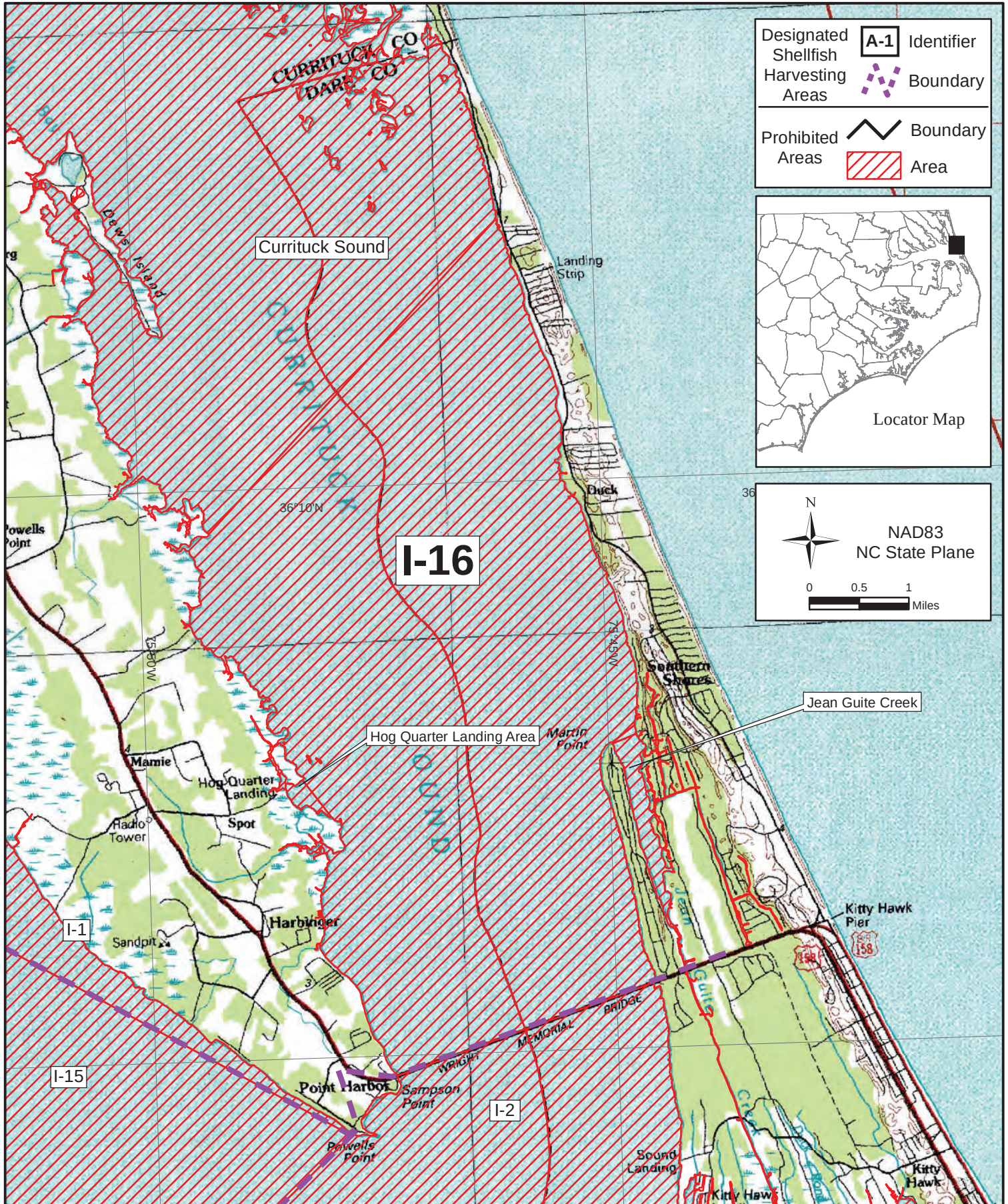
PROHIBITED TERRITORY

CURRITUCK SOUND AREA

Area I-16 (Map 1)

(Prohibited areas are hatched)

COUNTY: CURRTIUCK, DARE



Map 1

(SEE BACK OF MAP FOR AREA DESCRIPTIONS.)

CURRITUCK SOUND AREA

Area I-16 (Map 1)

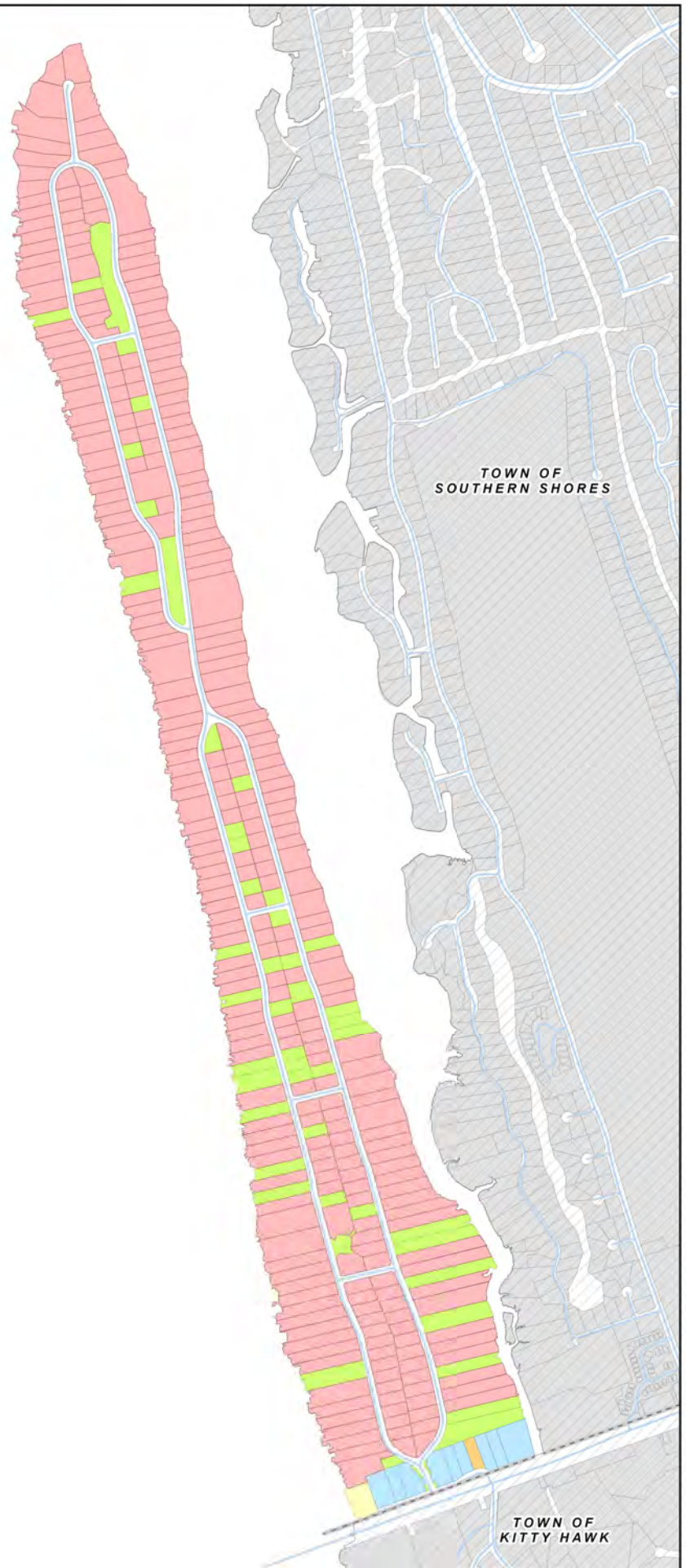
PROHIBITED

CURRITUCK, DARE COUNTIES

(Prohibited Areas are Hatched)

- (a) **Albemarle Sound** – All those waters north of a line beginning at a point 35° 54.7283' N -75° 46.0781' W near Redstone Point; running northeasterly following the William B. Umstead Memorial Bridge across Croatan Sound to a point 35° 55.6360' N -75° 43.4169' W on Roanoke Island; running northerly following the shoreline to a point 35° 56.3553' N -75° 43.1208' W near the Fort Raleigh National Historic Site; running northeasterly across Roanoke Sound to a point 35° 58.2858' N -75° 40.0005' W near Manns Point and Nags Head Woods on Bodie Island, to include all of Albemarle Sound, Currituck Sound, North River, Pasquotank River, Little River, Perquimans River, Bull Bay and Alligator River.

- COMMERCIAL (8.6 Acres)
- INDUSTRIAL (0 Acres)
- INSTITUTIONAL (0.6 Acres)
- PUBLIC (1.4 Acres)
- RESIDENTIAL (250.9 Acres)
- UNDEVELOPED (Private, 42.9 Acres)



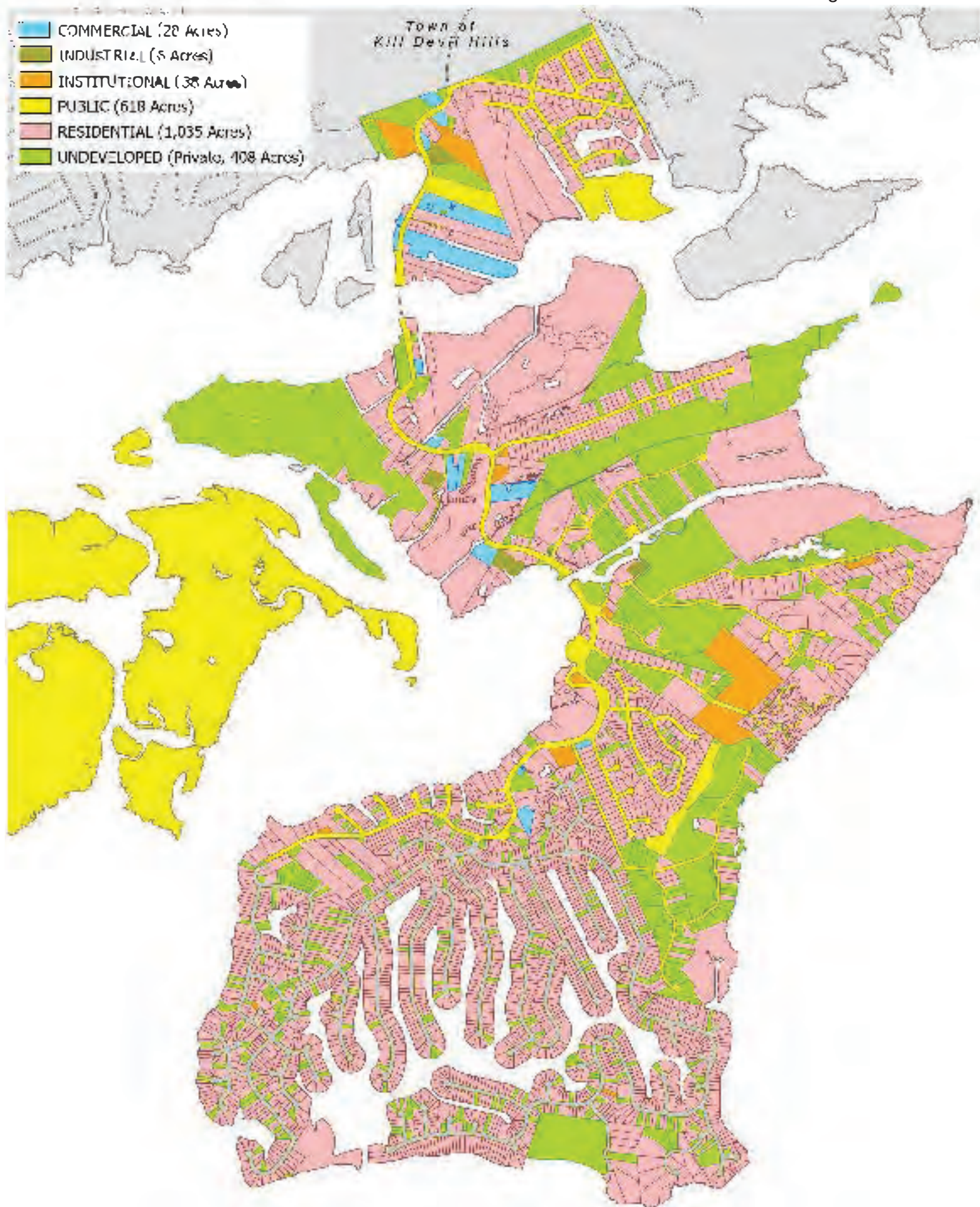
TOWN OF
SOUTHERN SHORES

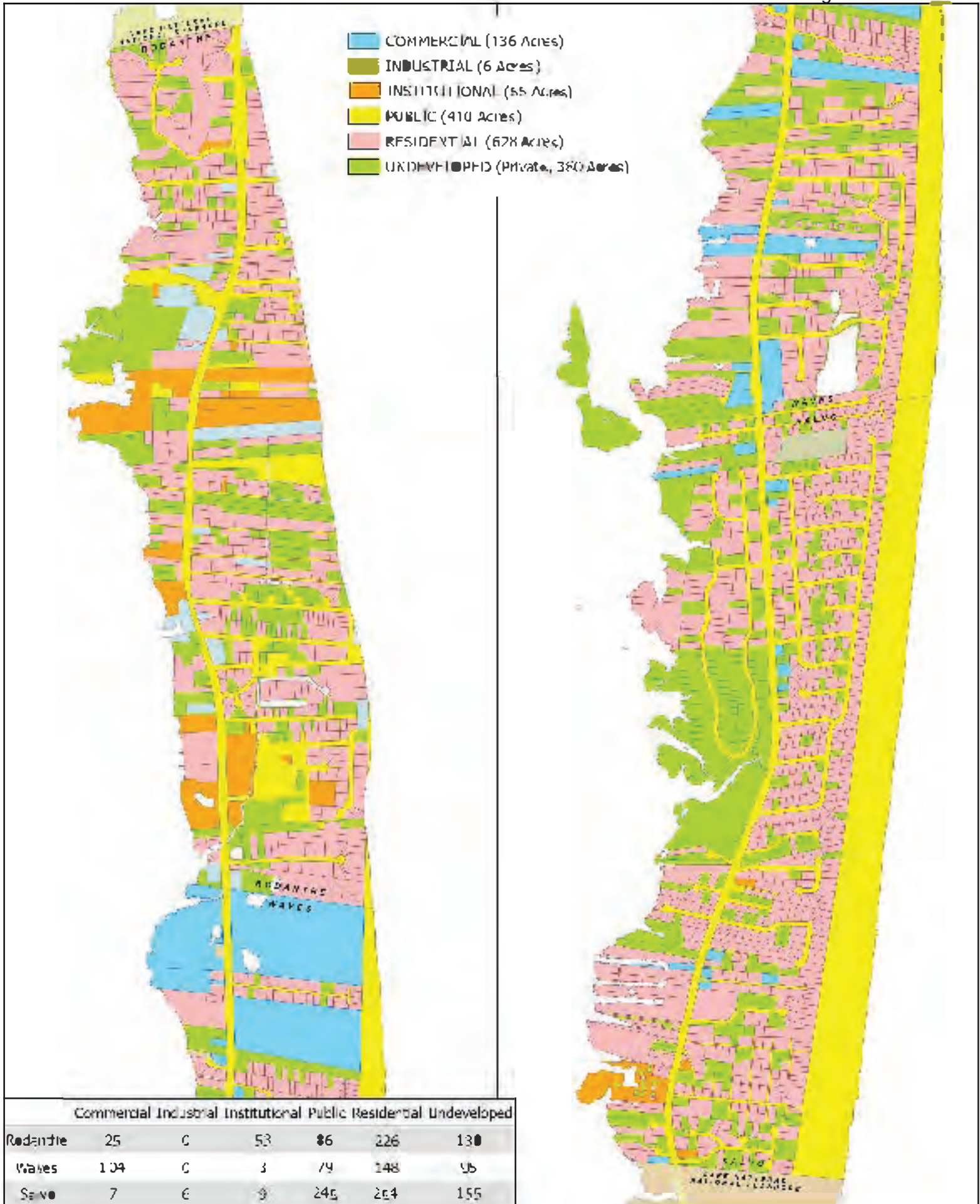
TOWN OF
KITTY HAWK

MARTINS POINT

Current Land Use

0 500 1,000 2,000 Feet





RODANTHE, WAVES, SALVO

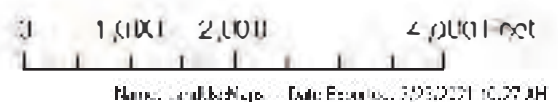
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0 500 1,000 2,000 Feet

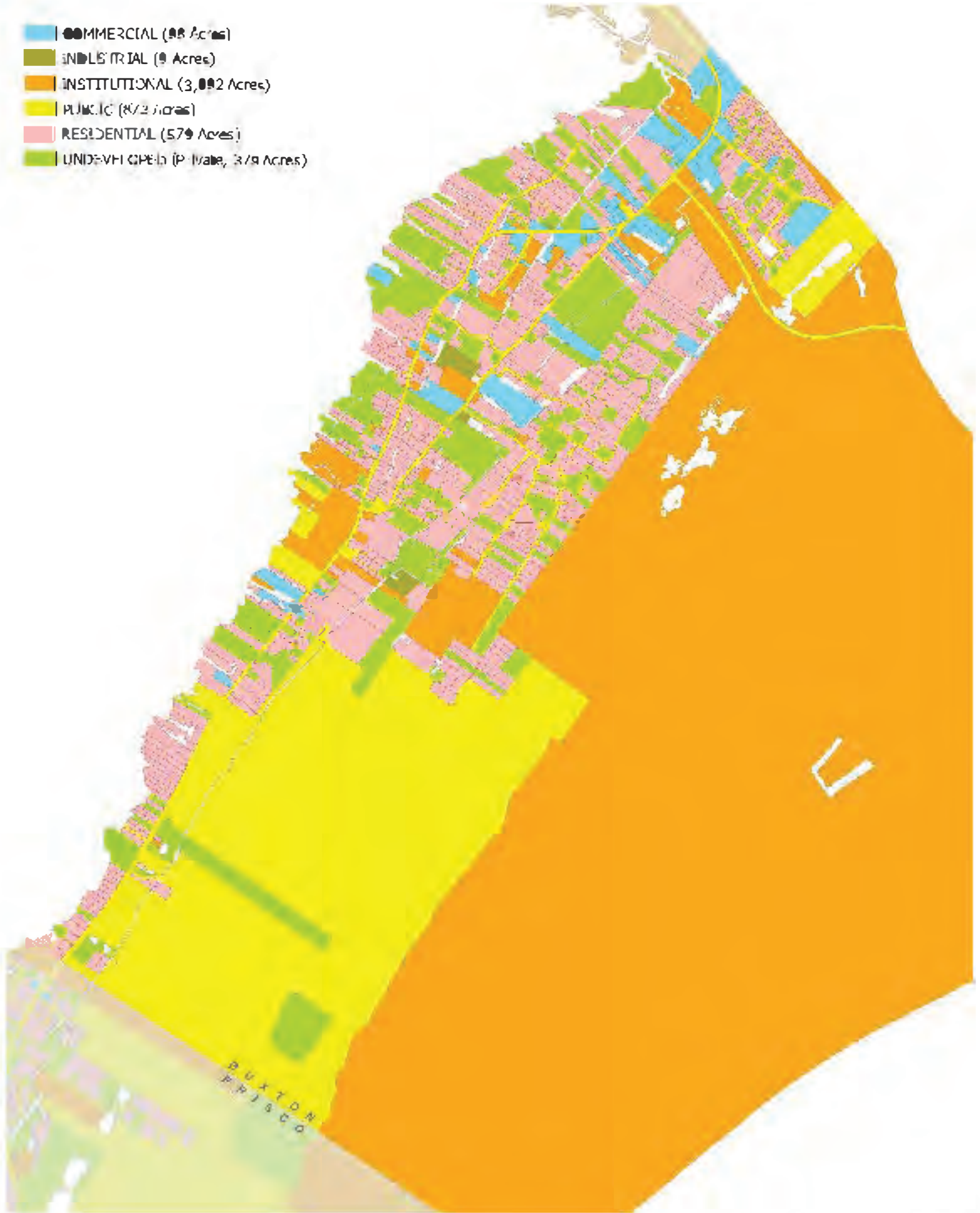


AVON

Current Land Use



- COMMERCIAL (88 Acres)
- INDUSTRIAL (9 Acres)
- INSTITUTIONAL (3,002 Acres)
- PUBLIC (872 Acres)
- RESIDENTIAL (579 Acres)
- UNDEVELOPED (Private, 379 Acres)

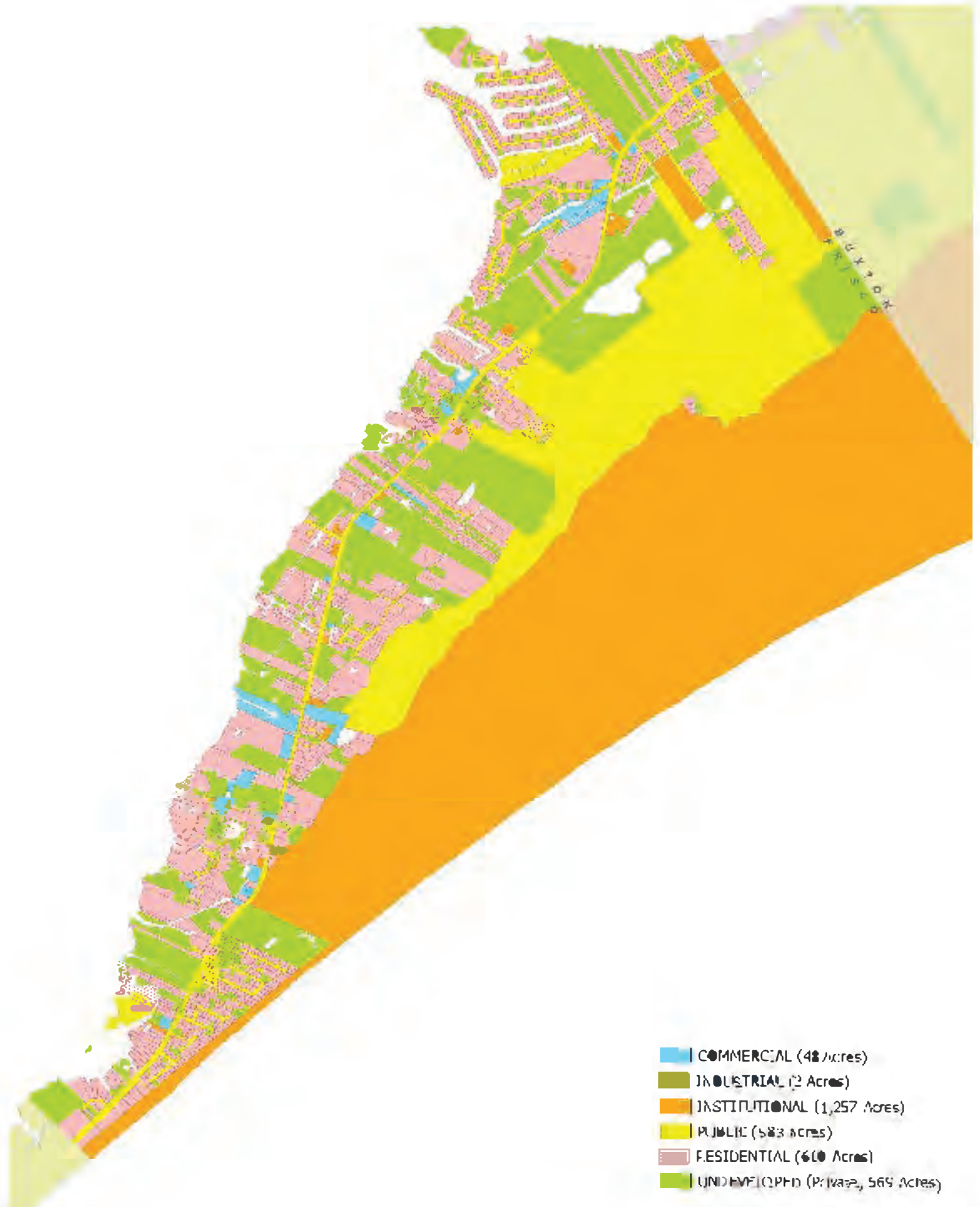


BUXTON

Current Land Use

0 1,000 2,000 4,000 Feet

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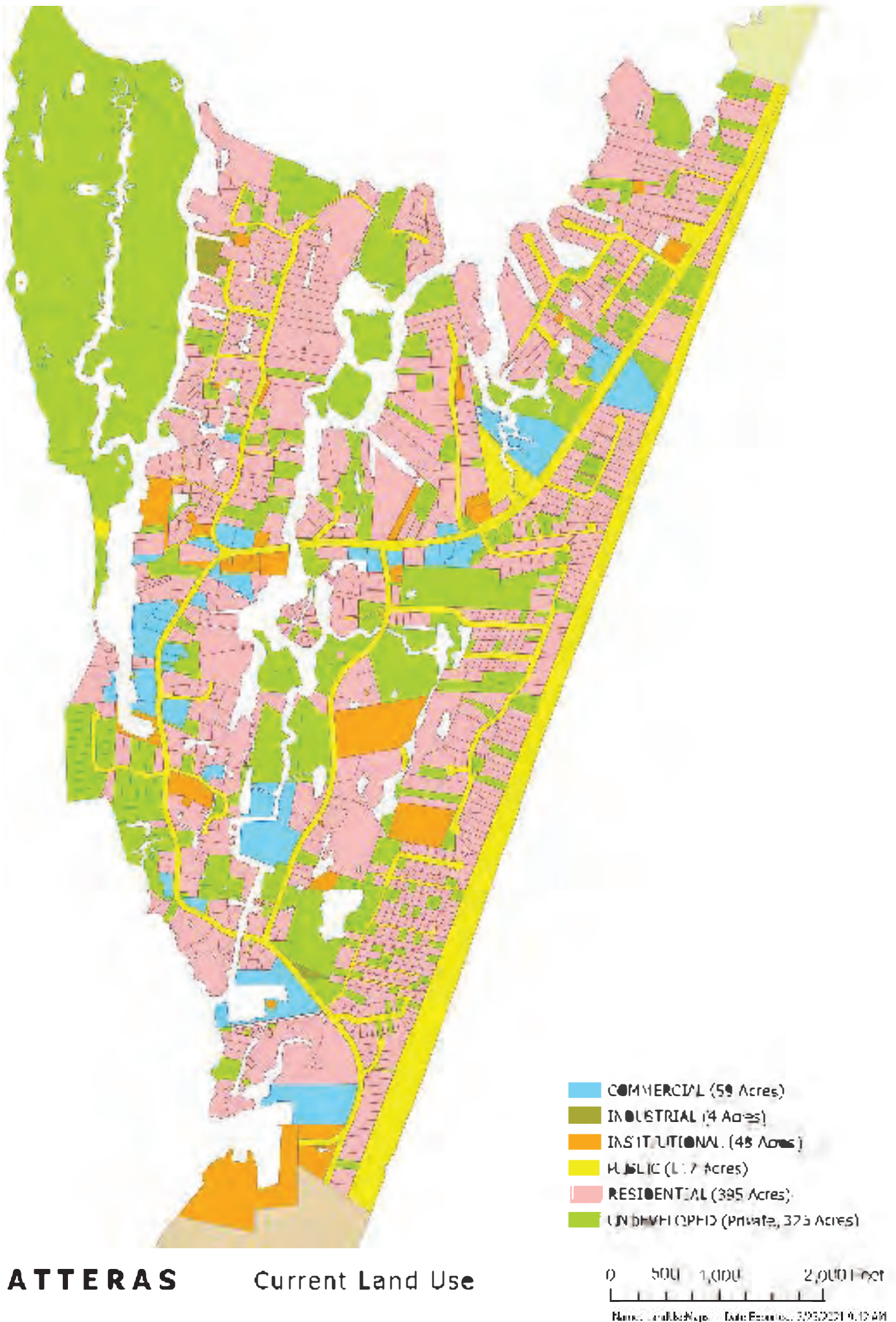


FRISCO

Current Land Use

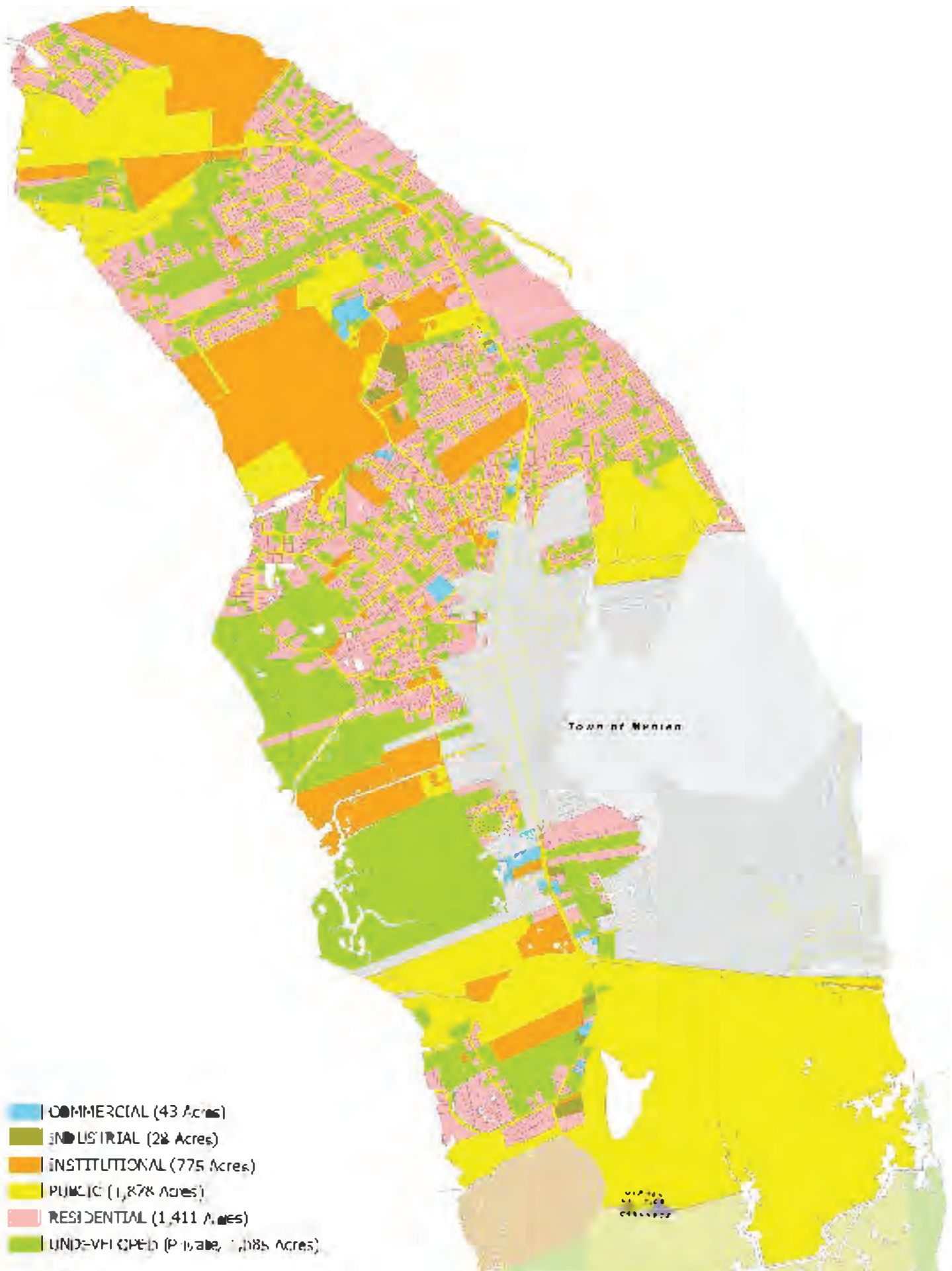
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Plan: Land Use Map Date: 09/01/2011 10:29 AM

**HATTERAS****Current Land Use**

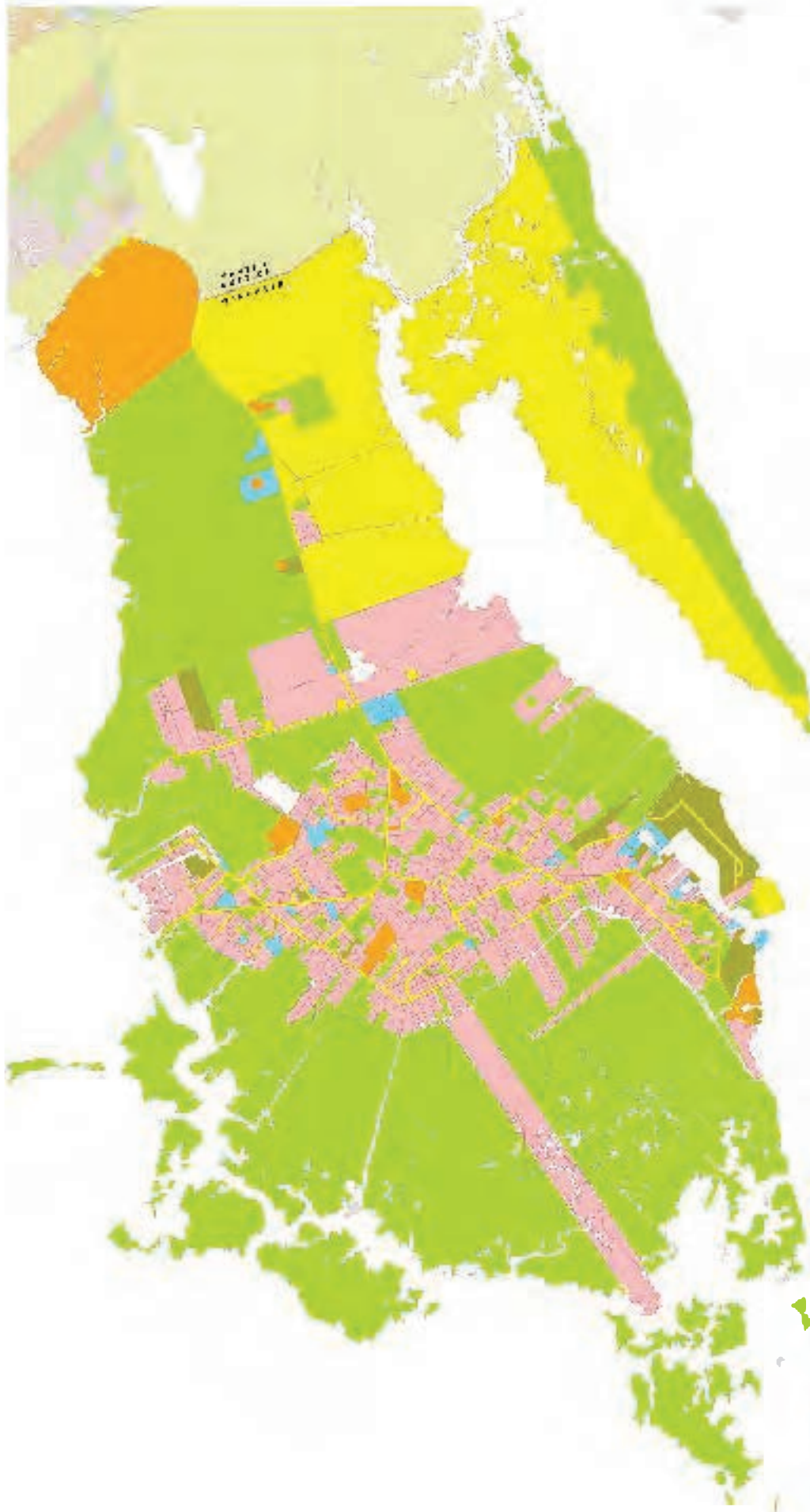
0 500 1,000 2,000 Feet

Hatteras Land Use Map Date Printed: 3/25/2021 9:10 AM



Roanoke Island

Current Land Use



- COMMERCIAL (45 Acres)
- INDUSTRIAL (59 Acres)
- INSTITUTIONAL (206 Acres)
- PUBLIC (1,126 Acres)
- RESIDENTIAL (1,122 Acres)
- UNDEVELOPED/Private (3,190 Acres)



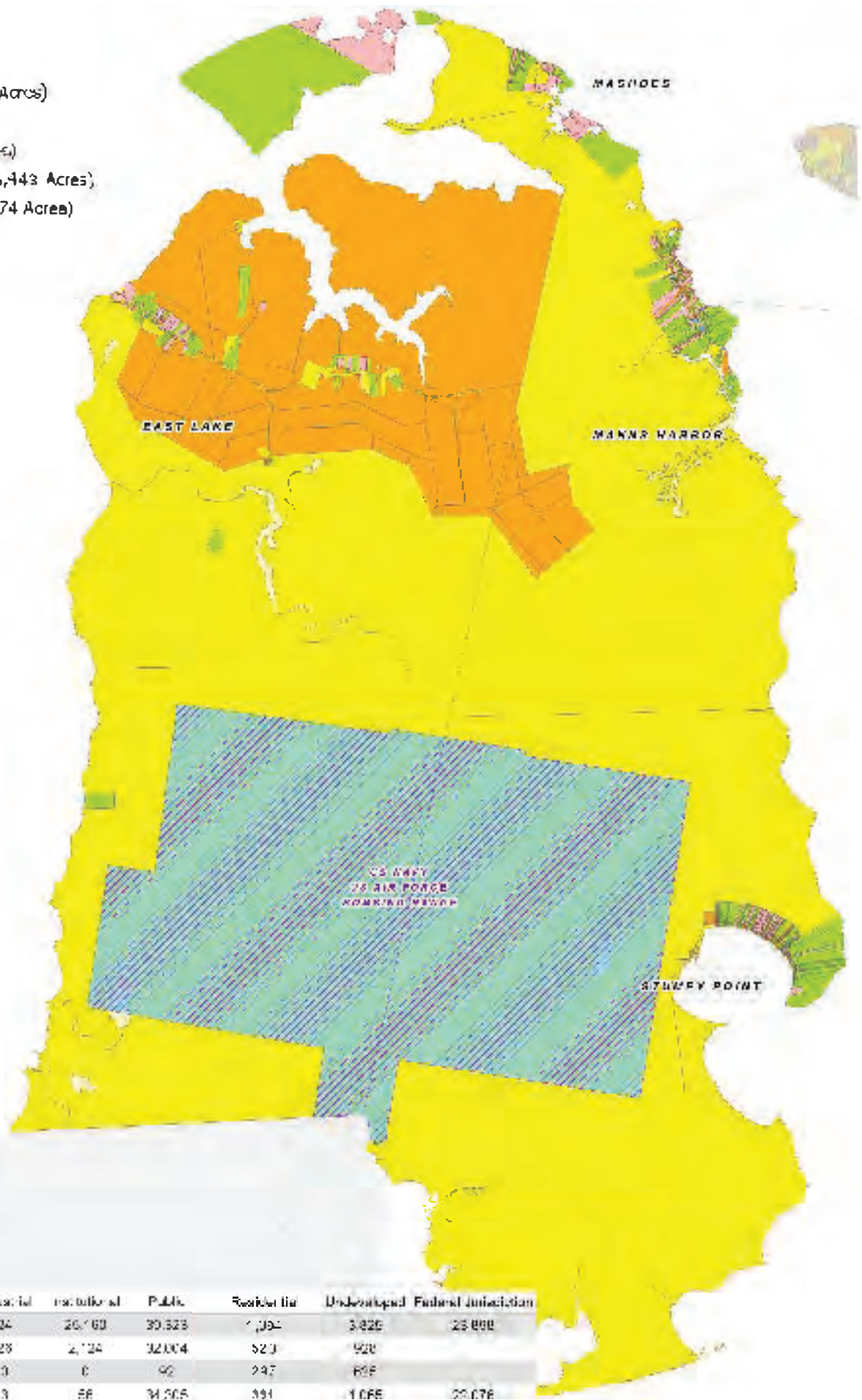
WANCHESE

Current Land Use

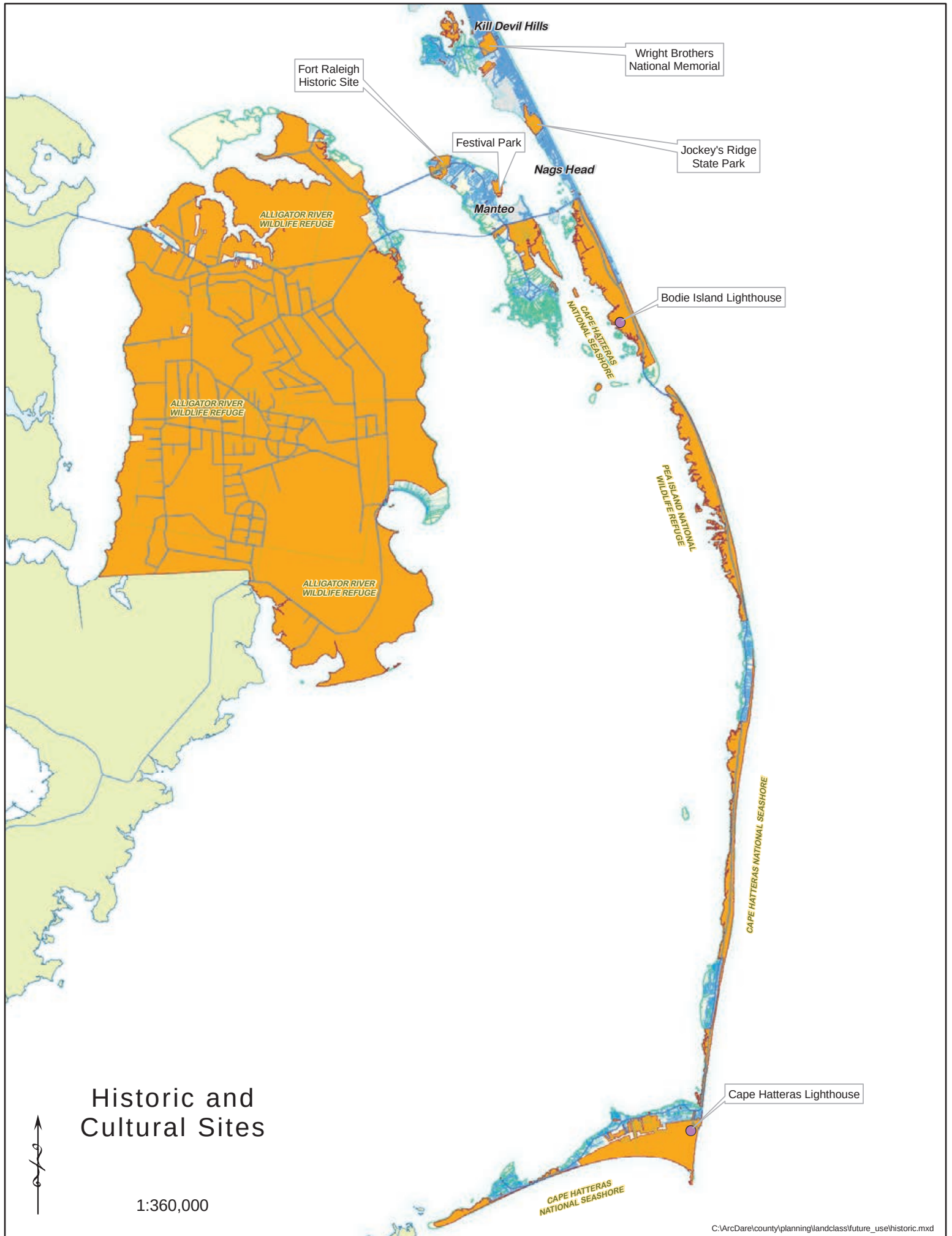
0 1,500 3,000 6,000 Feet

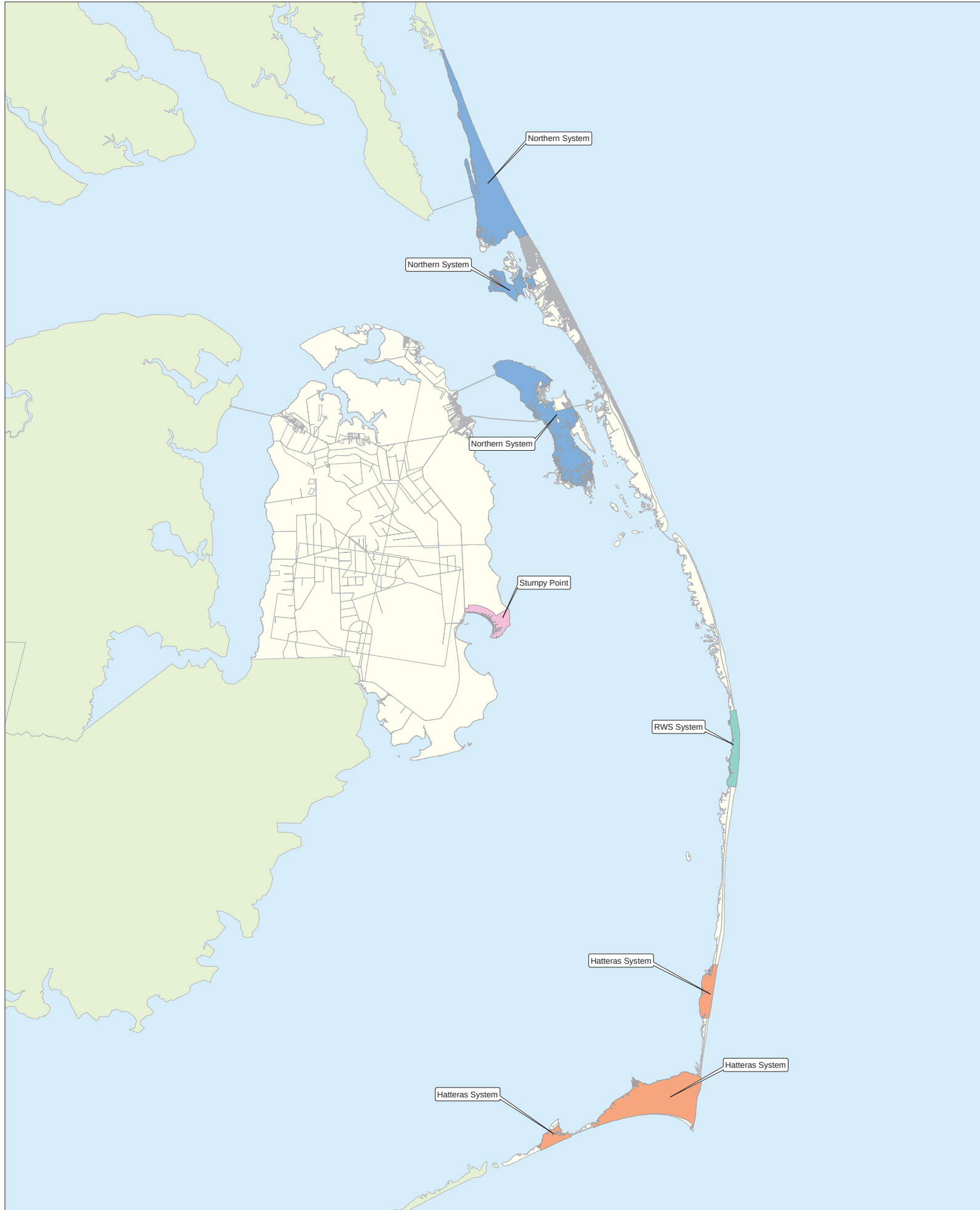
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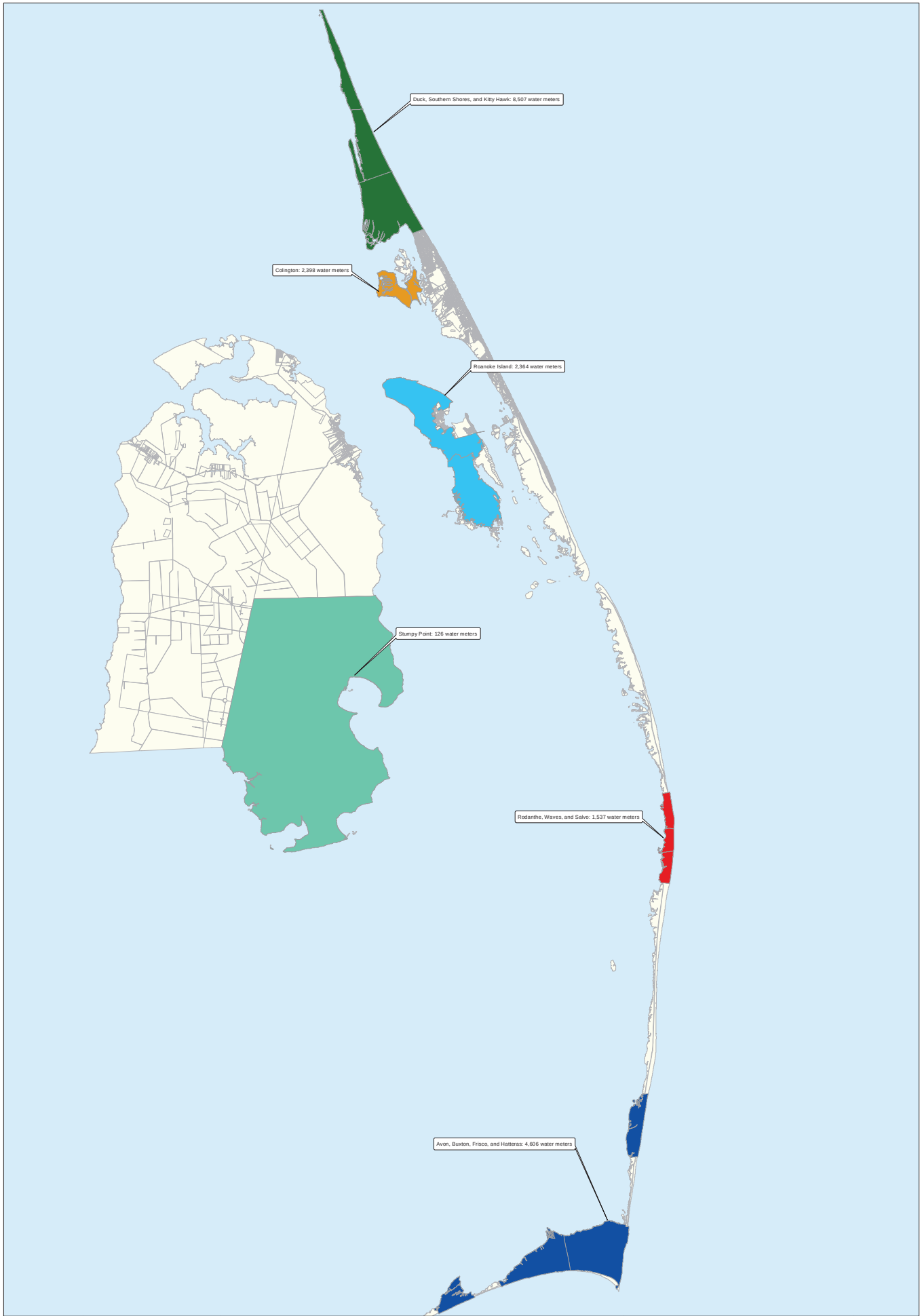
- COMMERCIAL (21 Acres)
- INDUSTRIAL (53 Acres)
- INSTITUTIONAL (27,310 Acres)
- PUBLIC (105,724 Acres)
- RESIDENTIAL (2,275 Acres)
- UNDEVELOPED (Private, 6,443 Acres)
- Federal Jurisdiction (45,874 Acres)



Area/Place	Commercial	Industrial	Institutional	Public	Residential	Undeveloped	Federal Jurisdiction
East Lake	1	24	26,160	30,323	1,094	3,825	23,898
Main Harbor	16	23	2,124	32,004	523	928	
Harbor	1	0	0	92	247	608	
Stoney Point	4	3	56	34,505	334	1,065	20,078

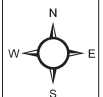


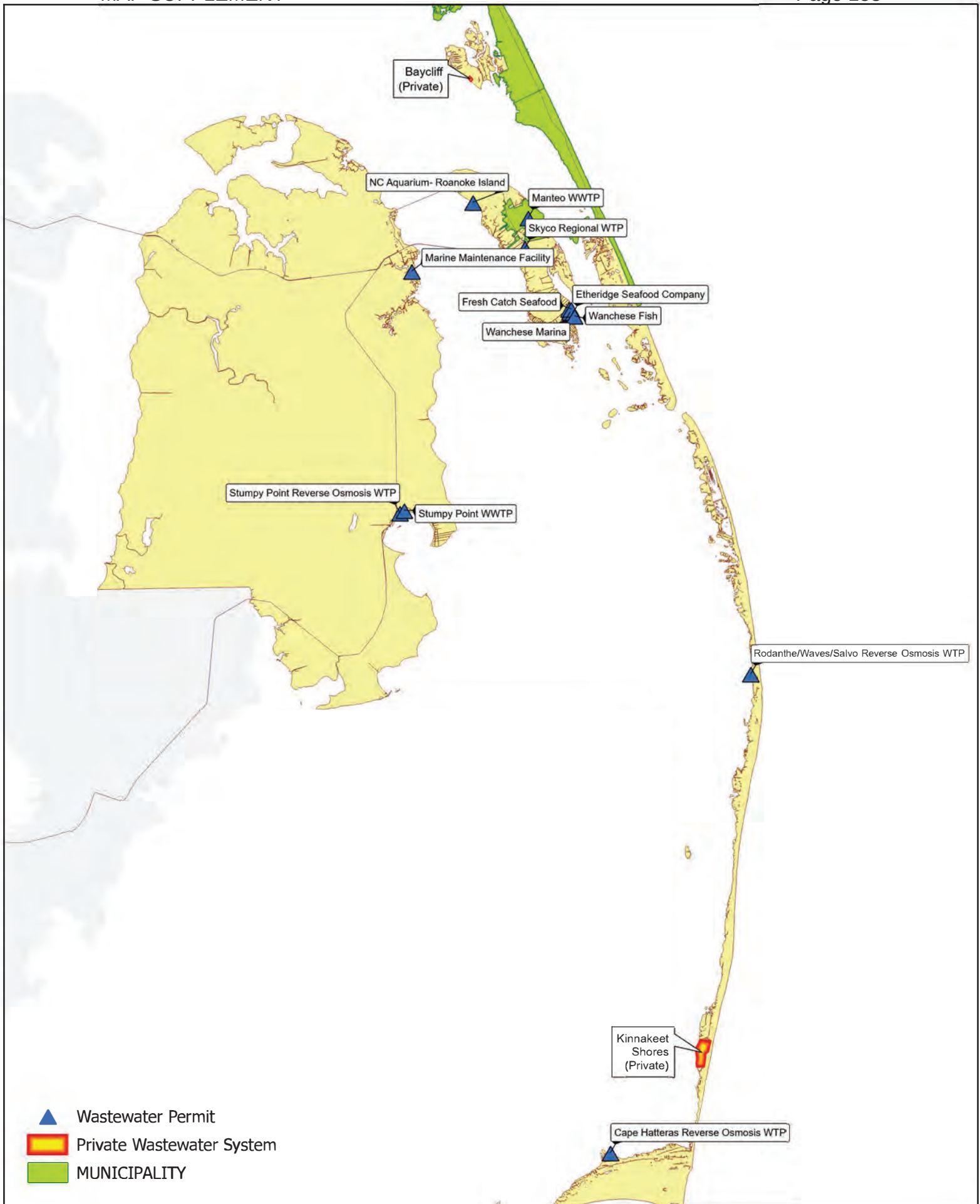




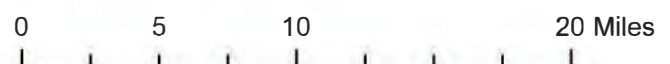
DARE COUNTY WATER
GIS

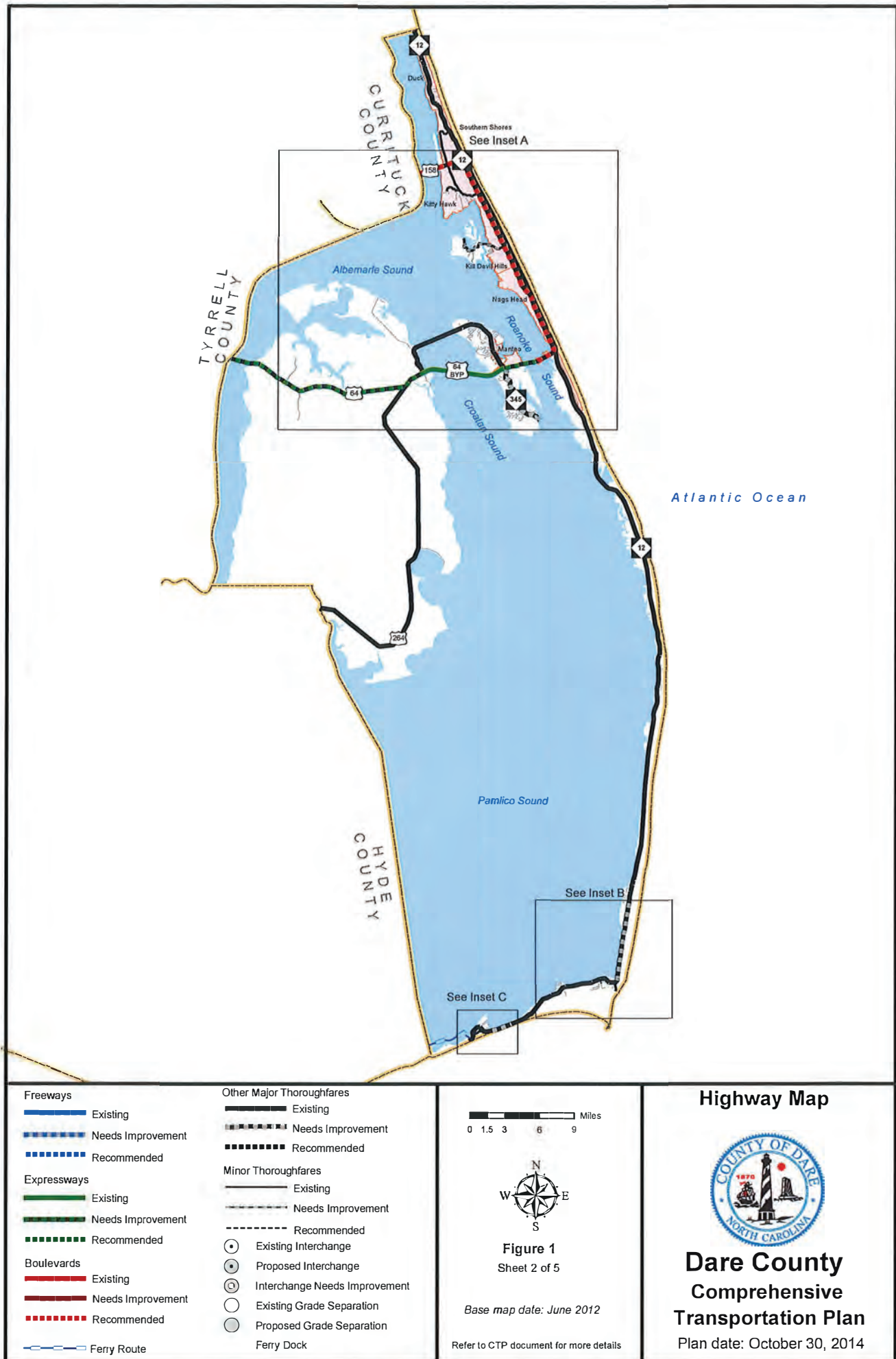
DARE COUNTY

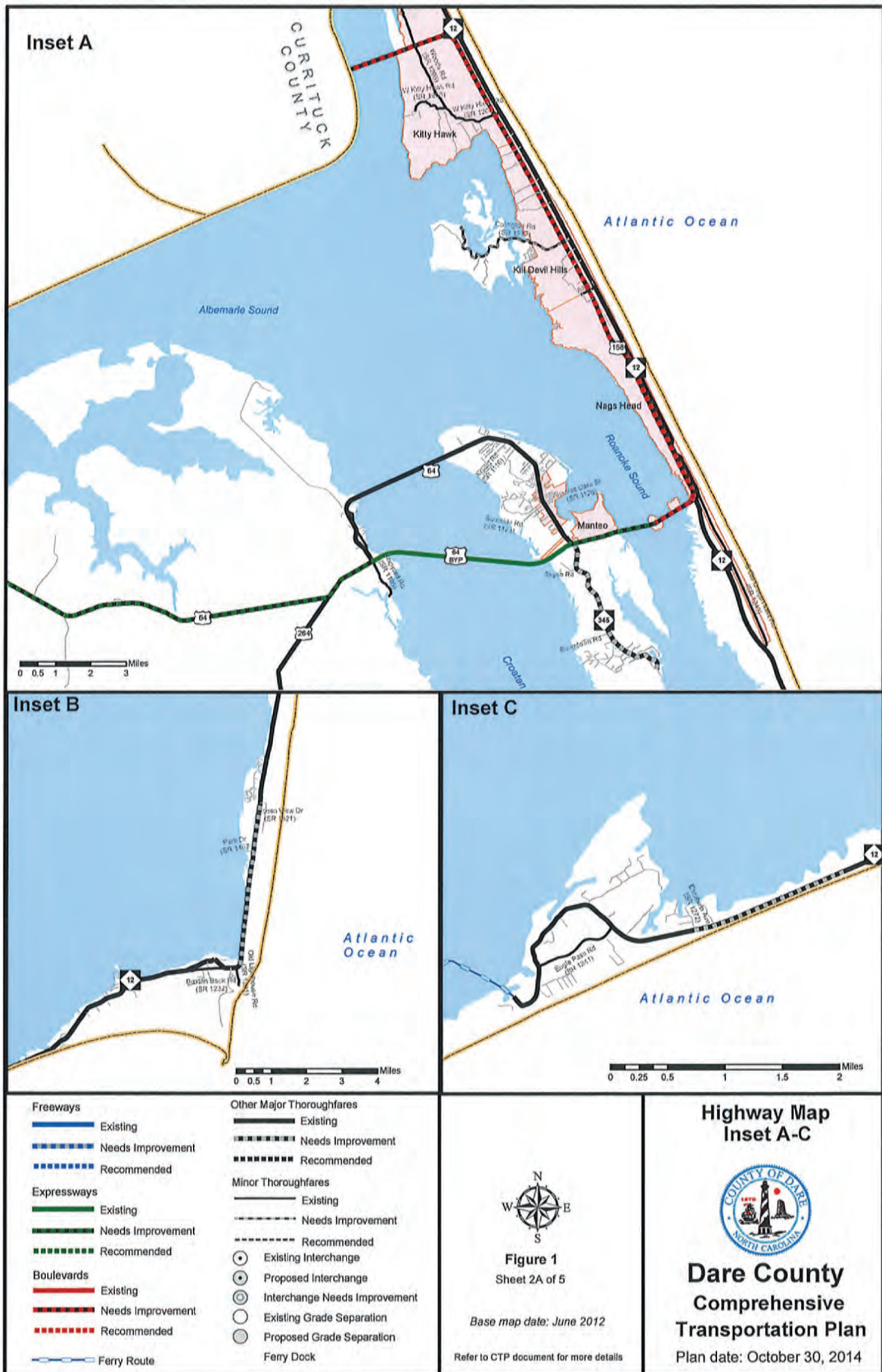


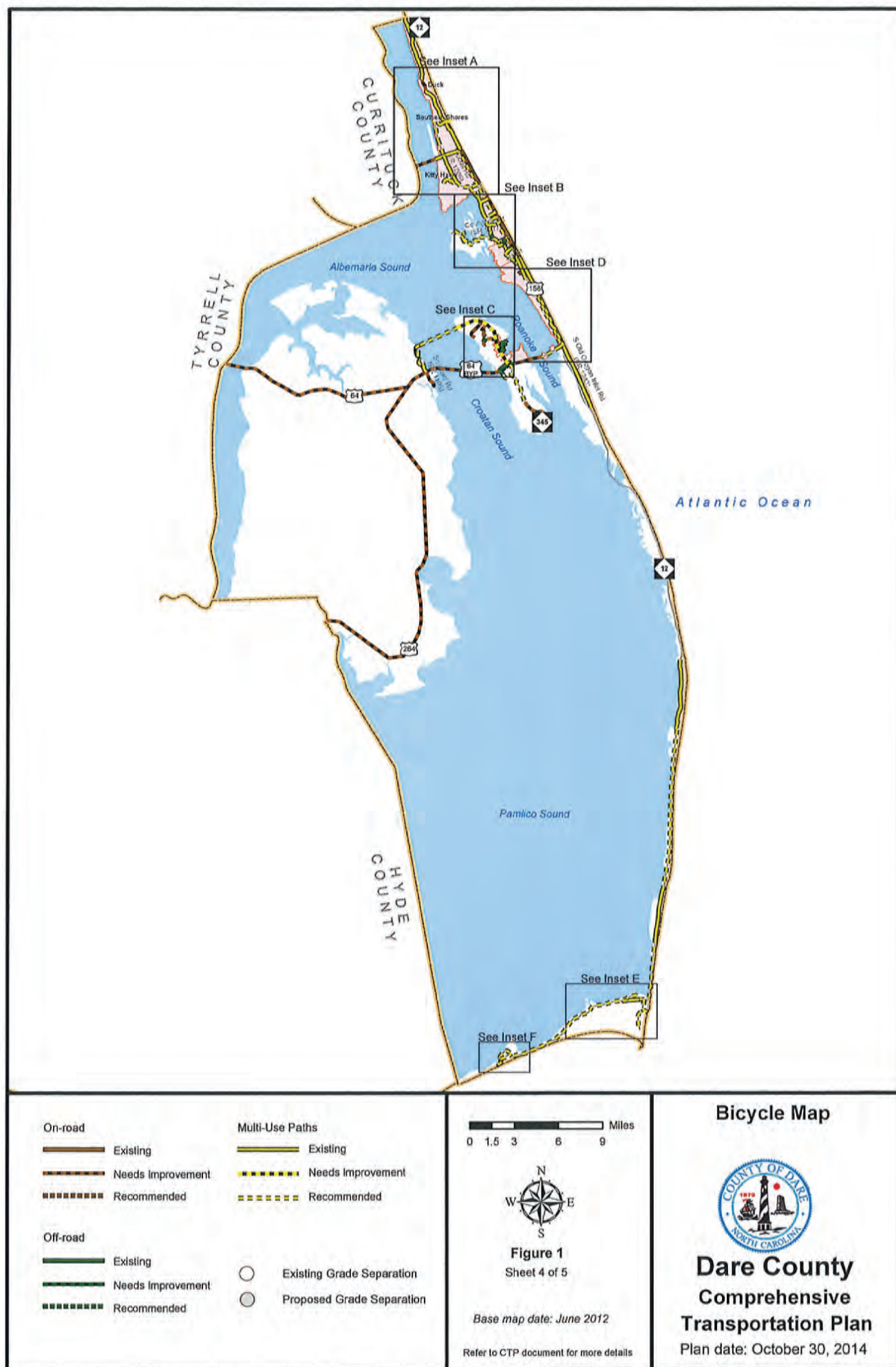


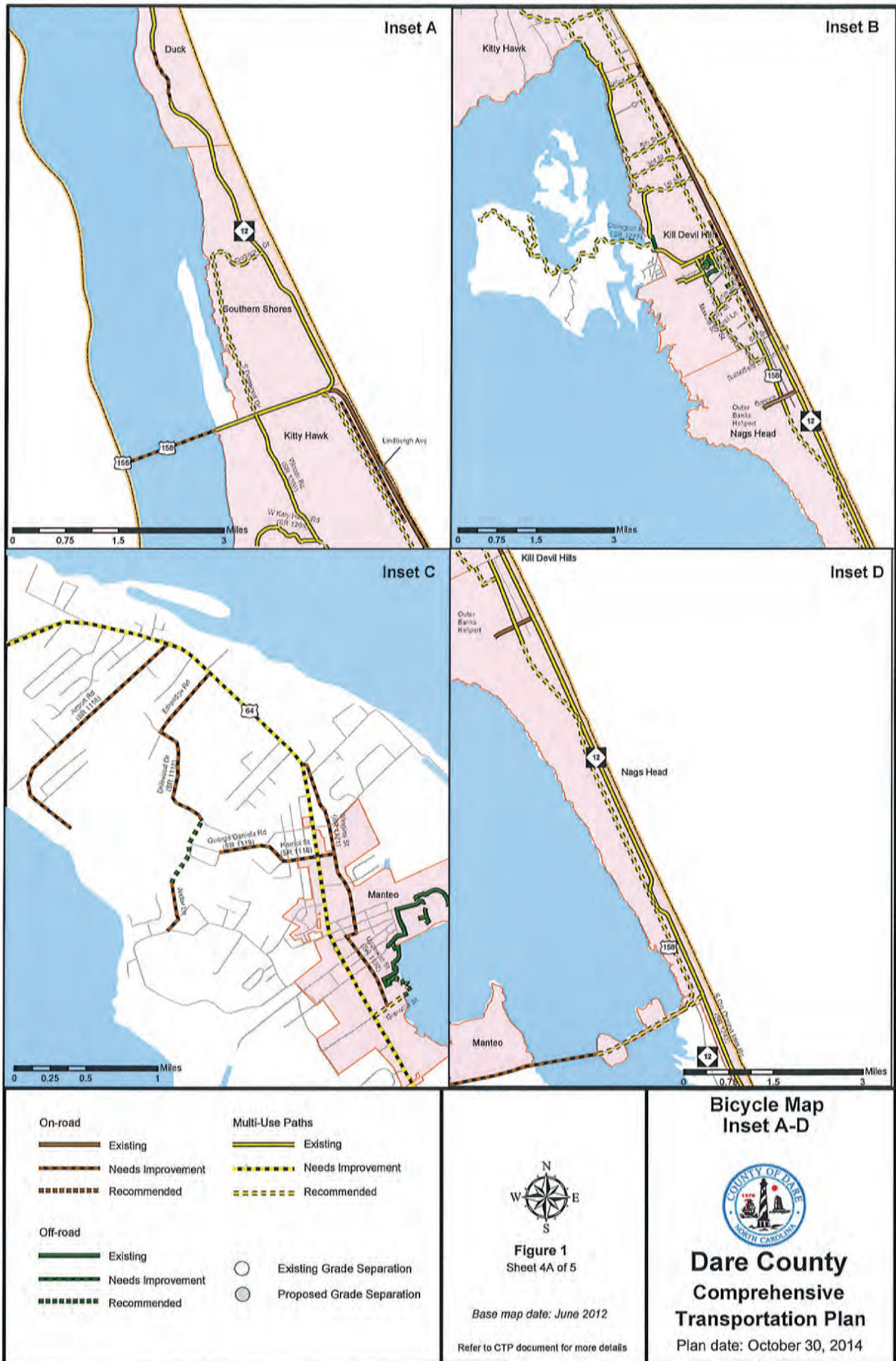
Central Wastewater Systems
in Unincorporated Dare County

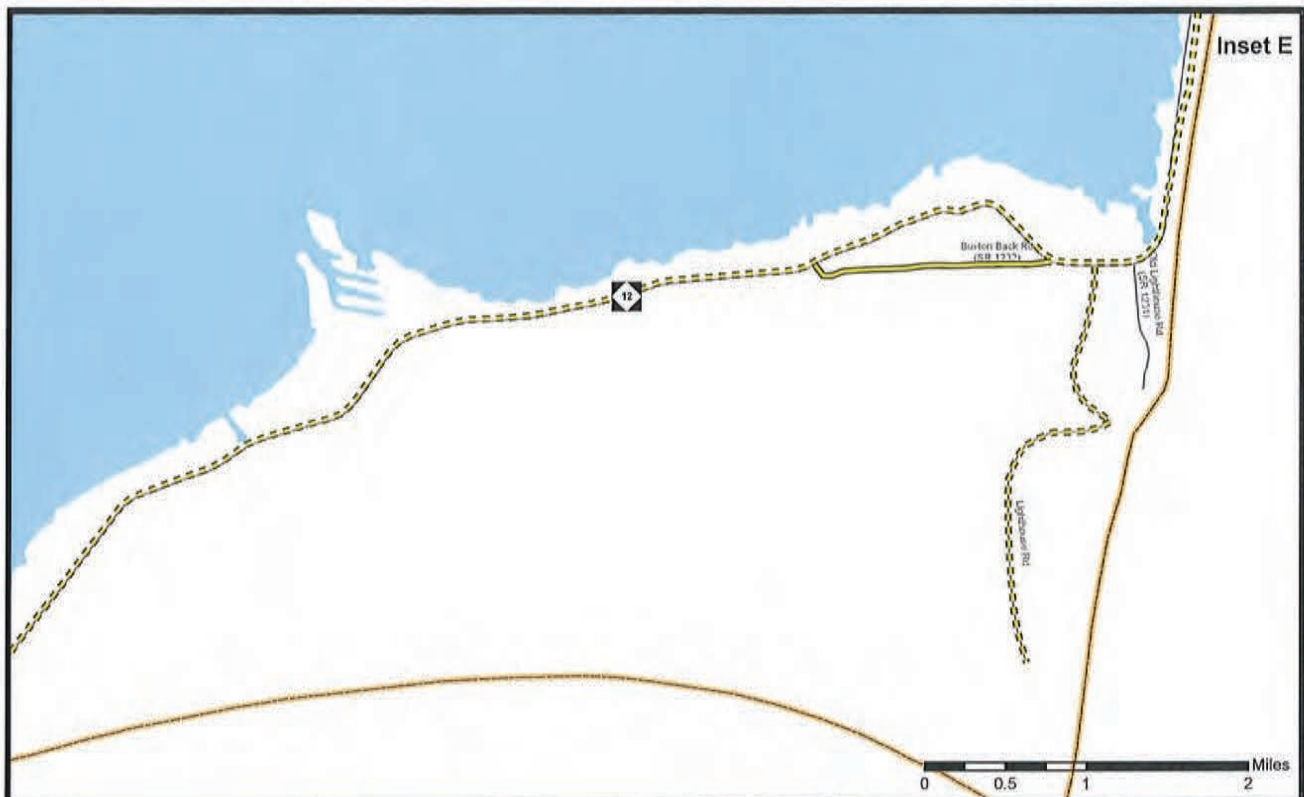












On-road

- Existing
- Needs Improvement
- Recommended

Off-road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- Existing Grade Separation
- Proposed Grade Separation



Figure 1
Sheet 4B of 5

Base map date: June 2012

Refer to CTP document for more details

**Bicycle Map
Inset E & F**



**Dare County
Comprehensive
Transportation Plan**

Plan date: October 30, 2014



Sidewalks

- Existing
- Needs Improvement
- Recommended

Off-Road

- Existing
- Needs Improvement
- Recommended

Multi-Use Paths

- Existing
- Needs Improvement
- Recommended

- Existing Grade Separation
- Proposed Grade Separation

0 1.5 3 6 9 Miles



Figure 1
Sheet 5 of 5

Base map date: June 2012

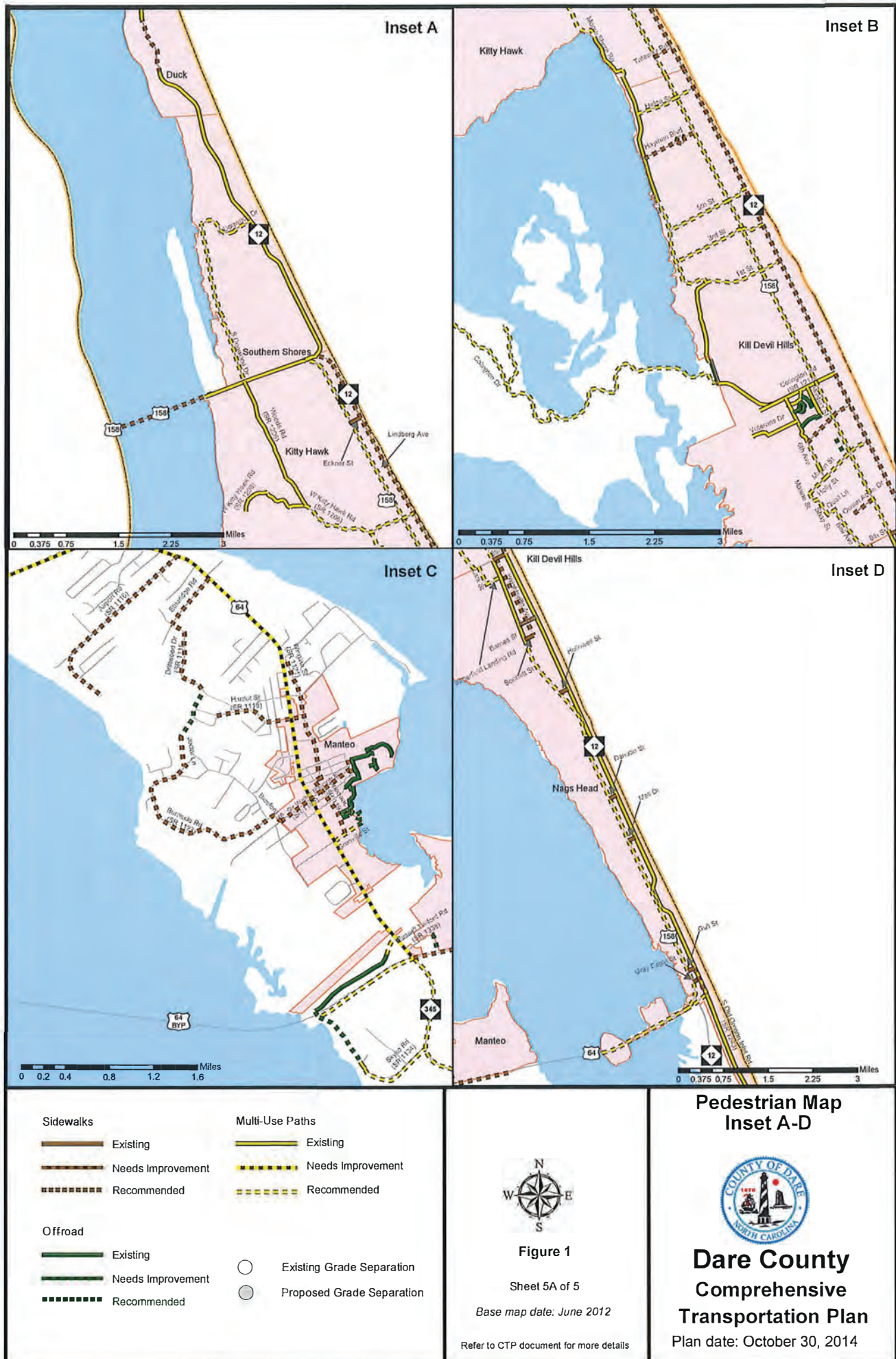
Refer to CTP document for more details

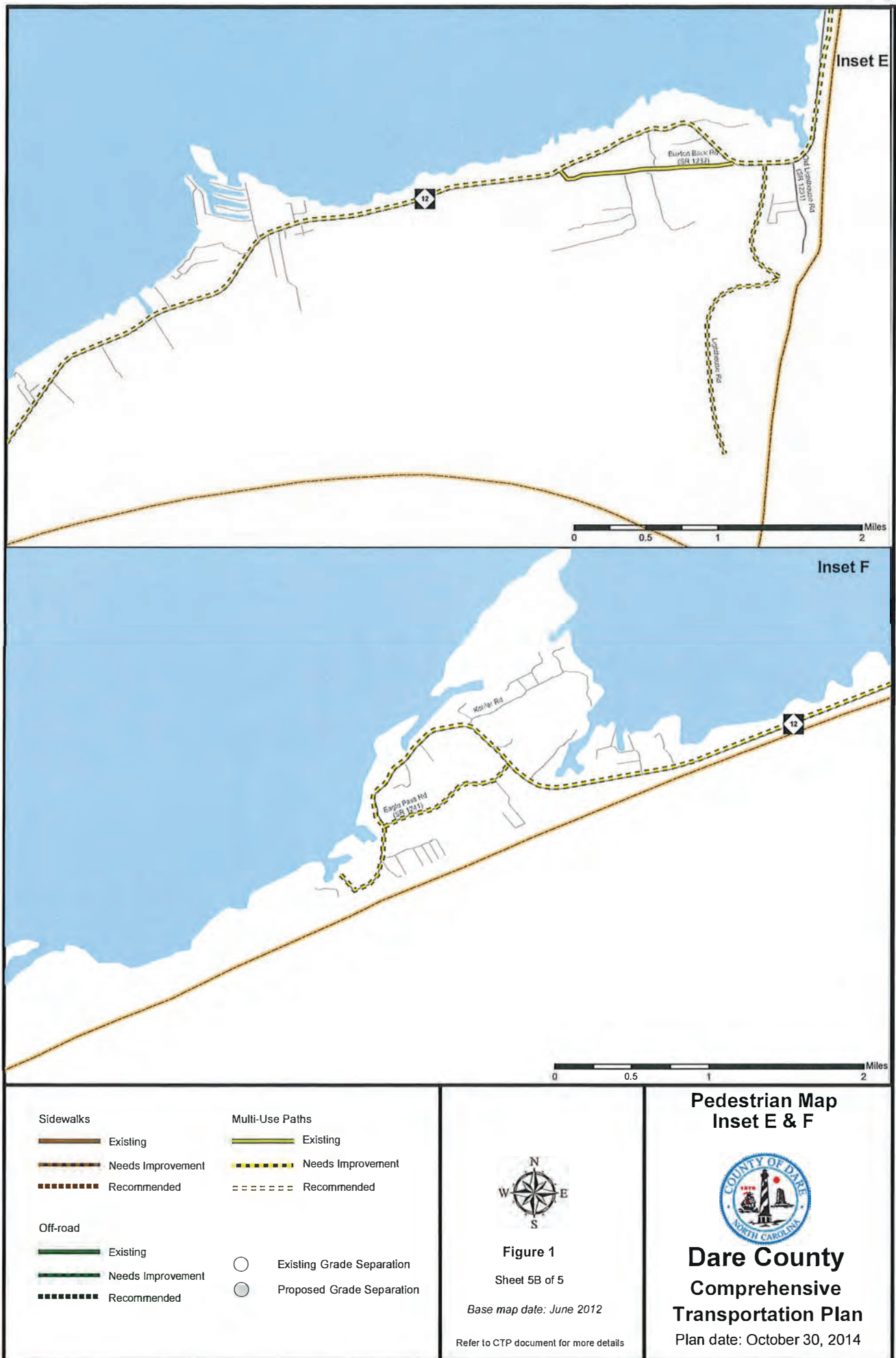
Pedestrian Map

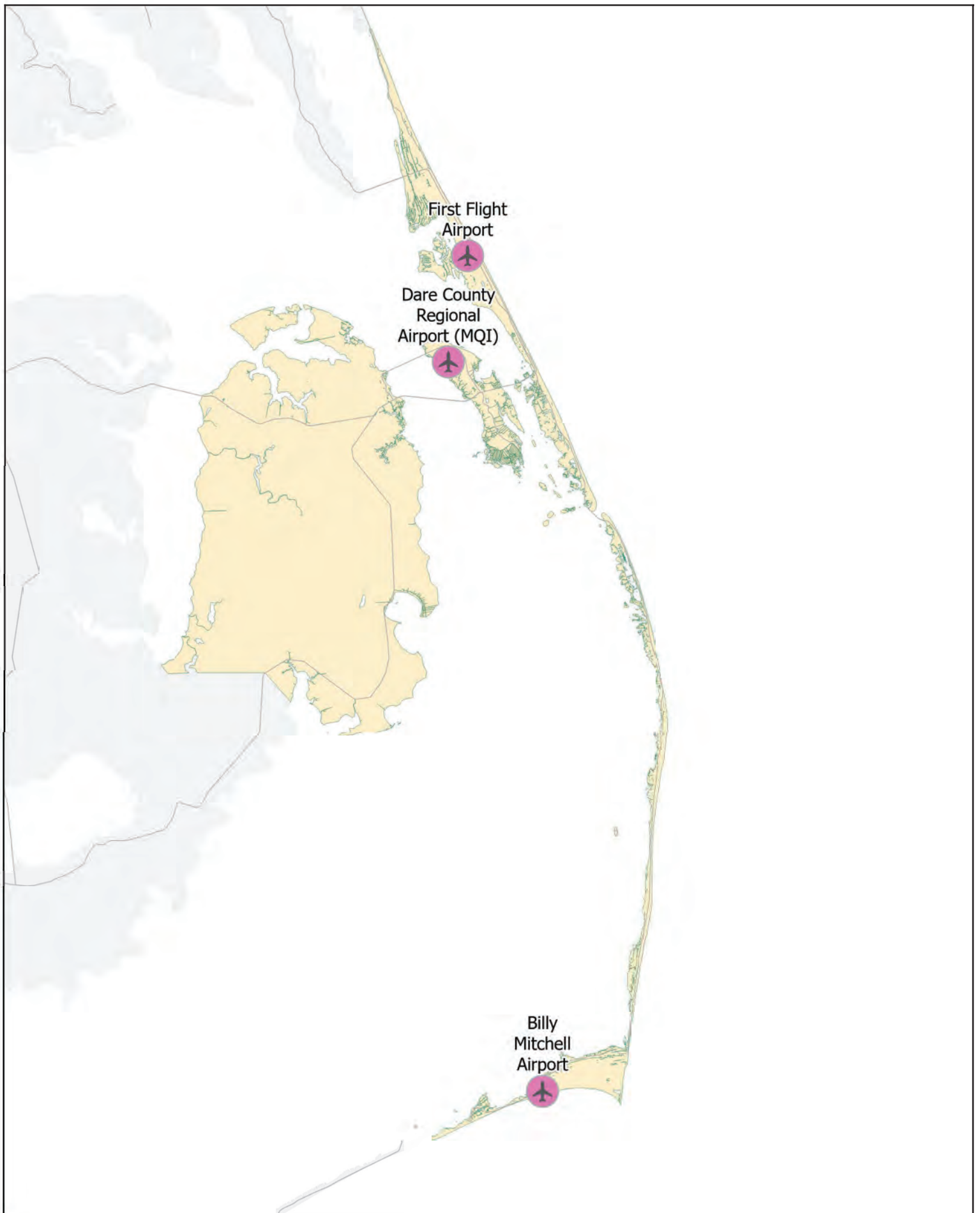


**Dare County
Comprehensive
Transportation Plan**

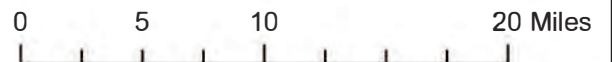
Plan date: October 30, 2014







Dare County Airports



Section Three

The CAMA guidelines require local governments to identify policies and implementation strategies for these policies to demonstrate the local government's position on certain issues. These policies are the main element of the land use plan and provide direction for local elected officials, advisory boards, citizens, and state and federal agencies on land use planning matters and other issues of local concern. The Land Use Plan is used by Dare County for guidance and is also used by CAMA officials in the review of CAMA major permits and used in federal consistency reviews. These policies inform CAMA officials of the County's positions on development issues. A determination of inconsistency by CAMA officials can result in the denial of CAMA major permit applications or federal reviews. The LUP policies are also referenced by Dare County in reviewing rezoning proposals, development and re-development applications, and when drafting new ordinances or ordinance amendments.

Sometimes consistency between the LUP policies and the County ordinances is not achievable due to the long-term planning purpose of the land use plan. Economic conditions, political philosophies, changing technologies, and public opinion may result in an amendment to the Zoning Ordinance or other land use ordinance that is not consistent with a land use policy adopted years earlier. The resolution of the inconsistency may be accomplished through an amendment to the land use plan as may be appropriate to reflect the amended land use ordinance. Inconsistency with the land use plan does not preclude the adoption of zoning amendments, but it's good practice for there to be consistency between the plan and adopted ordinances.

The Dare County Planning Board serves as the planning committee that oversees the development of the draft plan before it is submitted to the Dare County Board of Commissioners for review and adoption. The Planning Board reviews all previous policies and implementation strategies and determines if changes are needed. The identification of new policies is also part of this review. The narrative sections of the Land Use Plan will frequently reference Planning Board discussions.

Dare County identified a community vision statement and a set of objectives at the beginning of the LUP update process. The community vision provides an overall statement of Dare County and our intended direction. While this community vision is a simple statement of our goal for the future of Dare County, it serves as the fundamental foundation of the general objectives, the policy statements and associated implementation strategies. This core statement is reflected in the policy statements and helps outline our direction for future planning purposes.

The CAMA guidelines establish five management topics to be addressed by local governments. Dare County has also added a sixth management topic for local issues. The 2022 LUP groups policies by these management topics for ease of use. Some of the issues

are included under more than one management topic. The CAMA objective for each management topic is listed followed by the goals and objectives identified by Dare County to support the CAMA objectives. Narrative discussions are included for each issue to provide background for the policy and implementation strategies. In some instances, a specific implementation strategy has not been included due to the nature of the policy. A priority ranking of high, medium, or low has been assigned to the implementation strategies. The schedule for the rankings is as follows: high – 2022- 2023; medium – 2024-2027; low— 2028 or later. Some strategies have been noted as on-going to indicate routine implementation as part of County functions or for strategies that do not require a specific timeframe but are linked to potential opportunities or situations. For some strategies, on-going indicates such as the participation in the CAMA local permit program.

None of the policies in this update exceed the use standards and permitting requirements found in Subchapter 7H, State guidelines for AECs.

Listed below is a glossary of key words that are used throughout Section 2 in the policy statements. The glossary is intended to convey the specific meaning of these key words.

adequate: sufficient to achieve the intended purpose or prevent harm

advocate: to promote or encourage

allow, authorize, permit: official action to let something happen

consider: to analyze; to take under advisement

control: to regulate or direct

discourage: to not favor, to dissuade

encourage: to favor or foster (also see support)

may: provides the option, but not required; permissive

oppose: to not support or be against a proposed action

practicable: capable of being effected, feasible, likely to occur

preferred: the favored course among alternatives but does not preclude other options

prohibit: not allowed, to prevent

promote: to proactively encourage to take positive steps

reasonable: practical, not extreme

recognize: to show awareness of an issue or condition

require: to mandate something

shall: mandatory, not optional; a more formal term for “will”

should: preferred or recommended but not mandatory in all cases

significant: important; determined by quantity or relative impact

support: to foster; may imply financial support

MANAGEMENT TOPIC #1 – PUBLIC ACCESS

CAMA Goal: Maximize public access to the beaches and the public trust waters of the coastal region.

CAMA Planning Objectives: The plan shall include policies that address access needs and opportunities with strategies to develop public access and provisions for all segments of the community, including persons with disabilities. Oceanfront communities shall establish access policies for beach access areas targeted for nourishment.

Dare County Public Access Objectives

1. Maintain, protect and enhance access to the beaches, sounds and other public trust areas of Dare County.
2. Encourage the protection of working waterfront areas from redevelopment that may result in the loss of or reduced access to those public trust areas and diminished opportunities for our local fishing industry.

Shoreline Access

Vehicular and pedestrian access to the shorelines and public trust areas of Dare County is a fundamental element of the Outer Banks history, way of life, and economy. Many people visit the Outer Banks to enjoy access to miles of estuarine shorelines and ocean beaches for recreational activities and to observe our natural flora and fauna. Commercial and recreational fishermen rely on vehicular access to the beaches. Access to the beaches and public trust areas is part of the daily lives of the County's year-round residents and is a contributing factor for many people in deciding to live here or relocate to the area. Parking and restroom facilities for access to the ocean and estuarine shorelines can be found throughout the municipal areas and on Hatteras Island. Many of these access points have been developed with State of North Carolina funding from the shoreline access grant program and other recreational grant programs. These access points are widely used by our seasonal visitors and our year-round population. ORV access to the ocean and estuarine shorelines compensates for the lack of widespread boat ramps by providing a means of water access for those without boats.

Historically, vehicular access along the beaches was often the only means of travel. In 2008, lawsuits against the National Park Service (NPS) sought to limit or prohibit vehicular access to the beaches of Hatteras Island due to concerns about damage to plant life and wildlife. The threat of permanent closure of beaches for ORV use was fiercely opposed by residents and visitors. ORV supporters argued vehicular and pedestrian access to the beaches of Hatteras Island was an established historical right and ORV use could be maintained without damage to threatened plant and animal species. As a result of this lawsuit and federal legislation in response to the lawsuit, the NPS developed management plans and established a permitting program for off-road vehicles in conjunction with seasonal closures of beaches to protect

wildlife nesting areas and plant species. Today, areas subject to ORV use closure are closely monitored by the NPS. Limitations for ORV use are adjusted as needed in response to nesting and wildlife activity patterns. To date, the permitting program has been successful in both resource protection goals and in the allowance of continued vehicular access to the beaches.

PA Policy 1

Dare County supports the preservation and protection of the public's right to access and use of public trust areas and waters.

PA Policy 2

Dare County reserves the right to review, comment, advocate, or oppose any proposed Federal or State regulations or programs that affect public trust waters or public trust areas.

PA Policy 3

Dare County supports North Carolina's shoreline access policies and grant programs, and recognizes the importance of shoreline access for our local residents and our tourist economy. The County will continue to seek opportunities to expand access, including opportunities for the disabled, and to secure funding for beach nourishment in order to maintain wide sandy beaches.

Implementation Strategy PA Policies 1-3:

1. Identify and pursue appropriate grant opportunities for access sites to public trust waters and public trust areas. Any new public access sites shall address the needs of handicap persons and address those needs to the maximum extent practicable in working with the natural conditions of the site. *Priority: on-going*



Public Beach Access in Rodanthe

NC 12 Access

One issue of concern that was repeatedly noted on the LUP survey by both residents and non-residents was the issue of continued access along NC 12 on Hatteras Island. Storm-driven tides frequently result in standing water and sand on several portions of NC 12, necessitating the closure of NC 12 to vehicular traffic until NCDOT can clear the road or the tidal flooding dissipates. The construction of the Pea Island Bridge will address some of the areas that are prone to ocean overwash, however other areas of NC 12 will remain susceptible to tidal flooding from ocean overwash and/or estuarine flooding. Long-term solutions to ensure access to Hatteras Island is a primary concern to Dare County, residents of Hatteras Island and non-resident property owners.

PA Policy 4

The County recognizes the importance of four-wheel drive vehicles and pedestrian access to those beaches in Dare County under the management authority of the federal government. The historical practice of vehicular and pedestrian access to the beaches of Dare County should continue to be supported by the National Park Service in their efforts to comply with applicable federal laws and species management activities. Impacts on Dare County's local economy are important elements that should be a factor in any decision-making process of the U.S. Department of Interior and its agencies with land ownership interests in Dare County. Any future effort to completely prohibit beach driving on these federally managed areas is opposed as is any effort to limit or decrease the current level of ORV access to our beaches.

Implementation Strategy for PA Policy 4:

1. Continue to monitor ORV management plans and, when necessary, actively engage with the National Park Service to ensure vehicular and pedestrian access to all beaches of Dare County. *Priority: on-going*

PA Policy 5

Continue to advocate for the long-term protection of NC 12 on Pea Island and Hatteras Island to ensure access for residents and visitors to all areas. Dare County supports all bridge construction activities for access to Pea Island and Hatteras Island and other NCDOT management activities to ensure access along NC 12 on a daily basis and after storm events. Proactive approaches to the short-term maintenance requirements and long-term viability of the entire length of NC 12 are supported.

Implementation Strategy for PA Policy 5:

1. Continue to participate in the Ablemarle Regional Planning Organization's review of the NC Department of Transportation's State Transportation Improvement Plan (STIP). which scores all proposed transportation infrastructure projects, including the NCDOT ferry system. *Priority: on-going*
2. Facilitate grant opportunities, when appropriate, for infrastructure construction and maintenance of existing improvements. *Priority: on-going*

Working Waterfronts

The loss of public access to waterways and working waterfront sites used for commercial fishing was the focus of a State-funded group in 2007. Over the past decade, development of waterfront properties has resulted in decreased access opportunities for the general public, residents, and fishermen. Recognizing this trend, the State study group, known as the Working Waterfront Commission, devised a grant program and management plan to identify waterfront access sites for protection and possible public acquisition. A local working watermen committee was also created by Dare County. The local committee disbanded after several years, but was re-organized by the Dare County Board of Commissioners in 2018.

PA Policy 6

Dare County supports efforts to protect working waterfronts and harbors to ensure their continued viability as working waterfronts and access to public trust waters. Dare County supports the operation of the Dare County Commission for Working Watermen and will seek grant funding, when opportunities occur, to acquire sites that currently serve as working waterfronts or sites that may be utilized as working waterfronts.

Implementation Strategy for PA Policy 6

1. Continue to facilitate the Dare County Commission for Working Watermen in membership, meeting facilities and other support activities as needed. *Priority: on-going*
2. Support dredging activities to ensure access to all harbors, inlets, and working waterfronts. *Priority: on-going*

Shoreline Management

With hundreds of miles of coastline along the Atlantic Ocean, protection and management of the shorelines is important. The public infrastructure and private property located behind the public trust portions of the shoreline are essential components of our local economy. Beach erosion from hurricanes, nor'easters, and other weather events can be severe and threaten or damage oceanfront properties and nearby infrastructure.

North Carolina regulations prohibit the construction of hardened structures along the ocean shoreline. The Coastal Resources Commission has acknowledged beach nourishment as the preferred method of shoreline protection. Since the 1990s, Dare County and its local municipalities have worked to develop and implement beach nourishment projects. When Dare County first began studying the issue in the 1990s, the Corps of Engineers was involved in beach nourishment projects and federal money was available for the design and construction of beach nourishment projects. In the early 2000s, federal participation and funding of beach nourishment projects was discontinued. With this loss of federal participation, local funding is necessary. In Dare County, a portion of the occupancy tax collections are earmarked for beach nourishment and shoreline protection projects. Revenue from the occupancy tax beach nourishment fund is used in conjunction with local service district revenues to construct beach nourishment projects. Since 2012, nourishment

projects have been successfully constructed in Nags Head, Duck, Southern Shores, Kitty Hawk and Kill Devil Hills using a combination of service district revenue and occupancy taxes. On Hatteras Island, the NC Department of Transportation completed a shoreline protection project at the northern end of Rodanthe in 2013 to protect endangered portions of NC 12. In 2017, a portion of the Buxton oceanfront was the focus of a shoreline protection project. A project for some portions of Avon village south of the pier is currently underway with construction slated for 2022.

Even though most of the oceanfront in Dare County has been nourished, other areas of erosion remain in Rodanthe in the vicinity of the pier.



Beach nourishment work in Buxton

[PA Policy 7](#)

Beach nourishment is the preferred shoreline management alternative along the ocean beaches of Dare County. In addition to beach nourishment, the use of terminal groins, offshore reefs, and other similar techniques as authorized by the State of North Carolina are compatible with the shoreline management goals of Dare County especially when used to support the longevity of beach nourishment projects.

[Implementation Strategies for PA Policy 7:](#)

1. Implement beach nourishment activities to address shoreline erosion along the ocean areas of Dare County. *Priority: high*
2. Support the use of terminal groins, offshore reefs, and other similar structures as authorized by the State of North Carolina. *Priority: on-going*

Wildlife Resources

Dare County is known for its fisheries resources, but also has a significant base of wildlife resources. On the Mainland, sportsmen enjoy a variety of species including deer, wildfowl, bear, and foxes. On Pea Island, numerous species of wildfowl are found and the area is popular with birding enthusiasts. Many of these areas are on federal preservation lands, such as the Pea Island Wildlife Refuge and the Alligator River Wildlife Refuge. Access to these federal lands has traditionally been granted by the federal government. Continued access to these areas for both pedestrians and vehicles is important to Dare County.

PA Policy 8

Dare County supports the maintenance of wildlife preservation areas and refuges. Access by the public, including vehicular access to beaches, for fishing, wildlife harvesting and observation should not be prohibited.

Implementation Strategy for PA Policy 8

1. Work with federal agencies to allow continued access to federal property in Dare County for hunting (including hunting with dogs), fishing, and other similar activities. *Priority: on-going*

MANAGEMENT TOPIC #2 – LAND USE COMPATIBILITY

CAMA Goal: Ensure that development and use of resources or preservation of land balances protection of natural resources and fragile areas with economic development, avoids risks to public health, safety, and welfare.

CAMA Planning Objectives: The Plan shall include policies that characterize future land use development patterns and establish mitigation criteria and concepts to minimize conflicts.

Dare County Land Use Compatibility Objectives

1. Use the existing patterns of village communities to guide the location of new development and redevelopment in a manner that relates to the vast amounts of publicly owned lands and historical landmarks.
2. Address the housing needs of our permanent residents, our visitors, and our seasonal workforce with a mix of residential structures. Residential development is the preferred pattern of development used to support the varied needs of both permanent and seasonal populations.
3. Cultivate the influence of our coastal village heritage on the architecture, manner of structures, and scale of development for both residential and nonresidential structures.
4. Recognize the varying and sometimes competing needs of our year-round residents and our seasonal visitors when evaluating land use policies and decisions on the development of the remaining privately-owned lands of unincorporated Dare County.
5. Encourage commercial development that is village-oriented to serve the needs of our neighborhoods and not intended to serve as regional attractions. Locally owned businesses and historical marine-related industries should be encouraged and maintained.

Coastal Heritage and Overall Development Practices

The preservation of the historical character of the unincorporated villages of Dare County is identified in the vision statement of the 2022 Land Use Plan. This goal is the cornerstone for many of the policies and implementation strategies found in the Land Use Compatibility management topic. This historical character is often referred to as “coastal village atmosphere”. While this term may be difficult to describe, it embodies a certain style of architectural influences from Dare County’s maritime and fishing heritage and an eclectic mix of land uses interspersed in a village setting. This coastal village atmosphere is important to our residents and is what makes Dare County a top tourist destination. The architecture reflects the need to mitigate the impacts of our coastal environment. Elevated structures and storm shutters were used decades ago to address flooding and high winds long before modern day building codes mandated such features. Our maritime and fishing history is evident also in the villages of unincorporated Dare County.

Another influence is the large number of locally owned businesses in unincorporated Dare County instead of corporate and franchise-owned businesses. The continued success of our locally owned businesses adds to our unique character and appeal to visitors and residents. Due to the isolated nature of our island geography, the development in our villages does not follow traditional land use patterns with separation of uses. However, this is not viewed as a disadvantage but embraced as part of our distinctive nature. The incompatibility of adjoining land uses found in unincorporated Dare County is regarded with some level of tolerance because of the uneven distribution of public-private land ownership, the historical patterns of development in proximity to the publicly owned lands, and the separation of land masses by water bodies.

LUC Policy 1

Dare County recognizes the importance of our coastal village heritage and will continue to foster this heritage through the use of appropriate land use policies, regulatory guidelines, and other County ordinances.

LUC Policy 2

Public sector and private sector development activities should acknowledge Dare County's coastal heritage by incorporating features reflective of this heritage in building designs, architectural features, and other site improvements.

LUC Policy 3

The limited amount of privately-owned lands in Dare County results in a mutual relationship between the unincorporated villages and the Dare County municipalities to address the residential, commercial and institutional needs of Dare County as a whole. Development in the municipalities supplements the consumer, service and institutional needs of the residents of unincorporated Dare County. When practicable, Dare County will coordinate infrastructure needs and construction with the municipalities.

LUC Policy 4

Dare County will continue to work with federal, state and non-profit agencies with land ownership or regulatory interests in Dare County to ensure the traditional uses and practices of our coastal villages are incorporated into the management plans and regulatory programs instituted by these agencies.

Implementation Strategies for LUC Policies 1-4:

1. Evaluate zoning amendments (both map and text amendments) in terms of how the proposal may impact on our historic coastal villages. Items for consideration should include compatibility of the proposal with existing land uses, the scope of the proposal, and the manner in which the proposal will be accomplished. *Priority: medium*
2. Monitor, and when appropriate, participate in the development of federal and state regulatory programs that may impact the historic use of land in Dare County, the historic

industries of the Outer Banks and the historic way of life of Dare County residents.

Priority: on-going

3. Consider commercial building design guidelines that incentivize private sector development to incorporate coastal village architectural styles into their building design, signage and other site improvements versus the use of franchise or corporate building designs.

Priority: medium

4. Continue to work with municipalities to address mutual service needs with cooperative construction of infrastructure. *Priority medium*
5. Develop a handbook of coastal village architectural styles. *Priority: medium*

LUC Policy #5

All development and redevelopment shall be constructed to mitigate the coastal hazards associated with Dare County's island topography through application of the NC Building Code, NC Division of Coastal Management regulations, and the Dare County Flood Damage Prevention Ordinance. Travel trailers, campers, boats, or other units designed for recreational purposes are not appropriate for use as permanent, year-round housing.

Implementation Strategy for LUC Policy 5:

1. Enforce applicable federal, state, and local regulations to mitigate wind and flood risks for new construction and redevelopment activities. *Priority: on-going*

Residential Development

Residential development is the preferred pattern of development in unincorporated Dare County. This preference dates back to the first land use plan for Dare County developed in the 1980s. The 2022 update continues this preference but has modified the policies on residential development to reflect the need for increased opportunities for year-round housing. Amendments to the Dare County Zoning Ordinance were adopted by the Board of Commissioners in 2018 and 2019 to encourage alternative housing options, such as accessory dwelling units and duplex structures. These amendments are first steps in addressing the long-term issue of housing and it is anticipated that other zoning amendments may be identified over the next couple of years as Dare County tries to address this issue. The decrease of minimum lot sizes to accommodate year-round housing was an issue discussed by the Planning Board. Potential amendments to minimum lot sizes were identified as acceptable if the scale of neighborhoods was not negatively impacted. Keeping the size and scale of residential development consistent with existing patterns of residential development was identified as a goal of the 2022 LUP. It was noted during these discussions that decreasing the minimum lot size because of the availability of central wastewater was not favored. The use of recreational vehicles, travel trailers, and other similar units as permanent dwellings is unacceptable due to concerns about their survivability in flooding and wind events. Recreational vehicles are not constructed to North Carolina State building codes and are not intended for permanent dwellings.

The goal of keeping the scale and size of residential development consistent with existing patterns is difficult with the seasonal nature of many of the residential structures constructed in unincorporated Dare County. Many houses are built solely for rental as vacation homes and will not be used for year-round occupancy. Vacation rental homes often feature multiple bedrooms and amenities not typically associated with residential structures used as permanent dwellings. Vacation homes serve as seasonal accommodations instead of hotels and other traditional overnight rentals. These large homes are generally located on the oceanfront and soundfront shorelines. Their occupancy can impact the surrounding neighborhoods, predominantly comprised of permanent residents. Noise, trash, and parking at vacation homes, particularly those used for events and weddings, create issues with the surrounding areas. In 2003, Dare County adopted regulations linking the size of the lot with the number of permitted bedrooms. Similar regulations were adopted by some of the towns in Dare County. The North Carolina General Assembly adopted legislation in 2015 prohibiting local governments' regulations on the number or type of rooms included in a residential dwelling. Dare County removed these regulations from the zoning ordinance in response to the State law. Dare County has chosen to rely on other regulatory tools such as lot coverage limitations, building heights, and parking regulations to address residential development instead of the adoption of gross floor limitations or occupancy limits as some other governments have done.

The short-term rentals by homeowners or "Airbnb rentals" are another issue impacting residential development in Dare County, especially the availability of housing for year-round residents and seasonal workers. Rooms and/or houses, which previously were available for permanent residents and seasonal workers, are now being offered as short-term vacation rentals. This creates keen competition for housing. These types of rentals can also create compatibility issues in residential neighborhoods. Many local governments in North Carolina have adopted regulations for short-term vacation rental of houses and/or rooms. Local regulations of short-term vacation rentals would be challenging due to the predominant number of vacation homes in Dare County.

[LUC Policy 6](#)

Residential development shall be the preferred land use in unincorporated Dare County for seasonal accommodations and year-round housing. All new residential structures, whether attached or detached, are encouraged at a scale that is consistent with existing neighborhood patterns of development.

LUC Policy 7

Diversification of housing opportunities to address the housing needs of Dare County's year-round population is supported. Multi-family dwellings and other types of residential structures, such as accessory use dwellings, are appropriate alternatives. Amendments of existing dimensional requirements to create flexibility for the development of year-round housing may be acceptable if such amendments are consistent with existing patterns of development and scale of neighborhoods.

Implementation Strategy for LUC Policies 6 and 7

1. Administer existing zoning regulations and zoning maps that feature a majority of residential zoning districts. Existing dimensional regulations for lot coverage limitations, building heights, and minimum lot size for residential uses are appropriate. *Priority: on-going*

Commercial Development

As noted in the previous section, residential development is preferred over commercial development in unincorporated Dare County. However, some commercial and institutional development is needed to provide goods and services to the local residents and visitors. Pockets of commercial development are found along major transportation routes in unincorporated Dare County. A majority of the commercial development in Dare County is located in the municipal areas of the northern beaches with the unincorporated areas serving as residential neighborhoods for many permanent residents. With the limited amount of land in Dare County, development in the municipal areas supplement development in the unincorporated areas and vice versa for the towns.

One objective for commercial development is to reflect the Outer Banks coastal heritage. The importance of the aesthetics of commercial development was noted during development of the LUP update as contributing to the quality of life for our residents and to our viability as a tourist destination. The scale of commercial development was noted also by the Planning Board.

Two zoning tools used to limit the scale of development and affect building design are gross floor limitations and drive-thru window prohibitions. Many of the zoning districts, especially those adopted in the last decade, include maximum gross floor size limitations and prohibitions on drive-thru window service at restaurants. The goal of these two regulatory tools is to encourage locally owned businesses rather than franchise and corporate entities. Building design standards for commercial development is another method of impacting aesthetics of commercial structures but previous efforts to adopt such standards did not garner approval by the Board of Commissioners and were not adopted. However, the concept of building design standards is included as an implementation strategy in the 2022 plan for future consideration during the next five-to-ten-year planning period.

The 2022 LUP continues to offer support of locally owned businesses. Locally owned businesses are typically more community-oriented and participate in community events and

projects. Many of the locally owned businesses were constructed before zoning maps were adopted for their areas and may not be in compliance with setbacks or parking regulations. Some of the newer zoning districts adopted since 2006 include non-conforming language that allows 100% rebuilding of existing structures. Zoning amendments to allow more flexibility in the non-conforming language of the older zoning districts are identified as an implementation strategy to support the existing neighborhood shops and businesses.

As discussed in the previous section on residential development, housing for year-round residents and seasonal workers is an issue that many local businesses and larger corporate companies are struggling to address. Some of the larger employers provide employee housing for their seasonal workers. In addition to land use regulations that may be adopted by Dare County to facilitate housing opportunities, the private sector will need to continue its efforts to assist with housing for their employees.

LUC Policy 8

Dare County supports the continued existence of locally owned businesses in unincorporated Dare County. Zoning regulations that allow the reconstruction and rebuilding of existing non-conforming businesses are the appropriate tool to support this goal.

LUC Policy 9

Commercial development should be designed to meet the needs of Dare County's unincorporated villages and not designed to serve as regional commercial centers. The prohibition of drive-thru window service at restaurants and gross floor area limitations are examples of appropriate tools for this goal.

LUC Policy 10

Commercial businesses, regardless of size, should individualize their sites and building designs to reflect Dare County's coastal heritage. Franchise and corporate businesses are strongly encouraged to adapt their building designs and management plans to reflect Dare County's coastal village heritage.

Implementation Strategies for LUC Policies 8-10

1. Consider zoning amendments for non-conforming commercial structures to facilitate their replacement or repair in the event of damage from a natural disaster. *Priority: medium*
2. Continue to enforce existing gross floor area regulations to manage the size of commercial development at a neighborhood level. *Priority: on-going*
3. Continue to enforce drive-thru service restrictions for restaurants and consider extending these restrictions to those commercial districts that currently do not include such restrictions. *Priority: on-going*
4. Consider commercial building design guidelines that incentivize private sector development to incorporate coastal village architectural styles into their building design, signage and other site improvements versus the use of franchise or corporate building designs. *Priority: medium*

LUC Policy 11

Impacts on the local workforce should be considered by private sector developers when large-scale commercial developments are proposed for unincorporated Dare County.

Transportation for workers and the provision of employee housing are two issues that should be discussed with developers during review of such projects by Dare County.

Re-development

As the available vacant land in unincorporated Dare County is developed, redevelopment of existing developed properties with newer structures will become more prevalent. One issue that affects redevelopment tremendously is the federal floodplain rules. Redevelopment of existing structures must be evaluated relative to their elevation and the current applicable federal flood rules. Remodeling or additions to older structures that may not be elevated to the appropriate base flood can trigger substantial improvement thresholds if costs exceed 50% of the value of the structure. If the 50% threshold is exceeded, then structures must be elevated for compliance with flood regulations. Many older homes built before Dare County participated in the National Flood Insurance Program are faced with this substantial improvement challenge. Property owners may choose not to complete desired remodeling or additions in order to avoid having to elevate their home or business, which is a costly activity. The 50% flood threshold (substantial damage standard) also impacts older structures that may be damaged by storm tides or flooding. When repairs to flooded structures are made, often the structure is mandated to be elevated to the regulatory flood level because of the repair costs. Many of the older homes in Dare County have been elevated after flooding because of a substantial damage declaration for flood damages has been issued by Dare County. The elevation of the structure mitigates future flood losses but also adds to the longevity of the structure once it is elevated.

Many homes built in the late 1970s or early 1980s that are used as vacation rentals do not feature amenities, such as swimming pools, as found at the newer vacation homes. In recent years, some of these older homes have been demolished and replaced with newer structures. This trend will likely continue. A secondary impact of this type of redevelopment is the scale of the new home is often incompatible with the adjoining properties.

LUC Policy 12

Redevelopment of older structures shall be accomplished in a manner that is compatible with current NC building codes, federal flood insurance regulations and Dare County zoning regulations.

Industrial Development

Dare County does not have any traditional “smokestack” or manufacturing industries similar to those found in other parts of North Carolina or the United States. Manufacturing is limited to boat building, which is a traditional industry in Dare County due to our proximity to the water

and our maritime history. Boat building facilities are typically located near water for access purposes and are considered a functionally dependent use under federal flood rules exempting them from elevation of their warehouse/boat building areas. Other industries in Dare County are real estate, construction and commercial fishing. Many commercial fishing operations also have a need to be located near the water for purposes of unloading catch and docking. Other non-traditional and non-maritime industries should be located in areas with similar land uses and their development should occur in an environmentally sensitive manner. There are some industrially zoned areas on the various zoning maps for Dare County, the main area being the Wanchese Marine Industrial Park in Wanchese and another area around the Dare County Airport on the north end of Roanoke Island.

Commercial fishing and boat building are consistent with our coastal heritage. Opportunities to increase educational and research facilities at the UNC Coastal Studies Institute are supported.



Example of small commercial fishing vessel

LUC Policy 13

The siting of industrial development should be evaluated relative to its impacts on environmentally sensitive natural areas and compatibility with existing patterns of development. Boat building, commercial fishing and construction are recognized as traditional industries and employment sectors in Dare County that are consistent with our coastal heritage.

Implementation Strategy for LUC Policy 13:

1. Rely on the standards of the Dare County Zoning Ordinance for the siting and development of industrial development of both maritime-related uses and non-maritime related uses.

Priority: on-going

LUC Policy 14

Diversification of Dare County's economy to include compatible industries, such as medical support services and educational and research facilities, are encouraged. These types of facilities provide employment opportunities and quality of life support for our residents without detriment to our natural resources.

Manmade Hazard Areas

Manmade hazards in Dare County include the Dare County Regional Airport on Roanoke Island; the two airstrips located on federal land, the First Flight airstrip in Kill Devil Hills and Billy Mitchell Airstrip in Frisco; and the US Navy and Air Force bombing ranges on the Dare County Mainland. The departing and landing at the regional airport and the airstrips is a hazard and the military activities on the bombing range are hazards for the adjacent and surrounding properties. Buffer zones adjacent to these types of manmade hazards are the typical response. The bombing range is located on acres of federal land with no residential or commercial structures adjacent to the bombing range. This provides protection from the activities occurring at the range. In the past several years, there have been a couple of small airplane crashes on Roanoke Island where planes have crashed in residential areas during takeoff or landing at the Dare County Airport. The Dare County Airport Authority has purchased several properties near the runways in an effort to create buffer zones. There are also airport zoning regulations for the Dare County Regional Airport that are reviewed when properties near the airport are proposed for development. These regulations establish building height limits relative to the runways. Similar overlay zones have been discussed for Billy Mitchell Airstrip and First Flight Airstrip but nothing has been adopted to date.

LUC Policy 15

Due to potential land use conflicts and hazardous conditions associated with airports and landing strips, development of properties adjacent to such uses should be done in awareness of these potential conflicts and conditions. Private sector development proposals on lands adjacent to airports and landing strips should be evaluated based on their impacts on existing flight patterns and runway zones. Proposals to expand existing services or infrastructure improvements at the Dare County Regional Airport or other airport facilities in Dare County shall be reviewed on a case-by-case basis. Support or opposition may be offered depending on the terms of the proposal, its potential impacts on the community, and its potential economic and transportation benefits.

Implementation Strategies for LUC Policy 15

1. Enforce the Airport Overlay zoning regulations to address land uses, especially building height issues, on land adjacent to and surrounding the Dare County Regional Airport on Roanoke Island. *Priority: on-going*
2. Adopt additional airport overlay regulations, as needed, to address land uses on land adjacent to and surrounding the Billy Mitchell Airstrip in Frisco, NC. *Priority: low*

LUC Policy 16

Proposals to expand the area of the existing bombing ranges on the Dare County Mainland should be reviewed on a case-by-case basis with support or opposition offered depending on the terms of the proposal and its potential impacts on the local community.



Runway at Dare County Regional Airport in Manteo

Land Disturbance

Dare County does not have any tree clearing or vegetation removal regulations except for the SED-1 zoned areas in Frisco and Buxton. The SED-1 zone restricts tree removal to protect the vegetative canopy of the maritime woods.

There are dune disturbance regulations in the zoning ordinance that apply throughout unincorporated Dare County. These regulations are designed to address activities on inland dunes to avoid severe undercutting of elevated properties and remnant slopes.

During the Planning Board work on the 2022 LUP, the use of fill material was discussed. The use of fill material to accommodate the installation of wastewater systems is needed almost 100% of the time. Sometimes, fill amounts of 30 inches are required. This results in many

complaints to Dare County about disrupted drainage. The sloping of fill material is addressed in the Martin's Point zoning regulations and in the Wanchese zoning regulations but the use of fill is not precluded in other areas of unincorporated Dare County. Dare County encourages property owners to be aware of the impacts of the use of fill and drainage patterns.

LUC Policy 17

For those sand mining activities not subject to regulation by the State of North Carolina, Dare County shall rely on the dune alteration regulations of the Dare County Zoning Ordinance to ensure all dune alteration activities are minimal and meet the sloping standards to ensure safety and erosion control. Proposals for other mineral extraction operations shall be reviewed on a case-by-case basis with support or opposition offered depending on the impacts for Dare County.

Implementation Strategy for Policy 17:

1. Administer Section 22-58.1 Dune Alteration Standards and other applicable sections of the Dare County Zoning Ordinance. *Priority: on-going*

LUC Policy 18

Tree clearing and land disturbing activities on residential lots or other private property should be done prescriptively or according to the guidelines of NC Cooperative Extension office or other state agencies.

Implementation Strategy for Policy 18:

1. Promote best management practices by referrals to State agencies and work with Outer Banks Homebuilders Association to promote best management practices with local general contractors. *Priority: on-going*

Archaeological/Historic Resources

There are many properties in Dare County which are important cultural, historical, or archaeological resources as discussed in Section 1 of this plan. Many of these structures are listed on the National Register of Historic Places and are publicly owned.

LUC Policy #19

The Dare County Board of Commissioners supports the protection of structures, lands and artifacts that have been identified by the NC Department of Cultural Resources, Division of Archives and History, as archaeologically or historically significant. On a case-by-case basis, individual protection/management strategies should be implemented to ensure archaeological and/or historical resources are not destroyed. Whenever possible, artifacts from historical sites on land or water, which are placed on public display should be done so in Dare County.

Public Acquisitions

There is a vast amount of land in Dare County that is held in public ownership by federal, state, or non-profit organizations. This publicly held land adds to the attraction of the area. Much of the public land is in its natural state and provides many opportunities for recreation. Publicly held land is exempt from the collection of ad valorem property taxes. Some of the federal agencies pay in-lieu of taxes to Dare County but the land is not available for taxation. The land is also not available for development and cannot be used to address the residential and commercial needs of the community.

LUC Policy #20

The vast amount of Dare County land currently owned by public agencies and/or non-profit agencies should be recognized by agencies wishing to acquire additional parcels for public and/or non-profit ownership. Additional acquisitions should be evaluated in terms of public purpose benefits and impacts on tax revenues for Dare County.

Maritime Forests

The Buxton Woods maritime forest is located in Buxton and Frisco. The area spans land in these two villages and is subject to zoning regulations designed to protect the vegetative canopy of the maritime forest and the shallow water aquifer that lies beneath the forest. These zoning regulations were adopted by Dare County in 1988. In addition to the special zoning adopted by Dare County, the Cape Hatteras wellfield area of environmental concern applies to the wellfield area and is another layer of protection offered to the aquifer. Over the past two decades, the State of North Carolina has purchased many acres of private property in Buxton Woods to create the Buxton Woods coastal reserve. The reserve comprises approximately one thousand acres of land. The combination of the SED-1 zoning and the State ownership has successfully protected the natural resources of Buxton Woods by limiting development through the use of strict land use controls and public ownership.

LUC Policy 21

Dare County advocates a combination of managed development guided by the Dare County SED-1 zoning ordinance and the Limited Conservation classification on the future land use map for the Buxton Woods maritime forest. A continued program of acquisition of privately-owned lands by the State for the Buxton Woods Coastal Reserve is also supported.

Implementation Strategy for Policy 21

1. Administer the SED-1 zoning ordinance. *Priority: on-going*

Commercial Forestry and Agricultural Uses

A small percentage of land on the Mainland of Dare County is used for commercial forestry or agricultural purposes. There are no large-scale forestry operations or large-scale farms. Some of the land on the Mainland previously used for agricultural purposes was purchased to establish the Alligator River Wildlife Refuge.

LUC Policy 22

For those commercial forestry activities that may occur in Dare County, such forestry activities shall be done in accordance with the standards and recommendations of the US Forest Service. Voluntary participation in the State of North Carolina's best management practices for forestry management is advocated.

LUC Policy 23

For those crop agricultural activities that may occur on the Mainland area of Dare County, Dare County advocates voluntary participation in the State of North Carolina's best management practices for farm management.

LUC Policy 24

Wholesale or industrial livestock operations in unincorporated Dare County are opposed.

MANAGEMENT TOPIC #3 -- INFRASTRUCTURE CARRYING CAPACITY

CAMA Goal: Ensure that public infrastructure systems are appropriately sized, located and managed so the quality and productivity of the AECs and other fragile areas are protected or restored.

CAMA Planning Objective: The plan shall include policies that establish service criteria and ensure improvements minimize impacts to AECs and other fragile areas.

Dare County Infrastructure Carrying Capacity Objectives

1. Continue to develop multi-modal means of transportation to connect our villages by expanding pedestrian and bicycle infrastructure improvements.
2. Balance the infrastructure needs of the permanent population with the demands of the seasonal population.
3. Continue to work with state and federal agencies to provide safe and reliable transportation improvements in Dare County and northeastern North Carolina.
4. Emphasize the importance of the County's waterways and the vital role they play in our local economy by lobbying state and federal agencies for maintenance funding.

Wastewater

On-site individual wastewater systems are the primary method of wastewater treatment in unincorporated Dare County. Traditionally, septic tank/drainfield systems have been the predominant type of individual wastewater systems used for residential development and smaller commercial uses. In the past decade, engineered wastewater systems have been developed and approved for use by the State of North Carolina. These engineered systems typically require less spatial area on a parcel and do not require a dedicated reserve wastewater area. It is anticipated that the use of engineered systems will increase.

There are some residential and commercial developments on Roanoke Island that are connected to the Town of Manteo's wastewater treatment plant. A couple of other developments, such as Baycliff in Colington and the Kinnakeet Shore Soundside Subdivision, are served by privately-owned central wastewater treatment plants. The village of Stumpy Point is served by a centralized wastewater system that was constructed in 2008 to address water quality issues in the village. This plant is designed to serve Stumpy Point and does not have excess capacity beyond the needs of the village. Dare County operates the Stumpy Point wastewater system.

The maintenance and upkeep of privately-owned wastewater systems is important. The Dare County zoning ordinance grants Dare County the approval to require escrow accounts for maintenance funds and Dare County has utilized this option on a couple of occasions for larger developments. Supervision of privately-owned wastewater systems by the NC Utilities Commission is viewed as the best option instead of escrow accounts.

Previous land use plans included policies that did not support the use of off-site wastewater treatment and collection systems. There were concerns about maintenance of such facilities and the belief that the availability of off-site wastewater would lead to increased development pressure. The 2009 LUP policies on wastewater reflected a change of past policies in recognition of the fact that such systems may offer greater protection of water quality. The Planning Board agreed centralized wastewater and/engineered systems may be better in terms of water quality protection. However, the hesitation to decrease lot sizes due to the use a centralized wastewater system or an engineered system was acknowledged by the Planning Board and the 2022 policies reflect this position. With the high costs of land in Dare County, the construction of a County-owned wastewater system is unlikely. Land application of effluent is the preferred method of disposal by the State of North Carolina versus point source discharge in water bodies. Finding the necessary acreage for a County-owned system would be extremely costly. The suitability of soils would also be an important factor in finding land for disposal of effluent.

The use of fill material in conjunction with wastewater systems was discussed during the LUP update process. Currently, most every lot proposed for development requires a certain amount of fill material to accommodate a wastewater system. The placement of large amounts of fill on older, smaller subdivision lots creates concern from adjoining property owners.

[ICC Policy 1](#)

The current minimum lot size standards as established in the Dare County Zoning Ordinance shall not be reduced regardless of the method of wastewater treatment. Amendments of minimum lot size for the development of year-round housing may be acceptable if such amendments are consistent with existing patterns of development and scale of neighborhoods.

[Implementation Strategy for ICC Policy 1:](#)

1. Use of minimum lot size standards of the Dare County Zoning Ordinance for the development of new subdivisions in unincorporated Dare County. *Priority: on-going*

[ICC Policy 2](#)

Maintenance of privately-owned package treatment plants should be supervised by the NC Utilities Commission or other public agencies.

[ICC Policy 3](#)

Centralized wastewater treatment and collection systems, for both on-site and off-site service, are considered appropriate methods for wastewater treatment in addition to the use of individualized on-site wastewater systems and traditional septic tank/drainfield systems.

[Implementation Strategy for ICC Policy 3:](#)

1. Require the establishment of escrow accounts for maintenance and repair of any new privately-owned centralized wastewater facilities approved for development in unincorporated Dare County. *Priority: on-going*

ICC Policy 4

Dare County recognizes that the approval of wastewater systems in unincorporated Dare County is regulated by the State of North Carolina and that all systems approved by the State may be authorized for use in Dare County.

Water

The Mainland villages of Mashoes, Manns Harbor, and East Lake are the only villages in unincorporated Dare County that do not have community-wide central water systems. All other villages are served by central water provided by Dare County. The provision of central water and the construction of central water systems have been completed to provide a clean, safe drinking water supply for residents and visitors rather than for economic development as is the case in other areas of North Carolina.

ICC Policy 5

Public services shall be provided to meet the needs of our permanent and seasonal population and to provide residual capacity for unanticipated contingencies.

Implementation Strategy for ICC Policy 5:

1. Copies of proposed site plans and subdivisions shall be sent to appropriate Dare County agencies and State agencies for review and comment. *Priority: on-going*

Transportation

The linear geography of Dare County limits the transportation alternatives available to residents and visitors. The huge influx of seasonal visitors puts a great demand on the existing highway infrastructure. Bridges are a large component of the highway infrastructure in Dare County and are complemented by ferry service. The concern for dependable access to NC 12 on Hatteras Island was expressed by many respondents to the land use plan questionnaire. Ocean overwash and storm tides often impact sections of NC 12 on Hatteras Island, making the road impassable to vehicles.

The vulnerability of Hatteras Island highway improvements and bridge construction was a central theme of the 2009 Land Use Plan. The replacement bridge over Oregon Inlet opened in February 2019. The construction of this bridge represents a decade-long struggle to replace this essential part of the NC 12 corridor. Construction of a longer 2.4-mile bridge in Pea Island began in late 2018. This second bridge will bypass several sections of NC 12 on Pea Island that are extremely susceptible to ocean overwash. The long-term sustainability of NC 12 on Hatteras Island is essential for hurricane evacuation, everyday transportation needs of the Dare County residents, and vacation access for visitors.

The replacement of the aging Lindsey Warren Bridge (the Alligator River Bridge) is of vital concern to Dare County. This outdated span over the Alligator River features a drawbridge that often malfunctions while allowing boat traffic to pass through the drawbridge. Major repairs to the bridge were undertaken in 2018 to add longevity to the bridge. A new four-lane bridge has been proposed by NCDOT but this project has not scored well in the NC transportation improvement plan and has not been funded for construction. Alternatively, NCDOT is considering a replacement two-lane bridge for the older bridge which can be funded under different criteria. Regardless, the old bridge is obsolete and needs replacing. This project is the priority transportation project for Dare County.



Construction photo of new bridge spanning Oregon Inlet with old bridge alongside the new span.

Other highway improvements pending over the next five to ten years include safety and bicycle improvements to Colington Road. This project was scheduled to begin in 2020 but has been delayed by NCDOT.

Ferry service is another component of Dare County's transportation system, with the Hatteras-Ocracoke ferry serving as one of two ferry routes that service Ocracoke Island. A passenger only ferry from Hatteras to Ocracoke began service in the spring of 2019 and was well-received during its inaugural season. The passenger ferry provides an alternative to the vehicle ferry for those folks making day trips to Ocracoke Island from Dare County. The use of the passenger ferry is only during May to September currently.

There are many privately-owned streets and roads in Dare County. The maintenance of these roads is the responsibility of the adjoining landowners but maintenance often does not occur because of high costs of repairs and lack of organized homeowners associations to oversee such activities.

Bicycle and pedestrian sidewalks are popular infrastructure improvements throughout Dare County. Such improvements are widely used by residents and visitors. Multi-use paths along NC 12 in the villages of Rodanthe, Waves, Salvo, Avon and along the Buxton Back Road in Buxton have been constructed since the 2009 Land Use Plan update. A special tax district was approved for Hatteras village pathway improvements and construction is anticipated in 2022. Pathway alignment through the villages of Buxton and Frisco was studied by NCDOT and Dare County in 2019 with a feasibility study endorsed by the Board of Commissioners. More detailed study of the Buxton Frisco sections is needed before construction of these segments is possible.



The waterways of Dare County serve as transportation corridors for many residents, who earn their living by commercial or recreational fishing. The 2012 NCDOT Comprehensive Transportation Plan for Dare County recognized the important role of our waterways in the County's transportation system. They serve an essential role in Dare County's transportation network similar to railways in other portions of North Carolina.

[ICC Policy 6](#)

Dare County encourages intergovernmental cooperation with the municipalities and its surrounding counties to study and identify the transportation needs of Dare County and our region.

[Implementation Strategy for ICC Policy 6:](#)

1. Participate in the Albemarle Commission's Rural Planning Organization and the RPO's annual identification and scoring of transportation infrastructure projects in the North Carolina State Transportation Improvement Plans. *Priority: on-going*

[ICC Policy 7](#)

Dare County supports the development and construction of sidewalks, bike paths, greenways, and other walking/jogging trails as alternative transportation routes and to provide a safe setting for outdoor recreation.

Implementation strategy for ICC Policy 7

1. Submit grant funding requests, when appropriate, for the construction of bike and pedestrian infrastructure improvements. The use of special tax districts is also an appropriate method of funding for multi-modal improvements, if approved by the community. *Priority: on-going*

ICC Policy 8

Dare County encourages the recordation of roads and streets as “publicly-dedicated” improvements. Dare County shall not be responsible for maintaining or repairing privately owned streets. The proposed layout of new subdivision streets shall be coordinated with the existing road system of the surrounding area and, where practical, existing principal streets shall be extended.

Implementation Strategy for ICC Policy 8:

1. Administer the Street standards of Subdivision Ordinance for new subdivisions approved in unincorporated Dare County. *Priority: on-going*

ICC Policy 9

Dare County supports the NC Department of Transportation’s ferry system including the use of passenger ferries to supplement the use of vehicular ferries. The ferry system is an integral part of the North Carolina transportation infrastructure program. Support services to the passenger ferry, such as tram vehicles and pathways, are important to the success of the passenger ferry system.

ICC Policy 10

Dare County recognizes the importance of the numerous waterways located in our area. The use of these waterways is an essential element of the commercial fishing industry and our tourist economy. These waterways serve as transportation corridors for many residents of Dare County who make their living as commercial fishermen or in the sport-fishing industry. Dare County shall advocate for the recognition of these waterways as transportation corridors by the NC Department of Transportation for funding of improvements and maintenance activities.

Implementation Strategies for Policy ICC 10

1. Support the Dare County Waterways Commission and the Oregon Inlet Task Force as needed to advocate for the protection, longevity, and maintenance of Dare County’s waterways. *Priority: on-going*
2. Work with federal and state agencies to identify sites for the disposal of dredge spoil materials. *Priority: on-going*

Solid Waste

Dare County participates in a solid waste authority with several other governments in North Carolina. The Dare County Sanitation department provides residential and commercial solid waste collection for all areas of Dare County and the Town of Kitty Hawk. Solid waste is collected and transported to a transfer station in Manns Harbor before it is taken to Bertie County for final disposition.

Dare County also operates a voluntary recycling program with drop off centers located throughout unincorporated Dare County. The County recycling efforts are supplemented with private sector recycling vendors.

An annual large item collection is offered by Dare County for the residents of unincorporated Dare County. This collection helps residents dispose of furniture and other white goods not picked up during regular collections. Special collections for pesticides and other hazardous household materials are offered periodically.

ICC Policy 11

Dare County will continue to participate in a regional solid waste authority. Other alternatives that are identified as more practicable or economical may be considered on a case-by-case basis. Use of Dare County sites and private sector vendors for recycling are encouraged. Annual programs for disposal of hazardous materials by Dare County are supported.

Implementation Strategy for ICC Policy 11:

1. Continue to operate Dare County recycling centers and conduct annual hazardous waste and large item pick-up collections. *Priority: on-going*

Energy Facilities

Over the past three decades, offshore drilling of gas and oil has been the subject of intense national debate. Several large corporations have proposed to drill for gas and oil off the coast of North Carolina. Public sentiment in Dare County has always strongly opposed the prospect of drilling off our coast and the location of related support facilities in Dare County. Since 1994, Dare County land use plans have included policies opposed to the development of offshore drilling and the location of support facilities within our jurisdiction. This policy has been included in the 2022 LUP and strengthened with opening sentences restating the County's opposition to these activities. A second policy has been included in the 2022 LUP indicating support for alternative energy sources, such as wind and solar, will be on a case by case basis.

ICC Policy 12

Dare County is opposed to the offshore exploration and drilling of natural gas and oil. This includes any exploratory drilling, seismic testing or other testing activities. Dare County is opposed to the development of any petro-chemical energy facility or related improvements

within its jurisdictional lands and/or waters. This includes all structures, operations, and activities associated with petro-chemical energy facility development, such as but not limited to, on-shore support bases for offshore exploration activities, staging areas, transmission and/or production pipelines, pipeline storage yards, and other similar structural activities and improvements related to petro-chemical energy facility development, exploration, or production.

ICC Policy 13

Proposals for research and development of alternative energy sources, such as wind and solar powered devices, shall be reviewed on a case-by-case basis.

Implementation Strategy for ICC Policy 13

1. Amend the Dare County Zoning Ordinance or other land use codes as may be necessary in response to alternative energy sources. *Priority: on-going*

Education

The Coastal Studies Institute was constructed by the State of North Carolina in 2012 and is a multi-institutional research facility operated by the UNC system. The campus comprises 213 acres on Roanoke Island. CSI hopes to expand their undergraduate and graduate programs over the next decade.

The College of the Albemarle, Dare County campus is slated to expand its facilities over the next five years with construction of new facilities on Roanoke Island that will offer expanded technical and continuing educational opportunities for Dare County residents and others in the Albemarle region. Construction of the new facilities began in October 2020.

The Dare County Board of Commissioners is committed to helping these educational agencies expand their facilities. Board members serve on advisory committees for CSI and the College of the Albemarle. In 2019, the Board also funded and implemented a scholarship program for all Dare County students enrolled at the College of Albemarle.

ICC Policy 14

Dare County will partner with North Carolina colleges and universities to expand secondary and technical educational opportunities. Programs that support local industries, such as real estate, hospitality, construction and commercial fishing, are encouraged to support our workforce. College preparedness classes and continuing education should be offered at local campuses of College of the Albemarle and ECU Coastal Studies Institute.

MANAGEMENT TOPIC # 4 – NATURAL HAZARD AREAS

CAMA Goal: Conserve and maintain barrier dunes, beaches, floodplains and other coastal features for their natural storm protection functions and their natural resources giving recognition to public health, safety, and welfare issues.

CAMA Objective: The Plan shall include policies that establish mitigation and adaption concepts and criteria for development and redevelopment, including public facilities, and that minimize threats to life, property, and natural resources resulting from erosion, high winds, storm surge, flooding, or other natural hazards. 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.

Natural Hazards Objectives

1. Encourage development to fit the natural conditions and landscape.
2. Mitigate the impacts of natural hazards through the adoption and administration of floodplain management ordinances; participate in the National Flood Insurance Program and the Coastal Area Management Act program; and implement emergency management policies and operations.
3. Encourage the resilience of our community and economy through the use of appropriate and practical natural hazards mitigation programs and techniques.

Ocean Shoreline

The immediate oceanfront area on any barrier island requires special management guidelines to address issues associated with shoreline migration, flood hazards, protection of natural resources and access to public trust areas. Management alternatives include setback standards to address erosion, elevations of structures to allow for ocean overwash and regulations to protect the dune systems and public trust areas along the shorelines. Dare County participates in the State's coastal management program established by the NC Coastal Area Management Act. The CAMA regulations establish specific types of ocean hazard areas of environmental concern that are discussed in detail in Section One. Development within these ocean hazard areas should be accomplished according to applicable local, state or federal regulations to minimize the hazards to structures located in these designated AECs. Dare County assists with the administration of the CAMA program in the provision of a local permit officer and associated administrative support. The local permit officer reviews and issues minor CAMA permits and exemption letters for unincorporated Dare County. Dare County is reimbursed by the State for this work.

Local zoning regulations vary from village to village with most oceanfront areas designated for residential development. Market forces have determined the highest and best use for oceanfront property to be residential development which is consistent with objectives and policies of the 2022 LUP update. The Dare County Zoning Ordinance establishes minimum

lot sizes, lot coverage limitations, building heights, and other dimensional standards for oceanfront property.

NH Policy 1

Oceanfront shoreline development should continue to be managed to protect and preserve the natural and recreational resources along the oceanfront. The appropriate tools are the existing CAMA permit program and the Areas of Environmental Concern (AECs) designated under the CAMA program. Dare County reserves the right to review, comment, advocate, or oppose any proposed regulations or programs that may affect the regulation of ocean hazard areas of environmental concern.

Implementation Strategies for NH Policy 1:

1. Rely on existing CAMA AEC regulations to address development activities along the ocean beaches, estuarine shoreline, and other public trust areas in unincorporated Dare County. Dare County will continue to participate in the CAMA permitting process with the provision of a local permit officer for unincorporated Dare County. *Priority: on-going*
2. Rely on existing regulations of the Dare County Zoning Ordinance for development activities along the oceanfront. *Priority: on-going*

Estuarine Systems

Estuarine waters can be defined as semi-enclosed coastal water bodies having free connection to the open sea and within which seawater is measurably diluted with fresh water drained from the adjacent land. In Dare County, estuarine waters include the Albemarle Sound, Croatan Sound, Currituck Sound, Pamlico Sound and the Roanoke Sound. The estuarine shorelines are those non-ocean shorelines that run along the estuary area. Although the shorelines are comprised of dry land, the shorelines are managed as components of the overall estuarine system because of their integral functions. In North Carolina, the State has established a 75-foot-wide area of environmental concern in recognition of the importance of protecting the estuarine systems. The estuarine AEC extends 75 feet landward from the normal mean high water or normal water level. Development in this 75-foot AEC must comply with applicable CAMA regulations for the protection of water quality and other fragile resources, such as fisheries and wetlands, that are found within the estuarine system. The Dare County local permit officer assists with the administration and permitting of development activities within the estuarine AEC. Internal to the 75-foot AEC is the overlay of a 30-foot-wide buffer along shorelines. Only water-dependent uses, as defined in the CAMA standards, can be located within the 30-foot buffer area. Fences, landscaping, and open decking can be located in the buffer area also. In addition to the CAMA regulations, local zoning regulations address development activities along the estuarine shoreline. The Zoning Ordinance establishes dimensional standards for building height, lot coverage, and dwelling densities.

There are numerous natural and manmade islands located in the estuarine waters that surround Dare County. These islands are only accessible by boat and traditionally have been used for residential structures, private fish camps and other recreational activities. Over the years, some of these islands have been zoned in conjunction with zoning maps established for Wanchese and other village maps. The applicable zoning designations reflect the traditional uses of these islands for single family residential development and passive recreational uses.

The policies of the 2009 LUP update have been re-used for the 2022 update with NH Policy #3 revised to include language about the use of living shorelines as an appropriate option for the protection of estuarine shorelines. Living shorelines have proven to be effective alternatives to the use of traditional estuarine bulkheads. A review of living shorelines after storm events finds the improvements withstand such events better than traditional bulkheads and are less costly to repair.

[NH Policy 2](#)

Estuarine shoreline development should continue to be managed to protect and preserve the natural resources of the estuarine waters and the estuarine shoreline. The appropriate tools include the existing CAMA permit program and the Areas of Environmental Concern (AECs) designated under the CAMA program. Dare County reserves the right to review, comment, advocate or oppose any proposed regulations or programs that may affect the regulation of estuarine waters and/or the estuarine shoreline.

[Implementation Strategies for NH Policy 2:](#)

1. Rely on existing CAMA AEC regulations to address development activities along the ocean beaches, estuarine shoreline, and other public trust areas in unincorporated Dare County. Dare County will continue to participate in the CAMA permitting process with the provision of a local permit officer for unincorporated Dare County. *Priority: on-going*
2. Rely on the regulations of the Dare County Zoning Ordinance for development activities along estuarine shoreline areas. *Priority: on-going*

[NH Policy 3](#)

Dare County supports the installation and maintenance of estuarine bulkheads. Offshore breakwaters, slopes, riprap, and voluntary setbacks are appropriate alternatives for estuarine shoreline management in lieu of estuarine bulkheads where these other techniques may be equally effective in abating a shoreline erosion problem. The use of living shorelines to re-establish estuarine shorelines that have eroded are supported.

[Implementation Strategies for NH Policy 3:](#)

1. Rely on existing CAMA AEC regulations to address development activities along the estuarine shoreline and other public trust areas in unincorporated Dare County. Dare County will continue to participate in the CAMA permitting process with the provision of a local permit officer for unincorporated Dare County. *Priority: on-going*

2. Rely on the regulations of the Dare County Zoning Ordinance for development activities along estuarine shoreline areas. *Priority: on-going*

NH Policy 4

Development of estuarine system islands that are only accessible by boat shall be carefully managed. Low intensity uses such as open space, recreation, and detached single family residential structures shall be the preferred uses of these islands.

Hazards and Mitigation

To the east, our barrier islands are bordered by the Atlantic Ocean and subject to ocean overwash from storm tides, hurricanes and other weather events. To the west, the area is surrounded by numerous sounds and tributaries, which also flood during storms and severe weather conditions. Storm surge associated with hurricanes and tropical storms is one flood hazard in Dare County. Storm surge is the increased water levels from hurricanes and tropical storms that results in flooding along the shorelines. The exact area impacted by storm surge depends on each particular storm and its intensity, its forward speed and the angle of approach to the Dare County shoreline. The National Hurricane Center produces storm surge models for use during tropical storm and hurricanes. Storm surge can be a greater threat than winds from tropical systems. Weather forecasters and emergency management personnel now include storm surge predications in their forecasts and emergency protocols. Computer forecast models are used to assist with storm surge predications.

The topographic conditions of Dare County and lack of natural ground elevation also contribute to the flood hazards in Dare County. FEMA produces flood maps (Flood Insurance Rate Maps or FIRMs) depicting the various flood zones that apply in Dare County. The FIRMs establish flood zones for properties and structures constructed in the flood zones must comply with specific elevation and other regulatory standards to mitigate flood risks. The AE flood zone applies to the majority of property in unincorporated Dare County. Properties in this flood zone have a 1% annual chance of flooding. VE zones, generally found along the oceanfront and estuarine shorelines, are areas predicted to experience flooding as well as wave action. Due to the increased risk associated with the VE zone, structures in the VE zone must be constructed with engineered foundations and feature breakaway walls in enclosed areas located below base flood. Some properties in Dare County are located in Shaded X and X zones, which are areas according to the FIRMs that are not likely to flood.

However, flood maps do not depict all flooding sources. Heavy rainfall events, such as Hurricane Matthew which dropped over 15 inches of rain in Dare County, resulted in severe flooding in X zone areas. Drainage improvements in unincorporated Dare County consist of drainage ditches on private property and in street rights-of-way. Maintenance of these improvements is lacking and such ditches have become filled with sediment over the years. The lack of properly maintained drainage ditches is a flooding source in unincorporated Dare County when heavy rains occur in a short period of time or over an extended number of days.

Educating property owners about flood risks and the fact that flood maps do not represent all sources of flooding is the subject of numerous outreach activities undertaken by Dare County annually.

Drainage ditch along State-maintained road.



New flood maps for Dare County were developed by the State of North Carolina in conjunction with FEMA. These maps became effective on June 19, 2020. Hundreds of properties were removed from the AE and VE flood zones. Many properties were classified as Shaded X or X zone properties on the revised maps. The Shaded X and X zones are considered low risk zones. Dare County and its municipal partners are concerned the revised FIRMs do not accurately reflect flood risks in Dare County. Many of the properties reclassified as Shaded X and X zones are areas that have experienced flooding, in some cases, repetitive flooding. Other properties that remain in the AE zone have a lower base flood elevation than the 2006 maps i.e AE 8 properties are reclassified as AE 4. In response to the concerns, Dare County adopted local elevation standards to use in conjunction with the revised flood maps. The local elevation standard applies to those properties reclassified to Shaded X or X zone and requires a base elevation for structures in these zones. IN the AE flood zones, an increased freeboard requirement was adopted. The local elevation standard offers protection from flood hazards and addresses concerns about the creation of non-conforming structures in the future when flood maps are updated again in the next decade.

Additionally, there is a concern that property owners in the Shaded X zone and X zone will assume there is no longer a flood risk associated with their property and choose to discontinue flood insurance coverage. In response to this concern, Dare County and the local towns have made advocacy of flood insurance a key element of our outreach activities.

There are other natural hazards that have the potential to impact Dare County. These hazards include wildfires, severe thunderstorms, tornadoes, and rip tides to name a few. The Dare

County Hazard Mitigation Plan discusses all of the hazards, natural and manmade, that may impact Dare County. Hazard mitigation plans must be adopted by local governments in order to receive federal disaster assistance following natural disasters. These plans must be updated every five years, adopted by the local government, and certified by FEMA. A joint hazard mitigation plan with Currituck County and Dare County was adopted in 2020.

Dare County employs a full-time Emergency Management Director, who oversees emergency management activities during hurricanes, coastal storms and other hazardous events. During storm events, the Emergency Manager works with the government and elected officials from Dare County in making decisions on evacuations of residents and visitors, enacting states of emergency declarations if needed, and implementing re-entry of residents and visitors once conditions improve. This group is comprised of the Chairman of the Dare County Board of Commissioners, the Dare County Sheriff, the Mayors of each town, and the National Park Service Superintendent. The Dare County Support Group is also involved in emergency situations. This group includes key county personnel and representatives from utility companies, relief organizations, law enforcement, and NCDOT. Procedures and operating policies for these groups are established in the Dare County Emergency Operations Plan.

Changing climates and natural conditions represent potential impacts to Dare County. There are several terms used to describe these conditions such as global warming, sea level rise, and climate change. Regardless of the terminology applied, weather conditions affecting North Carolina and other parts of the United States in the last decade have resulted in the need for short-term recovery responses for specific events and the need to identify new management tools for long-term resiliency. Dare County and other coastal communities have decades of experience in dealing with storm events and addressing the impacts through preparation and mitigation of the risks. Short-term responses occur immediately after an event and in the months of recovery that follow. These efforts are typically directed by local governments assisted by State and federal agencies. Pre-planning and pre-location of supplies are activities that assist with recovery. Long-term responses to mitigate future risks and changing conditions often require years to study and identify appropriate methods that can be funded and implemented. Elevation of structures that have previously flooded is one example of a long-term mitigation activity. There are several FEMA programs that provide assistance to local governments to demolish, acquire, relocate, or elevate structures to mitigate future flood losses. Since 1999, Dare County has secured FEMA mitigation grants to elevate 71 homes in Dare County. Additionally, 143 homes in unincorporated Dare County have been elevated by their owners to mitigate flood hazards since 2011. Private funds were used by these property owners to elevate their homes. In some instances, ICC (increased cost of compliance) funds were used to offset the elevation costs. ICC funds are part of each flood insurance policy and may provide up to \$30,000 in funding to demolish, elevate, or relocate flooded structures that are determined to be substantially damaged (more than 50% of the value of the structure).

NH Policy 5

Dare County shall participate in National Flood Insurance Program and the Community Rating System. Dare County encourages property owners to protect their property with flood insurance. Dare County reserves the right to review, comment, advocate, or oppose any proposed regulations or programs that may affect the National Flood insurance Program or other federal or state flood hazard legislation.

Implementation Strategies for NH Policy 5:

1. Participate in Community Rating System for reductions of flood insurance rates for property owners in unincorporated Dare County. *Priority: on-going*
2. Enforce local elevation standards in conjunction with Flood Insurance Rate Maps (FIRMs) to ensure appropriate elevation of structures in unincorporated Dare County. *Priority: on-going*



Example of a building that was elevated to mitigate future flood risks.

NH Policy 6

Dare County supports the use of appropriate construction methods, local zoning regulations and North Carolina's coastal management programs to mitigate erosion, high winds, storm surge and other coastal hazards that impact Dare County. Innovative natural and nature-based projects to address resiliency of our communities may be appropriate and shall be reviewed on a case-by-case basis in terms of their positive effects for Dare County.

Implementation Strategy for NH Policy 6:

1. Administer Dare County Flood Damage Prevention Ordinance, Zoning Ordinance and CAMA regulations to mitigate coastal hazards. *Priority: on-going*

NH Policy 7

Dare County shall monitor efforts of the insurance industry to implement insurance rate increases or to decrease the availability of insurance for structures located in Dare County. Participation in public hearings and resolutions opposing such proposals are appropriate tools to be used by Dare County as needed.

NH Policy 8

Dare County is committed to maintaining a full-time emergency management department and emergency operation center and places a high priority on storm preparedness and response. The Dare County Board of Commissioners shall be ultimately responsible for supervising the implementation of various policies and procedures regarding reconstruction and recovery after a natural disaster.

NH Policy 9

Recovery priority shall be directed to restoring or repairing infrastructure improvements such as transportation routes, utilities, and medical and emergency management facilities. Once the infrastructure has been restored, recovery priorities shall then be directed at essential commercial and primary residential structures.

NH Policy 10

In the event of extensive storm damage, alternative locations for publicly owned utilities or other infrastructure that will mitigate the potential for similar repetitive losses will be examined and implemented whenever feasible and practicable during replacement or reconstruction.

NH Policy 11

In the event of a damaging hurricane, storm, or other disastrous event, the Dare County Board of Commissioners may establish a priority ranking system or other administrative measures for the issuance of building permits and/or review of development proposals. Such measures may be established to provide for the orderly processing of permits for reconstruction activities and other construction activities not associated with storm damage recovery with an emphasis on reconstruction activities.

Implementation Strategy for NH Policies 8 to 11

1. Work with Dare County Emergency Management personnel on storm hazard mitigation and reconstruction issues as needed. *Priority: on-going*

NH Policy 12

The relocation of sand that may be deposited on private property during storm events and ocean overwash is necessary to accommodate storm damage recovery efforts. Dare County shall work with the Division of Coastal Management following such events to assist property owners with sand relocation efforts as appropriate.

Implementation Strategy for NH Policy 12:

1. As may be needed following flooding or overwash events in which the issue of sand relocation may be pertinent. *Priority: on-going*

NH Policy 13

Global warming, sea level rise, and other climate changes have the potential to impact Dare County. These impacts include coastline erosion, coastal and inland flooding, and high winds along with secondary impacts on property values and insurance rates. Adaption initiatives and mitigation measures by federal and state agencies may be proposed to address these impacts. Such proposals will be reviewed by Dare County on case-by-case basis with support or opposition offered depending on the impacts to Dare County.

Implementation Strategies for NH Policy 13

1. Administer the NC Building codes, federal and local floodplain regulations and Dare County zoning regulations to protect existing and proposed land uses. *Priority: on-going*
2. Fund and maintain beach nourishment projects. *Priority: high*
3. Participate in the Community Rating System for reduction of flood insurance rates for property owners in unincorporated Dare County. *Priority: on-going*

MANAGEMENT TOPIC #5 – WATER QUALITY

CAMA Goal: Maintain, protect, and where possible, enhance water quality in all coastal wetlands, rivers, streams, and estuaries.

CAMA Planning Objective: The plan shall include policies that establish strategies and practices to prevent or control nonpoint source pollution and maintain or improve water quality.

Water Quality Objectives Endorsed

1. Ensure sustainability of our important natural resources especially ocean and estuarine water quality. Good water quality is essential to the viability of our commercial fisheries, tourism, and recreational fishing and boating.
2. Protect the water quality of the County's surface water bodies through the use of monitoring programs, stormwater runoff best management practices, and preservation of natural features such as coastal wetlands, which are directly related to good water quality.

Water Quality

Dare County is surrounded by water and the preservation and protection of water quality is a fundamental concern for our local economy and quality of life. Surface water quality is important to fisheries resources, boating, and numerous other water sports for which our area is famous. There are many factors that impact water quality such as stormwater runoff, wetland protection, development activities, and natural resource management.

Activities occurring on the immediate shoreline, both ocean and estuarine, impact the area's water quality. Activities occurring inland of Dare County also impact the area's water quality. Basin-wide plans for all of the river basins in North Carolina have been prepared. Although these plans are not regulatory, they do provide a good summary of each basin and particular issues affecting that basin. The majority of Dare County is located in the Pasquotank River basin and specific information from this report is discussed in Section One of this update. A small portion of Dare County is included in the Tar-Pamlico River basin as noted in Section One.

CAMA setbacks and restricted buffers apply to oceanfront and estuarine shorelines. Development activities are restricted in the buffer areas to protect the primary and secondary nursery areas and wetlands areas that are important components of the ecosystem. There are numerous point-source discharge wastewater treatment facilities in inland communities that discharge to water bodies that flow to our estuaries and bays.

The State performs water quality testing at several sites in Dare County. Results from the State's testing are conveyed to the Dare County Health Department and appropriate actions are taken to restrict swimming or other recreational water uses at sites that exceed the State minimum bacteriological standards for safe contact. These closures are usually of a temporary nature and occur following a heavy rain event. The use of pesticides and fertilizers

adjacent to waterways and their effects on water quality were discussed by the Planning Board but it was noted as a difficult issue to regulate. The Dare County Soil and Water Conservation board and staff provide educational programs to school-aged kids and property owners on best management practices to support water quality.

Protection of groundwater resources is also a high priority. One regulatory tool used by the State of North Carolina for the protection of groundwater resources is the designation of public water supply watersheds and wellfields as Areas of Environmental Concern. In unincorporated Dare County, the Buxton wellfield that supplies water to the four southern villages of Hatteras Island has been designated a public water supply wellfield AEC.

WQ Policy 1

Dare County recognizes the importance of water quality to our community. Water quality in other regions of North Carolina influences and impacts the water quality of Dare County. This is particularly true where inland communities use point-source discharge of treated wastewater to surface waters that drain into the coastal waters. Efforts to preserve, protect and improve water quality in all areas of North Carolina and Dare County are encouraged.

WQ Policy 2

Development projects should be designed and constructed to minimize detrimental impacts on surface water quality, groundwater quality, and air quality. Property owners are encouraged to use best management practices to manage natural topography, wetland areas and vegetation.

Implementation Strategy for Policy 2:

1. Enforce dune alteration standards of Section 22-58.1 of the Dare County Zoning Ordinance. *Priority: on-going*

WQ Policy 3

Protection of public water supply resources and groundwater resources is essential for a safe drinking water supply. Development in existing public water supply AECs shall be in accordance with CAMA regulations and any local zoning regulations that may apply, such as increased minimum lot size standards and limited vegetation removal regulations of the Buxton Woods SED-1 zoning regulations. These zoning regulations are designed to reduce negative impacts and pollutants from affecting the surficial aquifer underneath the Buxton Woods maritime forest.

Implementation Strategy for Policy 3:

1. Enforce CAMA use standards for Buxton Woods wellfield AEC and Buxton SED-1 zoning regulations. *Priority: on-going*

Stormwater

Stormwater runoff has been identified as an influencing factor in water quality. Currently, Dare County relies on State stormwater rules for projects involving more than one acre of land disturbance. New subdivisions involving less than one acre of land disturbance are subject to standards set forth in the Subdivision Ordinance, which are similar to the current low-density regulations used by the State of North Carolina. Dare County participates in the enforcement of the 30-foot CAMA buffer that was established to protect estuarine resources and decrease runoff from development activities occurring adjacent to the estuarine shoreline.

Managing stormwater is challenging due to the lack of a county-maintained drainage system and our flat topography. The Dare County Subdivision Ordinance requires the installation of roadside swales in new subdivisions to help mitigate stormwater issues. In some areas, these swales are part of an overall drainage system. However, drainage is not possible in all areas due to the topography, in which case, the roadside swales serve as retention areas in order to keep water from ponding on the road surface.

Under North Carolina law, counties cannot own or maintain roads. Most publicly owned stormwater systems are located in street rights-of-way. In unincorporated Dare County, drainage ditches in NC Department of Transportation's rights-of-way serve as the drainage system. Over the years, lack of routine maintenance of these NCDOT ditches has contributed to stormwater issues during periods of heavy rainfall. In July 2018, rainfall amounts exceeded more than twenty inches over a two-week period. Stormwater became trapped in many low-lying neighborhoods, especially on the north end of Roanoke Island. After this event, NCDOT commissioned an analysis of drainage on Roanoke Island. This report was released in August 2019. NCDOT provides only limited funding for ditch maintenance, and it may be appropriate for Dare County to lobby the State of North Carolina to dedicate more funds to such endeavors. Continued lack of maintenance will only exacerbate the stormwater situation. Dare County secured grant funding following Hurricane Irene and Hurricane Matthew for clean-up of storm debris in area ditches. This grant funding is not sufficient to address all of the stormwater issues that affect Dare County.

Dare County adopted an emergency floodwater pumping plan for use after storm events. This plan establishes procedures and identifies trouble spots where flooding is a problem following periods of heavy rainfall from tropical systems or extended periods of rainfall. The procedures require submission of a request for emergency pumping approval to the NC Division of Water Quality. It also includes criteria for how pumping activities should be implemented and monitored. These measures include posting of signs near discharge sites and monitoring of the pumping and discharge sites. Emergency pumping activities were completed after Hurricane Matthew in 2016, in July 2018 following several days of heavy rainfall, and after Hurricane Dorian in September 2019.

Ponding of stormwater creates ideal conditions for the breeding of mosquitoes. Dare County maintains a full-time mosquito control department to address mosquito control issues. The Mosquito Control section of the Dare County Public Works Department strives to educate people on the hazards of standing water and mosquito breeding.

WQ Policy 4

Dare County shall rely on North Carolina stormwater management regulations for development activities that trigger State permits and the Dare County Subdivision Ordinance for stormwater management in new subdivisions subject to Planning Board review and approval. Best management practices, such as low-impact stormwater improvements, are encouraged for development that falls below the State-mandated thresholds. Dare County reserves the right to comment, oppose or support any new State regulations that may impact Dare County.

Implementation Strategies for WQ Policy 4

1. Implement Dare County Floodwater Pumping Plan, as needed, to address emergency flooding conditions following storm events and heavy rainfall events. *Priority: on-going*
2. Maintain and repair existing stormwater improvements on County owned property. Monitor stormwater improvements on private property to ensure maintenance activities approved as permit conditions are performed. *Priority: on-going*

WQ Policy 5

Dare County advocates increased funding for maintenance and repair of drainage improvements in North Carolina Department of Transportation rights-of-way. A perpetual funding source should be identified by the State for this purpose and administered by the NC Department of Transportation on a county-by-county basis similar to the secondary road maintenance program. Other funding sources to assist with construction and maintenance of stormwater improvements shall be investigated by Dare County. Existing ditches should be maintained to historical depths to ensure full functionality as drainage improvements.

Implementation Strategies for WQ Policy 5

1. Pursue grant funding, when available, to assist with repair and maintenance of drainage ponds and ditches in Dare County. *Priority: on-going*
2. Research the use of stormwater utility districts to fund infrastructure improvements and maintenance activities of ditches and other drainage improvements. *Priority: medium*

WQ Policy 6

Dare County recognizes the public health issues associated with mosquitoes and standing areas of water and the public safety issue for motorists presented by stormwater ponding on roadways.

Implementation Strategy for WQ Policy 6:

1. Continue full-time staffing of mosquito control program. *Priority: on-going*

Wetlands

Wetlands can be found throughout Dare County and are subject to regulation by the State of North Carolina and the US Army Corps of Engineers depending on the type and location of wetlands. Coastal wetlands are defined as any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides, whether or not the tide waters reach the marshland areas through natural or artificial sources, providing this does not include hurricanes or other storm tides. In Dare County, coastal wetlands can be found along the estuarine shoreline usually with the coastal wetlands between usable dry land on one side and navigable waters on the other side. These environmentally sensitive areas play a significant role in the habitat of juvenile fisheries and filtering of pollutants from stormwater runoff of the adjacent lands. The protection of coastal wetlands is delegated to the Division of Coastal Management. Locally, Dare County relies on the State's wetland programs to address development impacts on coastal wetlands.

In addition to coastal wetlands, there are freshwater wetlands subject to the regulatory jurisdiction of the Corps of Engineers under the Federal Clean Water Act, Section 404. These freshwater wetlands are often referred to as 404 wetlands in reference to the federal legislation. Generally, a freshwater wetland can be described as hydric soils, areas that sustain plant life that depends on periodic flooding, or areas that are frequented by migratory birds. One of the Corps' programs to manage freshwater wetlands is the nationwide permit program that authorizes the filling or altering of small areas or "pockets" of freshwater wetlands. The nationwide permit program is an integral part of development activities in Dare County since many properties contain small pockets of 404 wetlands areas that may be altered under the terms of the nationwide program. Dare County does not regulate freshwater wetlands except for the SED-1 zoned areas in Buxton Woods and relies on the nationwide permit program to address the protection and management of freshwater wetlands. The SED-1 zoning regulations prohibit the filling or altering of any wetland areas regardless of Corps authorization under the nationwide permit program. Support of the nationwide permit program as currently administered by the Corps of Engineers was indicated during the update process.

Another aspect of wetland management is wetland loss mitigation. Mitigation involves the creation of new wetland areas or the dedication of existing wetland areas, to compensate for the loss of wetlands as a result of development activities. In simple terms, mitigation represents a trade-off of wetlands in one area in exchange for alteration or loss of wetlands in another. Mitigation activities can occur in conjunction with public purpose projects undertaken by a public agency or with private sector development. Mitigation is often necessary for the construction of bridges and roads but may be less acceptable to accommodate private sector development.

The policy on estuarine bulkheads has been included under this management topic as well as the previous management topic of natural hazard areas. The growing popularity of living shorelines as an alternative to traditional estuarine bulkheads is noted in the 2022 policy. Living shorelines provide protection of shoreline areas while allowing for the regeneration of wetland areas that may have eroded over time. They have also proven to be resilient in storm conditions and less costly to repair than estuarine bulkheads, which often become undermined by flooding and require extensive repairs.



Wetlands surrounding the Coastal Studies Institute on Roanoke Island.

WQ Policy 7

Dare County recognizes the important role of wetlands in floodplain management, fisheries habitats, and water quality. Dare County supports current state and federal wetland programs as administered by the NC Division of Coastal Management and the US Army Corps of Engineers in 2019. This support is based on the current scope of the Corps nationwide permitting program and the CAMA wetlands program. Dare County reserves the right to review, comment, advocate, or oppose any proposed regulations or programs that may affect the regulation of wetland areas of environmental concern or 404 wetlands as administered by the federal government.

Implementation Strategy for Policy 7:

1. Support implementation and enforcement of CAMA use standards for wetlands by Division of Coastal Management staff and US Army Corps of Engineers staff for 404 wetlands.

Priority: on-going

WQ Policy 8

The use of wetland mitigation to compensate for the loss of wetlands is a suitable alternative for projects identified as “public purpose projects” or projects undertaken by Dare County. The use of wetland mitigation for private development projects may be deemed suitable if such projects are consistent with other policies of Dare County.

WQ Policy 9

Dare County supports the installation and maintenance of estuarine bulkheads. Offshore breakwaters, slopes, riprap and voluntary setbacks are appropriate alternatives for estuarine shoreline management in lieu of estuarine bulkheads where these other techniques may be equally effective in abating a shoreline erosion problem. The use of living shorelines to re-establish estuarine shorelines that have eroded are supported.

Implementation Strategies for WQ Policy 9:

1. Rely on existing CAMA AEC regulations to address development activities along the estuarine shoreline and other public trust areas in unincorporated Dare County. Dare County will continue to participate in the CAMA permitting process with the provision of a local permit officer for unincorporated Dare County.
2. Rely on Dare County zoning regulations to guide development activities along estuarine shoreline areas.

Fisheries Resources

Protection of fisheries resources is a significant water quality issue and protection of the unique ecosystems needed by fisheries resources is a top priority for Dare County. Good, clean water is essential for the continued production of the fisheries resources, for both commercial and recreational fishermen. Commercial fishing is a traditional industry of Dare County and represents a long-standing employment sector of our coastal heritage.

Commercial seafood landings in Dare County exceed the landings for any other county in North Carolina. Recreational fishing represents a key sector of the tourist economy with many visitors coming to the area to fish from the area’s oceanfront piers, ocean beaches, or charter one of the local sport-fishing boats for off-shore trips. Permanent residents also enjoy recreational fishing and many have been drawn to the area because of the outstanding opportunities offered by the local resources.

The designation of primary nursery areas (PNAs) by the NC Division of Marine Fisheries is one tool used to ensure the continued productivity of the local fisheries. Other management programs, including catch quotas, have been established by the federal and state government to protect certain fish species. These programs are often viewed as too restrictive by fishermen. The catch quotas frequently remain in place when a designated species has been restored to acceptable levels without any acknowledgement by the regulatory agencies once the species is recovered. As is the case with other issues affecting Dare County, third party

interest groups influence the federal and state agencies that regulate fisheries in North Carolina, resulting in the enactment of restrictions without adequate input at the local level or consideration of local economic impacts on commercial fishermen. Dare County monitors activities of the North Carolina Marine Fisheries agency and the NC General Assembly and their attempts to limit commercial fishing. In recent years, the NC General Assembly proposed legislation to designate certain species (red drum, spotted sea trout, and striped bass) of fish as “game fish”. Such designation would prohibit commercial catches of the species and only allow catch of the species by hook and line recreational fishermen. The legislation was not adopted as a result of opposition by Dare County and other commercial fishing organizations. It can be anticipated that similar attempts may be implemented in the future by recreational fishing advocates.

WQ Policy 10

Dare County recognizes the importance of our surrounding waters that serve as habitats for the area’s abundant fisheries resources. The continued productivity of these fisheries shall be fostered through appropriate restoration and protection measures. The designation of primary nursery areas by the State of North Carolina is a suitable tool for the protection of fisheries resources.

WQ Policy 11

Regulatory programs should balance the needs of both commercial fishermen and recreational fishermen. Efforts to restore depleted or threatened species should be reviewed on a regular basis by the regulatory agencies. When successful restoration is achieved as documented through landing records, catch quotas and access to the species should be adjusted accordingly.

WQ Policy 12

Dare County recognizes commercial fishing as an important industry of our area. The use of traditional shellfish and fish harvesting methods, including trawling and beach haul netting, are supported. Vehicular access to Dare County beaches by commercial fisherman is essential to their continued livelihood. Dare County supports efforts to promote locally harvested seafood. Aquaculture as a source of fisheries production is supported provided such efforts do not negatively impact fisheries

WQ Policy 13

Efforts to restrict commercial fishing, a historical industry of Dare County, by recreational fishing advocacy groups and/or federal or state agencies shall be reviewed on a case-by-case basis with support or opposition offered depending on impacts to Dare County. Regulatory initiatives and/or legislation limiting access to fisheries or prohibiting the commercial catch and sale of certain species should be subject to extensive public input, including public hearings in Dare County.

Implementation Strategy for WQ Policies 10- 13

1. Support the Dare County Commission of Working Watermen. *Priority: on-going*

Marinas and Floating Structures

Marinas and floating homes are another issue associated with water quality. As noted in the fisheries resources discussion, commercial and recreational fishing are vital to the local economy. The importance of boat building in the local economy and its role in the heritage of Dare County has been documented. With so much of our geographic region covered by water, there is a high demand for boat access and boat dockage. Water quality regulations must be balanced with the high demand for boating access to the surrounding water bodies. Many visitors travel to Dare County to access our local waters for fishing, watersports, or simply to enjoy being out on the water. Commercial fishermen and charter boat captains need access to the water and docks to practice their trade. New marinas must go through a rigorous review by State agencies. It was the consensus of the Planning Board that all appropriate water quality issues would be addressed during the CAMA major permit review process by the twenty-one agencies involved in this process. The CAMA regulations define a marina as any public or private dock or wet storage facility that accommodates more than ten boat slips.

Locally, the Dare County Zoning Ordinance includes certain districts in which marinas are designated as appropriate uses. The Dare County Zoning Ordinance defines a marina as a business having frontage on navigable waters that provides mooring slips and docking facilities. The location of dry stack storage facilities is regulated by the Dare County Zoning Ordinance with height limitations of such facilities set forth in the Zoning Ordinance.

All previous versions of the land use plan have included a policy opposed to the mooring or use of floating homes and structures within the jurisdictional waters of unincorporated Dare County. The CAMA regulations state it is the policy of the State of North Carolina that floating structures shall not be allowed within the public trust waters of the coastal area except in permitted marinas. A floating structure is defined in the CAMA rules as any structure, not a boat, supported by a means of flotation, designed to be used without a permanent foundation, which is used or intended for human habitation or commerce and establishes standards for when a boat is rendered to function as a floating structure. For the 2022 LUP update, the 2009 policy opposing floating homes and structures has been revised with the addition of “year-round habitation and occupancy”. The Planning Board indicated that regulations to prohibit the location of floating homes/structures in any jurisdictional water of Dare County should be considered.

WQ Policy 14

Marinas, developed according to applicable State and federal guidelines are identified as appropriate uses in Dare County due to the large amount of water resources within our jurisdiction. Facilities built for dry-stack storage of boats should be consistent with height limits and gross floor area limitations of applicable Dare County zoning codes.

Implementation Strategy for WQ Policy 14:

1. Encourage marina operators to participate in the voluntary Clean Marina certification program administered by the State of North Carolina Division of Coastal Management.

Priority: on-going

WQ Policy 15

Dare County is strongly opposed to the mooring of floating homes and other floating structures designed for habitation and occupancy anywhere in unincorporated Dare County and its surrounding waters. This policy shall not be interpreted to preclude the permitting of floating accessory structures for recreational water use associated with kiteboarding or other water use activities or the permitting of floating docks permitted under the CAMA guidelines.

Implementation Strategy for WQ Policy 15:

1. Consider regulations to prohibit floating homes and structures in unincorporated Dare County. *Priority: medium*

MANAGEMENT TOPIC #6 LOCAL ISSUES

Local Issues Objectives

1. Protect and promote the unique nature of Dare County and how our distinctive characteristics should be recognized and fostered in the development of local, state and federal policies, regulations, and programs.
2. Recognize that the overall sustainability of our community extends beyond the physical infrastructure and economy to include our human infrastructure. Issues such as education, housing, insurance and substance abuse all impact the cohesiveness of Dare County.

Federal/State Support

Throughout the history of Dare County, the County's relationship with federal and state agencies has ranged from confrontational to cooperative depending on the issue at hand. This is especially true of the federal agencies that have a large presence in Dare County because of federal wildlife refuges and national parks. The goals of these agencies sometimes conflict with the goals of the citizens and visitors of Dare County. Input from local residents and Dare County should be solicited by the federal and state agencies before they adopt regulations or restrictions that impact Dare County. Local impacts of agency goals or proposed restrictions should be evaluated by the agency.

LI Policy 1

Additional Federal or State regulatory programs or expansion of existing programs will be reviewed on a case-by-case basis. Dare County reserves the right to support, oppose, review, or comment on additional regulations that may impact Dare County and its economy. Local public hearings by federal or state agencies should be extensively advertised and conducted in Dare County before any new regulations are adopted or existing programs are expanded.

LI Policy 2

Dare County encourages federal and state regulatory agencies to consider impacts from activities occurring on their lands on surrounding privately-owned land and communities. Although Dare County acknowledges federal and state properties are exempt from local zoning and other land use ordinances, federal and state agencies should coordinate their efforts with local officials whenever practicable.

Tourism and Quality of Life

Tourism is the number one industry in Dare County. Many local jobs are service-related jobs, focused on the provision of goods and services to visitors of the Outer Banks. The tourism industry generates significant amounts of revenue for Dare County, its municipalities, and the State of North Carolina. The abundant natural resources of our area serve as a drawing card for thousands of visitors each year and the importance of protecting these natural resources has been discussed throughout the land use plan. Tourism is generally viewed as a "clean" industry versus other more traditional industries such as manufacturing.

Although tourism is essential to the economy of Dare County, the seasonal population surge associated with our tourist economy creates quality of life issues for the year-round residents. The influx of seasonal visitors challenges the County's transportation infrastructure and frustrates the local residents as they go about their daily lives. Tourist-generated taxes, such as occupancy taxes and prepared food taxes generate significant revenue for local governments, however the spending of these taxes is mandated by State law to be spent for visitor needs and infrastructure improvements and not for schools or other services that serve the permanent population.

Tourism also impacts the housing stock of Dare County in terms of availability and affordability. Although there are thousands of residential dwellings in Dare County and our municipalities, many of these structures are vacation rentals or second homes and not occupied as year-round housing. This impacts the affordability of the year-round housing stock and the availability of homes for Dare County's workforce. Also, the popularity of short-term rentals is contributing to the decline in the number of houses available for year-round occupancy. In 2018 the Outer Banks Chamber of Commerce studied the issue of housing and requested zoning amendments from Dare County in an effort to facilitate the construction of more year-round housing opportunities. Dare County adopted a series of zoning amendments in response to this request. Amendments for accessory dwelling units were added to many of the zoning districts, minimum lot sizes for duplex lots were decreased to be consistent with lot sizes for single family homes, and multi-family dwelling densities were increased.

The cost of living in Dare County is higher than other counties in North Carolina. Housing, insurance, and fuel costs all add to a higher cost of living than found elsewhere in North Carolina. Service industry salaries are generally lower than other industry sectors and many Dare County residents must work two or three jobs. The low crime rate, quality public school system, and abundant natural resources of the area are viewed by residents as counterbalances to the high cost of living.

Although Dare County experiences large seasonal population increases in the summer months, there is still a "small town" feel to each of the villages and an overall strong sense of community in Dare County. Dealing with the natural hazards impacts the quality of life of Dare County but residents take pride in our resiliency to recover from natural hazards and the hardships associated with living on barrier islands.

Substance abuse has affected Dare County as it has other communities in North Carolina and the United States. It is appropriate to note its effect on the quality of life on our residents. There are many agencies in Dare County dedicated to mental health and recovery efforts. Often facilities dedicated to assisting persons with substance abuse issues are opposed by neighbors. Such facilities are needed and the overall good of the community should be a factor in land use decisions to permit these facilities.

LI Policy 3

Dare County recognizes the importance of tourism to our local economy and supports efforts to maintain our status as a desirable place to live, visit and vacation. Tourist-generated revenues should be used to maintain and improve our facilities and infrastructure and to offset community impacts of tourism as authorized by NC statutes.

LI Policy 4

The quality of life of Dare County is affected by the resiliency of our community to withstand and recover from natural hazards, economic downshifts, and societal influences. Insufficient housing, high costs of insurance, inflated costs of living, and substance abuse are all issues that impact the viability of our community. The Dare County Board of Commissioners shall strive to strengthen our community with appropriate programs for public health, safety, and welfare to ensure our residents continue to enjoy a prosperous and sustainable quality of life.

Public Participation

The Dare County Board of Commissioners places a high priority on public participation and public involvement in land use planning issues. The North Carolina General Statutes mandate public hearings before any decision on land use regulations and ordinance amendments. The Dare County Board of Commissioners supplement the hearing process with other activities to increase awareness of land use issues and other government actions.

The adoption of a public participation plan was one of the first activities of the 2022 land use plan update. One element of this plan is the maintenance of a public outreach contact list. This list is comprised of representatives from other local governments in Dare County, local civic and community groups, and other interested individuals who wish to be notified of land use plan update meetings. This group is contacted by email of upcoming land use plan meetings.

For the past several years, the monthly meetings of the Board of Commissioners have been televised live and re-played on the local government channel. Public comment periods are also scheduled at all Commission meetings. In 2018, the Dare County Board of Commissioners implemented public comment opportunities for Hatteras Island residents at the Fessenden Center Annex in Buxton via live video feed during board meetings.

The Planning Board Clerk maintains a mailing list of groups and individuals for receipt of the monthly Planning Board agenda. The Planning Board agenda is posted on the Dare County website.

LI Policy 5

Dare County supports the active involvement of all interested persons in its land use planning and policy development activities.

Dare County Waterways

Throughout Dare County, there are many channels, canals, and waterways that are essential to the safe movement of commercial and recreational boats. These waterways are part of the County's transportation infrastructure just like our highways and bridges. Maintenance and protection of these waterways is a paramount concern to the long-term viability and sustainability of our commercial and recreational fishing industries and our tourism economy. Oregon Inlet and Hatteras Inlet are the two most important waterways in the County and maintenance of these navigational channels is a high priority for the Dare County Board of Commissioners. Both recreational and commercial fishermen use these channels on a daily basis as access to the offshore waters of the Atlantic Ocean. The area surrounding Oregon Inlet is one of the most dynamic inlets in the United States. Efforts to maintain a safe passageway through Oregon Inlet have been on-going for decades. Permits to construct jetties to stabilize the inlet have been denied by the federal government and dredging is currently the only action used to keep the inlet navigable. However, federal appropriations for dredging of Oregon Inlet are not automatic and Dare County is diligent in our efforts to ensure the continued funding for dredging of Oregon Inlet. Dredging of Hatteras Inlet is also of importance. The traditional channel in Hatteras Inlet used by locals and the NC ferry system has migrated in the past decade and efforts are on-going to keep a viable channel open in this area. In 2018, the State of North Carolina funded the construction of a dredge that will be stationed in Dare County. Dare County will play an integral role in the operation of this dredge when it is completed and operational in 2022.

Maintenance of other waterways in Dare County is also subject to federal appropriations and must compete with many other projects in the federal budget. Dare County maintains a full-time staff for the Oregon Inlet and Waterways Commission to advise the Board of Commissioners on issues concerning Oregon Inlet, Hatteras Inlet, and other waterway management matters.

Although sub-aquatic vegetation (SAV) is an important part of the ecosystem and vital to healthy fisheries, certain non-native species pose a challenge and threat to our waterways as they overpower native species, and can quickly fill a pond, lake, bay, or canal, thus choking off the water body for navigation, boating, fishing, swimming, and other recreational uses. These species include Eurasian milfoil, hydrilla and alligator weed, and possibly others.

LI Policy 6

Dare County recognizes the importance of Oregon Inlet, Hatteras inlet, and all waterways in Dare County. Dredging and associated maintenance activities of navigable channels, canals, boat basins, marinas and all waterways is vital to the sustainability of our waterways since they play an essential part in the County's transportation network and economy.

Implementation Strategy for LI Policy 6

1. Continue to work with the Army Corps of Engineers and State agencies to secure permit authorization and funding for dredging projects. This shall be accomplished through the work of the Dare County Board of Commissioners, the Dare County Waterways Commission and the Oregon Inlet Task Force. *Priority: on-going*

LI Policy #7

Dare County supports efforts, as needed to control or eradicate invasive non-native subaquatic vegetation species such as Eurarion milfoil, hydrilia and alligator weed, in compliance with the regulations and policies established by the State of North Carolina.

Insurance

The rising cost of property insurance was mentioned numerous times during the public input phase of the land use plan update. Wind and hail insurance, flood insurance, and commercial insurance costs have increased dramatically within the last several years as a result of losses suffered by the insurance industry. Some insurance companies have chosen to suspend the sale of homeowners' policies in the coastal area. Many property owners are insured through the North Carolina Insurance Underwriting Association, also known as the Coastal Property Insurance Pool, a tax-exempt association of property and casualty insurance companies that do business in North Carolina. The CPIP provides a market for insurance in eighteen coastal counties for windstorm and hail insurance only. The CPIP plan is not an agency of the State of North Carolina but is subject to review by the North Carolina Commissioner of Insurance. The availability of insurance in Dare County is an important component of our tourism economy because many homes are used for investment purposes by their owners. Inequitable insurance rate hikes are often proposed by the insurance companies. Dare County, along with other agencies such as the Outer Banks Association of Realtors, have been active in opposing such inequitable rate hikes.

LI Policy 7

Dare County shall monitor efforts of the insurance industry to implement insurance rate increases or to decrease the availability of insurance for structures located in Dare County. Participation in public hearings and resolutions opposing such proposals are appropriate tools and should be used by Dare County when needed.

Future Land Use Maps

The CAMA land use plan guidelines require the development of a future land use map. Due to the size of Dare County and the difficulty to depict all of unincorporated Dare County on one map, individual future land use maps have been created for the various geographic regions of unincorporated Dare County.

Narrative descriptions of the future land use designations and each area to which the future land use category has been applied are included in this section. Both the maps and the narrative text should be consulted in the determination of future land use designations. The narratives describe the land uses deemed to be consistent within a specific classification, the level of infrastructure that can be expected in the category and the overall density and development intensity that is compatible with the land classification. Dwelling densities and compatible land uses are discussed in each narrative description in general terms. The Dare County Zoning Ordinance is the document that establishes specific regulations for properties and should be consulted for site specific land uses and dimensional standards.

The future land use maps are designed to support the policies and implementation strategies of the 2022 Land Use Plan update. The maps and narrative descriptions are not regulatory like zoning maps. The future land use maps are general guides and are used to provide guidance to the Planning Board and Board of Commissioners in the review of zoning amendments. Citizens and property owners can consult the future land use maps to see anticipated development patterns.

CAMA officials use future land use maps during the review of CAMA major permits. The narrative descriptions and maps are used in conjunction with policy statements to ensure a balanced review of CAMA major permit applications. The narrative of each future use classification includes a discussion on the availability of infrastructure improvements, the type of improvements typically found in each future use category, and any future or planned infrastructure improvements. During the review of CAMA permits, CAMA officials consult the policy statements in making determinations of consistency and/or inconsistency within a specific classification.

The minimum lot size for new subdivisions is 15,000 square feet for lots served by central water and 20,000 square feet for lots served by private wells as established in the Dare County Zoning Ordinance. These lots sizes are consistent throughout the future land use classifications except for those areas which may be approved through the special use subdivision review procedures of the Zoning Ordinance which allows 12,500 square feet under certain conditions. Multi-family density limitations vary according to the applicable zoning regulations as set forth in the Dare County zoning ordinance which is the appropriate regulatory document to determine density.

The future land use categories reflect current conditions and are as follows:

<i>Municipal</i>	<i>Community Village</i>
<i>Commercial</i>	<i>Conservation</i>
<i>Residential</i>	<i>Other Federal Jurisdiction</i>
<i>Conservation</i>	<i>Limited Conservation</i>

The zoning maps for each village were consulted in the development of the future land use maps and the assignment of future use categories is based on the zoning classifications. Copies of the future land use maps for Dare County are found at the end of this section.

Future land use of the federal lands in Dare County, designated as Conservation on the future land use maps, will be managed by the appropriate federal agencies charged with their oversight.

Municipal

The purpose of this classification is to illustrate the boundaries of the existing towns and cities. For Dare County, this classification has been applied to the incorporated areas of Manteo, Nags Head, Kill Devil Hills, Kitty Hawk, Southern Shores, and Duck. The land use plans prepared by these municipalities contain more specific information on land classification and future use patterns in their respective jurisdictions.

Commercial

The purpose of the Commercial category is to identify those areas where commercial or industrial uses exist or can be expected based on zoning classifications. Such areas are suitable for more intensive development and generally will be serviced by the necessary infrastructure to support urban-style development. Connection to a central water system can be expected for this classification but is not necessary. Service by a central wastewater system may be used on land included in the classification but is not necessary. Connection to a central wastewater system will not result in reduced minimum lot sizes under Dare County zoning standards. Commercial structures are generally restricted to a maximum gross floor area limitation by the zoning ordinance. Residential development, including multi-family structures, is allowed in the Commercial future land use class.

[Roanoke Island - Manteo Out Tax District](#) -- The Commercial designation has been applied to those areas of unincorporated Dare County that are zoned with a commercial or industrial zoning classification. These areas are generally found along transportation corridors such as Highway 64, NC 12 or NC 345. Some existing uses in this future use classification may be connected to the central wastewater system owned by the Town of Manteo. The Dare County Airport, the Dare County Justice Center, Administration Building, and the Dare County Center are located within this land class. The areas are zoned I-1, industrial, C-3 commercial or SNC, Skyco Neighborhood Commercial. These zoning districts permit land uses that are

consistent with urban-style development. All areas within this future land use have access to the Dare County central water system although connection to the system is not mandatory.

[KDH Outside/Colington](#) – A Commercial designation has been applied to those portions of Colington Road that are zoned with commercial zoning -- VC-2, C-3, and CS. Businesses located along Colington Road are designed to serve the needs of the KDH Outside/Colington communities. Residential uses may be permitted in some of these areas, however most commercially zoned property has been developed in a commercial fashion. Redevelopment of other areas along Colington Road can be expected over the next five-year planning period. Central water from Dare County is available and wastewater is addressed through the use of on-site wastewater systems.

[Rodanthe, Waves, Salvo](#) – Areas along NC 12 in these three villages have been designated Commercial in recognition of the S-1 zoning that applies throughout the areas. S-1 zoning district permits all uses. Central water from the Dare County water system is available. Wastewater is provided by individual on-site septic systems. Redevelopment of existing older structures along the corridor can be expected to take advantage of the highway frontage of NC 12 and the broad nature of the S-1 zoning district.

[Avon](#) – Portions of the NC 12 corridor that are zoned commercially on the Avon zoning map have been designated as Commercial in recognition of its zoning class. Many of the properties are already developed with a commercial use. Some residential uses are mixed into the commercial development. Central water is available from the Dare County water system and the majority of the businesses utilize on-site individualized systems for wastewater treatment. The exception is the commercial areas of the Kinnakeet Shores Shopping Center which is connected to the privately-owned central wastewater treatment plant that serves the Kinnakeet Shores Soundside Subdivision. Future development and re-development activities along the NC 12 corridor are expected to follow established patterns of tourist-related goods and services.

[Buxton](#) – All areas in Buxton along NC 12, Old Lighthouse Road and the Buxton Back Road that have a commercial or industrial zoning designation on the Buxton zoning map have been assigned the Commercial future land use class. The Cape Hatteras Secondary School is located along the NC 12 corridor. The Dare County Fessenden Center is also located in Buxton and serves as an important recreation and community-gathering facility. Central water is available from the Dare County central water system. Wastewater is addressed through the use of individual on-site systems. Future development activities in these areas are expected to focus on providing services for residents of Hatteras Island and visitors to the area.

[Frisco](#) – Along the NC 12 frontage, a Commercial future land use designation has been applied to Frisco village except for the Buxton Woods area. This classification is in recognition of the S-1 zoning that applies to all of Frisco. The S-1 district permits all uses.

Existing development in the Commercial area is a mixture of residential and commercial land uses often located adjacent to each other. Central water from the Dare County water system is available. Wastewater is provided by individual on-site systems. Future development can be expected to follow the established patterns taking advantage of the S-1 zoning with the construction or location of uses that may not be possible in the other more restrictive commercially zoned areas of Avon, Buxton or Hatteras.

[Hatteras](#) -- The NC 12 frontage in Hatteras village has been designated with a Commercial classification along those portions of NC 12 zoned C-2H on the Hatteras zoning map. Commercial uses are developments serving the year-round population with some commercial development aimed at the seasonal visitors, especially near the NC Department of Transportation ferry facilities at the terminus of the village. Hatteras village is served by central water from Dare County. The only on-site central wastewater facility serves an existing multi-family project which was required by the zoning classification of the site. Continued development and re-development activities in Hatteras village are expected to follow the established patterns. There are a couple of large undeveloped tracts on the oceanfront that previously featured multi-family structures. Re-development of these tracts consistent with the current zoning classification and future land use map designation is expected to occur in the next five years.

[Manns Harbor](#) – An area along Highway 64-264 has been designated Commercial on the future land use map for Manns Harbor. This area is zoned MH-B on the Manns Harbor zoning map and is found along the Highway 64-264 corridor headed to East Lake and Stumpy Point. Central water is currently not available in this area and on-site individual systems are used for wastewater treatment.

[Stumpy Point](#) – A small area of Stumpy Point village along Highway 264 is designated Commercial. There is existing commercial development on the properties in this class.

[Martins Point](#)- There are 10 properties that front the Highway 158 corridor that are designated as commercial. There is existing commercial development on all the properties in this class.

[Community Village](#)

This is a classification applied to areas with a mixture of low-density residential dwellings, various commercial services and small businesses in a village environment. Multi-family development may be permitted according to applicable zoning regulations for each area. Most of the commercial uses found in the Community Village future use land classification are not as intense as those that may be found in the Commercial future use land classification described in the preceding section. This classification seeks to preserve the unique mix of land uses that distinguish a non-urbanized coastal village and to prevent the introduction of urban influences or development that changes or overwhelms the existing patterns of land use by disrupting the “village” environment. Compatible uses are consistent with the zoning regulations that apply in the individual villages. Central water is appropriate and wastewater is generally addressed through use of individual on-site wastewater systems. A reduction in

lot size for the availability of central wastewater treatment is not offered in this land classification.

Wanchese – All of Wanchese is classified as Community Village. The Coastal Studies Institute is included in the classification. Multi-family uses are not permitted in any of the zoning districts that apply in Wanchese. The commercial zoning districts for Wanchese include a gross floor area limitation of 10,000 square feet as detailed in the individual zoning districts. Future development can be anticipated to continue to serve the needs of the residents and businesses of Wanchese with the majority of the Community Village areas dedicated to residential development and village-related commercial uses.

Historical note -- Previous land use plan updates have addressed the land classification of the site of the Globe Fish Company docks in Wanchese and assigned the land class of “transition” to this site. This site is a natural deep-water port and has been in use for shipping and harbor activities for hundreds of years. Commercial shipping activities at this site pre-date all regulatory activities and/or land-use planning documents in Dare County. This site continues to hold potential for commercial shipping, aquaculture, aquaculture related research facilities and loading and docking use. Given the historical nature of this site, the Commercial classification is the appropriate land classification for the site despite the presence of indicators that might otherwise lead to the placement of the site in a more restrictive land classification. This area is not depicted on the future land use map for Wanchese due to the small scale of the map however this narrative shall serve as the definitive classification of the site.

Hatteras – the Community Village applies to those areas of Hatteras village located outside the Commercial classification boundaries. These areas are zoned R2-AH on the Hatteras village zoning map. Residential uses of detached single-family homes, mobile homes, and a handful of commercial uses, including campgrounds, can be found in these areas. Evidence of the commercial fishing industry can be found throughout the Community Village areas of Hatteras. Central water is available from the Dare County central water system. Wastewater is addressed by the use of on-site individual systems except for one of the larger multi-family developments, Slash Condominiums, which has its own community central wastewater system. Future development patterns can be expected to follow the existing land use patterns consistent with the Community Village category and the applicable zoning classifications.

KDH Outside/Colington --Several areas of Colington are designated as Commercial Village to reflect the commercial fishing history of the area. These areas are zoned R-2B on the Colington zoning map. The existing uses are predominantly single-family residences and mobile homes, many of which are located in mobile home parks. Central water is available from Dare County and wastewater is addressed through the use of individual on-site septic systems. Re-development of some of the mobile home parks may occur within the next decade with such re-development most likely of a residential nature.

Avon – The area of Avon known as old Kinnakeet village has been designated Community Village on the future use map for Avon. This reflects its rich history as a fishing village and the Community Village designation is consistent with the existing land use patterns found in this area of Avon. Most of the existing structures are single family homes, mobile homes, several churches and a handful of commercial uses, which are consistent with this land classification. Central water is available from Dare County and wastewater is addressed through the use of individual on-site systems. The future development of the area will continue to be residential development with limited commercial development designed to serve the community.

Manns Harbor/Mashoes -- The majority of Manns Harbor/Mashoes area has been classified as Community Village to reflect the existing land use patterns and compatibility with the MH-A zoning classification that applies to the area. Most of the existing development consists of residential homes including mobile homes, several churches, a nursery/landscaping business, and scattered commercial uses. Central water is currently not available in this area of Mainland Dare County and potable water is provided by the use of individual private wells. Wastewater is managed through the use of on-site individual systems. The existing pattern of mixed business uses and residential structures is expected to continue in Manns Harbor/Mashoes over the next several years.

East Lake – East Lake has been classified as Community Village as have the other Mainland villages. Development in these areas will be consistent with the uses permitted by the zoning regulations. The majority of development in East Lake is residential. If Highway 64 is improved by NCDOT to feature four-lanes, additional commercial development can be expected along this transportation corridor. There is no central water service or central wastewater treatment options in East Lake. Private wells and individual on-site wastewater systems are used.

Stumpy Point - The majority of Stumpy Point village is designated Community Village. The existing land uses are residential homes and mobile homes, mostly for year-round residents. Stumpy Point is served by a central water system and a central wastewater system. The central wastewater system was constructed in 2010 to mitigate existing concerns about older malfunctioning septic systems. The remoteness of the village will impact its development over the next decade with limited development occurring.

Residential

The Residential classification is used to identify areas predominantly developed with low density residential dwellings with other limited land uses, such as small businesses, governmental services, educational services, and passive recreational activities associated with natural, cultural, and historic resources and facilities. Central water is appropriate in this class as a means of potable water. The majority of areas classified as Residential use on-site individual wastewater systems but a couple of subdivisions do have centralized sewer –

Baycliff in Colington and the soundside portions of Kinnakeet Shores in Avon. This classification seeks to preserve the existing development and to prevent the introduction of land uses that are incompatible with the residential setting. Many areas designated Residential reflect the established patterns of residential development in platted subdivisions. Development in these established, stable neighborhoods will occur on the remaining vacant lots consistent with the applicable residential zoning classification.

[Roanoke Island --Manteo Out](#) – The Residential class applies to the area of Roanoke Island generally known as “the north end” or the unincorporated portions of Roanoke Island north of the Town of Manteo boundary and the area south of the US 64-Highway 345 intersection known as Skyco. A majority of the area is comprised of existing platted subdivisions that can be described as stable year-round neighborhoods. Residential structures, including multi-family structures are permitted according to the zoning maps established for these areas. The multi-family dwelling density limits are set by the applicable zoning classification. Pockets of commercially zoned areas are located on the north end with permitted uses dedicated to neighborhood retail and service -oriented uses

[Martins Point](#) – the Martins Point Subdivision is classified as Residential. Martin’s Point is a stable neighborhood of mostly year-round residents. Permitted uses are limited by the MP-1 zoning district that was created for the residential portions of the Martin’s Point Subdivision and include single family homes with customary accessory uses. No commercial uses or multi-family structures are permitted in the MP-1 district. Central water is available in Martin’s Point. On-site individual systems are used for wastewater treatment.

[KDH Outside/Colington](#) – Several areas of KDH Outside/Colington have been designated as Residential with many of these areas featuring well established neighborhoods with restrictive residential zoning. Residential development is mostly year-round single-family homes with some mobile homes and a small area of multi-family structures. The area is served by the Dare County central water system and is primarily dependent on-site individual systems for wastewater except for the Baycliff Subdivision, which is connected to a small privately-owned package treatment plant and the Colington Pointe development, which is served by a centralized wastewater system.

[Avon](#) – Some areas in Avon have been classified as Residential due to the primarily residential nature and the residential zoning classifications applied to these areas. In the platted subdivisions, residential growth will continue on the vacant lots. Central water is available in all areas of Avon. All areas, except for the Kinnakeet Shores Soundside Subdivision rely on individual on-site wastewater treatment systems. A privately-owned and operated package treatment plant serves the soundside portions of the Kinnakeet Shores Subdivision. Multi-family development in the R-2 zoned areas is consistent with the Residential classification at dwelling densities established by the Zoning Ordinance. Vacation rentals homes are found throughout these Residential areas.

[Buxton](#) – A large area of Buxton has been classified as Residential. The Residential designation has been applied to those lands zoned BNH, R-1, R-2A, and R-3 on the Buxton zoning map. The Residential areas of Buxton are a mixture of single-family homes and mobile homes. Central water is available from Dare County and wastewater is addressed through the use of on-site individual systems. Development in these areas will follow the established mixed patterns of single-family homes and mobile homes. For those areas designated Residential and zoned R-3 on the Dare County Zoning map, multifamily structures are permitted.

[Frisco](#) -- Some areas located in Frisco village have been designated Residential. Existing development in Frisco is influenced by the presence of the Buxton Woods maritime forest and its buffer area and the S-1 zoning district. The Residential designation has been applied to several existing platted subdivisions where private covenants restrict development to single family homes. Central water is available in Frisco from the Dare County water system. Central wastewater is not available in Frisco and development relies on individual on-site wastewater systems for sewage treatment. It is anticipated that development in these Residential classified areas will continue to be primarily single-family homes.

[Hatteras](#) – Several areas of Hatteras village have been designated Residential to reflect their status as existing residential subdivisions. These areas are generally zoned RS-1 and R-2H. Future development is expected to follow existing patterns of predominantly single-family homes. Some of the residential neighborhoods house large vacation rental homes.

[Rodanthe, Waves, Salvo](#) -- The platted subdivisions of these areas are designated Residential in recognition of the restrictive covenants that apply to the areas limiting their development to residential uses.

Other Federal Jurisdiction

There is 45,974 acres of lands classified as Other Federal Jurisdiction on the Mainland FLUM. This area applies within the boundaries of the US Navy-Air Force Bombing Range. The property is used for tactical training and this classification has been assigned to avoid any conflicts with the Conservation classification that applies to other Federal lands.

Conservation

The purpose of this classification is to provide for the effective long-term management and protection of significant, limited, or irreplaceable areas. Management of the areas is needed due to the natural, recreational, scenic, or natural productive values of such lands. Development by federal agencies is exempt from local zoning regulation. However, Dare County encourages federal agencies to consider impacts on adjoining lands and Dare County's communities. Central water may be provided to federal or state buildings located in Conservation areas but urban-style services are generally considered incompatible with the Conservation land class. Authorized development should include conditions that minimize

impacts to any natural, cultural, historic, and scenic values of the areas authorized for development.

This classification applies to all federal lands except for the bombing ranges on the Mainland and some state-owned lands in Frisco and Buxton. The bombing range area is denoted on the future land use map as “other federal jurisdiction” and activities in this area are regulated and managed by the U.S. Department of Defense. This designation was done at the request of the Department of Defense in the 2003 update and has been included again in this latest update. The State-owned property in Buxton and Frisco that comprises the Buxton Woods Coastal Reserve has also been designated with the Conservation class.

Limited Conservation

The purpose of this classification is to provide for the management and long-term viability of privately-owned lands in a maritime forest setting or vast privately-owned wetland areas compatible with a limited range of uses according to specific zoning guidelines. Central water is compatible with this designation to ensure a safe drinking water supply. Limitations on land clearing are consistent with this designation and may also be controlled by zoning regulations. Larger minimum lot sizes may be appropriate as set forth by the applicable zoning regulations.

Buxton/Frisco -- All privately-owned lands in the villages of Frisco and Buxton that are zoned SED-1 or privately-owned lands located in the SED-1 buffer area are classified as Limited Conservation. The SED-1 zoning districts are depicted on the Buxton and Frisco zoning maps. The SED-1 buffer area is described in the Dare County Zoning Ordinance. Development in Limited Conservation areas shall be consistent with the SED-1 zoning regulations. For the SED-1 buffer, development activities shall be consistent with the standards of the SED-1 buffer and other applicable zoning regulations. The minimum lot size for SED-1 zoned property is 40,000 square feet. Land clearing is restricted in the SED-1 zoned areas and the SED-1 buffer area. Central water is available in the Buxton and Frisco areas from the Dare County water system. Wastewater services are generally provided by on-site individual wastewater systems.

Mainland – One area on the Mainland has been designated as Limited Conservation. The area is currently undeveloped and consists mainly of marshland area.

Future Land Use Needs

The following tables list acreage totals from the future land use maps prepared by the Dare County GIS department. Development of commercial, educational, and public facilities in the municipal areas will supplement development in the unincorporated portions of Dare County. Residential development will continue to outpace commercial construction. Redevelopment of older structures and infill development will factor into development activities over the next decade. It is anticipated that there will be little or no development in the Conservation land use class since most of this land is in public ownership. The areas designated as Limited

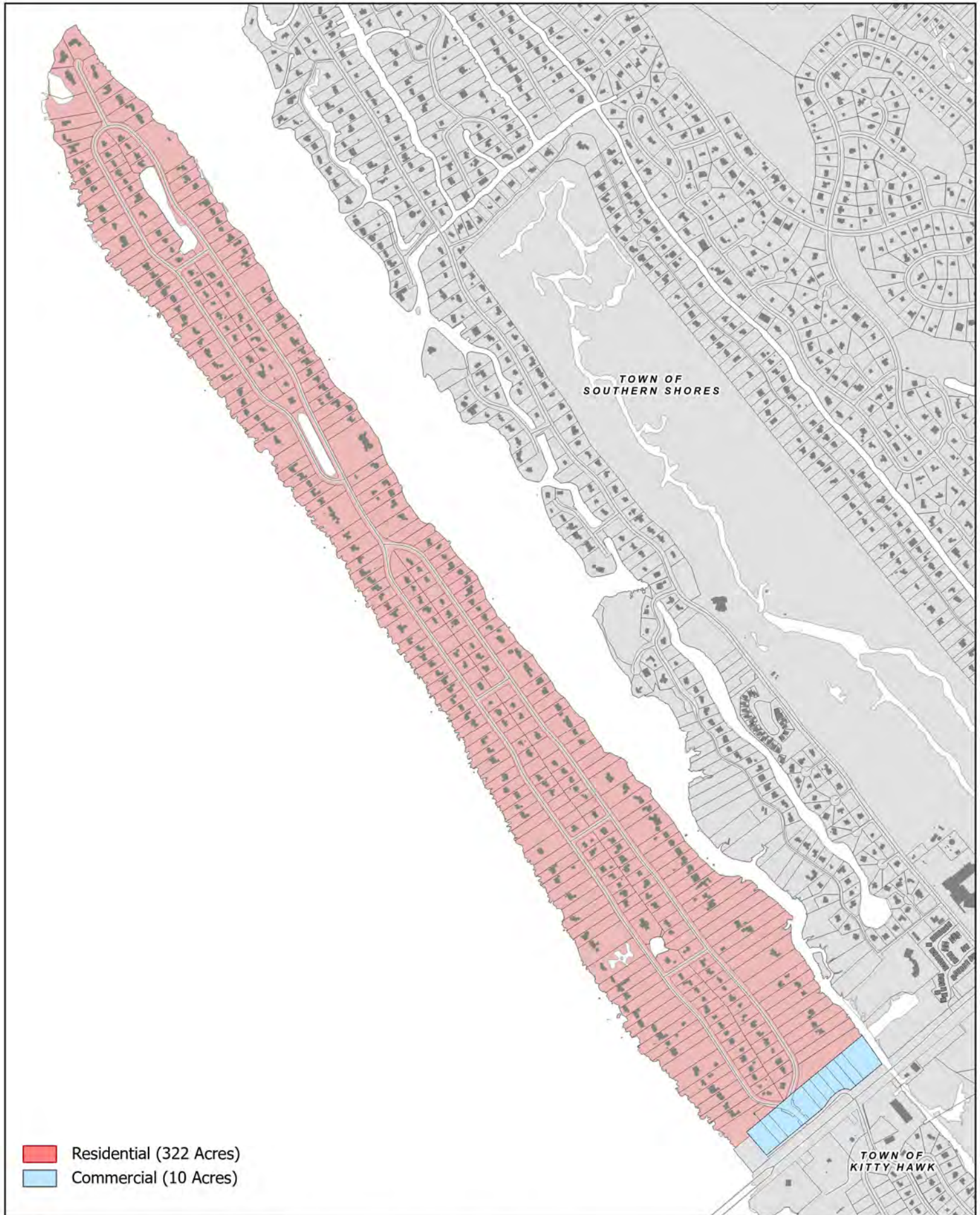
Conservation may experience some development, especially in the Buxton Woods area, but such development will be residential as established by the SED-1 zoning that applies to the majority of Buxton Woods. The majority of commercial development is expected to occur in the Commercial designation on the FLUMs. Historically, commercial land uses represent a smaller percentage of development than residential development or institutional development. Residential and institutional uses may occur in the Commercial area as consistent with the Dare County zoning regulations. The Community Village and the Residential classifications account for the majority of unincorporated Dare County and will likely experience the most development over the next planning period. The majority of the development will be residential in nature although commercial and institutional uses may also occur as permitted by the Dare County zoning regulations.

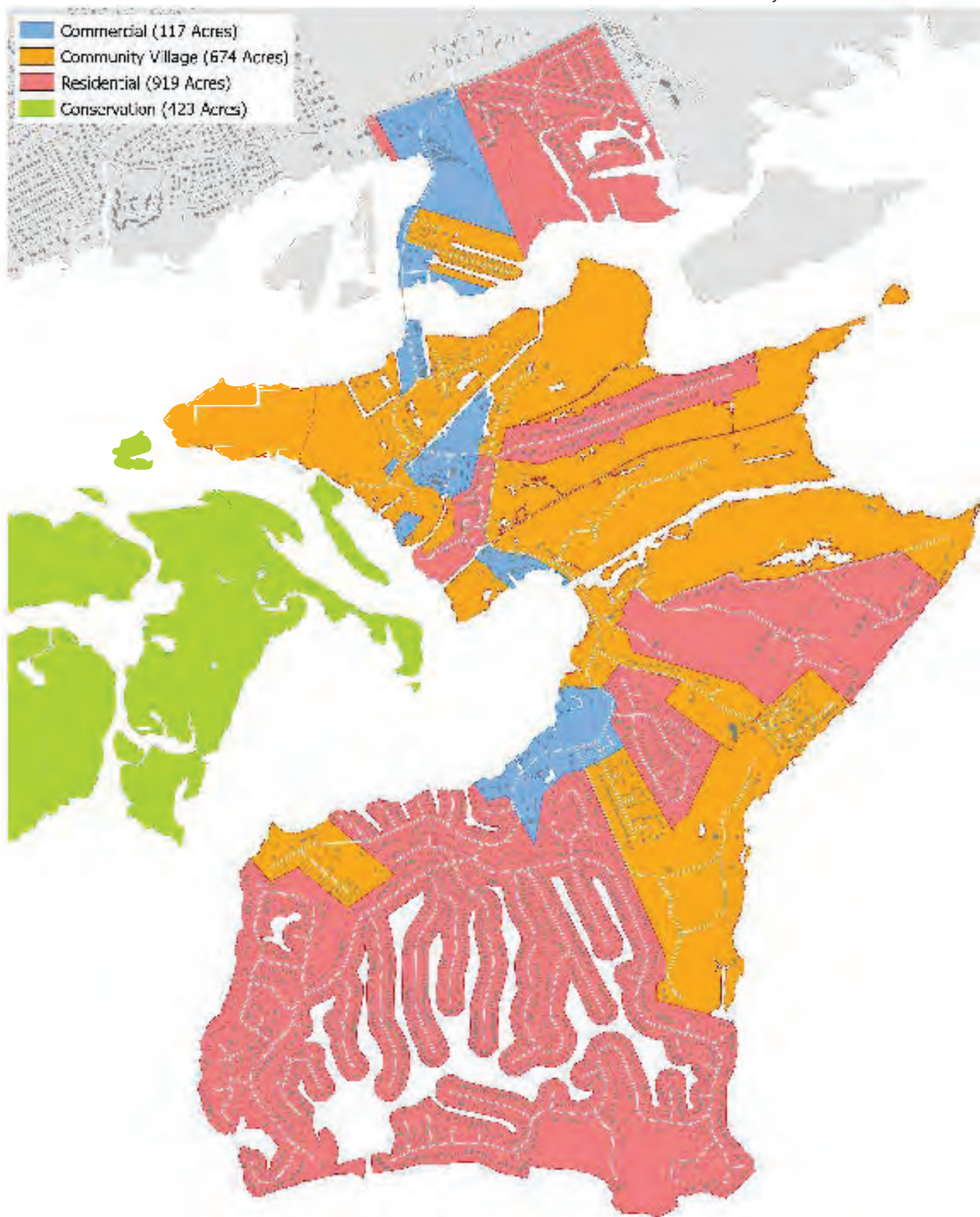
Table 38 – Individual Village Calculations for the FLUM Classifications

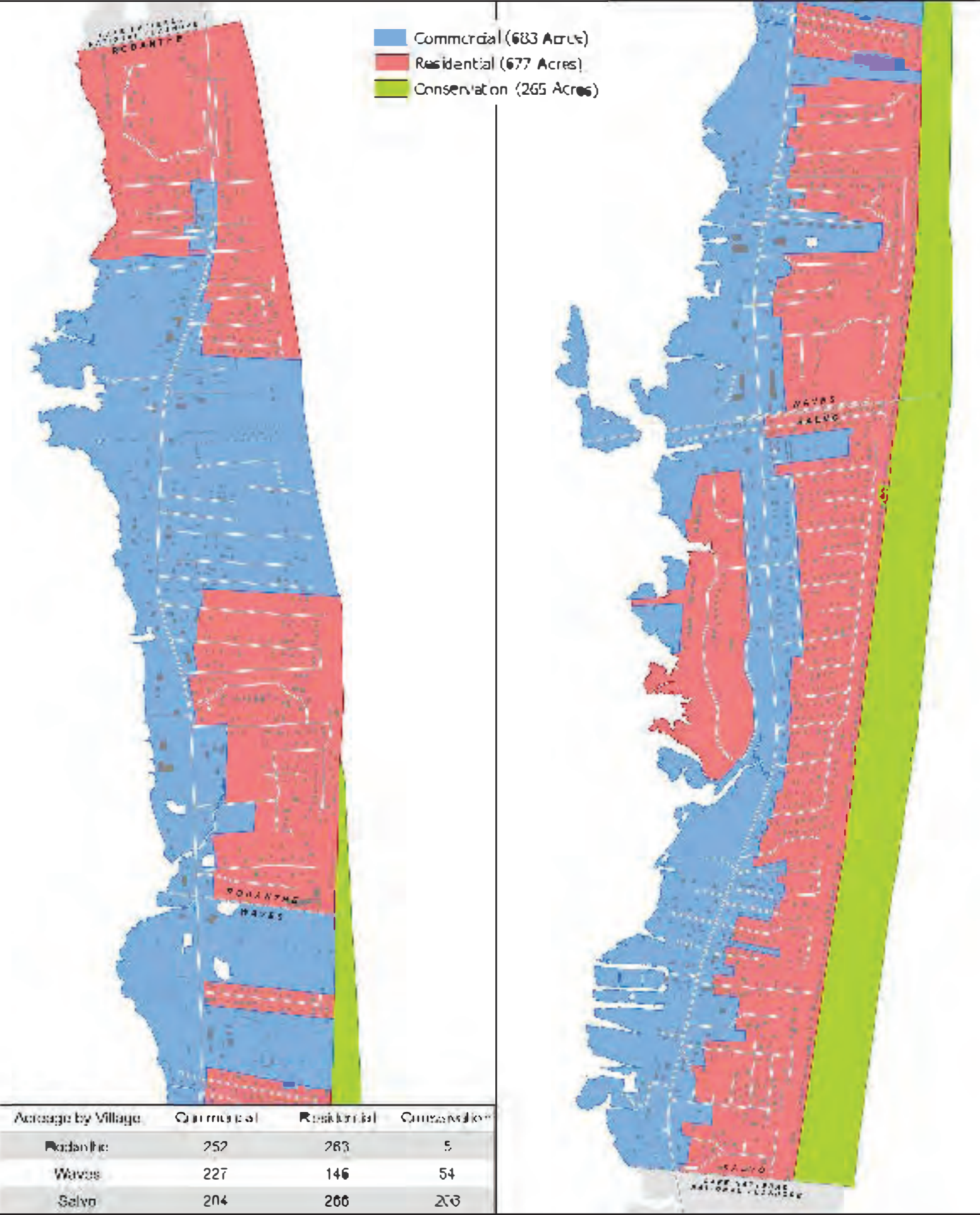
	Commercial	Community Village	Resd.	Cons	Limited Cons.	Other Federal	TOTAL
Colington	117	674	919	423	0	0	2,133
Martins Point	10	0	322	0	0	0	332
Rodanthe	252	0	263	5	0	0	520
Waves	227	0	148	54	0	0	429
Salvo	204	0	266	206	0	0	676
Avon	125	340	757	115	0	0	1,337
Buxton	411	0	501	3,062	1,056	0	5,030
Frisco	745	0	290	1,251	774	0	3,060
Hatteras	234	360	121	233	0	0	948
R Island	797	0	3,176	1,247	0	0	5,220
Wanchese	0	1,241	0	4,559	0	0	5,800
Manns Harbor	177	2,398	0	33,043	0		35,618
Mashoes	0	864	0	150	0	0	1,014
East Lake	0	1,145	0	64,665	3,617	23,896	93,323
Stumpy Point	61	1,451	0	34,285	0	22,076	57,873
TOTAL	3,350	8,473	6,763	143,298	5,447	45,973	213,303

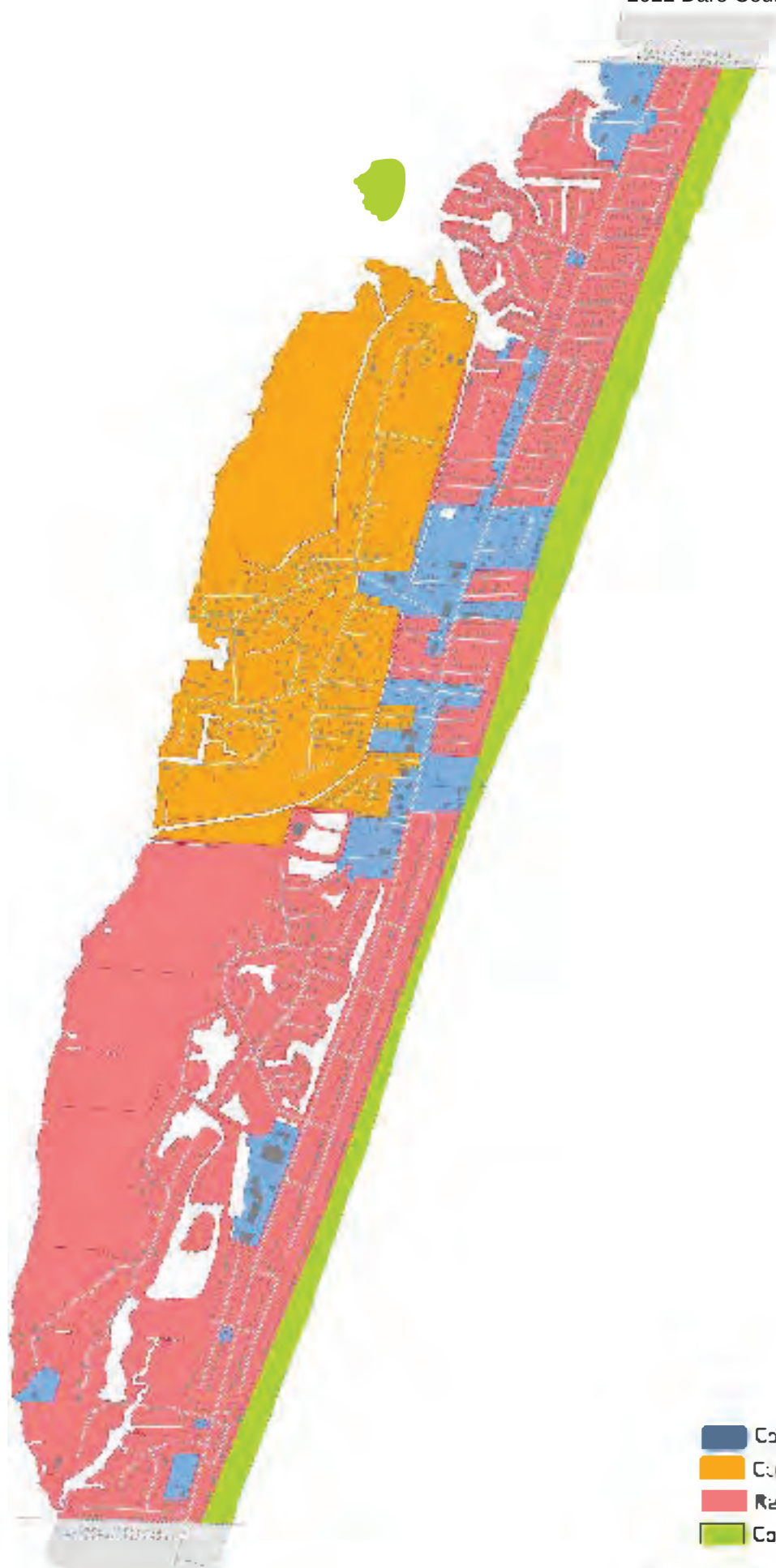
Table 39 FLUM Category Acreages

FLUM	Acres	% of Total
Commercial	3,360	1.6
Community Village	8,473	4.0
Residential	6,763	3.2
Conservation	143,298	67.2
Limited Conservation	5,447	2.5
Other Federal	45,973	21.5
TOTAL	213,313	100









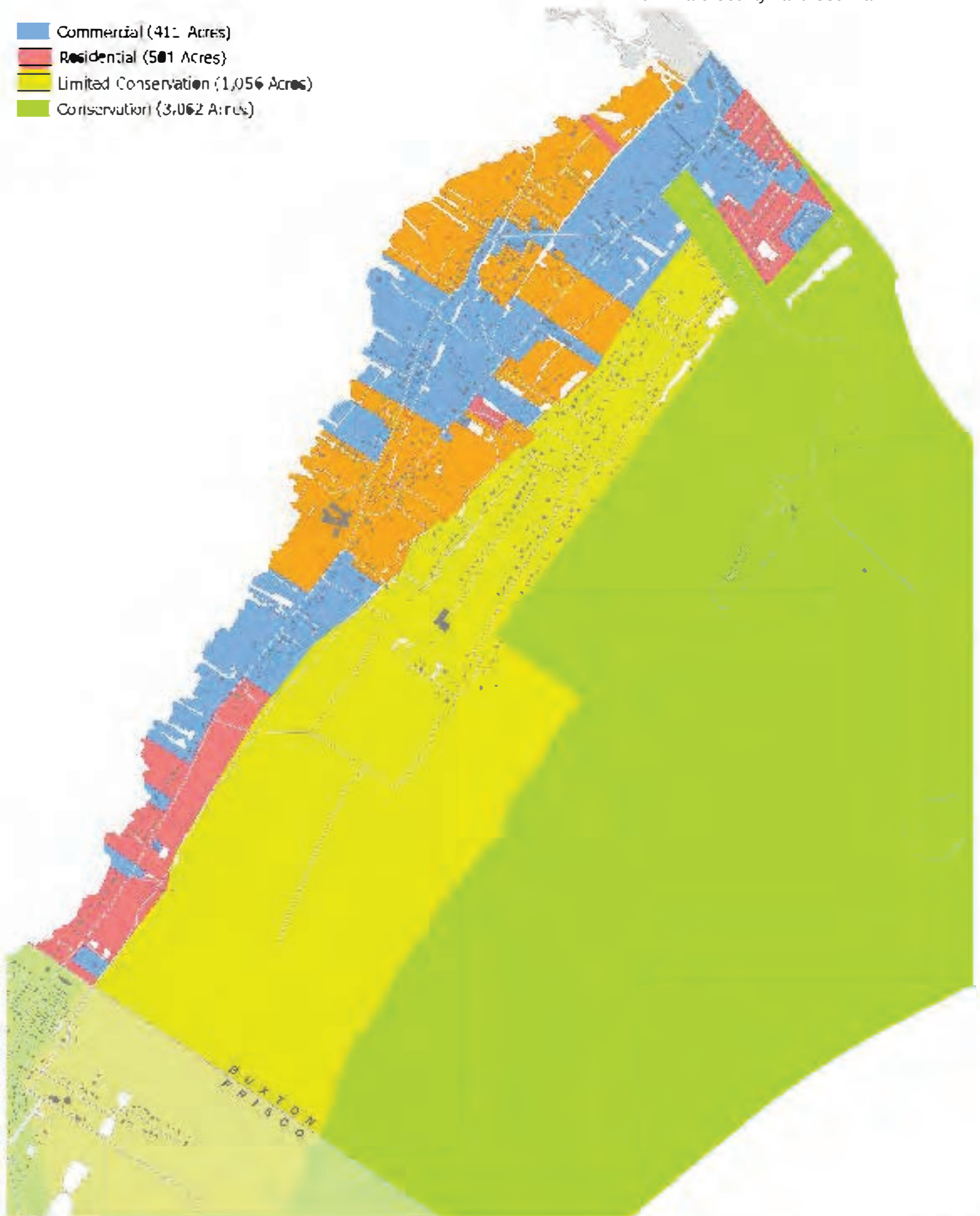
- Commercial (125 Acres)
- Community Village (340 Acres)
- Residential (757 Acres)
- Conservation (115 Acres)



AVON

Future Land Use

- Commercial (411 Acres)
- Residential (501 Acres)
- Limited Conservation (1,056 Acres)
- Conservation (3,062 Acres)



BUXTON

Future Land Use

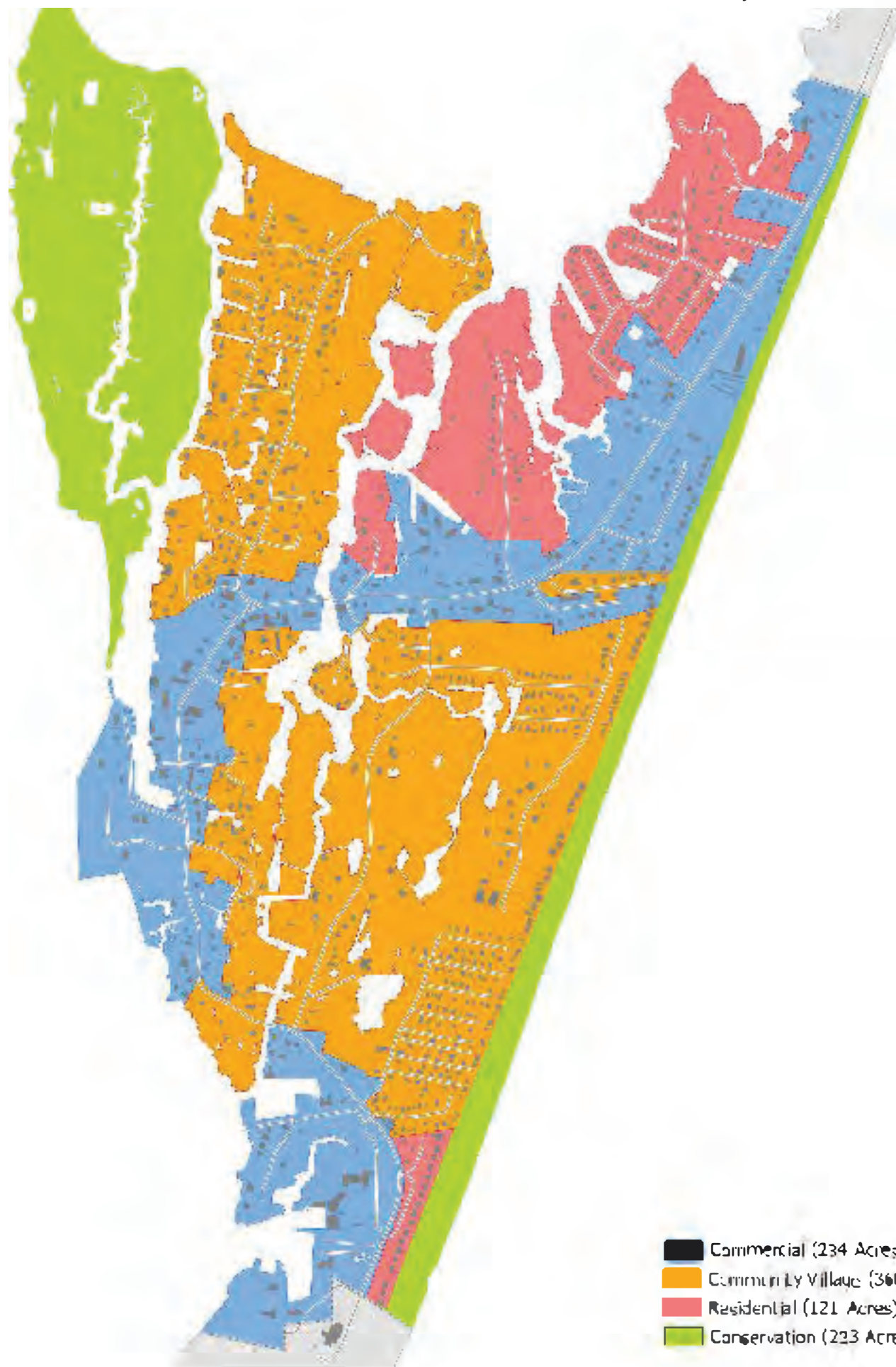
0 1,000 2,000 4,000 Feet

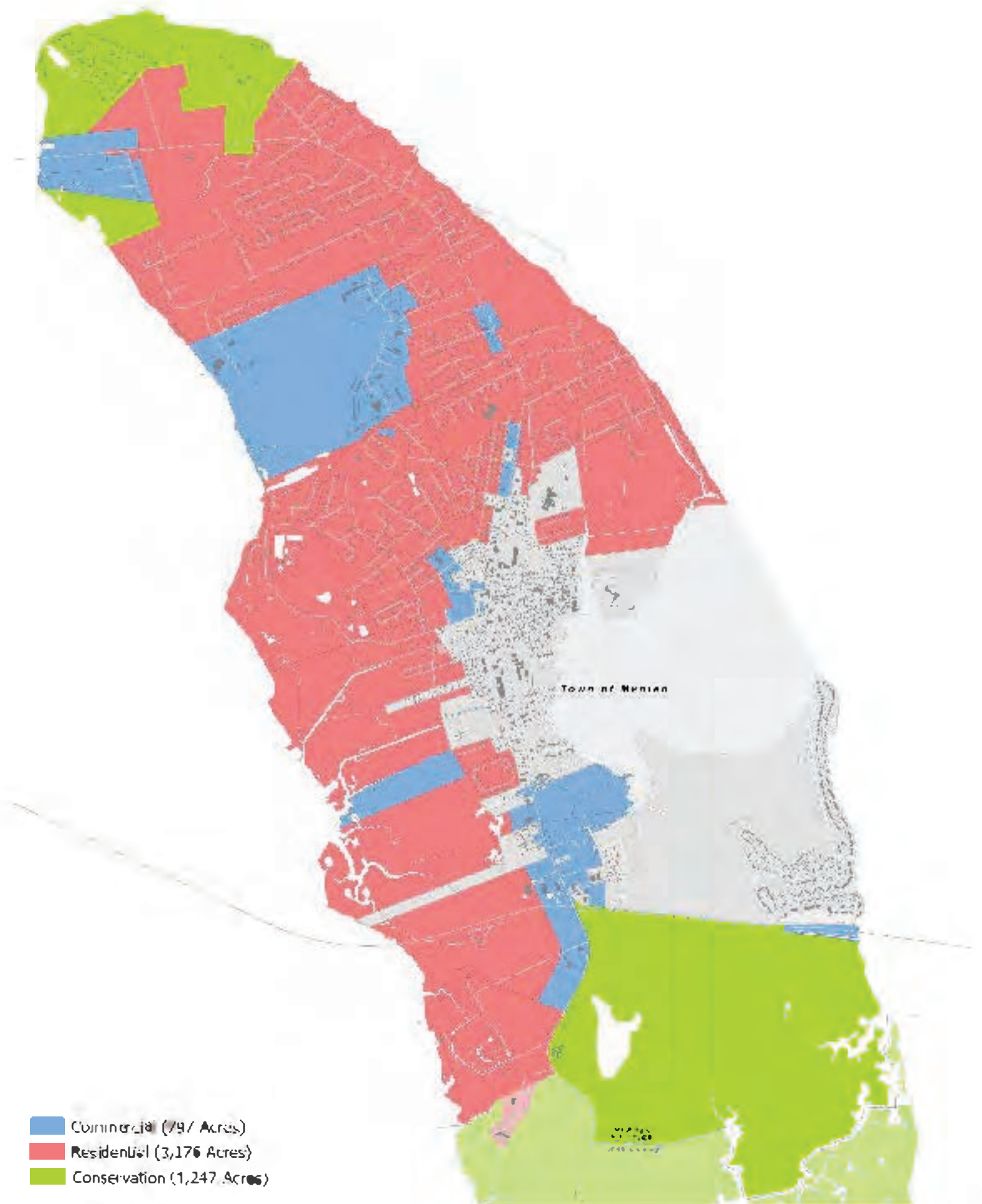


FRISCO

Future Land Use

0 1,250 2,500 5,000 Feet

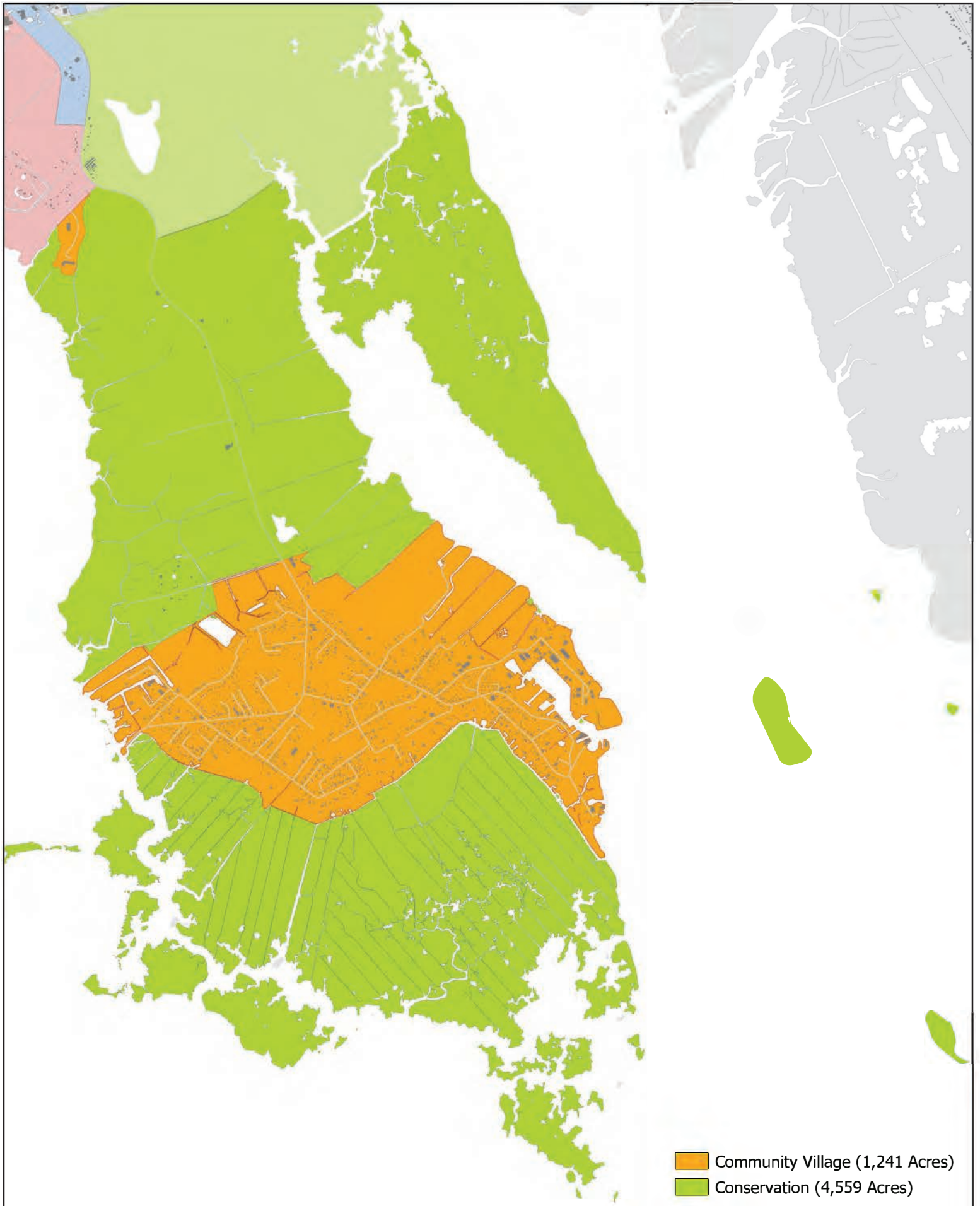




Roanoke Island

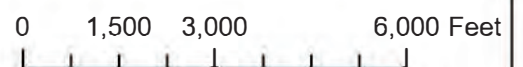
Future Land Use

0 1,500 3,000 6,000 Feet

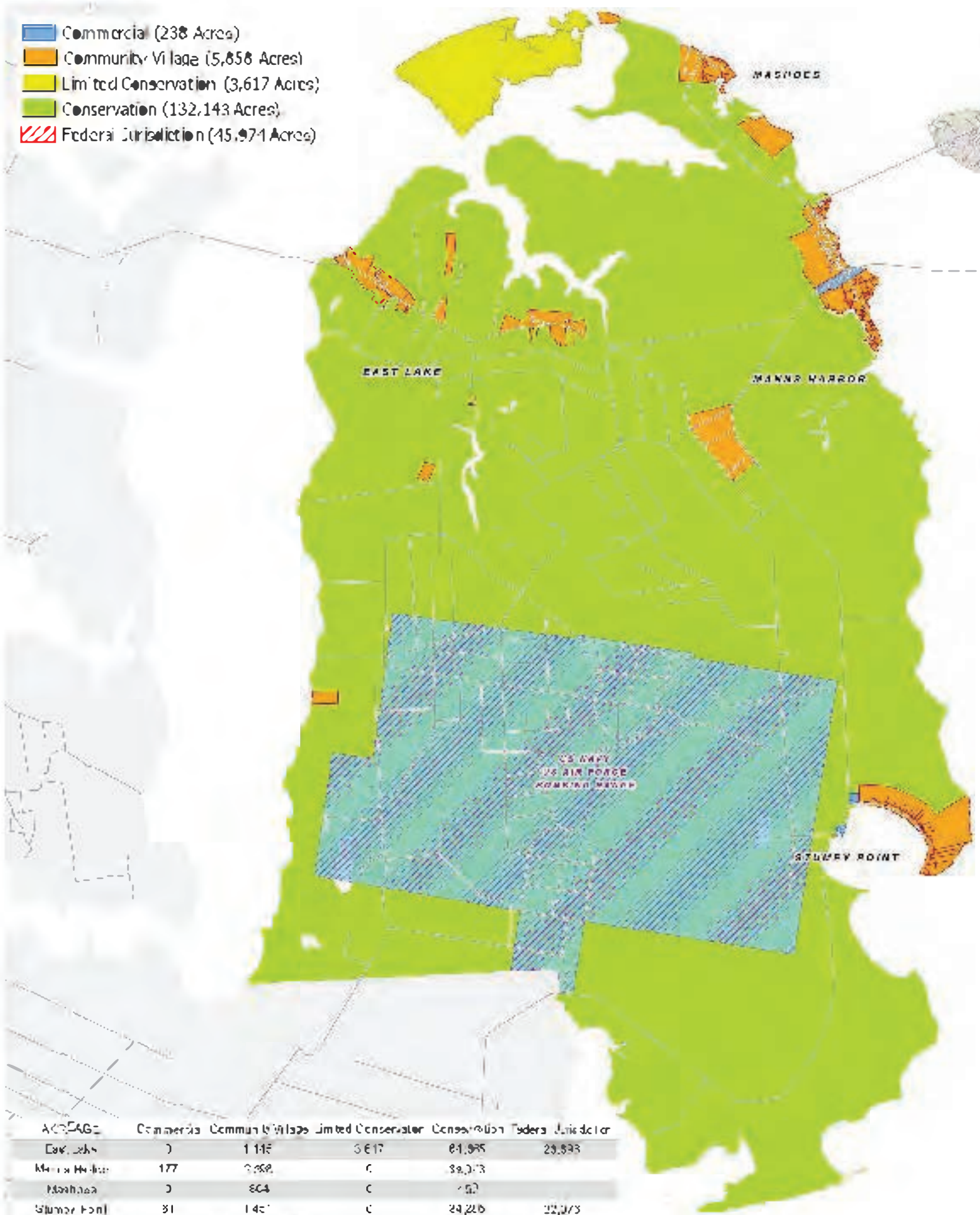


WANCHESE

Future Land Use



- Commercial (238 Acres)
- Community Village (5,858 Acres)
- Limited Conservation (3,617 Acres)
- Conservation (132,143 Acres)
- Federal Jurisdiction (15,971 Acres)



ACRES	Commercial	Community Village	Limited Conservation	Conservation	Federal Jurisdiction
County	0	1,115	3,617	81,935	23,533
Mashoes	177	2,858	0	58,073	
Mashoes	0	864	0	1,502	
Sturdy Point	31	1,451	0	24,225	22,073



MAINLAND

Future Land Use

0 1.75 3.5 7 Miles

SECTION FOUR -- TOOLS FOR MANAGING DEVELOPMENT

Role of Land Use Plan in Decision Making

The Land Use Plan is a policy document used by the Dare County Board of Commissioners, Planning Board, and Planning Department to guide development in the unincorporated areas of Dare County. The policy statements, implementation strategies, and future land use maps are referenced during the review of development projects, rezoning requests, and other land use issues. Although the land use plan and the future land use map are not regulatory documents, the documents are important tools for Dare County. Efforts are made to maintain consistency between the land use plan and development proposals and zoning decisions. North Carolina statutes require all local planning boards and board of commissioners to issue a finding of consistency (or inconsistency) on any proposed zoning map amendment or zoning text amendment regarding the consistency of the proposal with the land use plan or other comprehensive plan. Zoning map or text amendments can be adopted by local officials even if a finding of inconsistency is determined. However, the finding must identify measures that may be taken to address any inconsistency with the land use plan or comprehensive plan. Such steps may include an amendment to the local land use plan or its maps.

Although local land use plans are typically updated every five or ten years, land use plans can be amended if local conditions merit an amendment before the next update cycle. The CAMA guidelines provide an amendment process to allow policies or the future land use maps to be amended if the local government determines such an amendment is necessary. Only the portions proposed for amendment are submitted for certification by the Division of Coastal Management. A public hearing on any proposed land use plan amendment must be held by Dare County before the amendment can be submitted to the State for certification.

For the citizens of Dare County, the land use plan and its maps provide information on issues affecting development in Dare County and other community issues. Demographic information, infrastructure service areas, and information on state and federal regulatory programs that impact Dare County are also available in the plan.

The Division of Coastal Management researches local plans during the review of CAMA major permit applications for development activities in CAMA Areas of Environmental Concerns (AECs) and for federal consistency reviews. Every CAMA major permit application is reviewed for consistency with the policies and maps of the local land use plan. A consistency determination must be rendered by the CAMA staff before a CAMA major permit can be issued. If activities proposed in a CAMA major permit application

are found to be inconsistent with local land use plan policies or the future land use map, then the CAMA major permit may not be issued.

The Dare County Land Use Plan applies to the unincorporated portions of Dare County (Hatteras Island, the Mainland, Colington, Martin's Point, and the areas of Roanoke Island outside the boundaries of the Town of Manteo). The six municipalities in Dare County (Duck, Southern Shores, Kitty Hawk, Kill Devil Hills, Nags Head, and Manteo) all adopt their own land use plans for their respective jurisdictions. These municipal plans should be consulted for policies and future land use maps specific to these six towns.

Existing Development Management Program

There are numerous federal, state and local programs and ordinances that are involved in the development process as detailed in the following sections.

Federal

1. Army Corps of Engineers (ACOE)—The Corps of Engineers has regulatory responsibility for Section 404 or freshwater wetlands, and dredging activities. Permits for wetland alteration and filling activities must be secured from the Corps of Engineers. A field office is maintained in Washington, NC for the permitting of wetland fill permits and other wetland-related activities. The Wilmington district office assists with waterway dredging projects in Dare County.
2. Federal Emergency Management Agency (FEMA) – This federal agency is responsible for the enforcement of floodplain management regulations. The Planning Department enforces the Dare County Flood Damage Prevention Ordinance to ensure development in unincorporated Dare County complies with flood elevations and other flood-related construction standards. FEMA also sponsors a Community Rating System, a voluntary program for local governments to promote flood awareness and adopt higher regulatory standards than those of the National Flood Insurance Program. These activities are awarded points which translates to discounts on flood insurance rates. Dare County participates in the Community Rating System and is currently rated as a Class 6 community with a 20% discount on flood insurance policies.
3. Department of Interior – The National Park Service and the US Fish and Wildlife Service both own large amounts of land in Dare County. Their management plans and policies greatly affect the activities of the citizens and visitors of Dare County. The National Park Service is responsible for management of the Cape Hatteras National Seashore and Fort Raleigh on Roanoke Island. This includes enforcing access restrictions on these federal lands, oversight of federal campgrounds, and visitor information services at these sites. The U.S. Fish and Wildlife manages activities in the Pea Island Wildlife Refuge on Hatteras Island and the Alligator River Wildlife Refuge on the Mainland. Their duties include maintenance of access

facilities and property management of the wildlife refuges for the animal and bird species that inhabit the refuges. Both agencies are involved in the review of transportation and infrastructure projects proposed within their jurisdictions.

State of North Carolina

1. Division of Coastal Management – This State agency is responsible for the administration and enforcement of the Coastal Area Management Act (CAMA), which applies to the twenty-county coastal region of North Carolina. All proposed development in designated CAMA Areas of Environmental Concern (AECs) must be reviewed and approved under these standards. The Coastal Resources Commission is an appointed commission which oversees variances and appeals of the CAMA rules and revises existing CAMA regulations and/or adopts new coastal regulations. Dare County assists with the administration of CAMA regulations through the designation of a Planning staff member as a local permit officer for the review of minor CAMA permits. Major CAMA permits are administered from the Division of Coastal Management regional offices.
2. Division of Water Resources -- The Division of Water Resources is a State agency charged with the protection and management of surface water quality and groundwater quality. Part of these duties include the issuance of stormwater management permits in the coastal area, review of wastewater point source discharges, and water quality monitoring programs. The field office for Dare County is located in Washington NC. This office is responsible for the review and approval of stormwater management permits for development activities in Dare County.
3. Division of Energy, Minerals and Land Resources – This State agency oversees mining activities and is responsible for the issuance of sedimentation and erosion control permits. The field office for Dare County is located in Washington, NC.
4. Department of Transportation – Development projects that intersect or connect to existing State maintained roads must secure NCDOT permits before construction activities commence. NCDOT also prepares and updates the Transportation Improvement Plan (TIP), which outlines proposed transportation improvements in the state.
5. Department of Insurance – This department has supervision and regulatory authority over the State building and fire codes that apply in Dare County and are enforced by the County building inspectors and Fire Marshal.
6. Dept. of Cultural Resources – This State agency is responsible for the identification and protection of historical and archaeologically significant lands and structures.
7. Division of Environmental Health – On-site wastewater treatment systems that involve more than 3,000 gallons per day of effluent are subject to review and

approval by this State agency. Smaller systems are approved locally by the Dare County Environmental Health Department.

Dare County

1. The Dare County Planning Department is responsible for the enforcement and administration of the Dare County Zoning Ordinance, Flood Damage Prevention Ordinance, Dare County Mobile Home Park Ordinance, Dare County Travel Trailer Park and Campground Ordinance, and the Dare County Subdivision Ordinance. The Planning Department serves as the staff for the Dare County Planning Board and the Dare County Board of Adjustment. The Planning staff also administers FEMA mitigation grants, when funds are available, to assist property owners with the elevation of homes to mitigate flood risks.
2. Dare County Building Inspectors – The building inspectors serve under the departmental structure of the Planning Department and are responsible for the enforcement of the NC State building codes.
3. Dare County Health Department – This department is responsible for the review and approval of on-site wastewater systems that involve less than 3,000 gallons per day of effluent. Other duties include inspection of restaurants, daycare centers and public swimming pools.
4. Dare County Water Department – The Dare County Water Department reviews and approves plans for new developments and subdivisions that will be served by the central water system operated by Dare County.
5. Dare County Public Works Department – The Dare County Public Works Department is consulted for comments on the provision of solid waste services and container locations in new subdivisions and new commercial buildings.
6. Dare County Emergency Management Department – This department oversees operations during emergency and storm situations, including the evacuation of Dare County and storm recovery efforts.
7. Dare County Capital Improvements Plan – A five-year Capital Improvement Plan is adopted by the Dare County Board of Commissioners and updated on an annual basis in conjunction with the operating budget process. The CIP outlines capital needs and details the estimated costs, description, and anticipated funding sources for capital projects. A capital asset is defined as an asset with a value of \$50,000 or more and a useful life of five years or more. A Capital Improvements Committee composed of County staff members and members of the Board of Commissioners prepares the CIP for adoption by the Board of Commissioners. Items included in the plan are submitted by the various County departments based on their infrastructure and departmental needs. A copy of the current CIP is available on the Dare County website at www.darenc.com.

Action Plan for 2022 LUP

The CAMA regulations require the inclusion of an “action plan” or schedule for the implementation strategies that have been identified in Section Three of the LUP update. The policies and implementation strategies have been combined into a quick reference guide on the following pages. The implementation strategies are arranged by management topic and the associated policy or policies. A projected implementation date is included with the implementation strategy. Some of the implementation strategies represent on-going activities undertaken by Dare County and have been so noted. Some of the implementation strategies identify new regulations for consideration or amendments to existing ordinances for consideration.

Public involvement is an important component in the development of the LUP update and during the implementation phase as well. Efforts to ensure continued public input will be undertaken by Dare County as follows:

1. Notification of proposed ordinance adoption or ordinance amendment as required by North Carolina General Statutes. This involves advertisement of the ordinance or amendment in a local newspaper of general circulation, and when required by State law, notification of adjoining property owners depending on the type and scope of proposed regulations.
2. Posting of proposed implementation actions on Dare County website:
www.darenc.com
3. Electronic notification to local media list. This list is developed by the Dare County Public Relations Department and updated as needed.
4. Coordination of other County departments as needed.

MANAGEMENT TOPIC #1– PUBLIC ACCESS	
2022 POLICY	IMPLEMENTATION STRATEGY
PA#1-- Dare County supports the preservation and protection of the public's right to access and use of the public trust areas and waters.	1. Identify and pursue appropriate grant opportunities for access sites to public trust waters and public trust areas. Any new public access sites shall address the needs of handicap persons and address those needs to the maximum extent practicable in working with the natural conditions of the site. (PA #1-3) <i>Priority: On-going</i>
PA #2-- Dare County reserves the right to review, comment, advocate, or oppose any proposed Federal or State regulations or programs that affect the public trust waters or public trust areas.	
PA #3--Dare County supports North Carolina's shoreline access policies and grant programs and recognizes the importance of shoreline access to our local residents and our tourist economy. Thus, the County will continue to seek opportunities to expand access, including opportunities for the disabled, and to secure funding for beach nourishment in order to maintain wide sandy beaches.	
PA #4 -The County recognizes the importance of four-wheel drive vehicles and pedestrian access to the beaches of Dare County that are under the management authority of the federal government. The historical practice of vehicular and pedestrian access to the beaches of Dare County should continue to be supported by the National Park Service in their efforts to comply with applicable federal laws and species management activities. Impacts on Dare County's local economy are important elements that should be a factor in any decision-making process of the U.S. Department of Interior and its agencies with land ownership interests in Dare County. Any future effort to completely prohibit beach driving on these federally managed areas is opposed as is any effort to limit or decrease the current level of ORV access to our beaches.	1. Continue to monitor ORV management plans and, when necessary, actively engage with the National Park Service to ensure vehicular and pedestrian access to all beaches of Dare County. <i>Priority: On-going</i>

MANAGEMENT TOPIC #1– PUBLIC ACCESS	
2022 POLICY	IMPLEMENTATION STRATEGY
PA #5 --Continue to advocate for the long-term protection of NC 12 on Pea Island and Hatteras Island to ensure access for residents and visitors to all areas. Dare County supports all bridge construction activities for access to Pea Island and Hatteras Island and other NCDOT management activities to ensure access along NC 12 on a daily basis and after storm events. Proactive approaches to the short-term maintenance requirements and long-term viability of entire length of NC 12 are supported.	1. Continue to participate in the Albemarle Regional Planning Organization's review of the NC Department of Transportation's State Transportation Improvement Plan (STIP) which scores all proposed transportation infrastructure projects, including the NCDOT ferry system. <i>Priority: On-going</i> 2. Facilitate grant opportunities, when appropriate, for infrastructure construction and maintenance of existing improvements. <i>Priority: On-going</i>
PA #6 --Dare County supports efforts to protect working waterfronts and harbors to ensure their continued viability as working waterfronts and access to public trust waters. Dare County supports the operation of the Dare County Commission for Working Watermen and will seek grant funding, when opportunities occur, to acquire sites that currently serve as working waterfronts or sites that may be utilized as working waterfronts.	1. Continue to facilitate the Dare County Commission for Working Watermen in membership, meeting facilities and other support activities as needed. <i>Priority: On-going</i> 2. Support dredging activities to ensure access to all harbors, inlets and working waterfronts. <i>Priority: On-going</i>
PA #7 --Beach nourishment is the preferred shoreline management alternative along the ocean beaches of Dare County. In addition to beach nourishment, the use of terminal groins, offshore reefs, and other similar techniques as authorized by the State of North Carolina are compatible with the shoreline management goals of Dare County especially when used to support the longevity of beach nourishment projects.	1. Implement beach nourishment activities to address shoreline erosion along the ocean areas of Dare County. <i>Priority: High</i> 2. Support the use of terminal groins, offshore reefs, and other similar structures as authorized by the State on North Carolina. <i>Priority: On-going</i>
PA #8 -- Dare County supports the maintenance of wildlife preservation areas and refuges. Access by the public, including vehicular access to beaches, for wildlife harvesting and observation should not be prohibited.	1. Work with federal agencies to allow continued access to federal property in Dare County for hunting (including hunting with dogs), fishing, and other similar activities. <i>Priority: On-going</i>

MANAGEMENT TOPIC #2– LAND USE COMPATIBILITY

2022 POLICIES	IMPLEMENTATION STRATEGIES
LUC#1 --Dare County recognizes the importance of our coastal village heritage and will continue to foster this heritage through the use of appropriate land use policies, regulatory guidelines, and other County ordinances	1. Evaluate zoning amendments (both map and text amendments) in terms of how the proposal addresses impacts on our historic coastal villages. Items for consideration should include compatibility of the proposal with existing land uses, the scope of the proposal, and the manner in which the proposal will be accomplished. (LUC#1-LUC#4) <i>Priority: Medium</i>
LUC #2 Public sector and private sector development activities should acknowledge Dare County's coastal heritage by incorporating features reflective of this heritage in building designs, architectural features, and other site improvements.	2. Monitor, and when appropriate, participate in the development of federal and state regulatory programs that may impact the historic use of land in Dare County, the historic industries of the Outer Banks and the historic way of life of Dare County residents. (LUC#1-LUC#4) <i>Priority: On-going</i>
LUC #3 -- The limited amount of privately-owned lands in Dare County results in a mutual relationship between the unincorporated villages and the Dare County municipalities to address the residential, commercial and institutional needs of Dare County as a whole. Development in the municipalities supplements the consumer, service and institutional needs of the residents of unincorporated Dare County. When practicable, Dare County will coordinate infrastructure needs and construction with the municipalities.	3. Consider commercial building design guidelines that incentivize private sector development to incorporate coastal village architectural styles into their building design, signage and other site improvements versus the use of franchise or corporate building designs. (LUC#1-LUC#4) <i>Priority: Medium</i>
LUC #4 -- Dare County will continue to work with federal, state and non-profit agencies with land ownership or regulatory interests in Dare County to ensure the traditional uses and practices of our coastal villages are incorporated into the management plans and regulatory programs instituted by these agencies.	4. Develop a handbook of coastal village architectural styles. (LUC#1-LUC#4) <i>Priority: Medium</i>
LUC #5 -- All development and redevelopment shall be constructed to mitigate the coastal hazards associated with Dare County's island topography through application of the NC Building Code, NC Division of Coastal Management regulations, and the Dare County Flood Damage Prevention Ordinance. Travel trailers, campers, boats, or other units designed for recreational purposes are not appropriate for use as permanent, year-round housing.	1. Enforce applicable federal, state, and local regulations to mitigate wind and flood risks for new construction and redevelopment activities. <i>Priority: On-going</i>

MANAGEMENT TOPIC #2– LAND USE COMPATIBILITY	
2022 POLICIES	IMPLEMENTATION STRATEGIES
LUC#6 Residential development shall be the preferred land use in unincorporated Dare County for seasonal accommodations and year-round housing. All new residential structures, whether attached or detached, are encouraged at a scale that is consistent with existing neighborhood patterns of development.	1. Administer existing zoning regulations and zoning maps that feature a majority of residential zoning districts. Existing dimensional regulations for lot coverage limitations, building heights, and minimum lot size for residential uses are appropriate. (LUC#6 –LUC#7) <i>Priority: On-going</i>
LUC #7 -- Diversification of housing opportunities to address the housing needs of Dare County's year-round population is supported. Multi-family dwellings and other types of residential structures, such as accessory use dwellings, are appropriate alternatives. Amendments of existing dimensional requirements to create flexibility for the development of year-round housing may be acceptable if such amendments are consistent with existing patterns of development and scale of neighborhoods.	
LUC #8 -- Dare County supports the continued existence of locally-owned businesses in unincorporated Dare County. Zoning regulations that allow the reconstruction and rebuilding of existing non-conforming businesses are the appropriate tool to support this goal	1. Consider zoning amendments for non-conforming commercial structures to facilitate their replacement or repair in the event of damage from a natural disaster. (LUC#8-LUC#10) <i>Priority: On-going</i>
LUC #9-Commercial development should be designed to meet the needs of Dare County's unincorporated villages and not designed to serve as regional commercial centers. The prohibition of drive-thru window service at restaurants and gross floor area limitations are examples of appropriate tools for this goal.	2. Continue to enforce existing gross floor area regulations to manage the size of commercial development at a neighborhood level. <i>Priority: On-going</i> 3. Continue to enforce drive-thru service restrictions for restaurants and consider extending these restrictions to those commercial districts that currently do not include such restrictions. (LUC#8-LUC#10) <i>Priority: On-going</i>
LUC #10 -- Commercial businesses, regardless of size, should individualize their sites and building designs to reflect Dare County's coastal heritage. Franchise and corporate businesses are strongly encouraged to adapt their building designs and management plans to reflect Dare County's coastal village heritage	4. Consider commercial building design guidelines that incentivize private sector development to incorporate coastal village architectural styles into their building design, signage and other site improvements versus the use of franchise or corporate building designs. (LUC#8-LUC#10) <i>Priority: Medium</i>

MANAGEMENT TOPIC #2– LAND USE COMPATIBILITY	
2022 POLICIES	IMPLEMENTATION STRATEGIES
LUC # 11 Impacts on the local workforce should be considered by private sector developers when large-scale commercial developments are proposed for unincorporated Dare County. Transportation for workers and the provision of employee housing are two issues that should be discussed with developers during review of such projects by Dare County.	No associated implementation strategy
LUC #12 Redevelopment of older structures shall be accomplished in a manner that is compatible with current NC building codes, federal flood insurance regulations and Dare County zoning regulations.	No associated implementation strategy
LUC #13 The siting of industrial development should be evaluated relative to its impacts on environmentally sensitive natural areas and compatibility with existing patterns of development. Boat building, commercial fishing and construction are recognized as traditional industries and employment sectors in Dare County that are consistent with our coastal heritage.	1. Rely on the standards of the Dare County Zoning Ordinance for the siting and development of industrial development of both maritime-related uses and non-maritime related uses. <i>Priority: On-going</i>
LUC #14 Diversification of Dare County's economy to include compatible industries, such as medical support services and educational and research facilities, are encouraged. These types of facilities provide employment opportunities and quality of life support for our residents without detriment to our natural resources.	No associated implementation strategy
LUC #15 Due to potential land use conflicts and hazardous conditions associated with airports and landing strips, development of properties adjacent to such uses should be done in awareness of these potential conflicts and conditions. Private sector development proposals on lands adjacent to airports and landing strips should be evaluated based on their impacts on existing flight patterns and runway zones. Proposals to expand existing services or infrastructure improvements at the Dare County Regional Airport or other airport facilities in Dare County shall be reviewed on a case by case basis. Support or opposition may be offered depending on the terms of the proposal, its potential impacts on the community, and its potential economic and transportation benefits.	1. Enforce the Airport Overlay zoning regulations to address land uses, especially building height issues, on land adjacent to and surrounding the Dare County Regional Airport on Roanoke Island. <i>Priority: On-going</i> 2. Adopt additional airport overlay regulations, as needed, to address land uses on land adjacent to and surrounding the Billy Mitchell airstrip in Frisco. <i>Priority: low</i>

MANAGEMENT TOPIC #2– LAND USE COMPATIBILITY	
2022 POLICIES	IMPLEMENTATION STRATEGIES
LUC #16 Proposals to expand the area of the existing bombing ranges on the Dare County Mainland should be reviewed on a case-by-case basis with support or opposition offered depending on the terms of the proposal and its potential impacts on the local community.	No associated implementation strategy
LUC #17 For those sand mining activities not subject to regulation by the State of North Carolina, Dare County shall rely on the dune alteration regulations of the Dare County Zoning Ordinance to ensure all dune alteration activities are minimal and meet the sloping standards to ensure safety and erosion control. Proposals for other mineral extraction operations shall be reviewed on a case by case basis with support or opposition offered depending on the impacts for Dare County.	1. Administer Section 22-58.1 Dune Alteration Standards and other applicable sections of the Dare County Zoning Ordinance. <i>Priority: On-going</i>
LUC #18 Tree clearing and land disturbing activities on residential lots or other private property should be done prescriptively or according to the guidelines of NC Cooperative Extension office or other state agencies.	5. Promote best management practices by referrals to State agencies and work with Outer Banks Homebuilders Association to promote best management practices with local general contractors. <i>Priority: On-going</i>
LUC #19 The Dare County Board of Commissioners supports the protection of structures, lands and artifacts that have been identified by the NC Department of Cultural Resources, Division of Archives and History, as archaeologically or historically significant. On a case-by-case basis, individual protection/management strategies should be implemented to ensure archaeological and/or historical resources are not destroyed. Whenever possible, artifacts from historical sites on land or water, which are placed on public display should be done so in Dare County.	No associated implementation strategy
LUC #20 The vast amount of Dare County land currently owned by public agencies and/or non-profit agencies should be recognized by agencies wishing to acquire additional parcels for public and/or non-profit ownership. Additional acquisitions should be evaluated in terms of public purpose benefits and impacts on tax revenues for Dare County.	No associated implementation strategy

MANAGEMENT TOPIC #2– LAND USE COMPATIBILITY	
2022 POLICIES	IMPLEMENTATION STRATEGIES
LUC #21 Dare County advocates a combination of managed development guided by the Dare County SED-1 zoning ordinance and the Limited Conservation classification on the future land use map for the Buxton Woods maritime forest. A continued program of acquisition of privately-owned lands by the State for the Buxton Woods Coastal Reserve is also supported.	1. Administer the SED-1 zoning ordinance. <i>Priority: On-going</i>
LUC #22 For those commercial forestry activities that may occur in Dare County, such forestry activities shall be done in accordance with the standards and recommendations of the US Forest Service. Voluntary participation in the State of North Carolina’s best management practices for forestry management is advocated.	No associated implementation strategy
LUC #23 For those crop agricultural activities that may occur on the Mainland area of Dare County, Dare County advocates voluntary participation in the State of North Carolina’s best management practices for farm management.	No associated implementation strategy
LUC #24 Wholesale or industrial livestock operations in unincorporated Dare County are opposed.	No associated implementation strategy

MANAGEMENT TOPIC #3—INFRASTRUCTURE CARRYING CAPACITY	
2022 POLICIES	IMPLEMENTATION STRATEGIES
ICC #1 The current minimum lot size standards as established in the Dare County Zoning Ordinance shall not be reduced regardless of the method of wastewater treatment. Amendments of minimum lot size for the development of year-round housing may be acceptable if such amendments are consistent with existing patterns of development and scale of neighborhoods.	1. Use of minimum lot size standards of the Dare County Zoning Ordinance and the Dare County Subdivision Ordinance for the development of new subdivisions in unincorporated Dare County. <i>Priority: On-going</i>
ICC #2 Maintenance of privately-owned package treatment plants should be supervised by the NC Utilities Commission or other public agencies.	No associated implementation strategy
ICC #3 Centralized wastewater treatment and collection systems, for both on-site and off-site service, are considered appropriate methods for wastewater treatment in addition to the use of individualized on-site wastewater systems and traditional septic tank/drainfield systems.	1. Require the establishment of escrow accounts for maintenance and repairs for any new privately-owned centralized wastewater facilities approved for development in unincorporated Dare County. <i>Priority: On-going</i>
ICC #4 Dare County recognizes that the approval of wastewater systems in unincorporated Dare County is regulated by the State of North Carolina and that all systems approved by the State may be authorized for use in Dare County.	No associated implementation strategy
ICC #5 Public services shall be provided to meet the needs of our permanent and seasonal population and to provide residual capacity for unanticipated contingencies	1. Copies of proposed site plans and subdivisions shall be sent to appropriate Dare County agencies and State agencies for review and comment. <i>Priority: On-going</i>
ICC #6 Dare County encourages intergovernmental cooperation with the municipalities and its surrounding counties to study and identify the transportation needs of Dare County and our region.	1. Participate in the Albemarle Commission's Rural Planning Organization and the RPO's annual identification and scoring of transportation infrastructure projects in the North Carolina State Transportation Improvement Plans. <i>Priority: On-going</i>
ICC #7 Dare County supports the development and construction of sidewalks, bike paths, greenways, and other walking/jogging trails as alternative transportation routes and to provide a safe setting for outdoor recreation.	1. Submit grant funding requests, when appropriate, for the construction of bike and pedestrian infrastructure improvements. The use of special tax districts is also an appropriate method of funding for multi-modal improvements, if approved by the community. <i>Priority: On-going</i>

MANAGEMENT TOPIC #3—INFRASTRUCTURE CARRYING CAPACITY	
2022 POLICIES	IMPLEMENTATION STRATEGIES
ICC #8 Dare County encourages the recordation of roads and streets as “publicly-dedicated” improvements. Dare County shall not be responsible for maintaining or repairing privately owned streets. The proposed layout of new subdivision streets shall be coordinated with the existing road system of the surrounding area and, where practical, existing principal streets shall be extended.	1. Administer the Street standards of Subdivision Ordinance for new subdivisions approved in unincorporated Dare County. <i>Priority: On-going</i>
ICC #9 Dare County supports the NC Department of Transportation’s ferry system including the use of passenger ferries to supplement the use of vehicular ferries. The ferry system is an integral part of the North Carolina transportation infrastructure program. Support services to the passenger ferry, such as tram vehicles and pathways, are important to the success of the passenger ferry system.	
ICC #10 Dare County recognizes the importance of the numerous waterways located in our area. The use of these waterways is an essential element of the commercial fishing industry and our tourist economy. These waterways serve as transportation corridors for many residents of Dare County who make their living as commercial fishermen or in the sport-fishing industry. Dare County shall advocate for the recognition of these waterways as transportation corridors by the NC Department of Transportation for funding of improvement and maintenance activities.	1. Support the Dare County Waterways Commission and the Oregon Inlet Task Force as needed to advocate for the protection, longevity, and maintenance of Dare County’s waterways. <i>Priority: On-going</i> 2. Work with federal and state agencies to identify sites for the disposal of dredge spoil materials. <i>Priority: On-going</i>
ICC #11 Dare County will continue to participate in a regional solid waste authority. Other alternatives that are identified as more practicable or economical may be considered on a case-by-case basis. Use of Dare County sites and private sector vendors for recycling are encouraged. Annual programs for disposal of hazardous materials by Dare County are supported.	1. Continue to operate Dare County recycling centers and conduct annual hazardous waste and large item pick-up collections. <i>Priority: On-going</i>

MANAGEMENT TOPIC #3—INFRASTRUCTURE CARRYING CAPACITY	
2022POLICIES	IMPLEMENTATION STRATEGIES
ICC #12 Dare County is opposed to the offshore exploration and drilling of natural gas and oil. This includes any exploratory drilling, seismic testing or other testing activities. Dare County is opposed to the development of any petro-chemical energy facility or related improvements within its jurisdictional lands and/or waters. This includes all structures, operations, and activities associated with petro-chemical energy facility development, such as but not limited to, on-shore support bases for offshore exploration activities, staging areas, transmission and/or production pipelines, pipeline storage yards, and other similar structural activities and improvements related to petro-chemical energy facility development, exploration, or production.	No associated implementation strategy
ICC #13 Proposals for research and development of alternative energy sources, such as wind and solar powered devices, shall be reviewed on a case-by-case basis.	1. Amend the Dare County Zoning Ordinance or other land use codes as may be necessary in response to alternative energy sources. <i>Priority: On-going</i>
ICC #14 Dare County will partner with North Carolina colleges and universities to expand secondary and technical educational opportunities. Programs that support local industries, such as real estate, hospitality, construction and commercial fishing, are encouraged to support our workforce. College preparedness classes and continuing education should be offered at local campuses of College of the Albemarle and East Carolina University Coastal Studies Institute.	No associated implementation strategy

MANAGEMENT TOPIC #4–NATURAL HAZARDS	
2022 POLICIES	IMPLEMENTATION STRATEGIES
NH #1 Oceanfront shoreline development should continue to be managed to protect and preserve the natural and recreational resources along the oceanfront. The appropriate tools are the existing CAMA permit program and the Areas of Environmental Concerns (AECs) designated under the CAMA program. Dare County reserves the right to review, comment, advocate, or oppose any proposed regulations or programs that may affect the regulation of ocean hazards areas of environmental concern.	1. Rely on existing CAMA AEC regulations to address development activities along the ocean beaches, estuarine shoreline, and other public trust areas in unincorporated Dare County. Dare County will continue to participate in the CAMA permitting process with the provision of a local permit officer for unincorporated Dare County. <i>Priority: On-going</i> 2. Rely on existing regulations of the Dare County Zoning Ordinance for development activities along the ocean front. <i>Priority: On-going</i>
NH#2 Estuarine shoreline development should continue to be managed to protect and preserve the natural resources of the estuarine waters and the estuarine shoreline. The appropriate tools are the existing CAMA permit program and the Areas of Environmental Concerns (AECs) designated under the CAMA program. Dare County reserves the right to review, comment, advocate or oppose any proposed regulations or programs that may affect the regulation of estuarine waters and/or the estuarine shoreline.	1. Rely on existing CAMA AEC regulations to address development activities along the ocean beaches, estuarine shoreline, and other public trust areas in unincorporated Dare County. Dare County will continue to participate in the CAMA permitting process with the provision of a local permit officer for unincorporated Dare County. <i>Priority: On-going</i> 2. Rely on existing regulations of the Dare County Zoning Ordinance for development activities along the estuarine shoreline areas. <i>Priority: On-going</i>
NH#3 Dare County supports the installation and maintenance of estuarine bulkheads. Offshore breakwaters, slopes, rip-rap, and voluntary setbacks are appropriate alternatives for property owners for addressing estuarine shoreline management in lieu of estuarine bulkheads where these other techniques may be equally effective in abating a shoreline erosion problem. The use of living shorelines to re-establish estuarine shorelines that have eroded are supported.	1. Rely on existing CAMA AEC regulations to address development activities along the estuarine shoreline and other public trust areas in unincorporated Dare County. Dare County will continue to participate in the CAMA permitting process with the provision of a local permit officer for unincorporated Dare County. <i>Priority: On-going</i>
NH#4 Development of estuarine system islands that are only accessible by boat shall be carefully managed. Low intensity uses such as open space, recreation, and detached single family residential development shall be the preferred uses of these islands.	No associated implementation strategy

MANAGEMENT TOPIC #4—NATURAL HAZARDS

2022 POLICIES	IMPLEMENTATION STRATEGIES
NH#5 Dare County shall participate in National Flood Insurance Program and the Community Rating System. Dare County encourages property owners to protect their property with flood insurance. Dare County reserves the right to review, comment, advocate, or oppose any proposed regulations or programs that may affect the National Flood Insurance Program or other federal or state flood hazard legislation.	1. Participate in Community Rating System for reductions of flood insurance rates for property owners in unincorporated Dare County. <i>Priority: On-going</i> 2. Enforce local elevation standards in conjunction with flood maps to ensure appropriate elevation of structures in unincorporated Dare County. <i>Priority: On-going</i>
NH#6 Dare County supports the use of appropriate construction methods, local zoning regulations and North Carolina's coastal management programs to mitigate erosion, high winds, storm surge and other coastal hazards that impact Dare County. Innovative natural and nature-based projects to address resiliency of our communities may be appropriate and shall be reviewed on a case-by-case basis in terms of their positive effects for Dare County.	1. Administer Dare County Flood Ordinance, Zoning Ordinance and CAMA regulations to mitigate coastal hazards. <i>Priority: On-going</i>
NH#7 Dare County shall monitor efforts of the insurance industry to implement insurance rate increases or to decrease the availability of insurance for structures located in Dare County. Participation in public hearings and resolutions opposing such proposals are appropriate tools to be used by Dare County as needed.	No associated implementation strategy
NH#8 Dare County is committed to maintaining a full-time emergency management department and emergency operation center and places a high priority on storm preparedness and response. The Dare County Board of Commissioners shall be ultimately responsible for supervising the implementation of various policies and procedures regarding reconstruction and recovery after a natural disaster.	1. Work with Dare County Emergency Management personnel on storm hazard mitigation and reconstruction issues as needed. (NH#8-NH#11) <i>Priority: On-going</i>
NH#9 Recovery priority shall be directed to restoring or repairing infrastructure improvements such as transportation routes, utilities, and medical and emergency management facilities. Once the infrastructure has been restored, recovery priorities shall then be directed at essential commercial and primary residential structures.	

MANAGEMENT TOPIC #4—NATURAL HAZARDS

2022 POLICIES	IMPLEMENTATION STRATEGIES
NH#10 In the event of extensive storm damage, alternative locations for publicly owned utilities or other infrastructure that will mitigate the potential for similar repetitive losses will be examined and implemented whenever feasible and practicable during replacement or reconstruction.	
NH#11 In the event of a damaging hurricane, storm, or other disastrous event, the Dare County Board of Commissioners may establish a priority ranking system or other administrative measures for the issuance of building permits and/or review of development proposals. Such measures may be established to provide for the orderly processing of permits for reconstruction activities and other construction activities not associated with storm damage recovery with an emphasis on reconstruction activities.	
NH#12 The relocation of sand that may be deposited on private property during storm events and ocean overwash is necessary to accommodate storm damage recovery efforts. Dare County shall work with the Division of Coastal Management following such events to assist property owners with sand relocation efforts as appropriate.	1. As may be needed following flooding or overwash events in which the issue of sand relocation may be pertinent. <i>Priority: On-going</i>
NH#13 Global warming, sea level rise and other climate changes have the potential to impact Dare County. These impacts include coastline erosion, coastal and inland flooding and high wind along with secondary impacts on property values and insurance rates. Adaption initiatives and mitigation measures by federal and state agencies may be proposed to address these impacts. Such proposals will be reviewed by Dare County on case by case basis with support or opposition offered depending on the impacts to Dare County.	1. Administer the NC Building codes, federal and local floodplain regulations and Dare County zoning regulations to protect existing and proposed land uses. <i>Priority: On-going</i> 2. Fund and maintain beach nourishment projects. <i>Priority: High</i> 3. Participate in the Community Rating System for reduction of flood insurance rates for property owners in unincorporated Dare County. <i>Priority: On-going</i>

MANAGEMENT TOPIC #5–WATER QUALITY	
2022 POLICIES	IMPLEMENTATION STRATEGIES
WQ#1 Dare County recognizes the importance of water quality to our community. Water quality in other regions of North Carolina influences and impacts the water quality of Dare County. This is particularly true where inland communities use point-source discharge of treated wastewater to surface waters that drain into the coastal waters. Efforts to preserve, protect and improve water quality in all areas of North Carolina and Dare County are encouraged.	No associated implementation strategy
WQ #2 Development projects shall be designed and constructed to minimize detrimental impacts on surface water quality, groundwater quality, and air quality. Property owners are encouraged to use best management practices to manage natural topography, wetland areas and vegetation.	1. Enforce dune alteration standard of Section 22-58.1 of the Dare County Zoning Ordinance. <i>Priority: On-going</i>
WQ#3 Protection of public water supply resources and groundwater resources is essential for a safe drinking water supply. Development in existing public water supply AECs shall be in accordance with CAMA regulations and any local zoning regulations that may apply, such as increased minimum lot size standards and limited vegetation removal regulations of the Buxton Woods SED-1 zoning regulations. These zoning regulations are designed to reduce the threat of potential negative impacts and pollutants from affecting the surficial aquifer underneath the Buxton Woods maritime forest.	1. Enforce CAMA use standards for Buxton Woods wellfield AEC and Buxton SED-1 zoning regulations. <i>Priority: On-going</i>
WQ#4 Dare County shall rely on North Carolina stormwater management regulations for development activities that trigger State permits and the Dare County Subdivision Ordinance for stormwater management in new subdivisions subject to Planning Board review and approval. Best management practices, such as low-impact stormwater improvements, are encouraged for development that falls below the State-mandated thresholds. Dare County reserves the right to comment, oppose or support any new State regulations that may impact Dare County.	1. Implement Dare County Floodwater Pumping Plan, as needed, to address emergency flooding conditions following storm events and heavy rainfall events. <i>Priority: On-going</i> 2. Maintain and repair existing stormwater improvements on County property. Monitor stormwater improvements on private property to ensure maintenance activities approved as permit conditions are performed. <i>Priority: On-going</i>

MANAGEMENT TOPIC #5–WATER QUALITY	
2022 POLICIES	IMPLEMENTATION STRATEGIES
WQ#5 Dare County advocates increased funding for maintenance and repair of drainage improvements in North Carolina Department of Transportation rights-of-way. A perpetual funding source should be identified by the State for this purpose and administered by the NC Department of Transportation on a county-by-county basis similar to the secondary road maintenance program. Other funding sources to assist with construction and maintenance of stormwater improvements shall be investigated by Dare County. Existing ditches should be maintained to historical depths to ensure full functionality as drainage improvements.	1. Pursue grant funding, when available, to assist with repair and maintenance of drainage ponds and ditches in Dare County. <i>Priority: On-going</i> 2. Research the use of stormwater utility districts to fund infrastructure improvements and maintenance activities of ditches and other drainage improvements. <i>Priority: Medium</i>
WQ#6 Dare County recognizes the public health issues associated with mosquitoes and standing areas of water and the public safety issue for motorists presented by stormwater ponding on roadways.	1. Continue full-time staffing of mosquito control program. <i>Priority: On-going</i>
WQ#7 Dare County recognizes the importance of wetlands for their role in floodplain management, fisheries habitats and water quality. Dare County supports current state and federal wetland programs as administered by the NC Division of Coastal Management and the US Army Corps of Engineers in 2019. This support is based on the current scope of the Corps nationwide permitting program and the CAMA wetlands program. Dare County reserves the right to review, comment, advocate, or oppose any proposed regulations or programs that may affect the regulation of wetland areas of environmental concern or 404 wetlands as administered by the federal government.	1. Support implementation and enforcement of CAMA use standards for wetlands by Division of Coastal Management staff and US Army Corps of Engineers staff for 404 wetlands. <i>Priority: On-going</i>
WQ#8 The use of wetland mitigation to compensate for the loss of wetlands is a suitable alternative for projects identified as “public purpose projects” or projects undertaken by Dare County. The use of wetland mitigation for private development projects may be deemed suitable if such projects are consistent with other policies of the Dare County Land Use Plan and recognized as serving a public need by the Dare County Board of Commissioners.	No associated implementation strategy

MANAGEMENT TOPIC #5–WATER QUALITY	
2022 POLICIES	IMPLEMENTATION STRATEGIES
WQ#9 Dare County supports the installation of estuarine bulkheads. Offshore breakwaters, slopes, rip-rap and voluntary setbacks are appropriate alternatives for estuarine shoreline management in lieu of estuarine bulkheads where these other techniques may be equally effective in abating a shoreline erosion problem. The use of living shorelines to re-establish estuarine shorelines that have eroded are supported.	1. Rely on existing CAMA AEC regulations to address development activities along the ocean beaches, estuarine shoreline, and other public trust areas in unincorporated Dare County. Dare County will continue to participate in the CAMA permitting process with the provision of a local permit officer for unincorporated Dare County. <i>Priority: On-going</i> 2. Rely on Dare County zoning regulations to guide development activities along estuarine shoreline areas. <i>Priority: On-going</i>
WQ#10 Dare County recognizes the importance of our surrounding waters that serve as habitats for the area’s abundant fisheries resources. The continued productivity of these fisheries shall be fostered through appropriate restoration and protection measures. The designation of primary nursery areas by the State of North Carolina is a suitable tool for the protection of fisheries resources.	1. Support the Dare County Commission of Working Watermen. (WQ#10-WQ#13) <i>Priority: On-going</i>
WQ#11 Regulatory programs should balance the needs of both commercial fishermen and recreational fishermen. Efforts to restore depleted or threatened species should be reviewed on a regular basis by the regulatory agencies. When successful restoration is achieved as documented through landing records, catch quotas and access to the species should be adjusted accordingly.	
WQ#12 Dare County recognizes commercial fishing as an important industry of our area. The use of traditional shellfish and fish harvesting methods including trawling and beach haul netting are supported. Vehicular access to Dare County beaches by commercial fisherman is essential to their continued livelihood. Dare County supports efforts to promote locally harvested seafood. Aquaculture as a source of fisheries production is supported provided such efforts do not negatively impact fisheries.	

MANAGEMENT TOPIC #5–WATER QUALITY

2022 POLICIES	IMPLEMENTATION STRATEGIES
WQ#13 Efforts to restrict commercial fishing, a historical industry of Dare County, by recreational fishing advocacy groups and/or federal or state agencies shall be reviewed on a case by case basis with support or opposition offered depending on impacts to Dare County. Regulatory initiatives and/or legislation limiting access to fisheries or prohibiting the commercial catch and sale of certain species should be subject to extensive public input, including public hearings in Dare County.	
WQ#14 Marinas, developed according to applicable State and federal guidelines are identified as appropriate uses in Dare County due to the large amount of water resources within our jurisdiction. Facilities built for dry-stack storage of boats should be consistent with height limits and gross floor area limitations of applicable Dare County zoning codes.	1. Encourage marina operators to participate in the voluntary Clean Marina certification program administered by the State of North Carolina Division of Coastal Management. <i>Priority: On-going</i>
WQ#15 Dare County is strongly opposed to the mooring of floating homes and other floating structures designed for habitation and occupancy anywhere in unincorporated Dare County and its surrounding waters. This policy shall not be interpreted to preclude the permitting of floating accessory structures for recreational water use associated with kiteboarding or other water use activities or the permitting of floating docks permitted according to CAMA guidelines.	1. Consider regulations to prohibit floating homes and structures in unincorporated Dare County. <i>Priority: On-going</i>

MANAGEMENT TOPIC #6–LOCAL ISSUES	
2022 POLICIES	IMPLEMENTATION STRATEGIES
LI#1 Additional Federal or State regulatory programs or expansion of existing programs will be reviewed on a case by case basis. Dare County reserves the right to support, oppose, review, or comment on additional regulations that may impact Dare County and its economy. Local public hearings by federal or state agencies should be extensively advertised and conducted in Dare County before any new regulations are adopted or existing programs are expanded.	No associated implementation strategy
LI#2 Dare County encourages federal and state regulatory agencies to consider impacts from activities occurring on their lands on surrounding privately-owned land and communities. Although Dare County acknowledges federal and state properties are exempt from local zoning and other land use ordinances, federal and state agencies should coordinate their efforts with local officials whenever practicable.	No associated implementation strategy
LI#3 Dare County recognizes the importance of tourism to our local economy and supports efforts to maintain our status as a desirable place to live, visit and vacation. Tourist-generated revenues should be used to maintain and improve our facilities and infrastructure and to offset community impacts of tourism as authorized by NC statutes.	No associated implementation strategy
LI#4 The quality of life of Dare County is affected by the resiliency of our community to withstand and recovery from natural hazards, economic downshifts, and societal influences. Insufficient housing, high costs of insurance, inflated costs of living, and substance abuse are all issues that impact the viability of our community. The Dare County Board of Commissioners shall strive to strengthen our community with appropriate programs for public health, safety, and welfare to ensure our residents continue to enjoy a prosperous and sustainable quality of life.	No associated implementation strategy
LI#5 Dare County supports the active involvement of all interested persons in its land use planning and policy development activities.	No associated implementation strategy

MANAGEMENT TOPIC #6–LOCAL ISSUES	
2022 POLICIES	IMPLEMENTATION STRATEGIES
LI#6 Dare County recognizes the importance of Oregon Inlet, Hatteras inlet, and all waterways in Dare County. Dredging and associated maintenance activities of navigable channels, canals, boat basins, marinas and all waterways is vital to the sustainability of our waterways since they play an essential part in the County's transportation network and economy.	1. Continue to work with the Army Corps of Engineers and State agencies to secure permit authorization and funding for dredging projects. This shall be accomplished through the work of the Dare County Board of Commissioners, the Dare County Waterways Commission and the Oregon Inlet Task Force. <i>Priority: On-going</i>
LI #7 Dare County supports efforts, as needed, to control or eradicate invasive submerged aquatic species, such as Eurasian milfoil, hydrilla and alligator weed, in compliance with the regulations and policies established by the State of North Carolina.	No associated implementation strategy
LI#8 Dare County shall monitor efforts of the insurance industry to implement insurance rate increases or to decrease the availability of insurance for structures located in Dare County. Participation in public hearings and resolutions opposing such proposals are appropriate tools and should be used by Dare County when needed.	No associated implementation strategy