

Hurricane Matthew Resilient Redevelopment Plan

Carteret County



May 2017

Version 1.2

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Change Log

Version	Date	Summary of Changes
1.1	6/15/17	Minor Revisions
1.2	8/25/17	Labor and unemployment data updated

Executive Summary

In October 2016, Hurricane Matthew caused widespread destruction in the Caribbean and up the Eastern Seaboard of the United States. In North Carolina, at least 26 people lost their lives, and 100,000 homes, businesses, and government buildings sustained damage estimated at \$4.8 billion¹. At the storm's peak, 3,744 individuals fled to 109 shelters across the region. More than 800,000 households lost power and 635 roads were closed, including the major east-west and north-south corridors.

In December 2016, the North Carolina General Assembly established the North Carolina Resilient Redevelopment Planning (NCRRP) program as part of the 2016 Disaster Recovery Act (*Session Law 2016-124*). The purpose of the program is to provide a roadmap for community rebuilding and revitalization assistance for the communities that were damaged by the hurricane. The program empowers communities to prepare locally driven recovery plans to identify redevelopment strategies, innovative reconstruction projects, and other needed actions to allow each community not only to survive but also to thrive in an era when natural hazards are increasing in severity and frequency.

The NCRRP consists of planning and implementation phases and is managed through North Carolina Emergency Management.

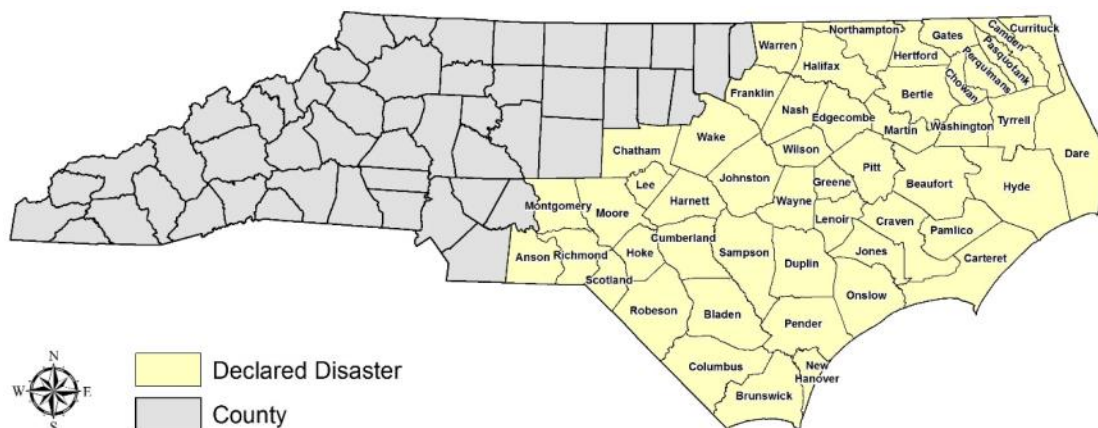


Figure 1: NCRRP Counties

This document is a snapshot of the current needs of the County regarding holistic recovery and redevelopment. The plan will evolve as the county analyzes the risk to its assets, identifies needs and opportunities, determines the potential costs and benefits of projects, and prioritizes projects. As projects are more fully defined, the potential impact on neighboring communities and the region may lead to modifications.

Implementation of the proposed projects and actions described in this plan is subject to applicable federal, state, and local laws and regulations. Proposed projects or actions may be eligible for state or federal funding, or could be accomplished with municipal, nonprofit, or private investments. However, inclusion of a project or action in this plan does not guarantee that it will be eligible for recovery funding.

¹ State of North Carolina Supplemental Request for Federal Assistance Hurricane Matthew Recovery, <https://governor-new.s3.amazonaws.com/s3fs-public/documents/files/Hurricane%20Matthew%20Relief--2017%20Federal%20Request%20%28002%29.pdf>.

After multiple public meetings, Carteret County has identified 28 projects in four pillars: Housing, Infrastructure, Economic Development, and Environmental. Details of these projects can be found in Section IV of this plan.

Pillar	Project/Action Count
Housing	6
Economic Development	8
Infrastructure	9
Environment	5
Grand Total	28

Table 1. Carteret County Summary of Projects by Pillar



1. Background

1. Background

Summary of Hurricane Matthew Storm Damage

Hurricane Matthew was an extraordinarily severe and sustained event that brought record-level flooding to many areas in eastern North Carolina’s coastal plain, sound, and coastal communities. Hurricane Matthew hit North Carolina on October 8, 2016, as a Category 1 storm. Communities were devastated by this slow-moving storm primarily by widespread rainfall. During a 36-hour period, up to 18 inches of heavy rainfall inundated areas in central and eastern North Carolina.

Riverine flooding began several days after Hurricane Matthew passed and lasted for more than 2 weeks. New rainfall records were set in 17 counties in the Tar, Cape Fear, Cashie, Lumber, and Neuse River watersheds. Entire towns were flooded as water levels throughout eastern North Carolina crested well beyond previously seen stages.

During the peak of the hurricane, 800,000 households lost power and 635 roads were closed, including a section of I-40 West in Johnston County that was closed for 7 days, and sections of I-95 North and South in Robeson and Cumberland Counties that were closed for 10 days.

Approximately 88,000 homes were damaged and 4,424 were completely destroyed. Losses totaled more than \$967 million, representing an economic loss as high as 68% of the damages, or \$659 million, not expected to be covered by insurance or FEMA assistance.

North Carolina Governor McCrory requested FEMA assistance on October 9, 2016, and FEMA subsequently declared a major disaster (DR-4285) for North Carolina on October 10, 2016, for 48 counties encompassing approximately 325 cities, towns, townships, and villages.

Preliminary estimates indicate more than 30,000 businesses suffered physical or economic damage, and 400,000 employees were affected as a result. Hurricane Matthew also had a significant impact on the agriculture and agribusiness economy in eastern North Carolina. The nearly 33,000 agricultural workers and 5,000 agricultural-support workers hit by the storm account for more than half of the state’s agriculture and agriculture-support workforce.

Initial economic analysis of the impacts of crop and livestock losses caused by Hurricane Matthew estimated the loss of more than 1,200 jobs and roughly \$10 million in state and local income and sales tax revenue. ²

State / Legislative Response

North Carolina’s response to Hurricane Matthew included 2,300 swift-water rescues using 79 boats and more than 90 air rescues. North Carolina also deployed over 1,000 National Guard and State Highway Patrol to assist with rescue and sheltering missions. There were 3,744 individuals transported to 109 shelters across central and eastern North Carolina during the storm’s peak.

FEMA’s disaster declaration made 50 counties eligible for FEMA assistance, 45 of which are eligible for Individual Assistance and Public Assistance and 5 of which are eligible for Public Assistance only.

² *Governors McCrory’s Request for Federal Assistance for Hurricane Matthew Recovery, November 14, 2016*

- There were 81,832 individuals registered for FEMA/state assistance.
- Federal/state financial assistance in the amount of \$92.5 million was approved to help flood survivors recover.
- Small Business Administration (SBA) loans approved for individuals after Hurricane Matthew totaled \$65.6 million.
- SBA loans approved for businesses after Hurricane Matthew totaled \$23.2 million.

After the immediate response period, North Carolina Governor McCrory and the North Carolina General Assembly took the steps summarized below to obtain and allocate long-term funding for Hurricane Matthew.

November 1: The Hurricane Matthew Recovery Committee is established. Preliminary damage assessments are completed, and the State Emergency Response Task Force continues to administer programs and identify needs unmet by existing federal programs.

November 14: Governor McCrory formally submits North Carolina’s request for supplemental federal disaster assistance to the delegation as Congress returns to work.

Late November/Early December: Congress appropriates supplemental disaster assistance for North Carolina. After the supplemental federal disaster recovery assistance package is received, Governor McCrory submits a supplemental state disaster assistance package (House Bill 2) recommendations to the General Assembly and calls a special session. Governor McCrory then signs the Hurricane Matthew Recovery Act to fund disaster recovery efforts.

This supplemental federal assistance was to focus on housing, infrastructure, economic development, and the environment. These four pillars were to be funded through the following programs and agencies: The U.S. Department of Housing and Urban Development’s Community Development Block Grant–Disaster Recovery (CDBG-DR) program, Army Corps of Engineers Operations and Maintenance, the FEMA National Dam Safety Program, the Federal Highway Administration’s Emergency Highway Funding, and the U.S. Department of Agriculture’s Emergency Conservation and Watershed Protection programs.

Resilient Redevelopment Planning

The purpose of the NCRRP program is to provide a roadmap for communities in eastern North Carolina to rebuild and revitalize after being damaged by Hurricane Matthew. The program empowers communities to prepare locally driven, resilient redevelopment plans to identify redevelopment strategies, innovative reconstruction projects, and other actions to allow each community not only to survive, but also to thrive in an era when natural hazards are increasing in severity and frequency.

The NCRRP process employs a holistic approach to planning that includes four pillars: housing, infrastructure, economic development, and the environment. Redevelopment strategies and reconstruction projects for each of the four pillars is included in each plan.

The NCRRP process consists of planning and implementation phases and is managed through North Carolina Emergency Management (NCEM).

Scope of the Plan

This document is a snapshot of the County's current needs for achieving holistic recovery and redevelopment. The plan will evolve as the County analyzes the risk to its assets, identifies needs and opportunities, determines the potential costs and benefits of projects, and prioritizes the projects. As projects are more fully defined, the potential impact on neighboring communities and the region may lead to modifications.

Planning objectives are to (1) develop strategic, resilient redevelopment plans and actions, and (2) to define any unmet funding needed to implement such actions after taking into account other funding sources.

The resulting resilient redevelopment plans will be the foundation for any supplemental funding received through Congress, the North Carolina General Assembly, and other funding sources. These plans will also be the basis for the state's Recovery Action Plan, which is required by the U.S. Department of Housing and Urban Development before the state can expend funds received from the CDBG-DR program.

Local Participation and Public Engagement

Stakeholder engagement and public involvement was an essential component of the NCRRP initiative. Three robust rounds of discovery, analysis, collaboration, and interaction were held with each affected county. Each meeting had two components: an in-depth working session with county officials, subject matter experts, and planners from the affected counties and municipalities; and a public open house. The purpose of each meeting was as follows:

Meeting 1 – Initiated the planning process and validated the existing data pertaining to damage and impacts.

Meeting 2 – NCEM presented draft documentation of resilient redevelopment strategies and received feedback from community leaders and the public.

Meeting 3 – NCEM presented refined resilient redevelopment strategies based on feedback from Meeting 2 and received additional feedback for finalization of the plan.

Each of the 50 counties that were declared a major disaster by the President of the United States as a result of Hurricane Matthew under the Stafford Act (P.L. 93-288) participated in the resilience redevelopment planning process. Each municipality in those counties, as well as the five economic development regions that sustained damage from Hurricane Matthew, were also invited to participate.

The counties impacted by the storm cover the eastern half of North Carolina and occupy parts of the piedmont, sand hills, and coastal areas of the state. A map depicting Carteret County surrounding counties is shown on the following page.

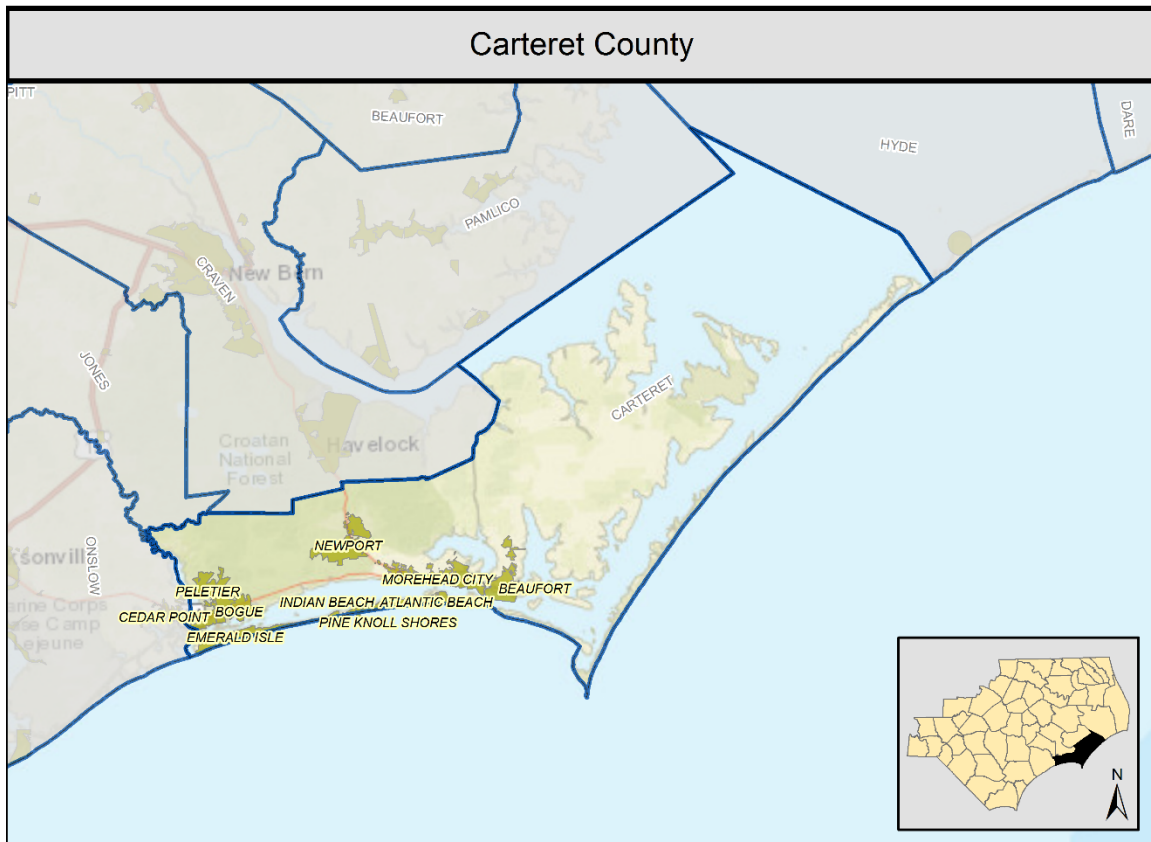


Figure 2: Carteret County and Neighboring Counties

Data, Assumptions, and Methodologies

NCEM has assembled a wealth of data, resources, and technical expertise from state agencies, the private sector, and the University of North Carolina system to support the development of innovative best practice strategies.

Implementation of the proposed projects and actions described in this plan is subject to applicable federal, state, and local laws and regulations. Inclusion of a project or action in this plan does not guarantee that it will be eligible for recovery funding. However, proposed projects or actions may be eligible for state or federal funding or could be accomplished with municipal, nonprofit, or private investment.

An aerial photograph showing a residential neighborhood severely affected by flooding. The water is a murky brown color, submerging lawns, streets, and parts of the houses. Numerous trees are isolated in the water, some with only their tops visible. The houses are mostly two-story structures with light-colored siding and dark roofs. The flooding appears to be quite deep, reaching up to the second floors of some buildings in places. The overall scene depicts a significant natural disaster impact on a community.

2. County Profile

2. County Profile

Carteret County is located in eastern North Carolina, south of New Bern. It is comprised of six census-designated places: Atlantic, Broad Creek, Davis, Gloucester, Harkers Island, Marshallberg. Its current population is 68,228. This section provides a profile of housing, economics, infrastructure, environment, and administration within Carteret County.

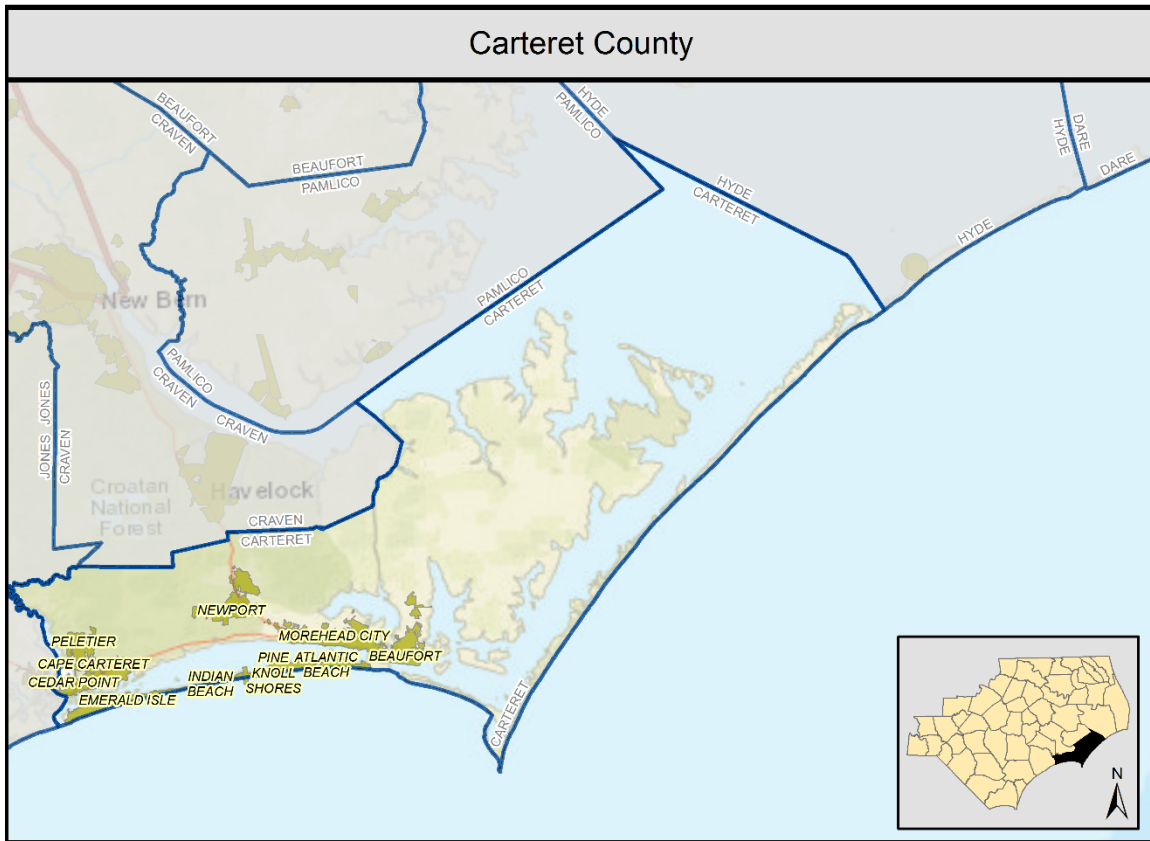


Figure 3: Carteret Base Map

Demographic Profile

Demographics for Carteret County and census-designated places within the county are summarized and compared to statewide averages in this profile. The demographic data is from the 2000 Census, 2010 Census, and 2011-2015 American Community Survey five-year estimates.

Population

Carteret County has a population of 68,228. Morehead City is the most populous place within Carteret County with a population of 9,162 and Indian Beach Town is the least populous place with a population of 179.³

Population Change (2000 to 2010)

The Carteret County population increased between the 2000 and 2010 Census. In 2000 the population was 59,383 and in 2010 it was 66,469. The population increased by 7,086 people, or greater than 11 percent. In comparison, North Carolina grew by 18 percent from 8,049,313 people in 2000 to 9,535,483 in 2010.⁴

³ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B01001, "Sex by Age."

Age

The median age in Carteret County is 46, which is greater than the median age of 42 for North Carolina. Within Carteret County, the Pine Knoll Shores population has the oldest median age, 61, and the DAVIS CDP population has the youngest median age, 37.⁵

Race and Ethnicity

Carteret County is mostly White (88.9 percent) and African American (6.4 percent) with other races constituting the remaining 4.7 percent. Carteret County's ethnic composition is less diverse when compared with the state of North Carolina, which is 70 percent White, 22 percent African American, 3 percent Asian, 3 percent Some Other Race, 2 percent Two or More Races 1 percent American Indian and Alaska Native, and less than 1 percent Native Hawaiian/Pacific Islander. Refer to the table below.

Within Carteret County, all census-designated places are predominantly White. The Latino population in Carteret County is 4 percent compared to 9 percent for North Carolina. Morehead City has the largest Latino population (7 percent) while Gloucester CDP, Harkers Island CDP, Marshallberg CDP, and Davis CDP each have fewer than 10 individuals who identify themselves are Latino. Beaufort, the county seat, has a Latino population of 3 percent.⁶

Geography	White	Black or African American	American Indian and Alaska Native Alone	Asian	Native Hawaiian/ Pacific Islander	Some Other Race	Two or More Races	Total Non-White
Atlantic CDP	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Atlantic Beach town	94.30%	0.80%	0.30%	3.30%	0.00%	0.00%	1.30%	5.70%
Beaufort town	74.70%	19.60%	1.00%	0.20%	0.00%	0.10%	4.30%	25.30%
Bogue town	93.10%	4.70%	0.00%	0.30%	0.00%	0.90%	1.10%	6.90%
Broad Creek CDP	92.50%	1.70%	0.70%	0.30%	0.00%	1.50%	3.20%	7.50%
Cape Carteret town	98.70%	0.30%	0.40%	0.40%	0.00%	0.00%	0.20%	1.30%
Cedar Point town	93.70%	0.50%	1.00%	2.60%	0.00%	0.00%	2.20%	6.30%
Davis CDP	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Emerald Isle town	98.10%	0.30%	0.00%	0.30%	0.00%	0.60%	0.70%	1.90%
Gloucester CDP	96.60%	0.00%	0.00%	0.00%	0.00%	0.00%	3.40%	3.40%
Harkers Island CDP	98.70%	0.00%	0.00%	0.20%	0.00%	0.50%	0.60%	1.30%
Indian Beach town	96.60%	2.80%	0.00%	0.00%	0.00%	0.60%	0.00%	3.40%
Marshallberg CDP	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Morehead City town	81.00%	12.70%	0.60%	2.60%	0.00%	1.50%	1.60%	19.00%
Newport town	83.60%	8.40%	0.00%	5.20%	0.00%	0.60%	2.20%	16.40%
Peletier town	97.10%	0.90%	0.30%	0.60%	0.00%	0.70%	0.30%	2.90%
Pine Knoll Shores	97.70%	0.30%	1.30%	0.00%	0.00%	0.30%	0.40%	2.30%

Table 2: US Census, American Community Survey 5-year Estimates (2011-2015), Table B02001, "Race."

⁴ Source: Minnesota Population Center. National Historical Geographic Information System: Version 11.0 [Database]. Minneapolis: University of Minnesota. 2016. <http://doi.org/10.18128/D050.V11.0>. Census 2000/Census 2010 Time Series Tables Geographically Standardized

⁵ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B01001, "Sex by Age."

⁶ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B02001, "Race" and Table B03002, "Hispanic or Latino Origin by Race."

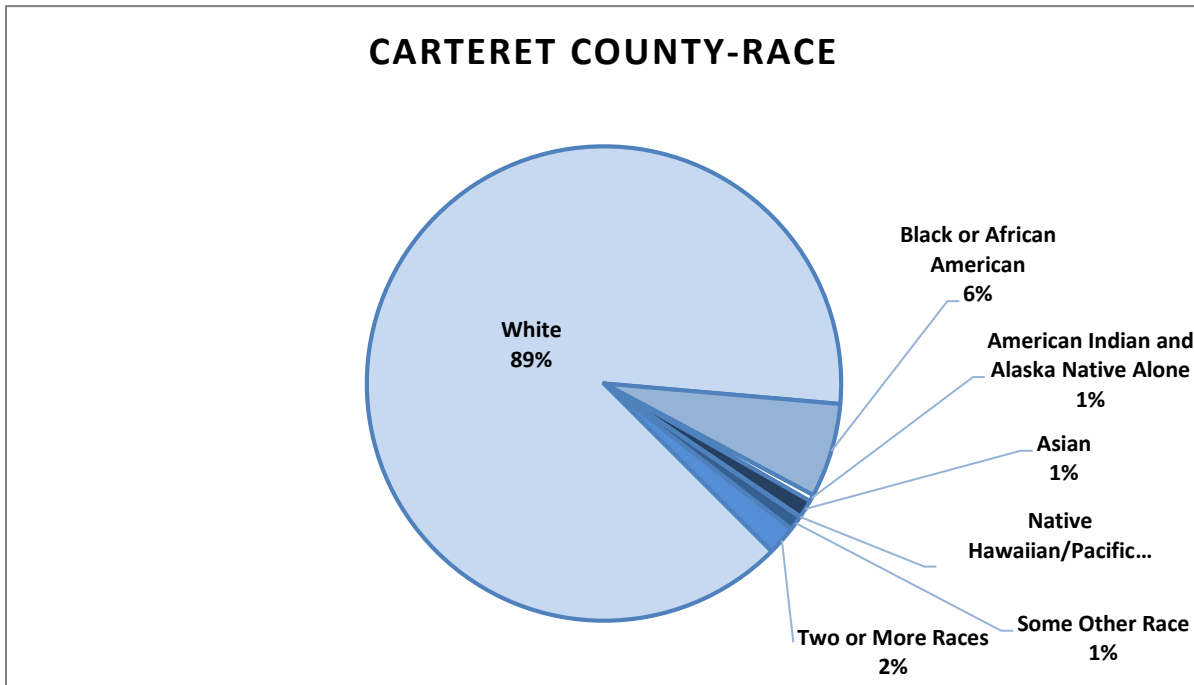


Figure 4: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B03002, "Hispanic or Latino Origin by Race."

Limited English Proficiency

Limited English Proficiency (LEP) is defined as populations 18 years or older that speak English less than very well. In Carteret County, most of individuals identified as LEP speak Spanish while others speak Asian/Pacific, Indo-Euro, or other languages. Similarly, the primary language group for LEP individuals in North Carolina is Spanish. Within Carteret County, Morehead City has the largest LEP population by number of people. The primary language group for LEP populations in Morehead City is Spanish. In Cedar Point, and Newport the primary language group is Asian/Pacific while the primary LEP language in Atlantic Beach is Other Indo-Euro. Atlantic CDP, Cape Carteret, Gloucester CDP, Indian Beach, Marshallberg CDP, and Pine Knolls Shores do not have a LEP population according to census data.⁷

Poverty

In Carteret County, 15 percent of the population is below the poverty level compared to 17 percent of the North Carolina population. In Peletier, 39 percent of the population is below poverty level, followed by Beaufort with 32 percent. Morehead City, Atlantic CDP, and Broad Creek all have 24 percent of their populations below the poverty level. Atlantic Beach, Gloucester CDP, and Indian Beach all have less than 15 percent of their populations below the poverty level. The remaining census-designated areas in Carteret County have less than 10 percent of their populations living below poverty level.⁸

⁷ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B16004, "Age by Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over."

⁸ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table C17002, "Ratio of Income to Poverty Level in the Past 12 Months."

Low and Moderate Income Individuals

In Carteret County, 35 percent of the population is classified as low and moderate income (LMI) individuals based on the US Department of Housing and Urban Development's definition. In comparison, 39 percent of the North Carolina population is classified as LMI.⁹

Median Household Income

The median household income of the population 25 to 64 years old is \$52,000 in Carteret County and \$53,000 in North Carolina. Indian Beach has the highest median household income for this age group, \$124,000, and Broad Creek has the lowest: \$39,000. Median household income was not available for Dover.¹⁰

Zero Car Households

In Carteret County, 6 percent of households do not have a vehicle available compared to 7 percent of North Carolina households. Within Carteret County, Beaufort has the highest percentage of households without access to a vehicle, 12 percent, followed by Morehead City and Atlantic CDP with 9 percent. Gloucester CDP, Davis CDP, and Indian Beach have the lowest percentage: 0 percent.¹¹

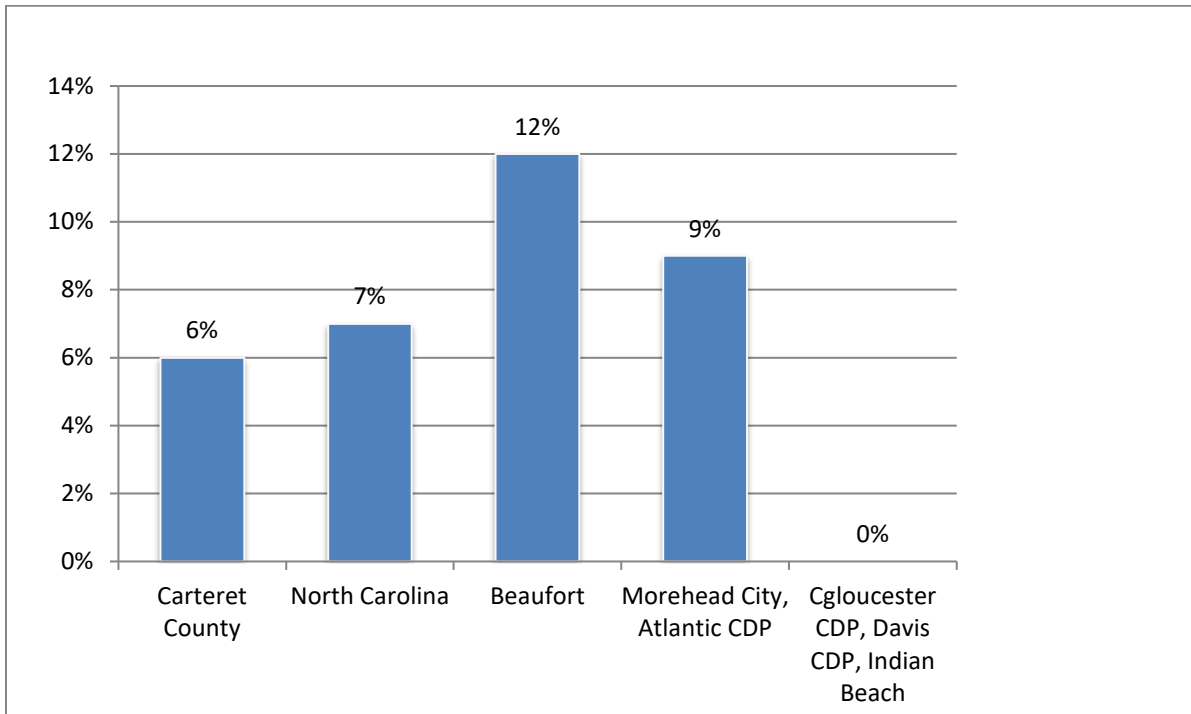


Figure 5. Zero Car Households by Percentage

⁹ Source: US Department of Housing and Urban Development, *Estimate of Low and Moderate Income Individuals*, <https://www.hudexchange.info/programs/acs-low-mod-summary-data/acs-low-mod-summary-data-block-groups-places/>

¹⁰ Source: US Census Bureau, *American Community Survey 5-year Estimates (2011-2015)*, Table B19094, "Median Household Income in the Past 12 Months."

¹¹ Source: US Census Bureau, *American Community Survey 5-year Estimates (2011-2015)*, Table B25044, "Tenure by Vehicles Available."

Commuting: Travel Time to Work, Means of Transportation

The majority of Carteret County residents commute alone to work by vehicle, 80 percent, which is similar to North Carolina average of 81 percent. Within Carteret County, Davis CDP has the largest percentage of commuters commuting alone, 100 percent, and Gloucester CDP has the least: 56 percent.

Atlantic CDP has the largest percentage of residents commuting by public transportation: 11 percent. In comparison, 1 percent of North Carolina commuters use public transportation. A greater percentage of Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Harkers Island, Indian Beach, Morehead City, Newport and Peletier residents commute by walking, bike, or motorcycle than the North Carolina average of 2 percent.

The mean commute time to work for Carteret County residents is 23.3 minutes. In comparison, the North Carolina mean commute time is 24.7 minutes. Within Carteret County, Beaufort has the shortest mean commute time at 15.8 minutes while Davis CDP has the longest at 31.9 minutes.¹²

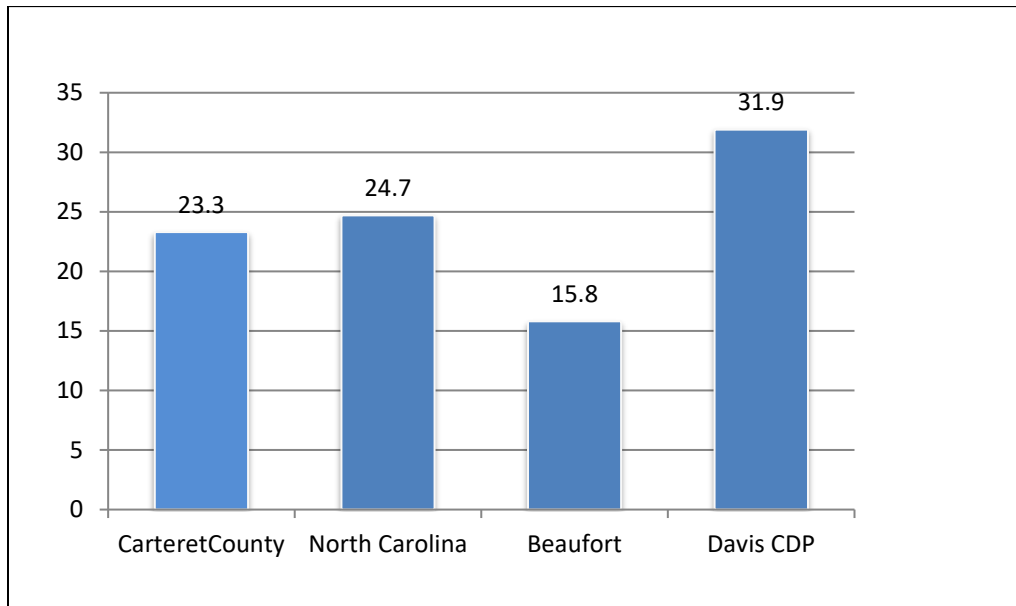


Figure 6. Mean Commute Time to Work in Minutes

¹² Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B08301, "Means of Transportation to Work" and Table GCT0801, "Mean Travel Time to Work of Workers 16 Years and Over Who Did Not Work at Home (Minutes)."

Housing Profile

Carteret County has over 48,690 housing units, 58 percent of which are single-family homes, 22 percent multi-family units, and 20 percent manufactured housing.

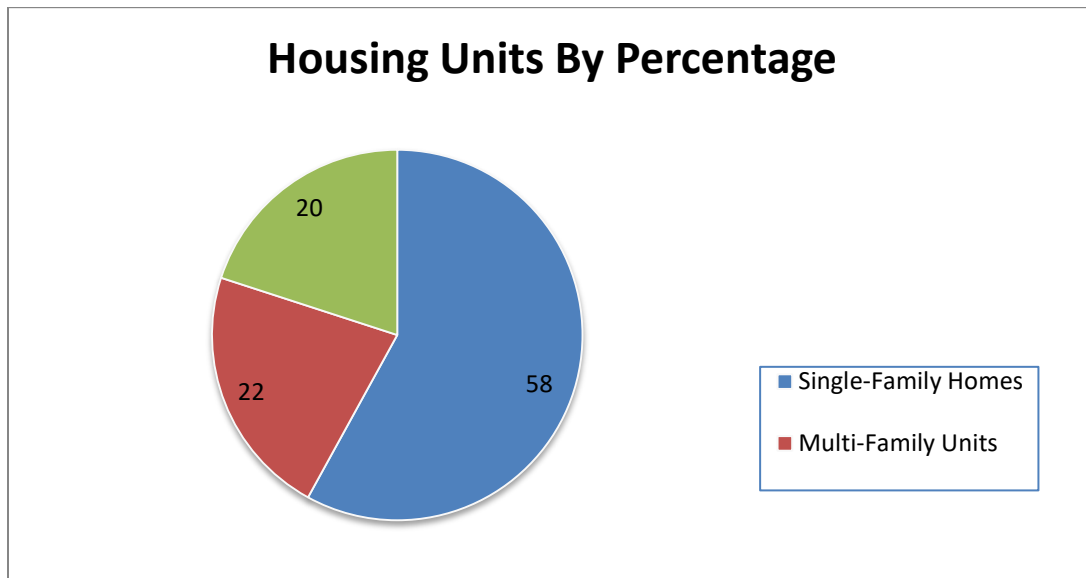


Figure 7. Housing Units by Percentage

In Carteret County 39 percent of housing units are vacant, which greatly exceeds the statewide percentage of 14 percent. Within Carteret County, Indian Beach has the largest percentage of vacant housing units, 94 percent, followed closely by Emerald Isle with 73 percent. Newport has the least with 9 percent.

Of the occupied housing units, 71 percent are owner-occupied compared to 65 percent in North Carolina; 29 percent are renter-occupied compared to 35 percent in North Carolina.

The median housing value in Carteret County \$196,800. In comparison, the median housing value in North Carolina is \$140,000. Within Carteret County, Pine Knoll Shores has the highest median housing value: \$375,800. Gloucester CDP has the lowest median housing value: \$123,300.

According to the National Housing Preservation Database, Carteret County has 1,218 affordable housing units. Most of the affordable housing is located within the towns of Morehead City and Beaufort. Other units are located in the town of Newport.¹³

Economic/Business Profile

Carteret County is home to Retail Trade, Accommodation and Food Services, Health Care and Social Assistance and Educational Services. According to the US Census Bureau's Longitudinal-Employer Household Dynamics Program, the largest concentrations of jobs within Carteret County are in Morehead City and Beaufort along Route 70. There also is a concentration of employment in Cedar Point, Emerald Isle and Newport.¹⁴

¹³ Sources: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B25002, "Occupancy Status"; Table B25003, "Tenure"; Table B25024 "Units in Structure"; Table B25077, "Median Value (Dollars)."

National Housing Preservation Database

¹⁴ Source: US Census Bureau Longitudinal-Employer Household Dynamics Program

Labor Force

According to the local area unemployment statistics (LAUS) from the Labor and Economic Analysis Division (LEAD) for the unadjusted data for all periods in 2016, the civilian labor force population of Carteret County is 31,737.¹⁵ Within Carteret County, Peletier has the largest percentage of residents 16 years or over in the labor force, 69 percent, while Marshallberg CDP has the smallest: 33 percent.

The civilian unemployment rate in Carteret County is 5.2 percent. In comparison, the North Carolina civilian unemployment rate is 5.1 percent.¹⁵ Within Carteret County, Davis CDP and Indian Beach have the smallest civilian unemployment rate at 0 percent while Peletier and Beaufort have the largest: 29 and 21 percent respectively.¹⁶

Major Employers

The top twenty-five employers in Carteret County represent the manufacturing, public administration, education and health service industries, and are listed in order of total employees:¹⁷

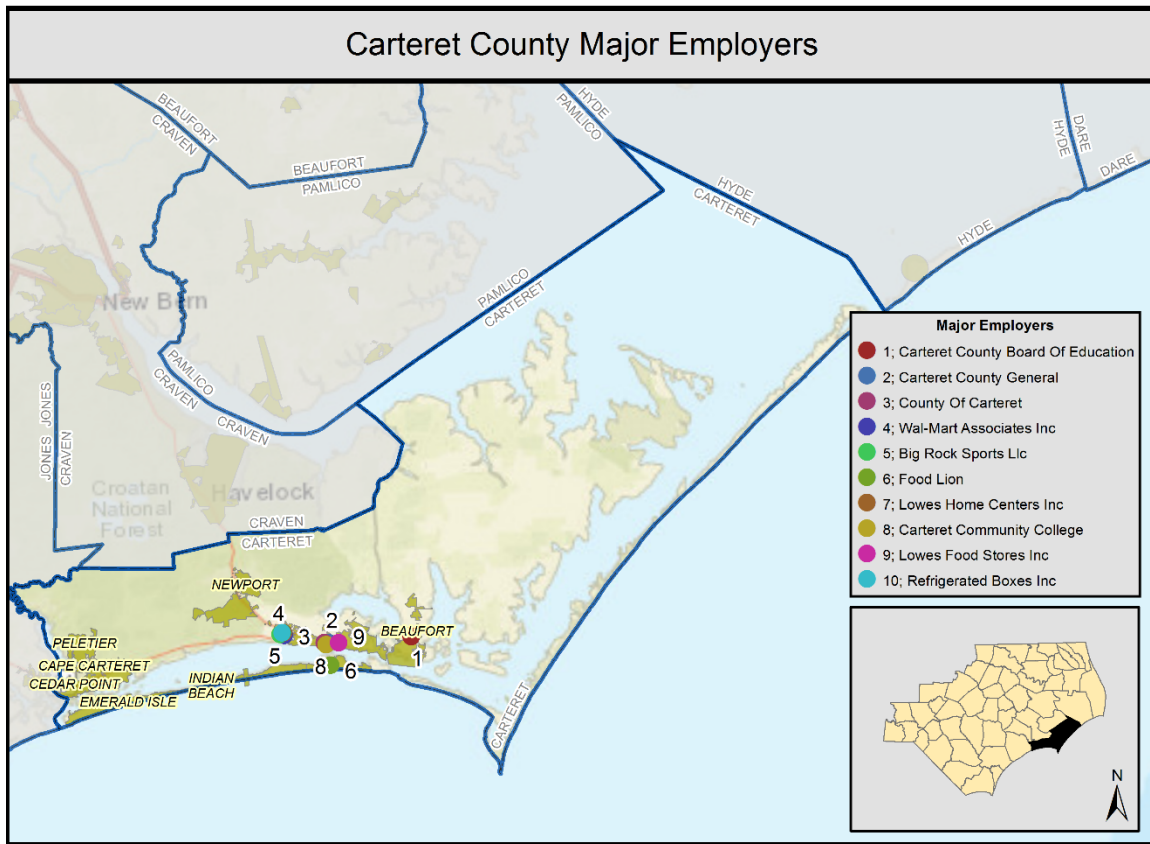
Rank	Year	Quarter	Employer	Industry	# of Employees
1	2016	02	Carteret County Board of Education	Education & Health Services	1000+
2	2016	02	Carteret County General	Education & Health Services	500-999
3	2016	02	County of Carteret	Public Administration	500-999
4	2016	02	Wal-Mart Associates Inc	Trade, Transportation, & Utilities	250-499
5	2016	02	Big Rock Sports Llc	Trade, Transportation, & Utilities	250-499
6	2016	02	Food Lion	Trade, Transportation, & Utilities	250-499
7	2016	02	Lowes Home Centers Inc	Trade, Transportation, & Utilities	250-499
8	2016	02	Carteret Community College	Education & Health Services	250-499
9	2016	02	Lowes Food Stores Inc	Trade, Transportation, & Utilities	100-249
11	2016	02	Refrigerated Boxes Inc	Manufacturing	100-249
11	2016	02	Mcdonalds	Leisure & Hospitality	100-249
12	2016	02	Town Of Morehead City	Public Administration	100-249
13	2016	02	Nc Dept Of Environment & Natural Re	Public Administration	100-249
14	2016	02	Atlantic Veneer Corp	Manufacturing	100-249
15	2016	02	Newport Group Inc	Leisure & Hospitality	100-249
16	2016	02	General Mills Restaurants Inc	Leisure & Hospitality	100-249
17	2016	02	South East Employee Leasing Service	Professional & Business Services	100-249
18	2016	02	Veneer Technologies Inc	Manufacturing	100-249
20	2016	02	Nc Dept Of Cultural Resources	Leisure & Hospitality	100-249
20	2016	02	Coral Bay Club Inc	Leisure & Hospitality	100-249
21	2016	02	Town Of Emerald Isle	Public Administration	100-249
22	2016	02	Harborview Healthcare	Education & Health Services	100-249
25	2016	02	Bluewater Associates	Financial Activities	100-249

¹⁵ Source: Civilian Population and Unemployment Rate - Labor and Economic Division (LEAD) of North Carolina Department of Commerce – Local Area Unemployment Statistics <http://d4.nccommerce.com/LausSelection.aspx>

¹⁶ Source: US Census Bureau, American Community Survey 5-year Estimates (2011-2015), Table B23025, "Employment Status For The Population 16 Years And Over."

¹⁷ Sources: NC Department of Commerce, New Bern-NC.info

25	2016	02	Adams Keegan Inc	Professional & Business Services	100-249
25	2016	02	Bojangles Famous Chicken & Biscuits	Leisure & Hospitality	100-249

Table 3: NC Department of Commerce, Quarterly Census of Employment and Wages (QCEW) Largest Employers**Figure 8: Top 10 Major Employers by Number of Employees**

Economic Development

The Morehead City Port is located off Highway 70 in Carteret County. The port serves as a breakbulk and bulk facility and is one of the deepest in the US East Coast. Located across the Newport River from the Port of Morehead City is Radio Island, a 150-acre site perfectly suited for a port industrial development, conveniently supplied with municipal water and sewer. Cargo handling activities at Morehead City Harbor support nearly 4,000 jobs statewide and generate \$26 million annually in local and state tax revenues.

Carteret County Economic Development Council (EDC) is an organization that “provides comprehensive information and assistance to retain and expand our existing business, encourage the formation of new business and promote the growth of emerging business in Carteret County.” The organization works jointly with the North Carolina Department of Commerce and North Carolina’s East Alliance to attract additional business opportunities.

Carteret Community College, located in Morehead City, offers employment, training, and job placement services through the Workforce Innovation and Opportunity Act (WIOA).¹⁸

¹⁸ Sources: Port of Morehead City, Carteret County Economic Development Council and Carteret Community College

Infrastructure Profile

Transportation, health, education, water, and power infrastructure are summarized for Carteret County in the sections that follow.

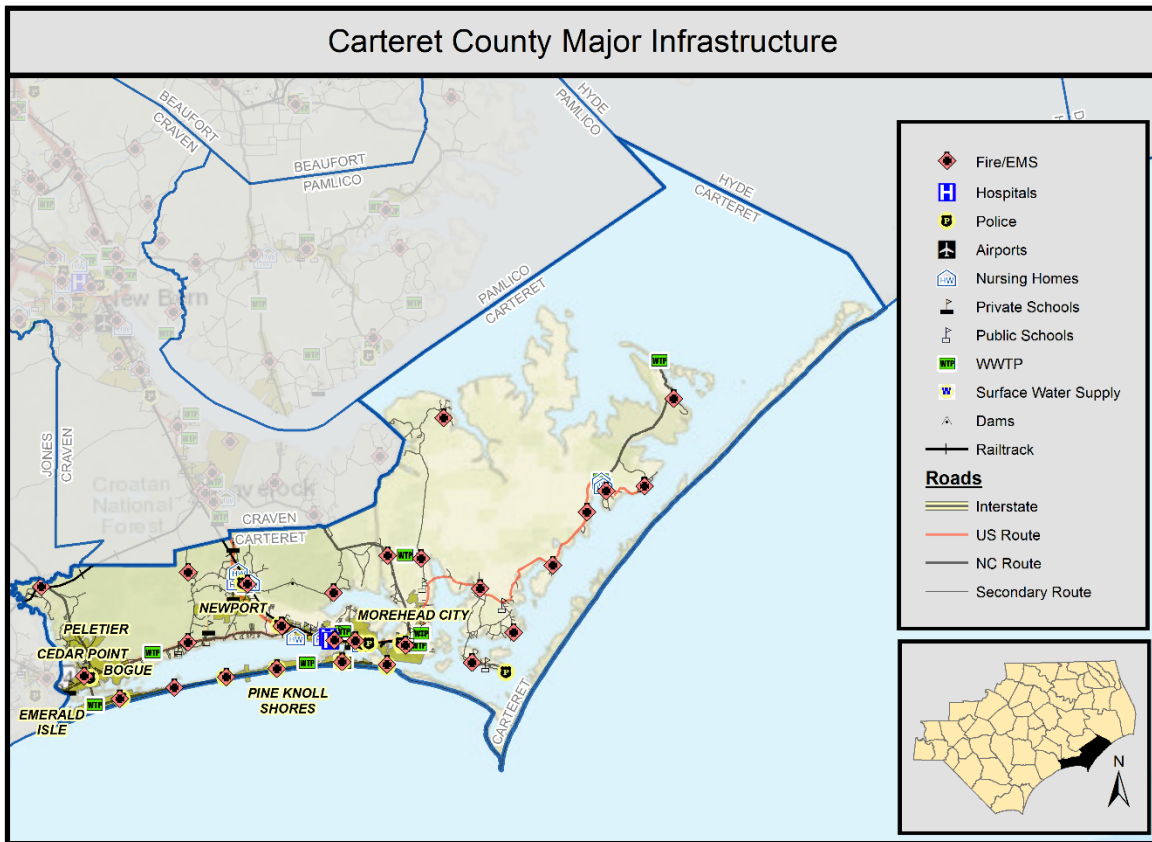


Figure 9: Carteret County Major Infrastructure

Transportation

Carteret County is connected to the region by US 70, NC 24, NC 58 and NC 101. US 70 is a major highway that provides Carteret County with access to Craven County and the Coastal Carolina Regional Airport to the north. NC 24 is an east-west highway connecting the county with Jacksonville to the west. Carteret County is also served by rail from Norfolk Southern and smaller regional operators. The Coastal Carolina Regional Airport is located in New Bern and serves the surrounding area. It handles 10 daily flights from commercial carriers American Airlines and Delta, connecting to East Coast hubs with over 300 destinations worldwide. The airport also services shipping giants Federal Express and UPS.

Health

Carteret Health Care is the only hospital located in Carteret County. Located in Morehead City, it is a 135-bed, non-profit, full-service facility. Several urgent care and internal medicine centers are located throughout the county.

Education

Carteret County Public Schools administers nine elementary, four middle, and three high schools. Carteret Community College (CCC) is located in Morehead City and is a member of the North Carolina Community College

System. CCC has partnerships with University of Mount Olive and East Carolina University to facilitate transfers by local students to the larger institutions.¹⁹

Water

The City of Atlantic Beach owns and operates the Atlantic Beach Water Treatment Plant (WTP), which has a permitted capacity of 2.5 million gallons per day (MGD). The system also includes 6 wells and a 1.5 million gallon storage tank. The Town of Beaufort owns and operates the Glenda Drive WTP and the Pine Street WTP, each plant has a permitted capacity of 2.7 million gallons per day (MGD). The system also includes 5 wells and a 0.71 million gallon storage tank. The Town of Morehead City owns and operates the Morehead City Treatment Plant, which has a permitted capacity of 2.5 million gallons per day (MGD). The system also includes 6 wells and a 2.0 million gallon storage tank. The Town of Harkers Island Water Service District owns and operates the Harkers Island WTP, which has a permitted capacity of 0.5 million gallons per day (MGD). The system also includes 2 wells and a 0.25 million gallon storage tank. The Bogue Banks Water Corp owns and operates a Reverse Osmosis Plant and 11 wells, which serve the Town of Pine Knoll Shores. The system has a combined permitted capacity of 7.4 million gallons per day (MGD) and includes a 1.5 million gallon storage tank. The Carteret County Water Department owns and operates the county water system, which provides drinking water to the rest of the residents in Carteret County. Its permitted capacity is 0.67 million gallons per day.

The majority of rural and coastal wastewater is handled by septic systems. The rest of the municipal wastewater is treated at the Town of Newport Waste Water Treatment Plant (WWTP), Morehead City WWTP, and Beaufort WWTP.²⁰

Power

Most electricity in Carteret County is supplied by Duke-Progress Energy, Carteret-Craven Electric Cooperative or Jones-Onslow EMC.²¹

Environmental Profile

Water resources, natural areas, managed areas, biodiversity, wildlife habitat, and recreation are summarized for Carteret County in the sections that follow.

¹⁹ Sources: Carteret County Public Schools and Carteret Community College

²⁰ Sources: NC Division of Water Resources, Local Water Supply Plans; and the NC Department of Environmental Quality website

²¹ Source: Carteret County

Water Resources

The water bodies of Carteret County are illustrated in the images below and the list provided in Appendix A. Wetlands are present throughout the County, especially on the Eastern side, along Core Sound and Pamlico Sound. The most common wetland type in Carteret County is salt/brackish marsh.²²

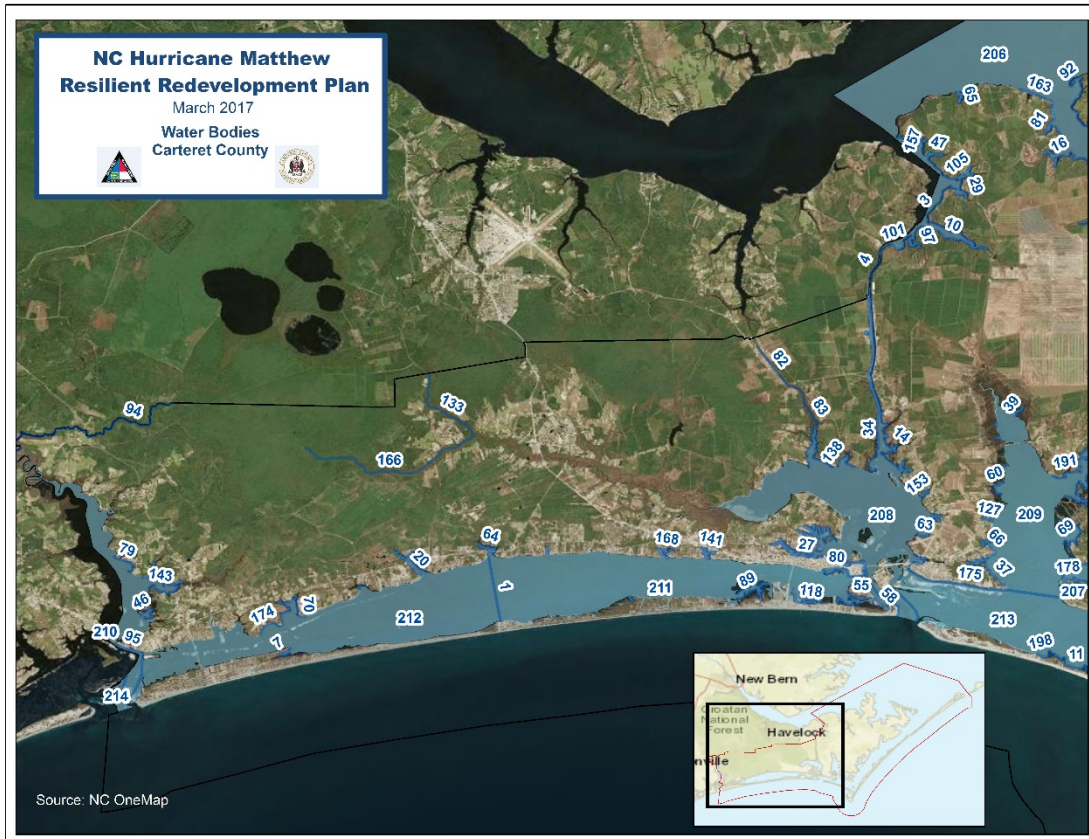


Figure 10: Water Bodies in Carteret County (West)

²² Sources: NC OneMap, Carteret County Crossroads

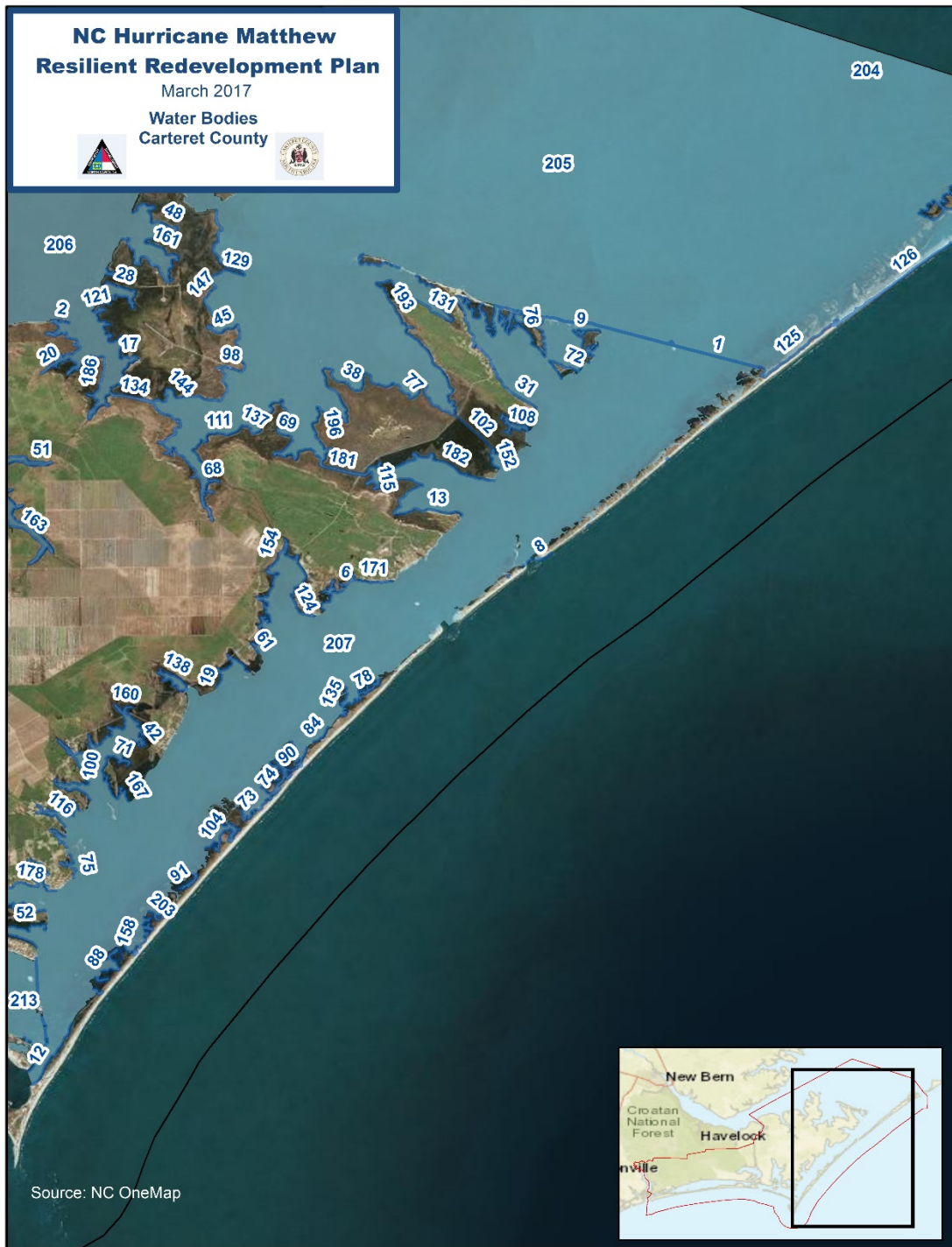


Figure 11: Water Bodies in Carteret County (East)

Natural and Managed Areas

According to the NC Natural Heritage Program, there are natural areas of high, very high, and exceptional value in Carteret County. There are several managed areas under state ownership within Carteret County. Managed areas are properties and easements where natural resource conservation is one of the current primary management goals, or are of conservation interest. These areas in Carteret County include: the NC Clean Water

Management Trust Fund Easement in the vicinity of South River and several Carteret County Game Land areas owned by the NC Wildlife Resources Commission throughout the county.²³

Biodiversity and Wildlife Habitat

The NC Natural Heritage Program produces a biodiversity and wildlife habitat assessment for the state. According to this assessment, areas with the highest rating for biodiversity and wildlife habitat are along the Back and Core Sounds and within the Pocosin Wilderness area. These areas rank between a 7 and 10, with 10 being the highest possible score. Other areas of the county rank 5 to 6.²⁴

Parks and Recreation

The Carteret County Parks and Recreation Department offers several neighborhood parks, community centers, gyms, a golf course, and tennis courts. Most of these facilities are located in Fort Benjamin.

Cape Lookout National Seashore is one of America's few remaining undeveloped coastal barrier island systems. It encompasses about 29,000 acres of islands, most of which runs roughly parallel to the eastern shores of Carteret County. The system is bounded on the north by Ocracoke Inlet and on the south by Beaufort Inlet. Three islands make up the 56-mile seashore: North Core Banks, also known as Portsmouth Island; South Core Banks (including Cape Lookout); and Shackleford Banks. While each of the islands is distinctive in history and characteristics, all three are remote and virtually unspoiled by the hands of humans.

Fort Macon State Park highlights Fort Macon, one of the most complete forts of the Civil War era in the United States. The fort was taken over by Confederates on April 14, 1861, attacked from land and sea by Union forces in an eleven-hour bombardment on April 25, 1862, and surrendered the next day. It was occupied by the Union for the rest of the war. The fort is totally intact, covering about five acres on the tip of Bogue Banks, where it was located to protect the channel and Beaufort Harbor from attacks by sea. Structurally, the fort is in great shape following a five year restoration and renovation that was completed in 2003. The park also offers Fort Macon Beach and is one of the most visited state parks in North Carolina. With an estimated 1.3 million visitors a year, it is by far the most visited site of any attraction on the Crystal Coast.

The North Carolina Aquarium, located on Roosevelt Drive in Pine Knoll Shores, borders N.C. Highway 58 as it winds through Bogue Banks. Maintained by the aquarium staff and North Carolina State Parks, the 300 acres have extensive maritime forests ponds. The forest attracts naturalists, birders and photographers. There are two trails through the natural area: the Alice G. Hoffman Trail, accessed through the aquarium, and the Theodore Roosevelt Trail, beginning outside the aquarium at the southern end of the parking area.²⁵

²³ Source: NC Natural Heritage Program

²⁴ Source: NC Natural Heritage Program

²⁵ Sources: Carteret County

Administrative Profile

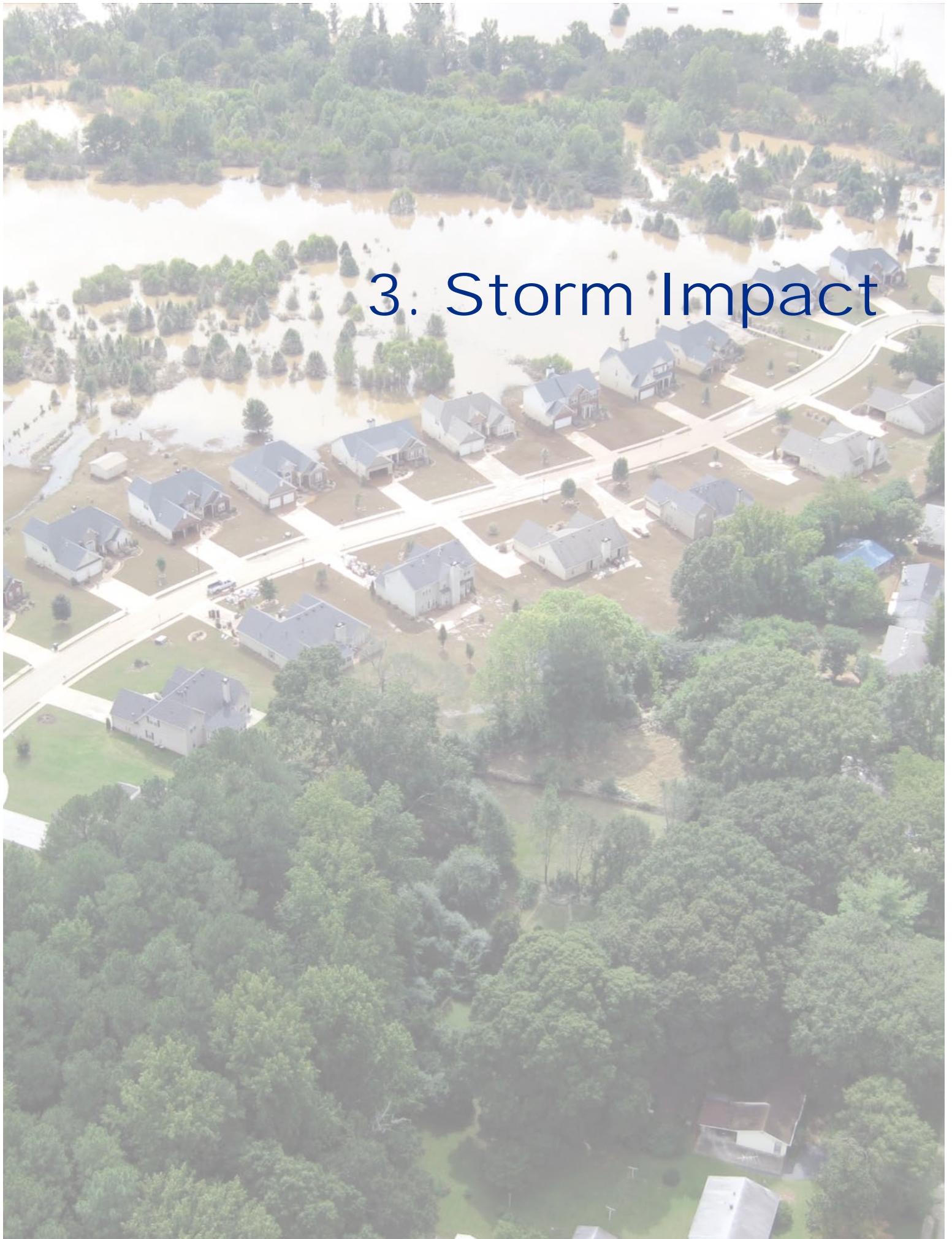
The administrative capabilities of Carteret County and the municipalities within the County are discussed in great detail within the *Carteret County Multi-Jurisdictional Hazard Mitigation Plan*, which was adopted in 2015. The assessment evaluates the capabilities of the County and municipalities to implement mitigation actions across the areas of planning and regulatory capabilities, administrative and technical capabilities, fiscal capabilities, and political capabilities. Many more details about the capabilities of Carteret County and the municipalities can be found in that document.

In terms of administrative capabilities, the County has many of the staff and the necessary plans, policies and procedures in place that are found in communities with “high” capabilities. Carteret County has Emergency Management and Planning departments with the capacities to assist in implementing the resilience strategies proposed in this plan. Some of the other indicators of capability for the County include the following: Comprehensive Land Use Plan, Zoning Ordinance, Subdivision Regulations, and Floodplain Management Ordinance. These plans, policies and procedures help ensure that new development in the County will be managed in a responsible manner and will take place in non-hazardous areas.

Morehead City, Beaufort, Newport, Bogue, Peletier, Cedar Point and Cape Carteret also have “high” and “moderate” capabilities. They all have administrative resources that would likely be able to assist with implementing the strategies in this plan. In addition, they have the plans, policies and procedures in place that indicate higher capability. The Towns of Atlantic Beach, Emerald Isle, Indian Beach, Pine Knoll Shores, Straits, Smyrna, Davis, Stacy, Sea Level, Atlantic, Merrimon and Cedar Island may need assistance from other agencies in order to implement the strategies in this plan as a result of limited administrative resources. ²⁶

²⁶ Sources: Carteret County

3. Storm Impact



3. Storm Impact

Rainfall Summary

Hurricane Matthew officially made landfall as a Category 1 storm southeast of McClellanville, South Carolina early on October 8, 2016. The track and speed of the storm resulted in nearly two days of heavy precipitation over much of North Carolina that caused major flooding in parts of the eastern Piedmont and Coastal Plain. The storm produced widespread rainfall of 3-8 inches in the central regions of North Carolina and 8 to more than 15 inches in parts of eastern North Carolina. A number of locations received all-time record, one-day rainfall amounts. Many locations in the Coastal Plain of North Carolina had received above normal rainfall in the month of September leading to wet antecedent conditions prior to Hurricane Matthew. Total rainfall depth for Carteret County is highlighted graphically in the figure below;

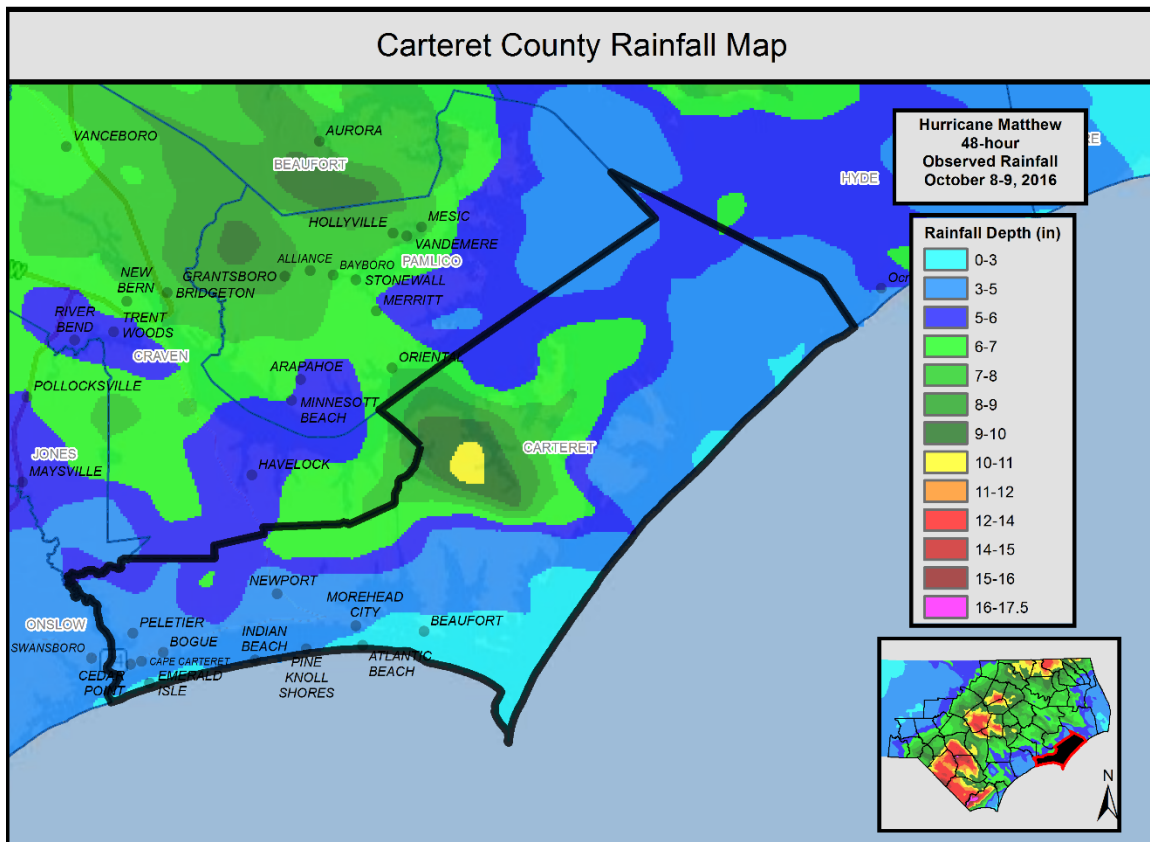


Figure 12: 48-hour Observed Rainfall Depth (October 8-9, 2016)

Riverine Flooding Summary

The impact on Carteret County of Hurricane Matthew was less severe than in other areas throughout the state, and less severe in Carteret County when compared with similar Hurricanes occurring in recent years, principal among these being Floyd (1999), Isabel (2003), and Irene (2011). Figure 13 shows hurricanes impacting North Carolina since 1980.

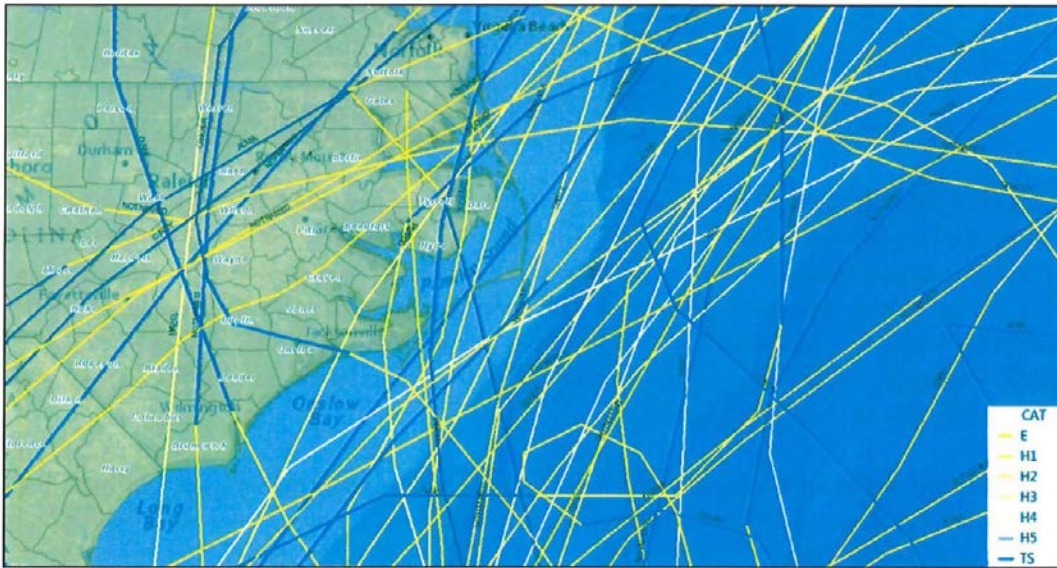


Figure 13: Storms that Impacted North Carolina Since 1980

USGS documented stream gage data in the report “Preliminary Peak Stage and Streamflow Data at Selected stream gaging Stations in North Carolina and South Carolina for Flooding Following Hurricane Matthew, October 2016”. Stream gage data from the USGS report for gages near Carteret County is summarized below;

USGS Gage	County	River Name and Location	Drainage Area (sq mi)	Peak Matthew Elevation (ft)	Previous Record (ft)
0209205053	Craven	Swift Creek at HWY 43 Near Streets Ferry, NC	269.0	8.67	12.28
02092500	Jones	Trent River near Trenton, NC	168.0	18.48	22.33
02092554	Jones	Trent River at Pollockville, NC	370.0	8.5	16.29

Table 4: Carteret County USGS Stream Gage Data

Coastal Flooding Summary

The primary risks to Carteret County are hurricane induced winds, surge and precipitation. Carteret County has hundreds of miles of exposure to flooding from open coast, estuarine and riverine sources, with wetlands representing nearly 150,000 acres or approximately 42% of the County.

USGS and NOAA coastal/tidal station records were analyzed along the North Carolina Coast. The Hurricane Matthew peak surge elevations were compared to the FEMA flood recurrence intervals. Approximate recurrence interval was determined for each site and this information is summarized for Carteret County in the table below;

Map ID	County	Site Description	Body of Water	Estimated Peak Surge (ft)
31	Carteret	Bogue Inlet Pier	Open Coast	5.8
32	Carteret	Oceanana Fishing Pier	Open Coast	4.8
36	Carteret	Emerald Isle Coast Guard Station	Sound	4.2

Map ID	County	Site Description	Body of Water	Estimated Peak Surge (ft)
52	Carteret	Blown Kiteboarding at Broad Creek	Sound	4.1
48	Carteret	USCG Station Fort Macon	Sound	4
29	Carteret	Tradewinds Marina	Sound	3.9
57	Carteret	Duke Marine Lab	Sound	3.6
58	Carteret	North River at US Hwy 70	Sound	3.4
60	Carteret	Cape Lookout National Seashore Visitor Center at Harkers Island	Sound	2.9
54	Carteret	Cape Lookout Cabins & Camps Ferry	Sound	2.7

Table 5: Data for gages near Carteret County, Source: USGS

The direct impacts on the county fall into several categories that recur when tropical or extra-tropical storms descend upon the region:

1. Flooding of homes and buildings in coastal and inland areas
2. Road closures due to ponding/debris accumulation
3. Wind damage & power outages
4. Escarpment, vegetation flattening and sand losses on beaches
5. Sediment deposition at inlets
6. Crop damage & saltwater intrusion
7. Clean-up activities (e.g. debris removal, repairs)

Carteret County is highly vulnerable to coastal flooding due to its geographic proximity to the open coast and the back bay areas lying behind the barrier islands, where significant surge and wave action can be generated to flood ‘protected’ inland areas. Carteret County is also highly vulnerable to high intensity precipitation events, which cause localized flooding due to poor drainage, or ponding due to high tide conditions which back up tail-water at outfalls. Hurricane Matthew was a 1-2 year coastal event in Carteret County. However, the coincidence of prolonged above average tides and high intensity precipitation caused localized flooding in many areas. In this way, Mathew was not unique, but another instance of a nuisance flood event, one of many that occur annually. Figure 14 below shows higher than expected tides leading up to, during, and following the surge that occurred on the 9th of October as recorded at the NOAA Gauge station at Beaufort. The grids above the water levels show rainfall observations for this same period, with totals reaching above six inches in areas on the 7th and 9th, both before and after the peak surge.

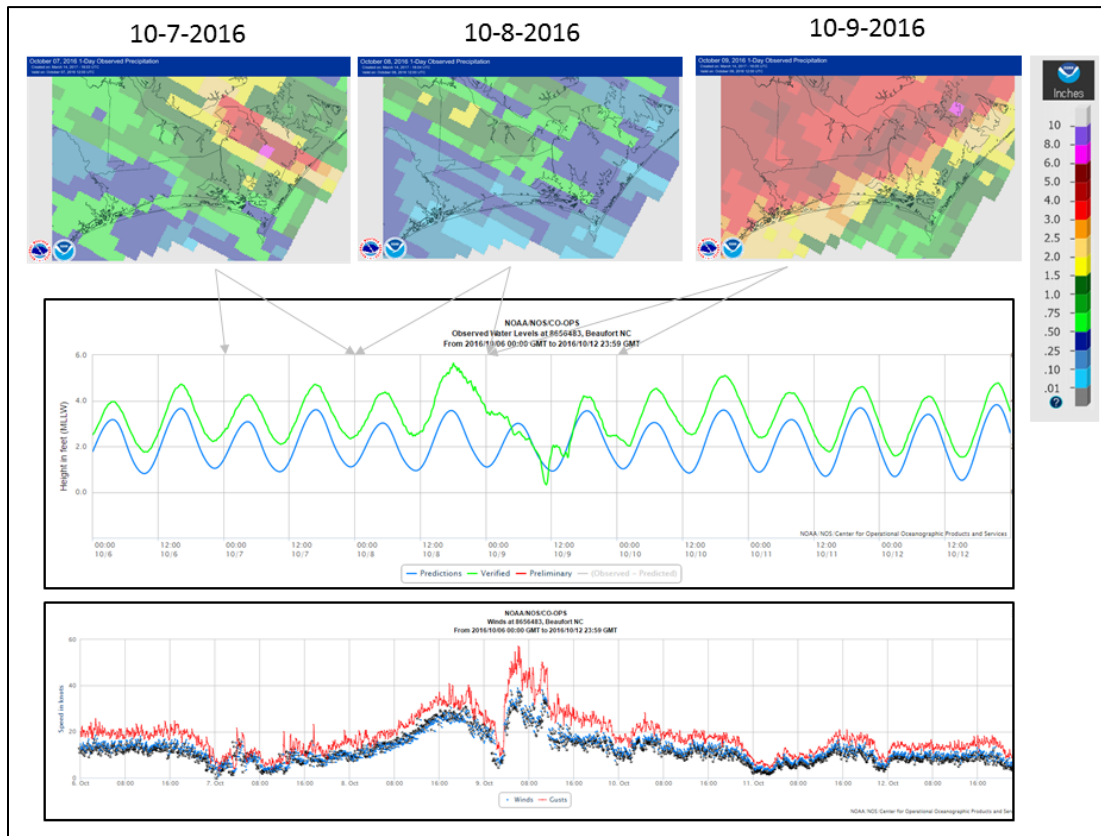


Figure 14: NOAA Observations at Beaufort, NC during Hurricane Matthew
 (<https://tidesandcurrents.noaa.gov/stationhome.html?id=8656483>)

Housing Impacts

According to FEMA Individual Assistance claims as of February 2017, there were 49 registrations for Individual Assistance in Carteret County as a result of Hurricane Matthew. It should be noted that additional claims from Hurricane Matthew may still be pending, so this number may not reflect the final claims data from the event. This also does not take into account unreported damage, other historic impacts to the county or other areas of concern for flooding that may not have occurred during this storm.

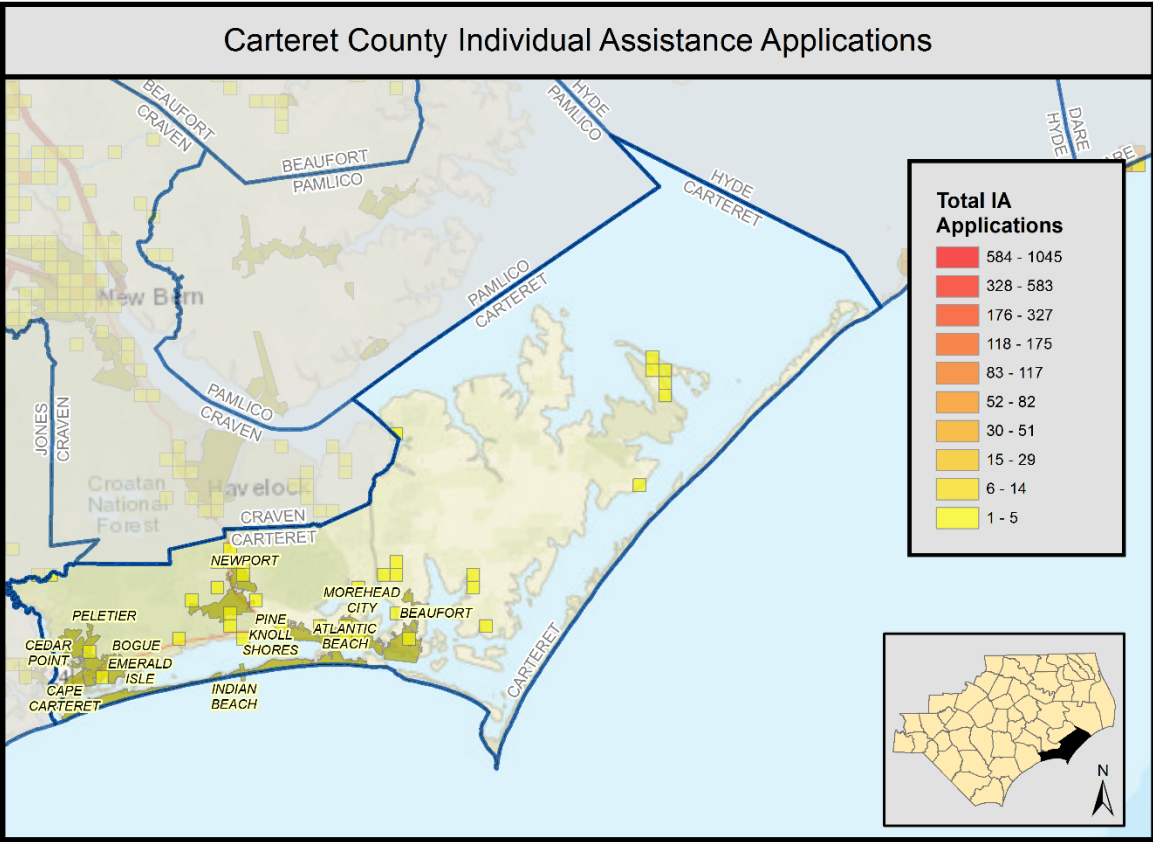


Figure 15: Carteret County IA Applications by Area

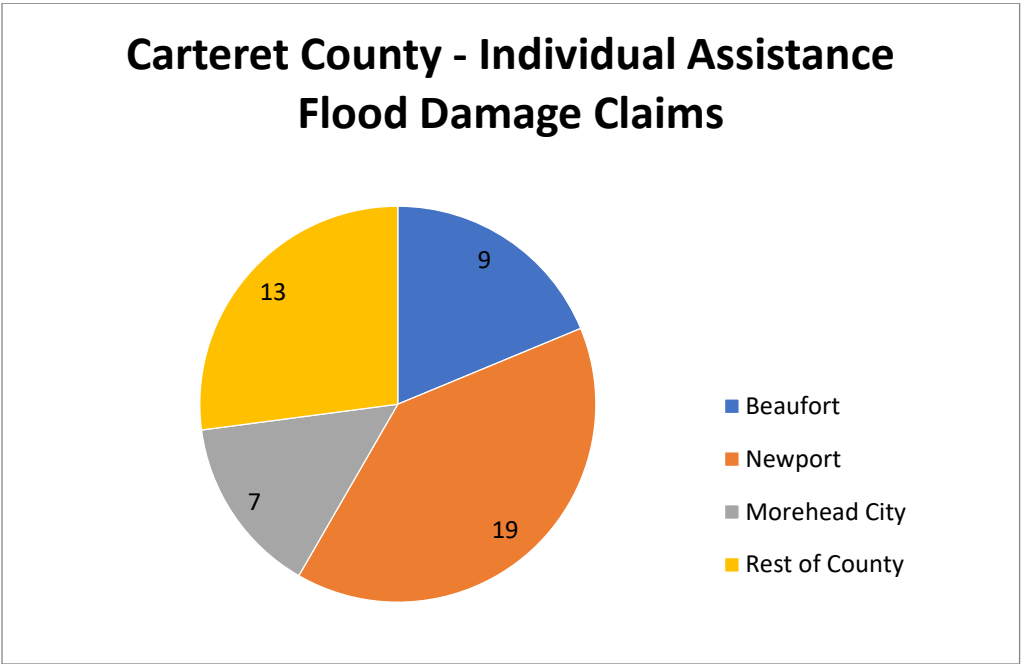


Figure 16: Number of IA Flood Damage Claims by Area

With that in mind, the planning team attempted to take a comprehensive look at both Hurricane Matthew impacts and any historic impacts that local officials felt would validate areas that should be considered at high risk to future flooding.

Of the three municipalities that reported housing damages, the Town of Beaufort was the most impacted in Carteret County. The table below illustrates the housing damages estimated as a result of Hurricane Matthew.

City, County or Page #	Affected Habitable								Minor								Major								Destroyed								Not Primary	Inaccessible	Private Road	Utilities Out	r Depth		
	Single Family		Multi Family		Manufactured Home		Low Income	Insured	Single Family		Multi Family		Manufactured Home		Low Income	Insured	Single Family		Multi Family		Manufactured Home		Low Income	Insured	Basement Area	Living Area	Other												
	O	R	O	R	O	R			O	R	O	R	O	R			O	R	O	R	O	R						O	R	O	R								
Carteret County																2				1																			
Town of Beaufort	47		4					38		1						1																							
Moorehead City	9				3			0												1																			
Totals	56	0	4	0	3	0	0	38	0	1	0	0	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0								
Category Totals	63							39							5							0																	

Table 6: Housing Impacted by Hurricane Matthew, Source: Carteret County Emergency Services

Economics / Business / Jobs

Multiple areas of Carteret County were without power for several days following damage to power lines resulting from the high winds of Hurricane Matthew. Widespread ponding of water was reported, particularly in areas of known nuisance flooding. Figure 17 shows areas identified by the community where nuisance flooding impacts the ability of residents to travel to and from work due to road closures or impassible roads.



Figure 17: Hotspots: Areas of chronic flooding identified in Meeting 1, Source: ESRI

Major Employers

The top ten employers did not report direct damages from Hurricane Matthew. However, power outages and road closures prevented some employees from commuting or reporting to work.

Infrastructure

The majority of the Public Assistance claims in Carteret County were related to debris removal and emergency protective measures. It should be noted that additional claims from Hurricane Matthew may still be pending, so this number may not reflect the final claims data from the event.

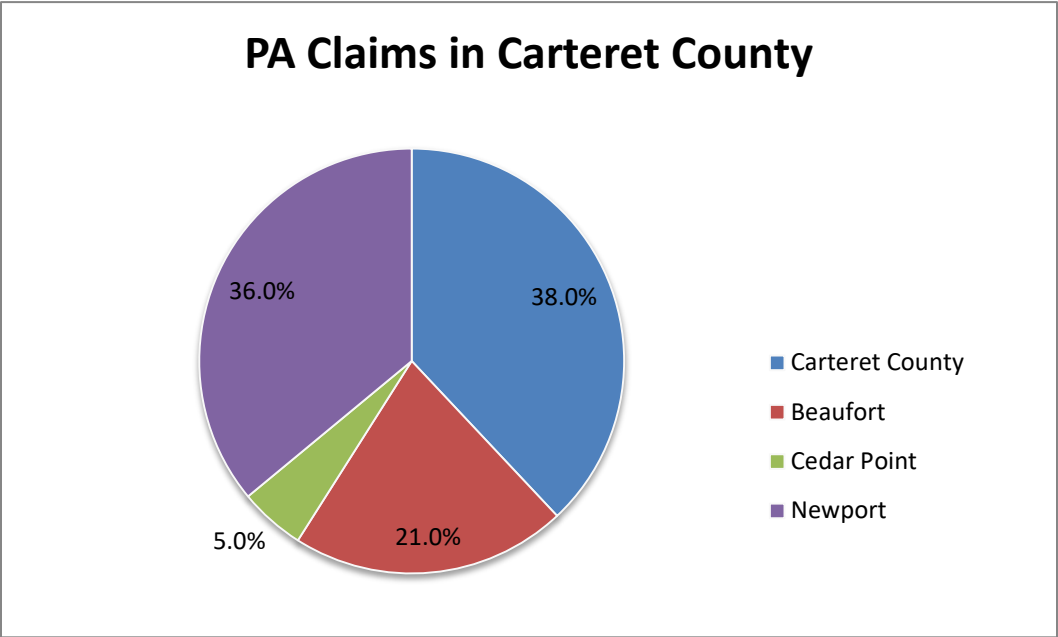


Figure 18. Carteret County PA Claims by Area and Percentage

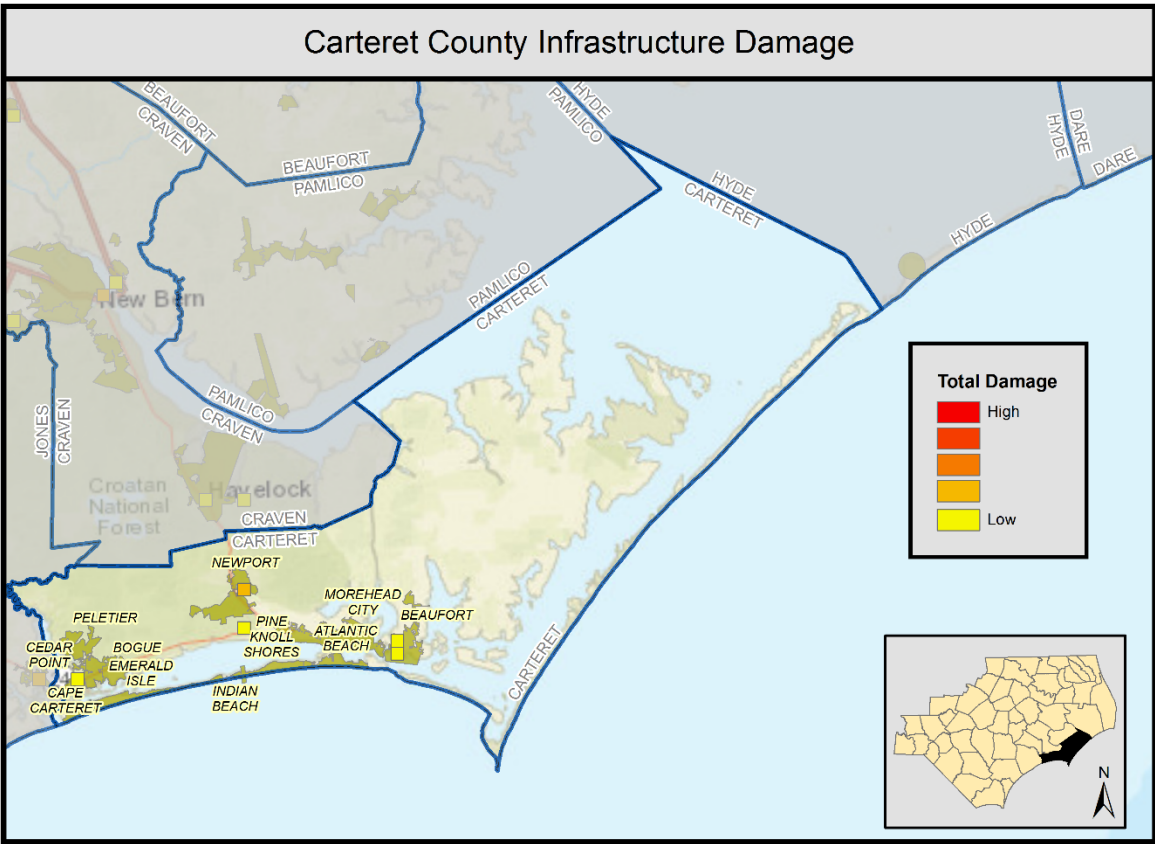


Figure 19: Carteret County Infrastructure Damage

Debris generated from wind and floodwaters impacted several areas in the County. The communities of Cedar Point, Emerald Isle, Pine Knoll Shores, and Morehead City reported debris removal activity ranging from \$3,000 to over \$30,000. Damages incurred from debris include access to parks, marinas, boat ramps and dock repairs.

Overall, the Hurricane Matthew related damages to public infrastructure in Carteret were minimal in comparison to the surrounding counties. However, due to its proximity to the open coast, wind forces and surges may be regularly higher compared with inland areas due to the long fetch along the open coast and over the back bays. The combination of heavy winds and elevated water levels introduce debris into waterways that become projectiles as water is pushed inland, causing damages to homes and property. Due to outdated, poorly maintained, or inaccessible drainage control structures, nuisance flooding occurs throughout the county, much of which is just above sea-level. The bullets below summarize the areas of major concern identified by the County:

- **Evacuation Routes:** Of critical importance to residents and visitors of Carteret County are evacuation routes. Currently, several areas of nuisance flooding exist in neighborhoods and along portions of evacuation routes. During moderate events, these areas experience flooding at levels that make roads impassable for vehicular traffic, essentially cutting off evacuation or stranding large portions of the county. Of particular concern is U.S. Route 70 (Arendell St), one of only two evacuation routes, which becomes impassable during flooding events like Matthew. See identified areas of flooding in figures below.
- **Drainage:** Carteret County suffers from nuisance flooding in many locations. In many cases, this flooding is a result of poor drainage. Extensive lengths of drainage ditches are not maintained due to easement and ownership reasons (e.g. the County cannot access the areas to maintain them). The purchasing of easements would greatly alleviate much of the chronic flooding that occurs, and minimize the impact during extreme events.
- **Shelters and Emergency Equipment:** Carteret County does not have adequate facilities for sheltering stranded residents and visitors before, during and after events. For example, Beaufort Elementary has a moveable generator for cooling and heating, however it is subject to flooding and therefore may not be available during an event. West Carteret does not have the necessary generator and/or capacity for staging large groups of people in the case of emergency.
- **Storm Water Facilities:** The waste water system needs to elevate lift stations at a cost of ~\$250-300k per station to prevent problems at the treatment facility during flood events. There are currently 39 lift station needing to be elevated. Other maintenance and improvements are necessary for water lines throughout the County.



Figure 20: Hotspots: U.S. Route 70, Evacuation Route, Source: ESRI



Figure 21: Flooding on U.S. Route 70, Source: Morehead City Planners Office

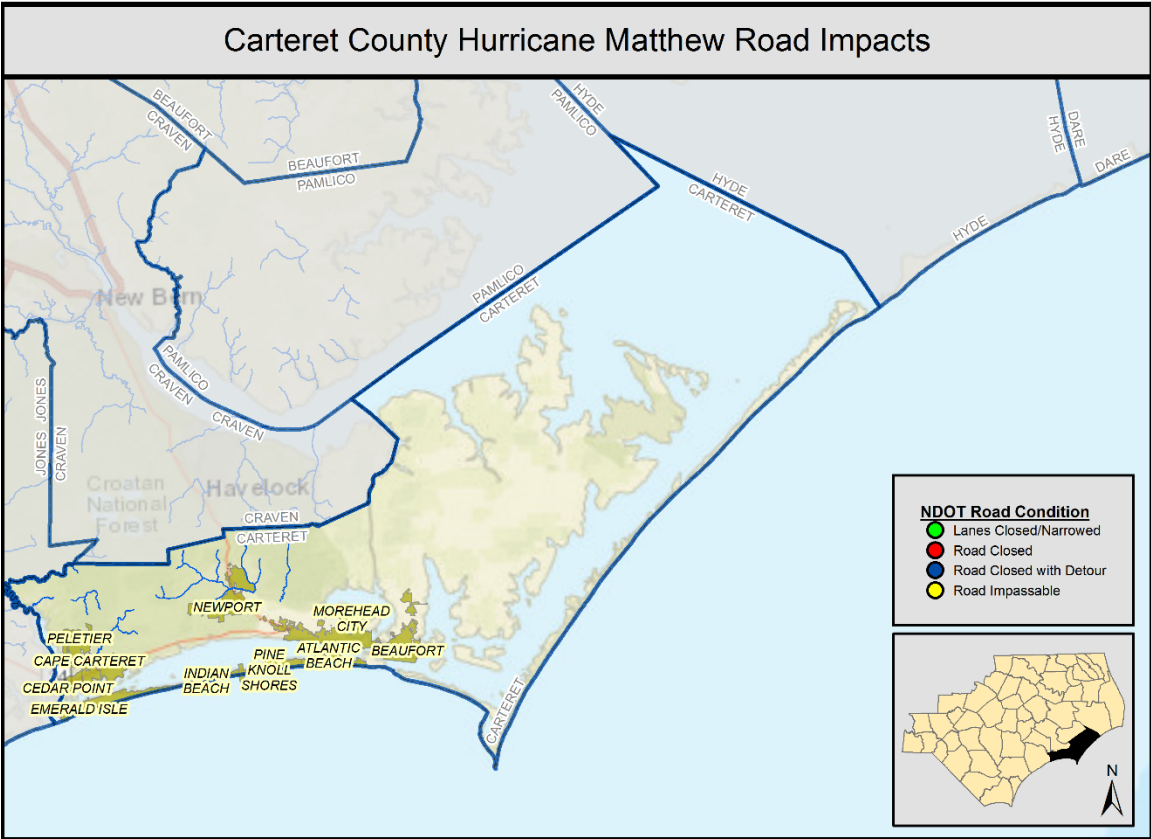


Figure 22: Impacted NCDOT Structures in Carteret County

Ecosystems / Environment

Minor damages, including sporadic erosion/escarpment of dunes and vegetation flattening, occurred on beaches in multiple communities along coast on the barrier island. Noticeable beach flattening (equilibration) also resulted from Hurricane Mathew. Extensive damage resulting in major loss of beach sand (Irene resulted in catastrophic loss of beach) did not occur.



Figure 23: Dune Erosion following Hurricane Matthew, Source: Carteret County Shore Protection Office



4. Strategies for Resilient Redevelopment

4. Strategies for Resilient Redevelopment

This section provides details about the resilience and revitalization strategies and actions identified in Carteret County. These actions were identified and refined during three public meetings with local officials and county residents held in March and April 2017. The actions are tied to impacts from Hurricane Matthew and organized by the pillars of housing, economic development, infrastructure and environment. In addition to the public meetings, frequent coordination calls with County officials and data gathered from state agencies and organizations were utilized to formulate the actions listed below.

Meeting 1 was designed to introduce the community and County points of contact to the Resilient Redevelopment Planning process and goals. This meeting allowed the planning team to capture areas within the county that were damaged during Hurricane Matthew and to hear what potential mitigation actions had already been considered. Draft resilience actions were then presented at Meeting 2 of the planning process. This was done to garner general buy-in on the draft actions from the County-level planning teams and residents. More details on the actions were collected between Meetings 2 and 3 through research and follow-up phone calls and emails with the primary points of contact. Meeting 3 provided the opportunity to collect and finalize details for the draft actions. Meeting 4, scheduled in early May 2017, allowed the county points of contact to rank the identified actions, group them into High, Medium, and Low Priorities, and to approve their inclusion in the plan.

Pillar	Project/Action Count
Housing	6
Economic Development	8
Infrastructure	9
Environment	5
Grand Total	28

Table 7: Carteret County Summary of Projects by Pillar

The following table is ordered by the rankings and priorities provided by Carteret County during Meeting 4:

Pillar	Action Name	Priority	Overall Ranking
Environment	Revise Flood Studies	High	1
Infrastructure	Evacuation Routes	High	2
Infrastructure	Shelters and Emergency Equipment: Schools	High	3
Housing	Elevating Properties: South River	High	4
Infrastructure	Critical Facilities and Emergency Equipment: Countywide	High	5
Infrastructure	Water Level Gaging	High	6
Infrastructure	Secondary Road Improvements: Roberts Rd	High	7
Infrastructure	Secondary Road Improvements: Ocean Drive	High	8
Infrastructure	Countywide Drainage Improvements	High	9
Housing	Acquisitions: Countywide	High	10
Housing	Acquisitions: South Park Subdivision	Medium	11
Housing	Acquisitions: Town of Newport	Medium	12
Infrastructure	Floodproofing Lift Stations	Medium	13
Environment	Ordinance Development	Medium	14
Housing	Education and Outreach Programs	Medium	15
Economic Development	The Port of Morehead City	Medium	16

Pillar	Action Name	Priority	Overall Ranking
Infrastructure	Emerald Isle Temporary Structures	Medium	17
Housing	Affordable Housing	Medium	18
Economic Development	Medical Facilities	Medium	19
Environment	Increased Funding for Preserves	Medium	20
Environment	A Comprehensive Plan: Preservation of Natural Resources	Low	21
Economic Development	Development around Military Facilities	Low	22
Economic Development	Manufacturing Sector Growth	Low	23
Economic Development	Marine Services and Repair & Boatbuilding	Low	24
Economic Development	Collaboration between Research Institutions and Local Government	Low	25
Economic Development	Advertising Carteret County	Low	26
Environment	Ecotourism	Low	27
Economic Development	Growing the Aquaculture Industry	Low	28

Table 8. Projects by Rank

On the following pages, we have organized the projects and actions by pillar. Within each pillar, the projects are grouped by County priority. Please note that maps are provided for all projects that have a specific location within the County. Projects without maps are county-wide projects that will benefit citizens throughout the County.

Additionally, each project is described with more detail in the appendix. The appendix will be ordered in the same manner as below.

Housing Strategies

High Priority Housing Strategies

Pillar	Action Name	Priority	Overall Ranking
Housing	Elevating Properties: South River	High	4
Housing	Acquisitions: Countywide	High	10

Table 9. Carteret High Priority Housing Summary

These projects represent the housing strategies that Carteret County indicated are the highest priority to address. Additional detail on the projects can be found below:

- Elevating Properties: South River:** Properties located in the SFHA are in constant danger of repetitive flooding. Elevating Properties to the Design Flood Elevation (DFE = Base Flood Elevation (BFE) +2ft) reduces the risk of flood damages occurring from the 100-yr flood event. Elevate flood prone properties located on the Eastern side of Carteret County. Properties located in the Township of South River, are considered a priority due to the level of exposure and difficulty of access/evacuation. The Carteret County Planning Department has a list of repetitive loss properties and potential candidates for elevation. The list was not included in this plan due to privacy concerns.

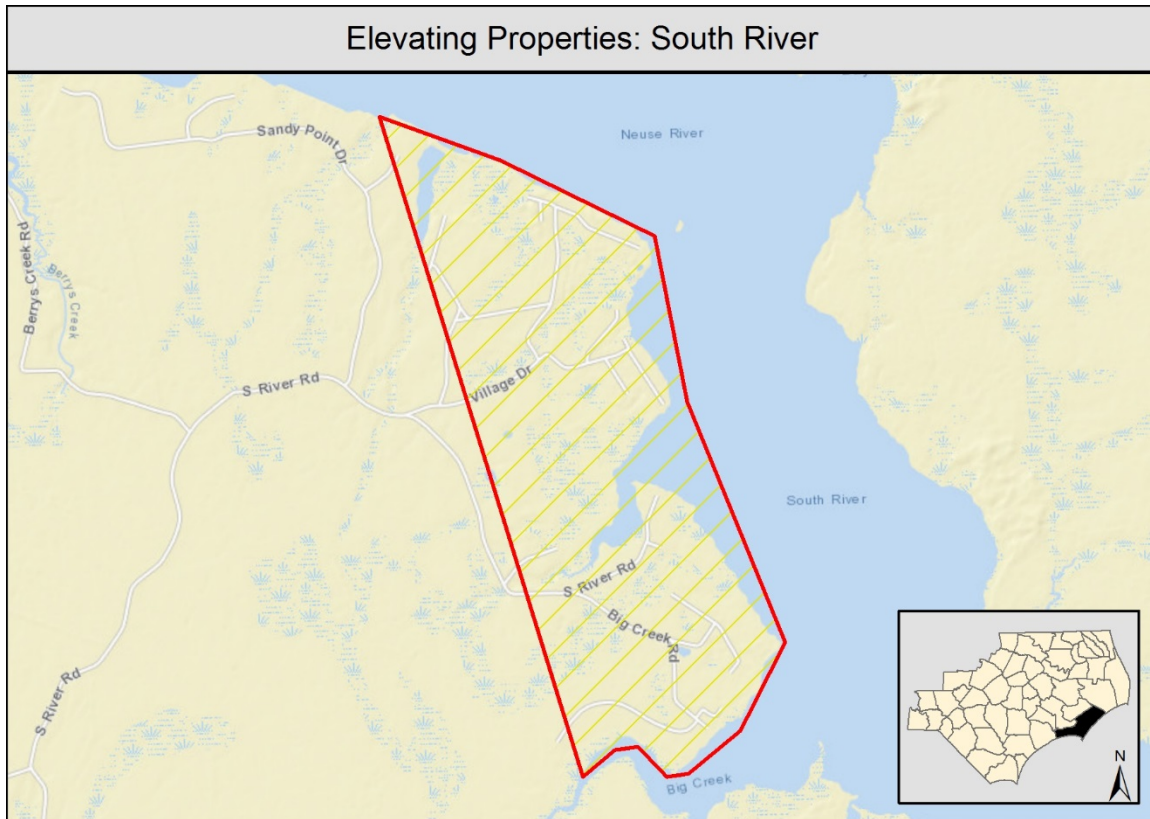


Figure 24: Elevating Properties: South River

12 - Elevating Properties: South River

County: Carteret

Priority Grouping: High Priority

Priority Ranking: 4

Project Timeframe: 12-24 months

Location: Township of South River and other properties located in the Eastern side of the County.

Project Summary: Properties located in the SFHA are in constant danger of repetitive flooding. Elevating Properties to the Design Flood Elevation (DFE = Base Flood Elevation (BFE) +2ft) reduces the risk of flood damages occurring from the 100-yr flood event. Elevate flood prone properties located on the Eastern side of Carteret County. Properties located in the Township of South River, are considered a priority due to the level of exposure and difficulty of access/evacuation. The Carteret County Planning Department has a list of repetitive loss properties and potential candidates for elevation. The list was not included in this plan due to privacy concerns.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	Public Participation – Federal grants require the voluntary participation of the applicant.;Location – It is more difficult to justify the cost benefit of a property that is not located in the Special Flood Hazard Area (SFHA) unless the applicant can show;;History of Damages – Used to determine if the acquisition project is cost beneficial. ;Costs – It is more difficult to justify an acquisition project when the total project costs exceeds \$175000. This number was determined by FEMA	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Elevation of residential homes is an effective mitigation measure because it significantly reduces losses and displacement during low frequency flood events and protects the local tax base by allowing residents to continue to live in their current location. (Infrastructure Economy)	Agree
For how long will this solution be effective?	Between 31 and 50 years	Agree
How effective is the risk reduction?	100-200 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	The elevation of properties removes obstructions from the floodplain allowing waters to flow more naturally. (Environmental)	N/A

What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Acquisitions: Countywide:** Acquisition projects mitigate against all potential hazards. By demolishing the property and converting it to empty space, the risks of future damages is removed forever. This project would provide funding to demolish and convert to recreational green space any abandoned properties that are located within the Special Flood Hazard Area and do not contribute tax income to the municipality. The Carteret County Planning Department has a list of repetitive loss properties and potential candidates for elevation. The list was not included in this plan due to privacy concerns.

13 - Acquisitions: Countywide

County: Carteret

Priority Grouping: High Priority

Priority Ranking: 10

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: Acquisition projects mitigate against all potential hazards. By demolishing the property and converting it to empty space, the risks of future damages is removed forever. Demolish and convert to recreational green space any abandoned properties that are located within the Special Flood Hazard Area and do not contribute tax income to the municipality. The Carteret County Planning Department has a list of repetitive loss properties and potential candidates for elevation. The list was not included in this plan due to privacy concerns.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	Public Participation – Federal grants require the voluntary participation of the applicant.;Location – It is more difficult to justify the cost benefit of a property that is not located in the Special Flood Hazard Area (SFHA) unless the applicant can show;History of Damages – Used to determine if the acquisition project is cost beneficial. Costs – It is more difficult to justify an acquisition project when the total project costs exceeds \$175000. This number was determined by FEMA	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Acquisition projects with a total project cost of \$276000 or less do not need to provide a Benefit Cost Analysis (BCA) as part of FEMA's HMA program. Properties can be grouped and the total project cost can be averaged in order to meet the stated criteria. • Converting the empty space into recreational areas enhances the overall aesthetics of the area and promotes tourism. (Economic)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	>200 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree

What impacts to the environment of the county will result from this project?	<ul style="list-style-type: none"> • Creating more open green space improves water retention rate mitigating flood potential. (Environmental) • Removing obstructions from the floodplain allows water to flow more naturally. (Environmental) 	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$251K - \$500K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	Local	Agree

Medium Priority Housing Strategies

Pillar	Action Name	Priority	Overall Ranking
Housing	Acquisitions: South Park Subdivision	Medium	11
Housing	Acquisitions: Town of Newport	Medium	12
Housing	Education and Outreach Programs	Medium	15
Housing	Affordable Housing	Medium	18

Table 10. Carteret Medium Priority Housing Summary

These projects represent the housing strategies that Carteret County indicated are of a medium priority to address. Additional detail on the projects can be found below:

- Acquisitions: South Park Subdivision:** This project would provide funding to demolish and convert to recreational green space any abandoned properties that are located within the Special Flood Hazard Area and do not contribute tax income to the municipality in the South Park Subdivision.

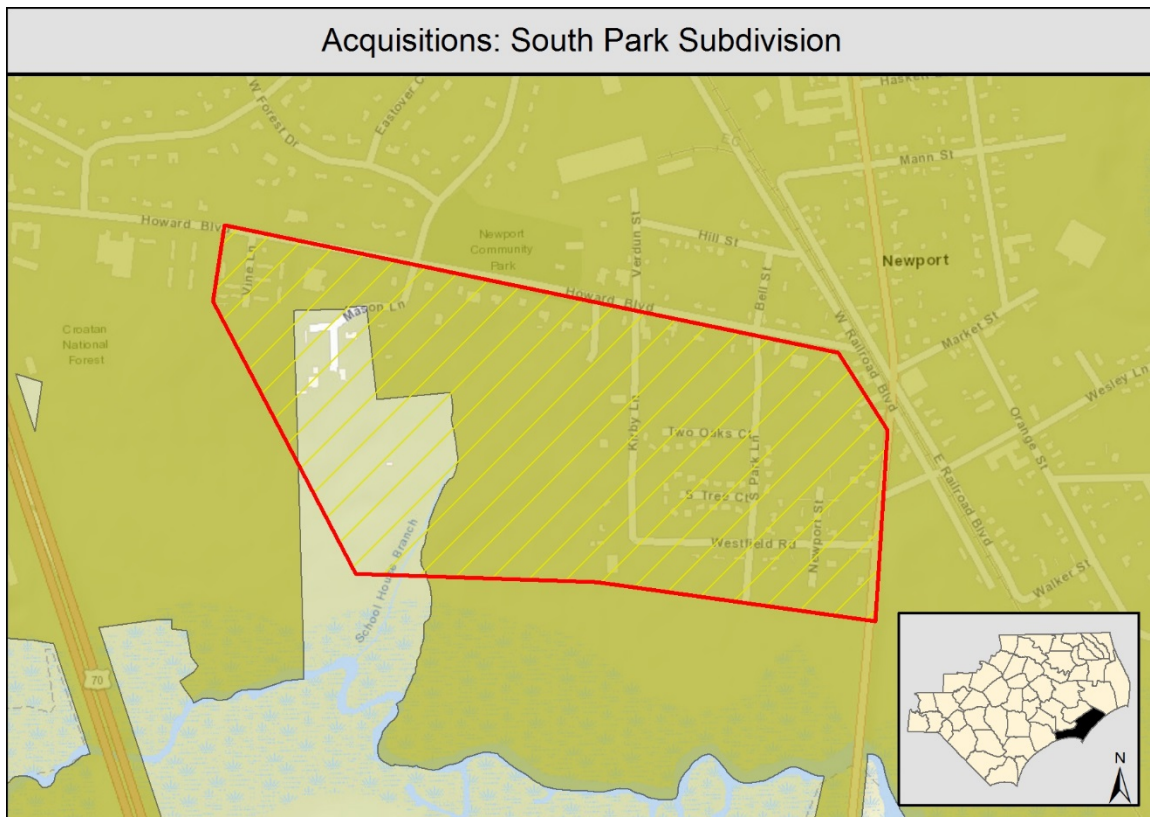


Figure 25. Acquisitions: South Park Subdivision

14 - Acquisitions: South Park Subdivision

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 11

Project Timeframe: 12-24 months

Location: South Park Subdivision

Project Summary: Acquisition projects mitigate against all potential hazards. By demolishing the property and converting it to empty space, the risks of future damages is removed forever. Demolish and convert to recreational green space any abandoned properties that are located within the Special Flood Hazard Area and do not contribute tax income to the municipality.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	Public Participation – Federal grants require the voluntary participation of the applicant.;Location – It is more difficult to justify the cost benefit of a property that is not located in the Special Flood Hazard Area (SFHA) unless the applicant can show; History of Damages – Used to determine if the acquisition project is cost beneficial. Costs – It is more difficult to justify an acquisition project when the total project costs exceed \$175000. This number was determined by FEMA	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Acquisition projects with a total project cost of \$276000 or less do not need to provide a Benefit Cost Analysis (BCA) as part of FEMA's HMA program. Properties can be grouped and the total project cost can be averaged in order to meet the stated criteria. • Converting the empty space into recreational areas enhances the overall aesthetics of the area and promotes tourism. (Economic)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	>200 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will	• Creating more open green space improves water retention	N/A

result from this project?	rate mitigating flood potential. (Environmental) • Removing obstructions from the floodplain allows water to flow more naturally. (Environmental)	
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$251K - \$500K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	Local	Agree

- **Acquisitions: Town of Newport:** This project would provide funding to demolish and convert to recreational green space any abandoned properties that are located within the Special Flood Hazard Area and do not contribute tax income to the municipality in the Town of Newport.

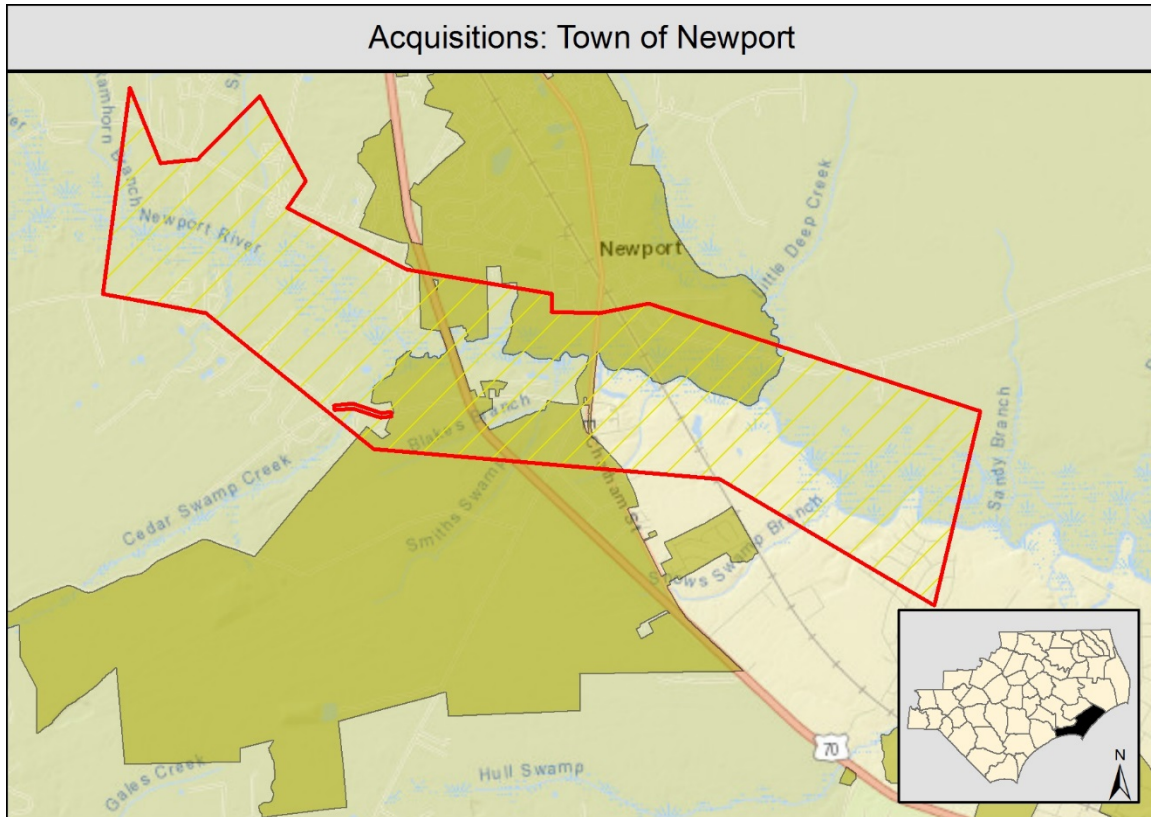


Figure 26. Acquisitions: Town of Newport

15 - Acquisitions: Town of Newport

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 12

Project Timeframe: 12-24 months

Location: Town of Newport

Project Summary: Acquisition projects mitigate against all potential hazards. By demolishing the property and converting it to empty space, the risks of future damages is removed forever. Demolish and convert to recreational green space any abandoned properties that are located within the Special Flood Hazard Area and do not contribute tax income to the municipality.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	Public Participation – Federal grants require the voluntary participation of the applicant.;Location – It is more difficult to justify the cost benefit of a property that is not located in the Special Flood Hazard Area (SFHA) unless the applicant can show;History of Damages – Used to determine if the acquisition project is cost beneficial.; Costs – It is more difficult to justify an acquisition project when the total project costs exceeds \$175000. This number was determined by FEMA	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Acquisition projects with a total project cost of \$276000 or less do not need to provide a Benefit Cost Analysis (BCA) as part of FEMA's HMA program. Properties can be grouped and the total project cost can be averaged in order to meet the stated criteria. • Converting the empty space into recreational areas enhances the overall aesthetics of the area and promotes tourism. (Economic)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	>200 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will	• Creating more open green space improves water retention	N/A

result from this project?	rate mitigating flood potential. (Environmental) • Removing obstructions from the floodplain allows water to flow more naturally. (Environmental)	
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$251K - \$500K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	Local	Agree

- **Education and Outreach Programs:** Many of the most at risk communities are low income residents in rural areas along the coast or in low-lying areas outside of the major municipal areas. The need to educate residents about the current risks and funding opportunities in these areas is imperative. This project consists of obtaining funding for a County program that would provide the necessary staffing and resources to:
 - Work directly with local church and faith-based organizations in isolated or underserved areas to identify and reach out to residents that may be unaware of current risks, funding opportunities and public service programs such as Coastal Carolina Action.
 - Place flood protection, sheltering and other hazard education materials in all branches of the Carteret County public library system.
 - Support residents throughout the grant solicitation process by assisting with the necessary forms and paperwork.

09 - Education and Outreach Programs

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 15

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: "Many of the most at risk communities are low income residents in rural areas along the coast or in low-lying areas outside of the major municipal areas. The need to educate residents about the current risks and funding opportunities in these areas is imperative. This project consists of obtaining funding for a County program that would provide the necessary staffing and resources to:

1. Work directly with local church and faith-based organizations in isolated or underserved areas to identify and reach out to residents that may be unaware of current risks, funding opportunities and public service programs such as Coastal Carolina Action.
2. Place flood protection, sheltering and other hazard education materials in all branches of the Carteret County public library system.
3. Support residents throughout the grant solicitation process by assisting with the necessary forms and paperwork."

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	<ul style="list-style-type: none"> • Housing – Proposed program will educate residents on the current risks and provide assistance to complete paperwork needed to obtain grants for acquisition and elevation. 	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	<ul style="list-style-type: none"> • Economy – Maintain current tax base. Less residents abandoning houses. 	Agree
For how long will this solution be effective?	Less than 10 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	<ul style="list-style-type: none"> • Environment – Maintain current housing infrastructure. 	N/A
What is the capability of the local government to administer this project?	Unknown	Agree

What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Unknown	Agree
Who will administer this project?	County	Agree

- **Affordable Housing:** Due to the prevalence of luxury vacation homes and proximity to the coast which drives tourism and increased demand for rental vacation housing, affordable housing for year round, working residents is limited. The high price of housing forces many people employed within Carteret County to live in adjacent counties, and commute to work. This project consists of the following actions in order to expand housing choices available to families in the region:
 1. Conduct an inventory of available and affordable housing choices based upon the demographic profile of each township or region.
 2. Conduct an inventory of housing-related programs and organizations within the County.
 3. Examine the potential of non-profit groups in the County to develop housing projects.
 4. Employ best practice methods to increase and coordinate foreclosure prevention, mitigation and re-occupancy efforts
 5. Examine housing choices surrounding the County's job centers and commuting patterns to understand the impact of extended travel to work on affordability.
 6. Assess efficacy of current regulatory processes.
 7. Analyze study recommendations and develop an action plan.

10 - Affordable Housing

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 18

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: Due to the prevalence of luxury vacation homes and proximity to the coast which drives tourism and increased demand for rental vacation housing, affordable housing for year round, working residents is limited. The high price of housing forces many people employed within Carteret County to live in adjacent counties, and commute to work. This project consists of the following actions in order to expand housing choices available to families in the region:

1. Conduct an inventory of available and affordable housing choices based upon the demographic profile of each township or region.
2. Conduct an inventory of housing-related programs and organizations within the County.
3. Examine the potential of non-profit groups in the County to develop housing projects.
4. Employ best practice methods to increase and coordinate foreclosure prevention, mitigation and re-occupancy efforts
5. Examine housing choices surrounding the County's job centers and commuting patterns to understand the impact of extended travel to work on affordability.
6. Assess efficacy of current regulatory processes.
7. Analyze study recommendations and develop an action plan.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	<ul style="list-style-type: none"> • Coordination with private and public programs such as Coastal Carolina Action Homebuilders association Realty Community Metropolitan Planning Organizations housing assistance providers and community development corporations. • Ensure that Fair Housing Laws are enforced and opportunity for housing is accessible to all members of the community. 	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	• Maintain and expand current tax base. (Economy)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree

What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Unknown	Agree
Who will administer this project?	County	Agree

Low Priority Housing Strategies

There were no housing strategies that Carteret County indicated are of a lower priority to address.

Economic Development Strategies

High Priority Economic Development Strategies

There were no economic development strategies that Carteret County indicated are of a higher priority to address.

Medium Priority Economic Development Strategies

Pillar	Action Name	Priority	Overall Ranking
Economic Development	The Port of Morehead City	Medium	16
Economic Development	Medical Facilities	Medium	19

Table 11. Carteret Medium Priority Economic Development Summary

These projects represent the economic development strategies that Carteret County indicated are of a medium priority to address. Additional detail on the projects can be found below:

- The Port of Morehead City:** The port supports approximately 200 direct jobs in Carteret County. Indirectly, the port supports multiple sectors, employing many hundreds of people in logging, manufacturing, agriculture, rubber, rail and other industries. Continued investment in port development and facilities could enhance the opportunity for the region to become a major gateway for world shipping. This project consists of developing investment strategies needed to secure the port's future success by: Identifying ways to improve four-lane highway access along US 70. Identifying and recruiting clean export/import businesses. Identifying and creating additional foreign trade zone(s) to encourage international trade. Securing funding for the continuous dredging of the port's inlet.



Figure 27: The Port of Morehead City, Source: publicradioeast.org

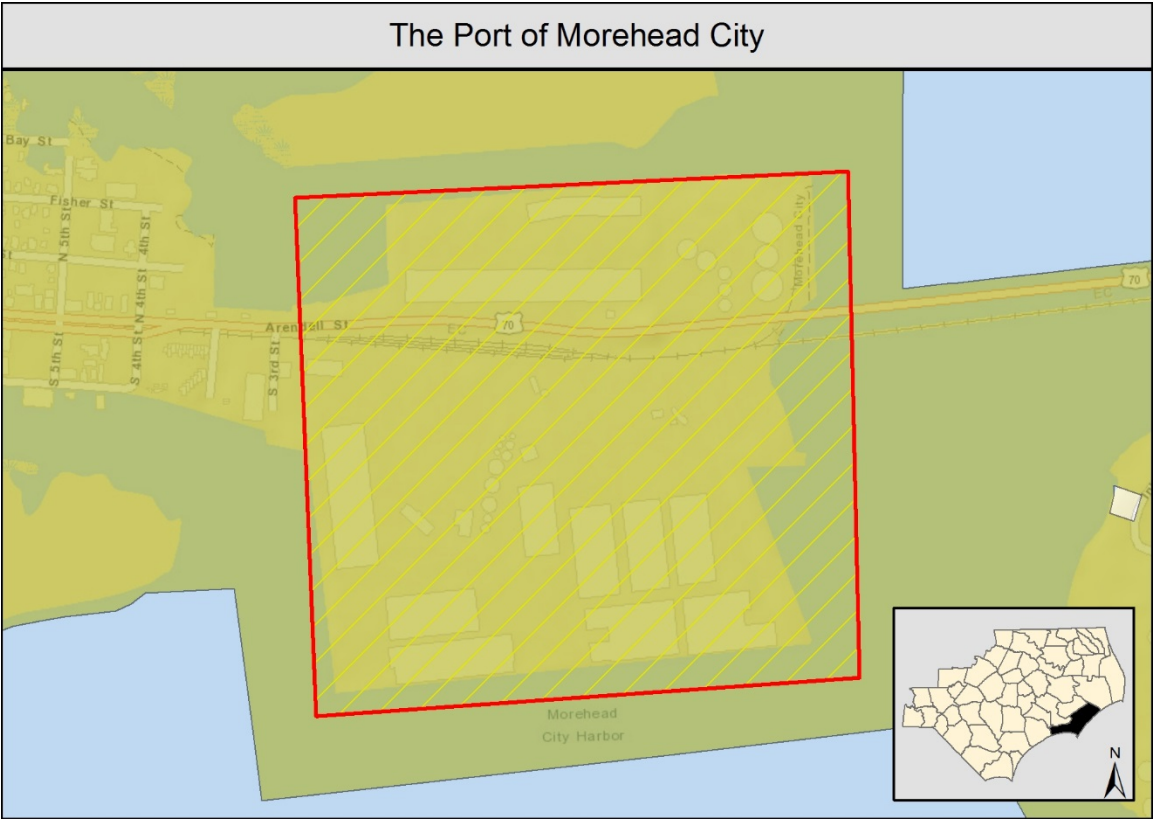


Figure 28. The Port of Morehead City

01 - The Port of Morehead City Infrastructure Investment Strategies

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 16

Project Timeframe: 12-24 months

Location: The Port of Morehead City

Project Summary: The Port of Morehead City - The port supports approximately 200 direct jobs in Carteret County. Indirectly, the port supports multiple sectors, employing many hundreds of people in logging, manufacturing, agriculture, rubber, rail and other industries. Continued investment in port development and facilities could enhance the opportunity for the region to become a major gateway for world shipping. This project consists of developing investment strategies needed to secure the port's future success by: Identifying ways to improve four-lane highway access along US 70. Identifying and recruiting clean export/import businesses. Identifying and creating additional foreign trade zone(s) to encourage international trade. Securing funding for the continuous dredging of the port's inlet.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	N/A	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Possible outcome may be additional employment opportunities which may contribute to an overall growth of the economy and increased tax base	Agree
For how long will this solution be effective?	Between 31 and 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Unknown	Agree
Who will administer this project?	County	Agree

- **Medical Facilities:** Demographics throughout the nation are changing. According to the most recent census, family size continues to contract while the number of senior citizens is increasing. The quality and availability of health care is a major concern. As the county moves forward, these issues must be addressed. Strategies for further development of this area include:
 - Investment in the Carteret Health Care Medical Center; improvements have been made in service driven by increased demand, and increased investment would benefit the community economically as well as from a health care standpoint.
 - Nursing homes in close proximity to the hospital would also improve conditions and complement the services provided by the Medical Center.
 - Collaboration programs or government subsidies to minimize the pay scale differentials between Carteret General Hospital, other county facilities and adjacent county facilities. In addition to a growing national shortage in certain health care professions, Carteret County conditions are exacerbated by non-competitive wage rates relative to nearby areas.
 - Training and educational programs for high school students, aimed at those not interested in pursuing a traditional 4-year college degree. Examples of healthcare careers that don't require a bachelor's degree include: diagnostic medical sonographer, medical assistant, medical lab technician, physical therapy assistant, registered nurse, emergency medical technician (EMT) and paramedic, etc.
 - Rural residents often experience barriers to healthcare that limit their ability to get the care they need. In order for rural residents to have sufficient healthcare access, necessary and appropriate services must be available which can be accessed in a timely manner. Urgent care facilities are needed in the remote, eastern areas of the County, such as Cedar Island, Merrimon, South River, etc.
 - Funding for a new 24-hour emergency care facility with room for up to ten patients, one critical care room, a pharmacy and full laboratory service

03 - Medical Facilities

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 19

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: Medical Facilities - Demographics throughout the nation are changing. According to the most recent census, family size continues to contract while the number of senior citizens is increasing. The quality and availability of health care is a major concern. As the county moves forward, these issues must be addressed. Strategies for further development of this area include: Investment in the Carteret Health Care Medical Center; improvements have been made in service driven by increased demand, and increased investment would benefit the community economically as well as from a health care standpoint; Nursing homes in close proximity to the hospital would also improve conditions and complement the services provided by the Medical Center.

Collaboration programs or government subsidies to minimize the pay scale differentials between Carteret General Hospital, other county facilities and adjacent county facilities. In addition to a growing national shortage in certain health care professions, Carteret County conditions are exacerbated by non-competitive wage rates relative to nearby areas; Training and educational programs for high school students, aimed at those not interested in pursuing a traditional 4-year college degree. Examples of healthcare careers that don't require a bachelor's degree include: diagnostic medical sonographer, medical assistant, medical lab technician, physical therapy assistant, registered nurse, emergency medical technician (EMT) and paramedic, etc.; Rural residents often experience barriers to healthcare that limit their ability to get the care they need. In order for rural residents to have sufficient healthcare access, necessary and appropriate services must be available which can be accessed in a timely manner. Urgent care facilities are needed in the remote, eastern areas of the County, such as Cedar Island, Merrimon, South River, etc.; Funding for a new 24-hour emergency care facility with room for up to ten patients, one critical care room, a pharmacy and full laboratory services.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	N/A	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Possible outcome may be additional employment opportunities which may contribute to an overall growth of the economy and increased tax base for the surrounding communities and the County. (Housing)	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree

What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Unknown	Agree
Who will administer this project?	County	Agree

Low Priority Economic Development Strategies

Pillar	Action Name	Priority	Overall Ranking
Economic Development	Development Around Military Facilities	Low	22
Economic Development	Manufacturing Sector Growth	Low	23
Economic Development	Marine Services and Repair & Boatbuilding	Low	24
Economic Development	Collaboration between Research Institutions and Local Government	Low	25
Economic Development	Advertising Carteret County	Low	26
Economic Development	Growing the Aquaculture Industry	Low	28

Table 12. Carteret Low Priority Economic Development Summary

These projects represent the economic development strategies that Carteret County indicated are of a low priority to address. Additional detail on the projects can be found below:

- **Development Around Military Facilities:** Due to the proximity of Cherry Point and Camp Lejeune, there is growth opportunity in Carteret County to support—directly and indirectly—these military installations. These nearby military facilities have provided high-paying quality jobs in the past; potential changes in the military force structure and/or missions could lead to facility expansion, restriction, or closures. Strategies for further development include:
 - Investment in facilities and infrastructure to attract and support base contractors.
 - Construction of schools, hospitals and other infrastructure that would enable economic growth, providing opportunities and incentive for the spouses and families of service members and contractors to stay in the area.
 - A comprehensive plan for improving the position of Carteret County for the next round of Base Realignment and Closure discussions (BRAC). Establish “military influence planning districts” to coordinate communications with the military installations and to align the military development requirements and goals with the local economic development goals.
 - Develop and adhere to strict land development ordinances. Encroachment problems are the biggest threat to the relationship between the County and its military bases.

02 - Development Around Military Facilities

County: Carteret

Priority Grouping: Low Priority

Priority Ranking: 22

Project Timeframe: 12-24 months

Location: Countywide - near Cherry Point and Camp Lejeune areas

Project Summary: The Military - Due to the proximity of Cherry Point and Camp Lejeune, there is growth opportunity in Carteret County to support—directly and indirectly—these military installations. These nearby military facilities have provided high-paying quality jobs in the past; potential changes in the military force structure and/or missions could lead to facility expansion, restriction, or closures. Strategies for further development include: Investment in facilities and infrastructure to attract and support base contractors; Construction of schools, hospitals and other infrastructure that would enable economic growth, providing opportunities and incentive for the spouses and families of service members and contractors to stay in the area; A comprehensive plan for improving the position of Carteret County for the next round of Base Realignment and Closure discussions (BRAC). Establish “military influence planning districts” to coordinate communications with the military installations and to align the military development requirements and goals with the local economic development goals; Develop and adhere to strict land development ordinances. Encroachment problems are the biggest threat to the relationship between the County and its military bases.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	N/A	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Possible outcome may be additional employment opportunities which may contribute to an overall growth of the economy and increased tax base for the surrounding communities and the County. (Housing)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree

What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Unknown	Agree
Who will administer this project?	County	Agree

- **Manufacturing Sector Growth:** The manufacturing sector also is a growth area, one which would improve revenue and create jobs for yearlong residents of Carteret County. The goal of this strategy is to facilitate the expansion of this sector by:
 - Coordinating with local schools and colleges to provide skilled labor and technical training to their students through industry-sponsored workshops.
 - Creating new high school and community college internship/apprentice efforts.
 - Investing in a marketing program to advertise the advantages of the area, including its proximity to the port and waterfront space.
 - Developing a strong partnership between the residents, educational institutions and the local manufacturing industry by facilitating workshops and job fairs.

07 - Manufacturing Sector Growth

County: Carteret

Priority Grouping: Low Priority

Priority Ranking: 23

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: The manufacturing sector also is a growth area, one which would improve revenue and create jobs for yearlong residents of Carteret County. The goal of this strategy is to facilitate the expansion of this sector by: Coordinating with local schools and colleges to provide skilled labor and technical training to their students through industry-sponsored workshops; Creating new high school and community college internship/apprentice efforts; Investing in a marketing program to advertise the advantages of the area, including its proximity to the port and waterfront space; Developing a strong partnership between the residents, educational institutions and the local manufacturing industry by facilitating workshops and job fairs.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	Project/Strategy mentioned in: 1) Eastern Carolina Council Comprehensive Economic Development Strategy 2) Carteret County A Comprehensive Study	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Possible outcome may be additional employment opportunities which may contribute to an overall growth of the economy and increased tax base for the surrounding communities and the County. (Housing)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree

What is the financial range of this project?	\$51K - \$100K	Agree
What is the level of public support for this project?	Medium	Agree
What is the technical feasibility of this project?	No Impact	Agree
Who will administer this project?	County	Agree

- **Marine Services and Repair & Boatbuilding:** As a port city, there is a high volume of marine traffic and maintenance/repair needs that provides another economic development opportunity for the County. In addition, the County's characteristics make it a prime location for the boatbuilding industry. The eastern side of the County offers available working waterfront space, a major advantage for reducing shipping and transportation costs. The goal of this strategy is to facilitate the expansion of these industries by:
 - Determining appropriate initiatives for investment and necessary infrastructure by collaborating with business owners, educational institutions such as MARTEC, and public agencies such as a North Carolina's Small Business and Technology Development Center.
 - Exploring training and collaboration opportunities with the Fleet Readiness Center East in Cheery Point.



Figure 29: Boatbuilding at NC MARTEC, Source MARTEC Facebook page (<https://www.facebook.com/NC-Martec-North-Carolina-Marine-Training-and-Education-Center-160276954022705/>)

06 - Marine Services and Repair & Boatbuilding

County: Carteret

Priority Grouping: Low Priority

Priority Ranking: 24

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: As a port city, there is a high volume of marine traffic and maintenance/repair needs that provides another economic development opportunity for the County. In addition, the County's characteristics make it a prime location for the boatbuilding industry. The eastern side of the County offers available working waterfront space, a major advantage for reducing shipping and transportation costs. The goal of this strategy is to facilitate the expansion of these industries by: Determining appropriate initiatives for investment and necessary infrastructure by collaborating with business owners, educational institutions such as MARTEC, and public agencies such as a North Carolina's Small Business and Technology Development Center; Exploring training and collaboration opportunities with the Fleet Readiness Center East in Cheery Point.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	Strategy mentioned in: 1) Eastern Carolina Council Comprehensive Economic Development Strategy 2) Carteret County A Comprehensive Study	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Possible outcome may be additional employment opportunities which may contribute to an overall growth of the economy and increased tax base for the surrounding communities and the County. (Housing)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree

What is the financial range of this project?	\$0- \$50K	Agree
What is the level of public support for this project?	Medium	Agree
What is the technical feasibility of this project?	No Impact	Agree
Who will administer this project?	County	Agree

- **Collaboration between Research Institutions and Local Government:** The County is not taking full advantage of assets that could create new economic niches. This is especially true in the research driven marine bio-sciences arena, where Carteret County has an abundance of university and federal facilities. The lack of local employment opportunity for college graduates is an obstacle for students to return to the County after graduation. This strategy consists of obtaining funding for increased collaboration between the academic research institutions (UNC, NC State, Duke, ECC, CCC) and the County science-based departments such as Emergency Services, GIS Services, Environmental Health, Shore Protection, and Soil and Water Conservation, etc. Ancillary jobs have resulted in the past from collaboration between the community and the research groups (e.g. blood harvesting from horseshoe crabs).

04 - Collaboration between Research Institutions and Local Government

County: Carteret

Priority Grouping: Low Priority

Priority Ranking: 25

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: Science & Research - The County is not taking full advantage of assets that could create new economic niches. This is especially true in the research driven marine bio-sciences arena, where Carteret County has an abundance of university and federal facilities. The lack of local employment opportunity for college graduates is an obstacle for students to return to the County after graduation. This strategy consists of obtaining funding for increased collaboration between the academic research institutions (UNC, NC State, Duke, ECC, CCC) and the County science-based departments such as Emergency Services, GIS Services, Environmental Health, Shore Protection, and Soil and Water Conservation, etc. Ancillary jobs have resulted in the past from collaboration between the community and the research groups (e.g. blood harvesting from horseshoe crabs).

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	N/A	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Possible outcome may be additional employment opportunities which may contribute to an overall growth of the economy and increased tax base for the surrounding communities and the County. (Housing)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$0- \$50K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	No Impact	Agree

Who will administer this project?	County	Agree
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- **Advertising Carteret County:** Carteret County is disproportionately seen as a tourist destination, and this negatively impacts other non-tourism investment opportunities. Each of the Economic Development projects included in this Resilient Redevelopment Plan would benefit from a well-balanced advertising campaign, educating investors and visitors about the many resources, potential business opportunities and attractions of Carteret County in addition to the beaches. The goal of this strategy is to provide the necessary marketing support needed to ensure continued economic diversification and job growth in the area by:
 1. Promoting the region's scientific contribution to marine science and oceanography. Carteret County is home to state of the art research facilities for UNC, NCSU, Duke, and other universities;
 2. Developing a business recruitment plan. Such a plan would include outreach to and through trade organizations and publications, visibility at appropriate conferences, cooperation with State and multi-State efforts, web site links and materials dissemination, direct marketing, partnerships with industry trade organizations, and promotion of the County as an opportunity for entrepreneurs seeking quality of life. This aggressive recruitment program requires the following:
 - a. Distinct marketing materials and presentations for recruitment and solicitation,
 - b. A strong commitment to implement the plan through the investment of sufficient resources;
 3. Coordinating and expanding programs designed to address businesses' operational and labor needs.

This effort should be accomplished in collaboration with the Board of Education, Carteret Community College, Economic Development Council, Employment Security Commission and the Chamber of Commerce.

08 - Advertising Carteret County

County: Carteret

Priority Grouping: Low Priority

Priority Ranking: 26

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: Carteret County is disproportionately seen as a tourist destination, and this negatively impacts other non-tourism investment opportunities. Each of the Economic Development projects included in this Resilient Redevelopment Plan would benefit from a well-balanced advertising campaign, educating investors and visitors about the many resources, potential business opportunities and attractions of Carteret County in addition to the beaches. The goal of this strategy is to provide the necessary marketing support needed to ensure continued economic diversification and job growth in the area by:

1. Promoting the region's scientific contribution to marine science and oceanography. Carteret County is home to state of the art research facilities for UNC, NCSU, Duke, and other universities;
2. Developing a business recruitment plan. Such a plan would include outreach to and through trade organizations and publications, visibility at appropriate conferences, cooperation with State and multi-State efforts, web site links and materials dissemination, direct marketing, partnerships with industry trade organizations, and promotion of the County as an opportunity for entrepreneurs seeking quality of life. This aggressive recruitment program requires the following: i. Distinct marketing materials and presentations for recruitment and solicitation, ii. A strong commitment to implement the plan through the investment of sufficient resources;
3. Coordinating and expanding programs designed to address businesses' operational and labor needs. This effort should be accomplished in In collaboration with the Board of Education, Carteret Community College, Economic Development Council, Employment Security Commission and the Chamber of Commerce.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	N/A	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Possible outcome may be additional employment opportunities which may contribute to an overall growth of the economy and increased tax base for the surrounding communities and the County. (Housing)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree

What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$51K - \$100K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	No Impact	Agree
Who will administer this project?	County	Agree

- **Growing the Aquaculture Industry:** Aquaculture is a growing sector in Carteret County, one that is vulnerable to the impacts of extreme events. In conjunction with seafood source wholesaling, which is already a major industry in Carteret County, this industry can provide major benefits to the area. The goal of this strategy is to facilitate aquaculture expansion and the conservation of seafood resources by:
 - Determining appropriate strategies for investment and necessary infrastructure by collaborating with local farmers, educational institutions, and public agencies such as:
 - NC Department of Agriculture and Consumer Services
 - Southern Regional Aquaculture Center
 - NC Cooperative Extension Service
 - National Association of State Aquaculture Coordinators
 - USDA Natural Resource Conservation Service
 - NC Division of Water Resources
 - Advertising the area by establishing a presence in industry societies such as the Aquacultural Engineering Society and the World Aquaculture Society.
 - Continue hosting the NC Aquaculture Development Conference.
 - Evaluating tax exemptions and other government subsidies to attract business developers.



Figure 30: Aquaculture in North Carolina, Source: NC Department of Agriculture & Consumer Services

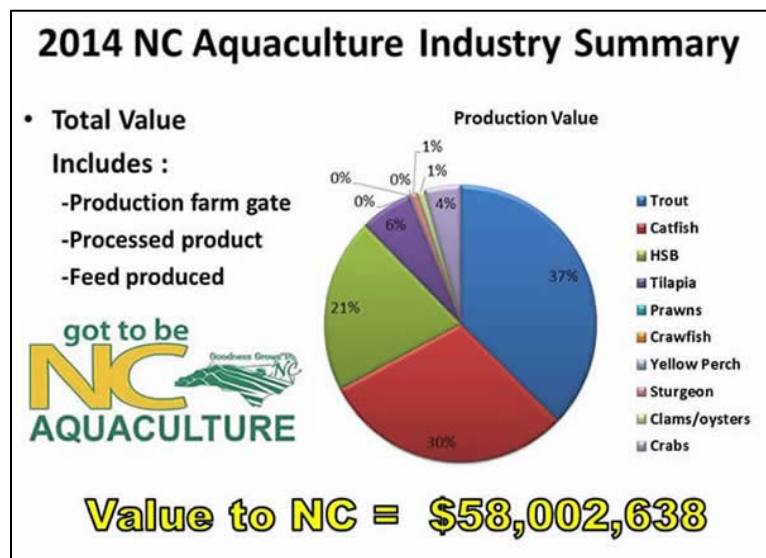


Figure 31: 2014 NC Aquaculture Industry Summary, Source: NC Department of Agriculture & Consumer Services

05 - Growing the Aquaculture Industry

County: Carteret

Priority Grouping: Low Priority

Priority Ranking: 28

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: Aquaculture is a growing sector in Carteret County, one that is vulnerable to the impacts of extreme events. In conjunction with seafood source wholesaling, which is already a major industry in Carteret County, this industry can provide major benefits to the area. The goal of this strategy is to facilitate aquaculture expansion and the conservation of seafood resources by: Determining appropriate strategies for investment and necessary infrastructure by collaborating with local farmers, educational institutions, and public agencies such as NC Department of Agriculture and Consumer Services, Southern Regional Aquaculture Center, NC Cooperative Extension Service, National Association of State Aquaculture Coordinators, USDA Natural Resource Conservation Service, and NC Division of Water Resources; Advertising the area by establishing a presence in industry societies such as the Aquacultural Engineering Society and the World Aquaculture Society; Continue hosting the NC Aquaculture Development Conference; Evaluating tax exemptions and other government subsidies to attract business developers.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	Strategy mentioned in: Carteret County A Comprehensive Study	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Possible outcome may be additional employment opportunities which may contribute to an overall growth of the economy and increased tax base for the surrounding communities and the County. (Housing)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$0- \$50K	Agree
What is the level of public support for this project?	Medium	Agree
What is the technical feasibility of this project?	Between 51 and 75%	Agree

Who will administer this project?	County	Agree
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Infrastructure Strategies

High Priority Infrastructure Strategies

Pillar	Action Name	Priority	Overall Ranking
Infrastructure	Evacuation Routes	High	2
Infrastructure	Shelters and Emergency Equipment: Schools	High	3
Infrastructure	Critical Facilities and Emergency Equipment: Countywide	High	5
Infrastructure	Water Level Gaging	High	6
Infrastructure	Secondary Road Improvements: Roberts Rd	High	7
Infrastructure	Secondary Road Improvements: Ocean Drive	High	8
Infrastructure	Countywide Drainage Improvements	High	9

Table 13. Carteret High Priority Infrastructure Summary

These projects represent the infrastructure strategies that Carteret County indicated are the highest priority to address. Additional detail can be found below:

- **Evacuation Routes:** Portions of Highway 70 need to be elevated to prevent flooding, maintain communication and keep the evacuation routes clear during heavy rainfalls and hurricane events. The following improvements would allow a safe and timely evacuation process:
 - Funding for widening or elevating sections of roadway to minimize hazards resulting from multiple choke points along these evacuation routes.
 - Intersection of NC 24 and NC 58 becomes a major bottleneck for residents evacuating the barrier islands.
 - Elevate the roadway section of US 70 between Sam Garner Rd and Gladys Teasley Ln. High intensity precipitation events cause ponding in this area resulting from poor drainage and high water levels at Hull Swam,
 - Elevate the roadway section of US 70 between Harris St and Industrial Dr. in order to prevent ponding during high intensity precipitation events.
 - Elevate the bridge at US 70 over the Newport River at the Morehead City Harbor. Rough seas make this bridge impassable, isolating residents in the eastern part of the county.
 - Drainage improvements along NC 24 (Cedar Point Blvd) between Shoreline Dr. and Bayshore Drive. Several intersections along this 2 mile stretch are known to flood, potentially cutting off this evacuation route.

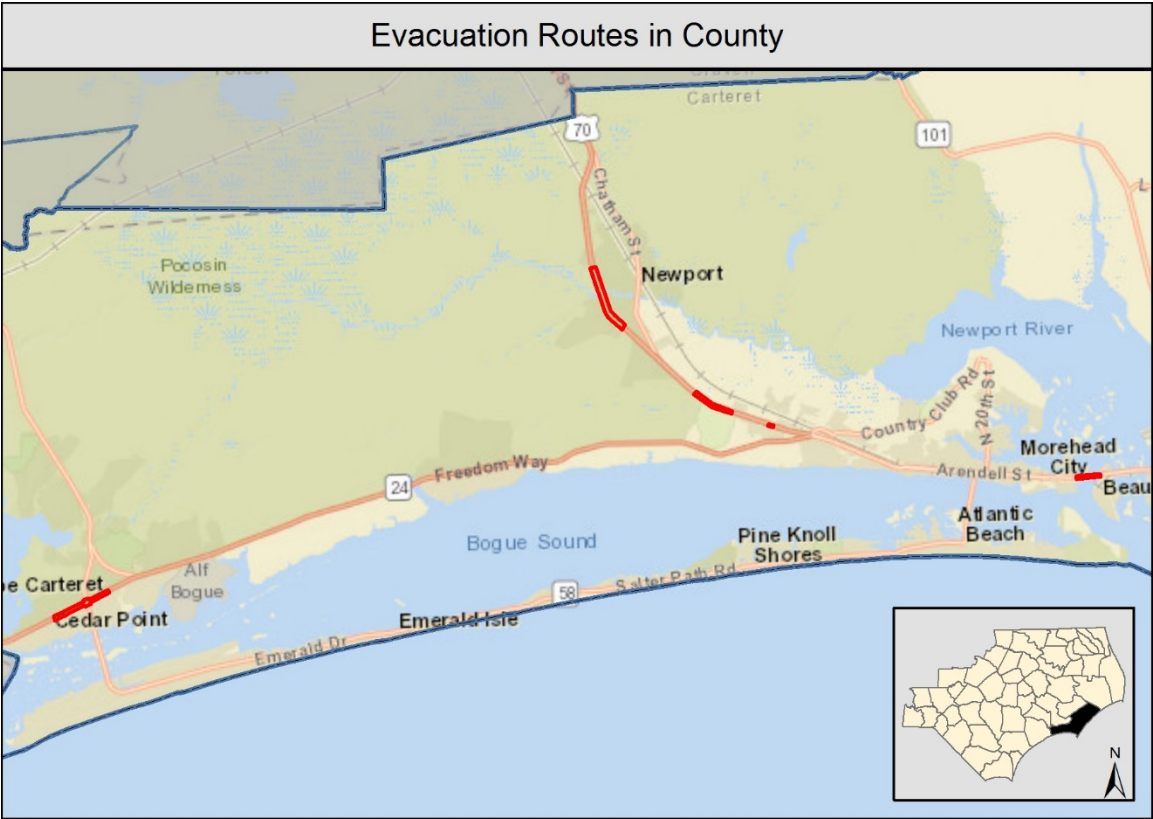


Figure 32. Evacuation Routes

20 - Evacuation Routes

County: Carteret

Priority Grouping: High Priority

Priority Ranking: 2

Project Timeframe: 12-24 months

Location: US 70 along Town of Newport and Morehead City, NC 24 (Cedar Point Blvd) between Shoreline Drive. and Bayshore Drive

Project Summary: Portions of Highway 70 need to be elevated to prevent flooding, maintain communication and keep the evacuation routes clear during heavy rainfalls and hurricane events. The following improvements would allow a safe and timely evacuation process:

- Funding for widening or elevating sections of roadway to minimize hazards resulting from multiple choke points along these evacuation routes.
 - o Intersection of NC 24 and NC 58 becomes a major bottleneck for residents evacuating the barrier islands.
- Elevate the roadway section of US 70 between Sam Garner Rd and Gladys Teasley Ln. High intensity precipitation events cause ponding in this area resulting from poor drainage and high water levels at Hull Swam,
- Elevate the roadway section of US 70 between Harris St and Industrial Dr. in order to prevent ponding during high intensity precipitation events.
- Elevate the bridge at US 70 over the Newport River at the Morehead City Harbor. Rough seas make this bridge impassable, isolating residents in the eastern part of the county.
- Drainage improvements along NC 24 (Cedar Point Blvd) between Shoreline Dr. and Bayshore Drive. Several intersections along this 2 mile stretch are known to flood, potentially cutting off this evacuation route.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Carteret County has three evacuation routes: US 70 Highway 58 and Highway 101. Localized flooding as a result of stormwater management problems make these roads impassable. These impacts are further exacerbated during major storm events such as Matthew and Irene.	N/A
Consistent with existing plans (describe points of intersection/departure)	<ul style="list-style-type: none"> • Road/Bridge/Culvert Improvements will make it less likely that neighborhoods are flooded by backed up streams/creeks and will reduce likelihood of access issues due to flooded roads. (Housing) • More resilient roadways can help reduce the likelihood of disruptions to commerce and transportation routes after a storm event and can help ensure employees and business owners are able to return to work quickly and safely after the storm. (Economic Development) 	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	More resilient roadways can help reduce the likelihood of disruptions to commerce and transportation routes after a storm event and can help ensure employees and business owners are able to return to work quickly and safely after the storm. (Economic Development)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	>6	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree

To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Shelters and Emergency Equipment: Schools:** This project would provide funding to procure and maintain backup generators for West Carteret High School (primary shelter) and Beaufort Elementary (secondary shelter).

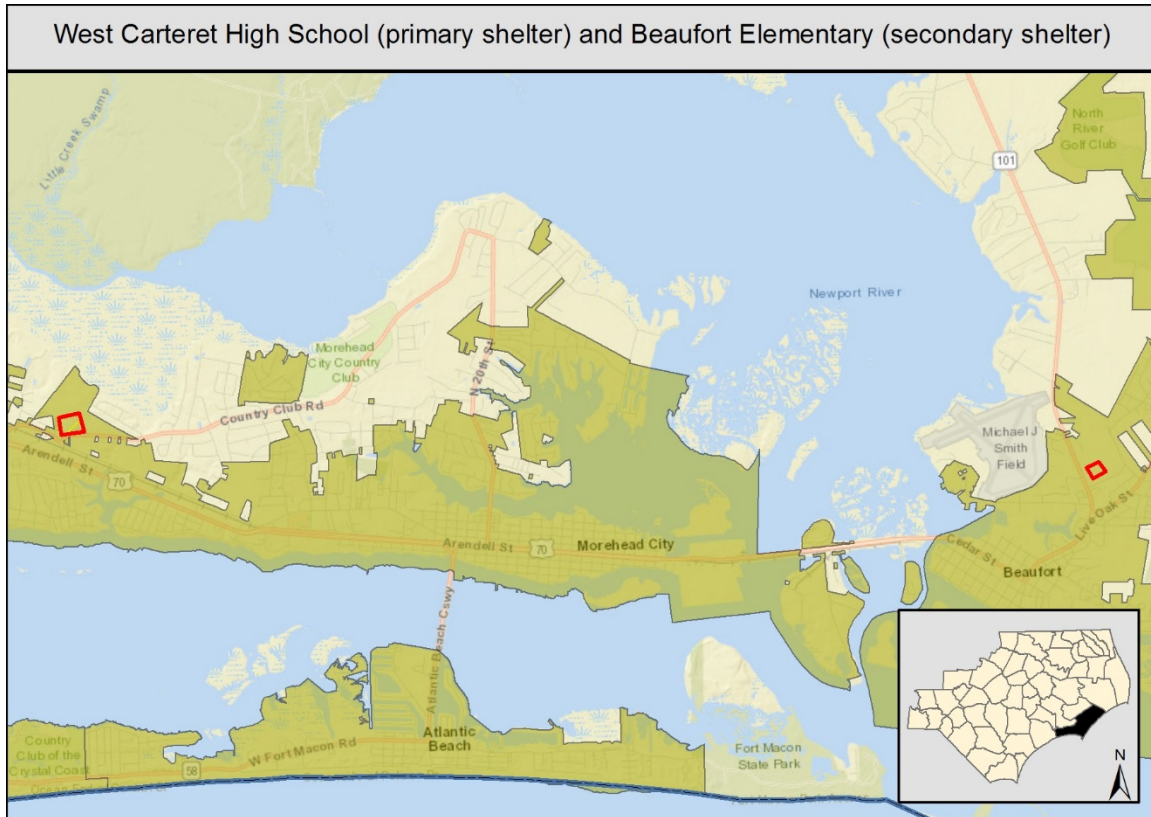


Figure 33. Shelters and Emergency Equipment: Schools

26 - Shelters and Emergency Equipment: Schools

County: Carteret

Priority Grouping: High Priority

Priority Ranking: 3

Project Timeframe: 6-12 months

Location: West Carteret High School (primary shelter) and Beaufort Elementary (secondary shelter)

Project Summary: Acquire funding to procure and maintain backup generators for West Carteret High School (primary shelter) and Beaufort Elementary (secondary shelter).

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Carteret County does not have adequate facilities for sheltering stranded residents.	N/A
Consistent with existing plans (describe points of intersection/departure)	Strategy for backup generators is included in the County's Hazard Mitigation Plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	N/A	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$51K - \$100K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Critical Facilities and Emergency Equipment: Countywide:** Carteret County does not have adequate facilities for sheltering stranded residents. The following strategies were identified to make the County more resilient and safe in case of an event:
 - Evaluation of the current shelter inventory. Determine which facilities are currently at risk. What is the current demand and the infrastructure needed to meet it. Consider the construction of new schools that could double as shelters.
 - A critical need is a new facility to host an alternate Emergency Operating Center and Public Safety & 911 Center for the County. The current facility is vulnerable to flooding and alternate locations are problematic. Construction of a new site in the Town of Newport would enhance the ability for emergency operators to provide services, provide a safe location for emergency response personnel to store equipment.
 - Floodproofing of critical facilities such as the South River, Marshallberg and Stacy Fire Departments. This action involves an evaluation of the current risks, recommendations and implementation of flood mitigation measures.

27 - Critical Facilities and Emergency Equipment: Countywide

County: Carteret

Priority Grouping: High Priority

Priority Ranking: 5

Project Timeframe: 6-12 months

Location: Countywide

Project Summary: Carteret County does not have adequate facilities for sheltering stranded residents. The following strategies were identified to make the County more resilient and safe in case of an event:

- Evaluation of the current shelter inventory. Determine which facilities are currently at risk. What is the current demand and the infrastructure needed to meet it. Consider the construction of new schools that could double as shelters.
- A critical need is a new facility to host an alternate Emergency Operating Center and Public Safety & 911 Center for the County. The current facility is vulnerable to flooding and alternate locations are problematic. Construction of a new site in the Town of Newport would enhance the ability for emergency operators to provide services, provide a safe location for emergency response personnel to store equipment.
- Floodproofing of critical facilities such as the South River, Marshallberg and Stacy Fire Departments. This action involves an evaluation of the current risks, recommendations and implementation of flood mitigation measures.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Carteret County does not have adequate facilities for sheltering stranded residents.	N/A
Consistent with existing plans (describe points of intersection/departure)	Strategy for backup generators is included in the County's Hazard Mitigation Plan.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Educational and research institutions would benefit from the data obtained. Therefore a collaboration with these institutions would lower the cost to purchase and maintain these gages.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	>6	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to	Unknown	Agree

administer this project?		
What is the financial range of this project?	\$51K - \$100K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Water Level Gaging:** Carteret County is substantially vulnerable to flooding from storm surge and precipitation events. Because of the complex local hydrological characteristics of the County, developing forecasting and early warning system is critical. Strategies for providing early warning and improved forecasting include the installation of new gages to inform the NWS personnel tasked with identifying areas in danger of flooding. The following areas were targeted for installation of water level gages:

Gage	Latitude	Longitude
Swansboro White Oak River/Bogue Sound	34.6744	-77.1002
Emerald Isle (Ocean Side)	34.6580	-77.0333
South River	34.9772	-76.5901
Adams Creek	34.9531	-76.6647
Pine Knoll Shores (Bogue Sound)	34.7016	-76.8323
Davis/Stacy/or Sea Level (Core Sound)	34.8564	-76.3865
Broad Creek (Broad Creek/Bogue Sound)	34.9868	-76.5069
Bogue/Cape Carteret (Bogue Sound)	34.6796	-77.0622
Stella/Hadnot Creek Area (White Oak River)	34.7751	-77.1530
Core Sound Bridge (Core Creek/Intacoastal)	34.8252	-76.6910
Morehead City (Calico Bay)	34.7253	-76.7100
Morehead City (Newport River)	34.7217	-76.6889

Table 14. Coordinates of Proposed Gages

Educational and research institutions would benefit from the data obtained. Therefore, a collaboration with these institutions would lower the cost to purchase and maintain these gages. The estimated costs for this action are:

- \$15,000 – Purchase and installation
- \$15,000/year – Maintenance

28 - Water Level Gaging

County: Carteret

Priority Grouping: High Priority

Priority Ranking: 6

Project Timeframe: 6-12 months

Location: 34.6744, -77.1002 | 34.658, -77.0333 | 34.9772, -76.5901 | 34.9531, -76.6647 | 34.7016, -76.8323 | 34.8564, -76.3865 | 34.9868, -76.5069 | 34.6796, -77.0622 | 34.7751, -77.153 | 34.8252, -76.691 | 34.7253, -76.71 | 34.7217, -76.6889

Project Summary: Carteret County is substantially vulnerable to flooding from storm surge and precipitation events. Because of the complex local hydrological characteristics of the County, developing forecasting and early warning system is critical. Strategies for providing early warning and improved forecasting include the installation of new gages to inform the NWS personnel tasked with identifying areas in danger of flooding. The following areas were targeted for installation of water level gages: Swansboro White Oak River/Bogue Sound | Emerald Isle (Ocean Side) | South River | Adams Creek | Pine Knoll Shores (Bogue Sound) | Davis/Stacy/or Sea Level (Core Sound) | Broad Creek (Broad Creek/Bogue Sound) | Bogue/Cape Carteret (Bogue Sound) | Stella/Hadnot Creek Area (White Oak River) | Core Sound Bridge (Core Creek/Intacoastal) | Morehead City (Calico Bay) | Morehead City (Newport River)

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Carteret County has a vast and highly complex vulnerability to flooding from storm surge and precipitation events. Strategies for providing early warning and improved forecasting include the installation of new gages to inform the NWS personnel tasked with identifying areas in danger of flooding.	N/A
Consistent with existing plans (describe points of intersection/departure)	Gages provide information that contribute to better understanding/predicting of immediate and long term flood risks. This knowledge may reduce risks to housing infrastructure environment and economy.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Gages provide information that contribute to better understanding/predicting of immediate and long term flood risks. This knowledge may reduce risks to housing infrastructure environment and economy.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	>200 year event	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	>6	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A

What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$51K - \$100K	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Secondary Road Improvements: Roberts Rd:** Roberts Rd between Cedar Creek Rd and Shaver Rd is overtopped frequently during high intensity precipitation events. This location would benefit from the addition of a second culvert. The current culvert (60") lacks sufficient capacity to convey the load resulting from typical storm events.

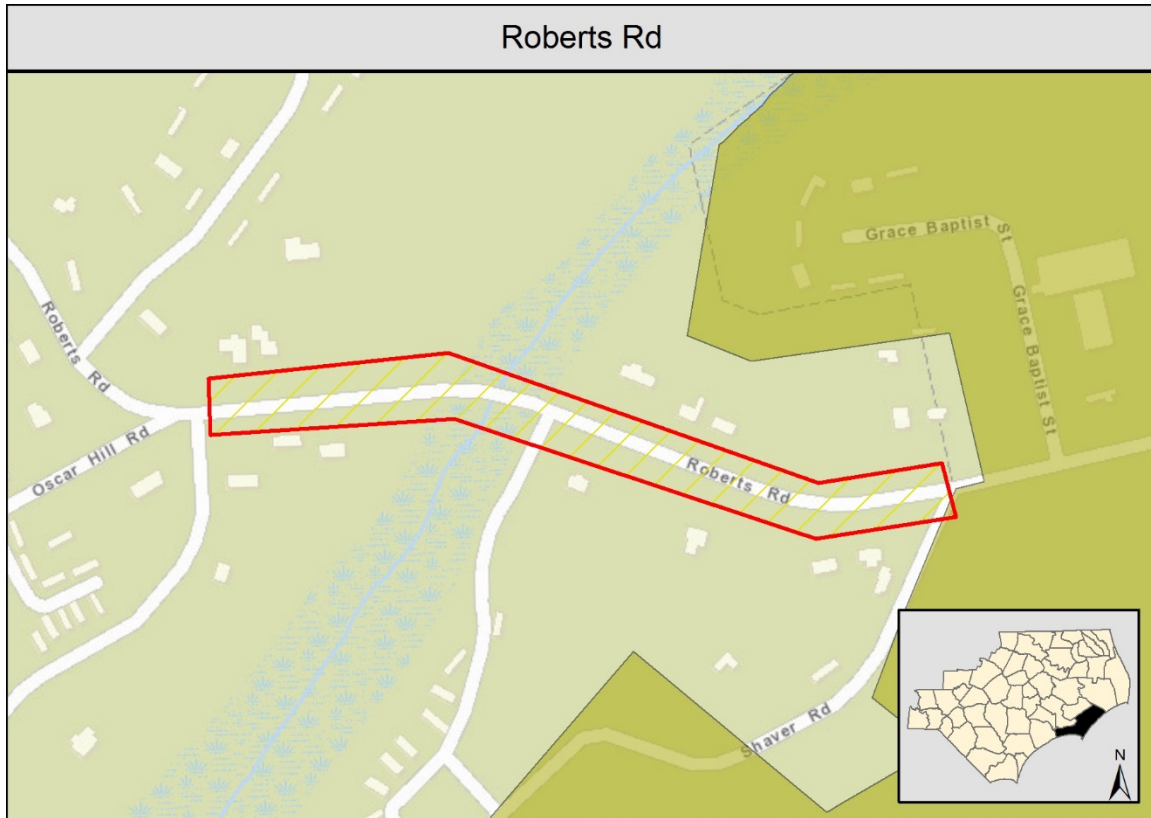


Figure 34. Secondary Road Improvements: Roberts Rd

21 - Secondary Road Improvements: Roberts Rd

County: Carteret

Priority Grouping: High Priority

Priority Ranking: 7

Project Timeframe: 12-24 months

Location: Roberts Rd between Cedar Creek Rd and Shaver Rd

Project Summary: The following drainage improvement project would alleviate the current flood hazards in the identified area:

- Roberts Rd between Cedar Creek Rd and Shaver Rd is overtopped frequently during high intensity precipitation events. This location would benefit from the addition of a second culvert. The current culvert (60") lacks sufficient capacity to convey the load resulting from typical storm events..

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Several communities are isolated during precipitation events preventing access to disaster relief and emergency personnel as well as member of the communities affected.	N/A
Consistent with existing plans (describe points of intersection/departure)	<ul style="list-style-type: none"> • Road/Bridge/Culvert Improvements will make it less likely that neighborhoods are flooded by backed up streams/creeks and will reduce likelihood of access issues due to flooded roads. (Housing) • More resilient roadways can help reduce the likelihood of disruptions to commerce and transportation routes after a storm event and can help ensure employees and business owners are able to return to work quickly and safely after the storm. (Economic Development) 	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	More resilient roadways can help reduce the likelihood of disruptions to commerce and transportation routes after a storm event and can help ensure employees and business owners are able to return to work quickly and safely after the storm. (Economic Development)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	1-3	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A

What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Secondary Road Improvements: Ocean Drive:** Ocean Drive between 3rd and 15th Street requires installation of culverts and elevation improvements.

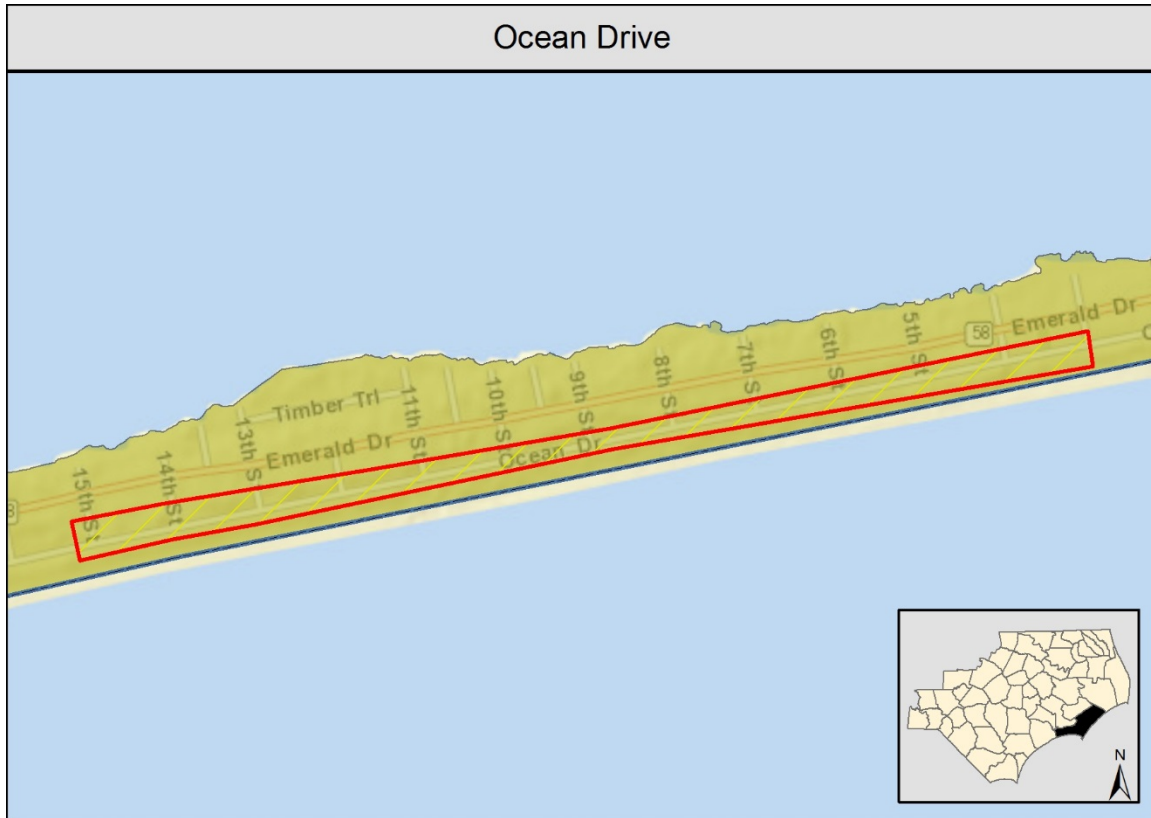


Figure 35. Secondary Road Improvements: Ocean Drive

22 - Secondary Road Improvements: Ocean Drive

County: Carteret

Priority Grouping: High Priority

Priority Ranking: 8

Project Timeframe: 12-24 months

Location: Ocean Drive between 3rd and 15th Street

Project Summary: The following drainage improvement project would alleviate the current flood hazards in the identified area:

- Ocean Drive between 3rd and 15th Street requires installation of culverts and elevation improvements.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Several communities are isolated during precipitation events	N/A
Consistent with existing plans (describe points of intersection/departure)	<ul style="list-style-type: none"> • Road/Bridge/Culvert Improvements will make it less likely that neighborhoods are flooded by backed up streams/creeks and will reduce likelihood of access issues due to flooded roads. (Housing) • More resilient roadways can help reduce the likelihood of disruptions to commerce and transportation routes after a storm event and can help ensure employees and business owners are able to return to work quickly and safely after the storm. (Economic Development) 	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	More resilient roadways can help reduce the likelihood of disruptions to commerce and transportation routes after a storm event and can help ensure employees and business owners are able to return to work quickly and safely after the storm. (Economic Development)	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	>6	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree

What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

- **Countywide Drainage Improvements:** Stormwater drainage is a countywide problem, impacting communities in low lying coastal areas as well as more inland areas. The following strategies are required to address stormwater throughout Carteret County:
 - A comprehensive stormwater study, assessing current infrastructure needs. Much of the counties drainage system is in need of repair, and pipe resizing. A study is required to identify appropriate locations for improvement and sizing for capacity. Collaborating with local leadership (town mayor, town manager, town administrator, etc.) to identify areas of chronic flooding.
 - Ditches along main roads are property of NC DOT and therefore, cannot be maintained by the localities. Several areas in Eastern Carteret County have communities which become isolated during storm events, and are unable to evacuate, including:
 - Gloucester & Marshallberg
 - Williston
 - Funding from NC DOT, to procure yearly ditch maintenance services to keep these drainage structures performing as designed. Ditch cleaning services in the nearby counties cost approximately \$2/liner foot.
 - 19 miles of ditch cleaning along US 70, East of North River would cost approximately \$200,000
 - 11 miles of ditch cleaning along NC-12, from intersection with US 70 to Cedar Island would cost approximately \$120,000
 - Funding to purchase easements. Much of the County's stormwater drainage system is composed of ditches which require maintenance. Many miles of this system pass through private property, which require easements. Maintenance of this infrastructure would reduce chronic flooding, and mitigate the impact of flooding on primary and secondary roads.
 - Stormwater retention facilities need to be improved at the mobile home park in Hilltop Acres. Flooding occurs at this location from drainage into and flooding from the Newport River.

23 - Countywide Drainage Improvements

County: Carteret

Priority Grouping:

Priority Ranking:

Project Timeframe: 6-12 months

Location: Countywide

Project Summary: Stormwater drainage is a countywide problem, impacting communities in low lying coastal areas as well as more inland areas. The following strategies are required to address stormwater throughout Carteret County: A comprehensive stormwater study, assessing current infrastructure needs. Much of the counties drainage system is in need of repair, and pipe resizing. A study is required to identify appropriate locations for improvement and sizing for capacity. Collaborating with local leadership (town mayor, town manager, town administrator, etc.) to identify areas of chronic flooding; Ditches along main roads are property of NC DOT and therefore, cannot be maintained by the localities. Several areas in Eastern Carteret County have communities which become isolated during storm events, and are unable to evacuate, including: Gloucester, Marshallberg and Williston; Funding from NC DOT, to procure yearly ditch maintenance services to keep these drainage structures performing as designed. Ditch cleaning services in the nearby counties cost approximately \$2/liner foot: 19 miles of ditch cleaning along US 70, East of North River would cost approximately \$200,000; 11 miles of ditch cleaning along NC-12, from intersection with US 70 to Cedar Island would cost approximately \$120,000; Funding to purchase easements. Much of the County's stormwater drainage system is composed of ditches which require maintenance. Many miles of this system pass through private property, which require easements. Maintenance of this infrastructure would reduce chronic flooding, and mitigate the impact of flooding on primary and secondary roads; Stormwater retention facilities need to be improved at the mobile home park in Hilltop Acres. Flooding occurs at this location from drainage into and flooding from the Newport River.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Stormwater drainage is a countywide problem impacting communities in low lying coastal areas as well as more inland areas.	N/A
Consistent with existing plans (describe points of intersection/departure)	<ul style="list-style-type: none"> Road/Bridge/Culvert Improvements will make it less likely that neighborhoods are flooded by backed up streams/creeks and will reduce likelihood of access issues due to flooded roads. (Housing) More resilient roadways can help reduce the likelihood of disruptions to commerce and transportation routes after a storm event and can help ensure employees and business owners are able to return to work quickly and safely after the storm. (Economic Development) 	N/A
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	N/A
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	N/A
Explain any benefits or impacts to the economy of the county from this project.	More resilient roadways can help reduce the likelihood of disruptions to commerce and transportation routes after a storm event and can help ensure employees and business owners are able to return to work quickly and safely after the storm. (Economic Development)	N/A
For how long will this solution be effective?	More than 50 years	N/A
How effective is the risk reduction?	Unknown	N/A
How many public facilities are involved in this project (buildings and infrastructure)?	>6	N/A
Is coordination with other communities/counties needed to complete this project?	No	N/A
Is this project consistent with Federal Laws	Yes	N/A

To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	N/A
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	N/A
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	N/A
What is the financial range of this project?	\$1M+	N/A
What is the level of public support for this project?	Unknown	N/A
What is the technical feasibility of this project?	Higher than 75%	N/A
Who will administer this project?	County	N/A

Medium Priority Infrastructure Strategies

Pillar	Action Name	Priority	Overall Ranking
Infrastructure	Floodproofing Lift Stations	Medium	13
Infrastructure	Emerald Isle Temporary Structures	Medium	17

Table 15. Carteret Medium Priority Infrastructure Summary

These projects represent the infrastructure strategies that Carteret County indicated are of a medium priority to address. Additional detail can be found below:

- Floodproofing Lift Stations:** Morehead City needs to floodproof 39 lift stations to prevent damages to the waste water system during flood events. The City maintains a prioritized list of lift stations and detailed design specifications from previous projects. However, location and design details were not provided in time for this submittal. It will be provided at a later date, upon the State’s request.

25 - Floodproofing Lift Stations

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 13

Project Timeframe: 6-12 months

Location: Morehead City

Project Summary: Morehead City needs to floodproof 39 lift stations to prevent damages to the waste water system during flood events. The City maintains a prioritized list of lift stations and detailed design specifications from previous projects. However, location and design details were not provided in time for this submittal. It will be provided at a later date, upon the State's request.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Infiltration and other damages occur to the waste water system during flood events.	N/A
Consistent with existing plans (describe points of intersection/departure)	N/A	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	N/A	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	>6	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$1M+	Agree
What is the level of public support for this project?	High	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

Emerald Isle Temporary Structures: Recurrent flood damage occurs in multiple low lying areas within the County. An adequate inventory of sandbags located in a facility within reasonable proximity to known areas of chronic flooding would reduce the destructive impact of flooding events on infrastructure. Several areas were identified in Emerald Isle:

- The Point
- Coast Guard Rd, South of Emerald Drive
- Sound Drive near Archer Point
- Emerald Drive at Mangrove Drive

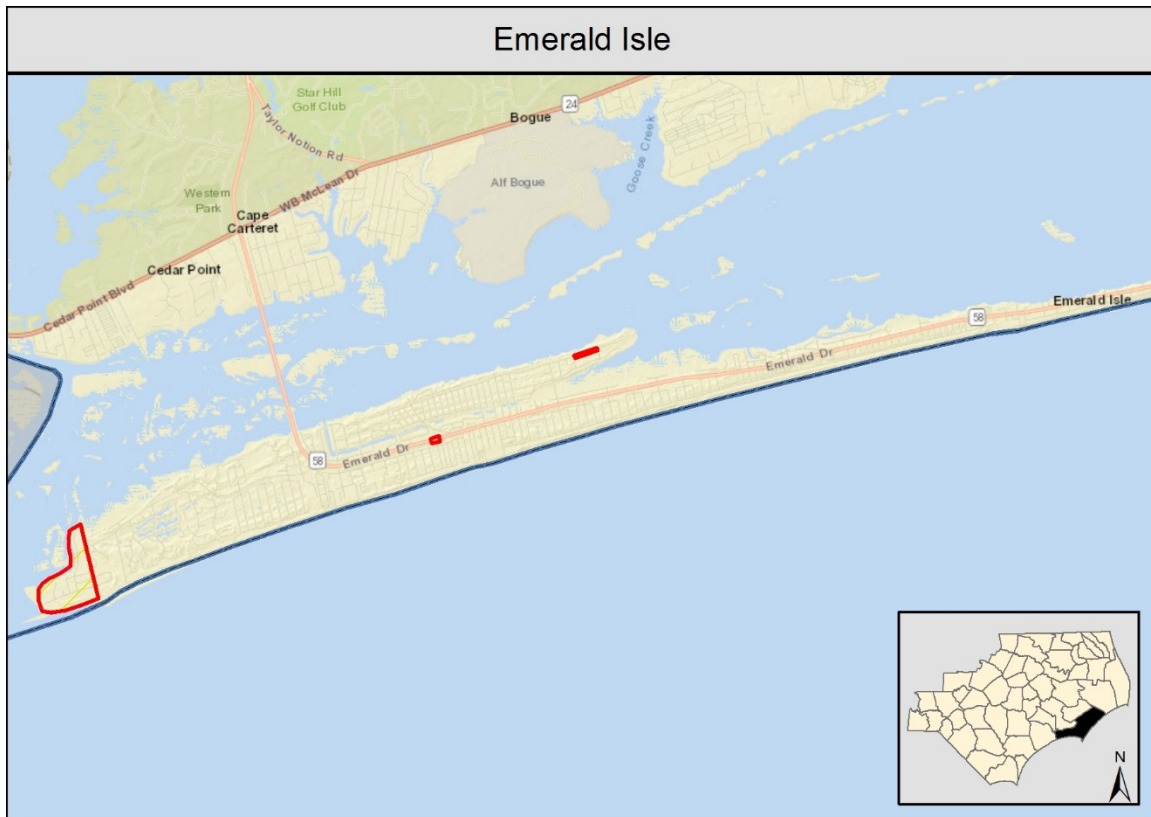


Figure 36: Emerald Isle Temporary Structures

24 - Emerald Isle Temporary Structures

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 17

Project Timeframe: 6-12 months

Location: Emerald Isle

Project Summary: Recurrent flood damage occurs in multiple low lying areas within the County. An adequate inventory of sandbags located in a facility within reasonable proximity to known areas of chronic flooding would reduce the destructive impact of flooding events on infrastructure. Several areas were identified in Emerald Isle: The Point; Coast Guard Rd South of Emerald Drive; Sound Drive near Archer Point; Emerald Drive at Mangrove Drive

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Damage occurs at low lying areas which requires repair following major flood events. A temporary and economic solution is needed to protect the properties in these areas.	N/A
Consistent with existing plans (describe points of intersection/departure)	Sandbagging is an effective mitigation measure because it reduces losses and displacement during low frequency flood events and protects the local tax base by allowing residents to continue to live in their current location. (Infrastructure Economy)	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Sandbagging is a cheap easy to use and relatively effective way of protecting flood prone structures.	Agree
For how long will this solution be effective?	More than 50 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	>6	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	High confidence	N/A
What impact will this action have on the local economy/tax base?	Less than 25%	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$0- \$50K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

Low Priority Infrastructure Strategies

There were no infrastructure strategies that Carteret County indicated are of a lower priority to address.

Environmental, Ecosystem and Agricultural Strategies

High Priority Environmental Strategies

Pillar	Action Name	Priority	Overall Ranking
Environment	Revise Flood Studies	High	1

Table 16. Carteret High Priority Environmental Summary

This project represents the environmental strategy that Carteret County indicated is the highest priority to address. Additional detail can be found below:

- **Revise Flood Studies:** Current and preliminary flood studies are disproportionately impacting several communities in Carteret County. The hydrographic features of the region create an incredibly complex hydrodynamics that are not captured well in the preliminary modeling results from the FEMA flood study. A new study for Carteret County is required to protect areas of vulnerability and relieve residents in areas of less vulnerability. The following list represents potential outcomes from a new modeling study:
 - Areas of known chronic flooding precipitation events are not included in the FEMA flood zones.
 - Large portions of the Barrier Islands have been removed from the flood zone which are known to have flooded.

The primary concern is that the areas that are being removed from Coastal V-Zones in the preliminary plans, will no longer need to construct to the current standards. Allowing at-grade construction and slab-on-grade foundations.

11 - Revise Flood Studies

County: Carteret

Priority Grouping: High Priority

Priority Ranking: 1

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: Current and preliminary flood studies are disproportionately impacting several communities in Carteret County. The hydrographic features of the region create an incredibly complex hydrodynamics that are not captured well in the preliminary modeling results from the FEMA flood study. A new study for Carteret County is required to protect areas of vulnerability and relieve residents in areas of less vulnerability. The following list represents potential outcomes from a new modeling study:

- Areas of known chronic flooding precipitation events are not included in the FEMA flood zones.
- Large portions of the Barrier Islands have been removed from the flood zone which are known to have flooded.

The primary concern is that the areas that are being removed from Coastal V-Zones in the preliminary plans, will no longer need to construct to the current standards. Allowing at-grade construction and slab-on-grade foundations. Updating the flood studies will impact all pillars.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	Technical assistance will be needed to perform the necessary engineering analysis to include one or more of the following: H & H studies SWMM 5 Modeling and HEC/RAS as well as to ensure they are completed to comply with FEMA requirements.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Additional analysis should provide the county with a higher level of detail for those areas with repetitive and nuisance flooding. Upon completion of the analysis the county will be able assess and consider projects i.e. drainage upgrades storm water management planning and residential/commercial elevation/reconstruction/acquisition. All of these undertakings have a consistent positive impact and risk reduction to the community – facilitating resilience.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	Unknown	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree

What impacts to the environment of the county will result from this project?	• Better understanding of environmental features (rivers creeks sounds coasts). (Environment)	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	Higher than 75%	Agree
Who will administer this project?	County	Agree

Medium Priority Environmental Strategies

Pillar	Action Name	Priority	Overall Ranking
Environment	Ordinance Development	Medium	14
Environment	Increased Funding for Preserves	Medium	20

Table 17. Carteret Medium Priority Environmental Summary

These projects represent the environmental strategies that Carteret County indicated are of a medium priority to address. Additional detail can be found below:

- **Ordinance Development:** Adoption of improved requirements for new developments, which include the mandatory use of green solutions as a determined percentage of the overall project.

19 - Ordinance Development

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 14

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: Adoption of improved requirements for new developments, which include the mandatory use of green solutions as a determined percentage of the overall project.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	A new ordinance would provide more resilient housing and infrastructure.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Funding for the promotion of green solutions and improved requirements for new development plans should be adopted.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	No Impact	Agree
Who will administer this project?	County	Agree

- **Increased Funding for Preserves:** Natural resources are Carteret County’s main tourism attraction. The preservation of these resources is directly tied to the economy. The goal of this action is to implement Low Impact Development (LID) strategies such as wetland restoration and natural water retention facilities to slow down erosion damages in Rachel Carson Reserve and other areas located on the Eastern side of the County. A comprehensive study to inform prime locations and ideal strategies would be part of this project.

17 - Increased Funding for Preserves

County: Carteret

Priority Grouping: Medium Priority

Priority Ranking: 20

Project Timeframe: 12-24 months

Location: Rachel Carson Reserve; Countywide

Project Summary: Natural resources are Carteret County's main tourism attraction. The preservation of these resources is directly tied to the economy. The goal of this action is to implement Low Impact Development (LID) strategies such as wetland restoration and natural water retention facilities to slow down erosion damages in Rachel Carson Reserve and other areas located on the Eastern side of the County.

A comprehensive study to inform prime locations and ideal strategies would be part of this project.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	The natural resources of Carteret County are directly tied to the economy and housing strategies.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Natural resources are the County's main tourism attraction. The preservation of these resources is directly tied to the economy	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	No Impact	Agree
Who will administer this project?	County	Agree

Low Priority Environmental Strategies

Pillar	Action Name	Priority	Overall Ranking
Environment	A Comprehensive Plan: Preservation of Natural Resources	Low	21
Environment	Ecotourism	Low	27

Table 18. Carteret Low Priority Environmental Summary

These projects represent the environmental strategies that Carteret County indicated is of a lower priority to address. Additional detail can be found below:

- A Comprehensive Plan: Preservation of Natural Resources:** The North Carolina Wildlife Resources Commission developed the Green Growth Toolbox, which identifies priority habitat and ecological regions in North Carolina. The tool box, designed for biologist and conservationists presents a criticality framework and a roadmap for conservation efforts. The goal of this strategy is to obtain funding for personnel to work with the Wildlife Resources Commission to use this toolbox, which would in turn be instrumental in developing a comprehensive, priority-based plan for the preservation of natural resources.

16 - A Comprehensive Plan: Preservation of Natural Resources

County: Carteret

Priority Grouping: Low Priority

Priority Ranking: 21

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: The North Carolina Wildlife Resources Commission developed the Green Growth Toolbox, which identifies priority habitat and ecological regions in North Carolina. The tool box, designed for biologist and conservationists presents a criticality framework and a roadmap for conservation efforts. The goal of this strategy is to obtain funding for personnel to work with the Wildlife Resources Commission to use this toolbox, which would in turn be instrumental in developing a comprehensive, priority-based plan for the preservation of natural resources.

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	The natural resources of Carteret County are directly tied to the economy and housing strategies.	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Natural resources are the County's main tourism attraction. The preservation of these resources is directly tied to the economy.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	No Impact	Agree
Who will administer this project?	County	Agree

- **Ecotourism:** Carteret County is extremely rich in ecological activity and resources, and would benefit from increased ecotourism activities. Ecotourism would be useful for environmental awareness while improving the year-round economy. The goal of this action is to develop investment strategies by collaborating with local residents, educational institutions, and public agencies.

18 - Ecotourism

County: Carteret

Priority Grouping: Low Priority

Priority Ranking: 27

Project Timeframe: 12-24 months

Location: Countywide

Project Summary: Carteret County is extremely rich in ecological activity and resources, and would benefit from increased ecotourism activities. Ecotourism would be useful for environmental awareness while improving the year-round economy. the goal of this action is to develop investment strategies by collaborating with local residents, educational institutions, and public agencies

Question	Response	Disposition
Articulate how this project addresses an unmet need that has been created by damage from Hurricane Matthew.	Unknown	N/A
Consistent with existing plans (describe points of intersection/departure)	N/A	Agree
Does this project comply with existing Local and State authority (codes, plan and ordinance)?	Yes	Agree
Does this project meet the intents and goals for the Hurricane Matthew Recovery Act?	Yes	Agree
Explain any benefits or impacts to the economy of the county from this project.	Carteret County is extremely rich in ecological activity and resources and would benefit from increased ecotourism activities. Ecotourism would be useful for environmental awareness while improving the year-round economy.	Agree
For how long will this solution be effective?	Between 11 and 30 years	Agree
How effective is the risk reduction?	Unknown	Agree
How many public facilities are involved in this project (buildings and infrastructure)?	0	Agree
Is coordination with other communities/counties needed to complete this project?	No	Agree
Is this project consistent with Federal Laws	Yes	Agree
To what degree does this project adversely impact local floodplain/coastal zone management?	No Impact	Agree
To what degree will it be possible to positively quantify the environmental benefits and ROI of this project?	Medium to high confidence	N/A
What impact will this action have on the local economy/tax base?	Unknown	Agree
What impacts to the environment of the county will result from this project?	Unknown	N/A
What is the capability of the local government to administer this project?	Unknown	Agree
What is the financial range of this project?	\$101K - \$250K	Agree
What is the level of public support for this project?	Unknown	Agree
What is the technical feasibility of this project?	No Impact	Agree
Who will administer this project?	County	Agree

Summary

Implementation has already begun for some of these actions but for those that have not already been funded, the State of North Carolina will begin a process of prioritizing the actions and seeking to match a funding stream to each action. Those that are not matched with a funding source will be added to the State's Unmet Needs Report. Funding for Unmet Needs will be sought through additional funding from Congress and from the North Carolina General Assembly. Any action that cannot be matched to a funding source should be incorporated into the County's Hazard Mitigation Plan for consideration for future funding. It is important to seek to implement as many of these actions as feasible. Doing so will significantly contribute to helping improve the resiliency of North Carolina's communities.