

Town of Oak Island Coastal Resilience Strategy

Oak Island, North Carolina / Resilient Coastal Communities Program

DRAFT October 2026



Acknowledgments

Local residents and staff generously provided their time and expertise to guide the development of the Oak Island Coastal Resilience Plan. They provided valuable direction to ensure the Master Plan was consistent with the community vision and needs.

Community Action Team (CAT)

- See page 11

Town Staff

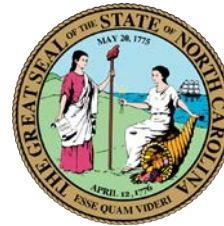
- Taylor Davis, Planning Manager

The Resilient Coastal Communities Program (RCCP)

This project was funded through the Resilience Coastal Communities Program (RCCP) with support from program funders and partners.

RCCP Liaison

- Jennifer Fickler



Technical Support

This plan was prepared by Colliers Engineering & Design for the Town of Oak Island, NC.



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Section 01

Introduction

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Program Overview

The Resilient Coastal Communities Program (RCCP)

The N.C. Resilient Coastal Communities Program (RCCP), administered by the Division of Coastal Management and funded by the N.C. General Assembly and National Fish and Wildlife Foundation, supports coastal communities in building resilience to coastal hazards through a locally driven planning process. The program provides financial and technical assistance to help local governments in North Carolina's 20 coastal counties assess vulnerabilities, set resilience goals, evaluate their capacity, and develop prioritized, shovel-ready projects tailored to their specific risks. Using a four-phase planning framework, the RCCP aims to overcome barriers to resilience and adaptation planning while promoting a proactive, equitable, and sustainable approach to coastal resilience. Municipal and county governments within the coastal counties, as well as federally or state-recognized tribes, are eligible to participate in the program.

Program Phases

In Phases 1 and 2, the Division of Coastal Management contracts directly with technical assistance providers to help communities conduct risk assessments, engage stakeholders, and develop a Resilience Strategy and prioritized Project Portfolio. In Phases 3 and 4, communities receive direct funding and manage their own procurement to hire engineering firms for project design, permitting, and implementation.

Ph. 1: Community and Risk & Vulnerability Assessment

This phase focuses on working with local stakeholders to identify climate-related risks and assess vulnerabilities specific to the community.

Phase 2: Planning, Project Selection, and Prioritization

Communities develop a resilience strategy and identify a prioritized portfolio of projects based on local needs, risk exposure, and stakeholder input.

Phase 3: Engineering and Design

Selected high-priority projects move into development, where communities receive support for feasibility studies, preliminary designs, and permitting readiness.

Phase 4: Project Implementation

Communities implement 'shovel-ready' projects, leveraging RCCP support and external funding to build long-term coastal resilience.

NC RCCP Program Overview

56

Communities Engaged

89

Grants Awarded

\$15,732,730

Funds Distributed

Project Overview

Project Purpose

This planning effort provides the coastal Town of Oak Island an understanding of future risks associated with sea level rise and identifies strategies, policies, programs, and projects that will reduce flood risk and enable the community to prepare for the impacts of climate change.

What is Resilience

Resilience is the ability of social and ecological systems to adapt to changing conditions and withstand, and rapidly recover from, disturbances and disasters. This ability to withstand disturbances, or bounce back, is a concept that applies to individuals, infrastructure, the environment, and communities large and small.

This is achieved through the preservation and restoration of essential structures and functions that provide a high quality of life for all residents and visitors.

Why Resilience Matters

The Town of Oak Island is surrounded by water, making it highly vulnerable to the risks associated with climate change, including rising sea levels, coastal storms, shoreline erosion, strong winds, and storm surges. In addition to the Town's beautiful coastline, several waterways run through and around Oak Island, draining into the Atlantic Ocean.

Vulnerable areas in the Town include residential beach neighborhoods, marinas, commercial corridors, and important town facilities including roads, fire departments, emergency services, schools, and other critical services.

This Coastal Resilience Strategy will provide the Town of Oak Island with an understanding of the risks posed by climate change and rising sea levels. Based on this understanding of future risks, new policies, programs, and projects will be proactively identified to ensure the long-term sustainability and well-being of the community and the surrounding region.

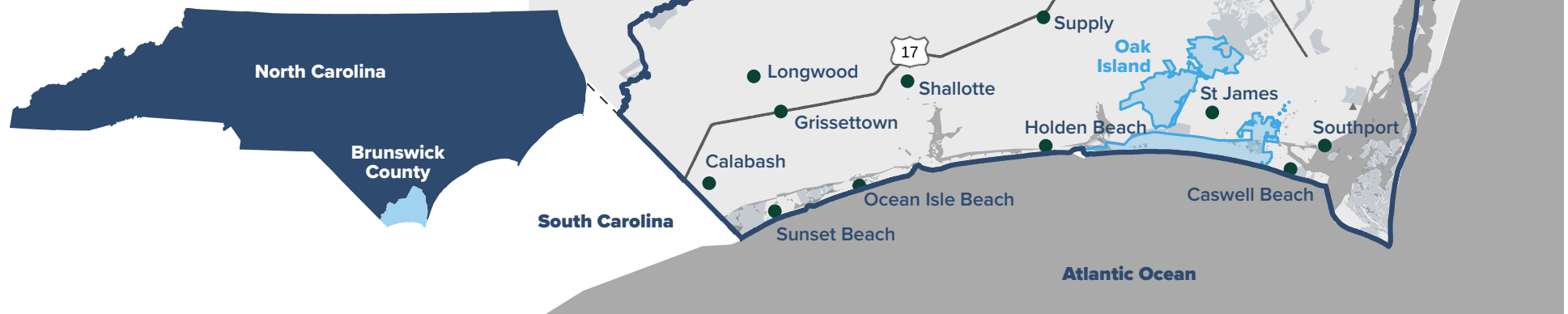
Benefits of Resilience

- **Protection of homes**, businesses, and community infrastructure
- **Protection of the Atlantic Ocean** and its plant, animal, and marine life
- **Protection of beaches**, wetlands, and coastal attractions
- **Proactive preparation** for future natural disturbances
- **Local capacity building** and local collaboration at multiple scales

Regional Context

Overview

The Town of Oak Island is a coastal community located in Brunswick County, North Carolina's southernmost county. The town occupies one of the six barrier islands in the county and is positioned between the Atlantic Ocean to the south and the Intracoastal Waterway to the north. Brunswick County contains several state-owned public lands, both within Oak Island's municipal boundary and in the surrounding region. The Cape Fear River forms the eastern boundary of Brunswick County before emptying into the Atlantic Ocean. Oak Island is approximately a 45-minute drive to Wilmington, NC to the north and a 90-minute drive to Myrtle Beach, SC to the south.



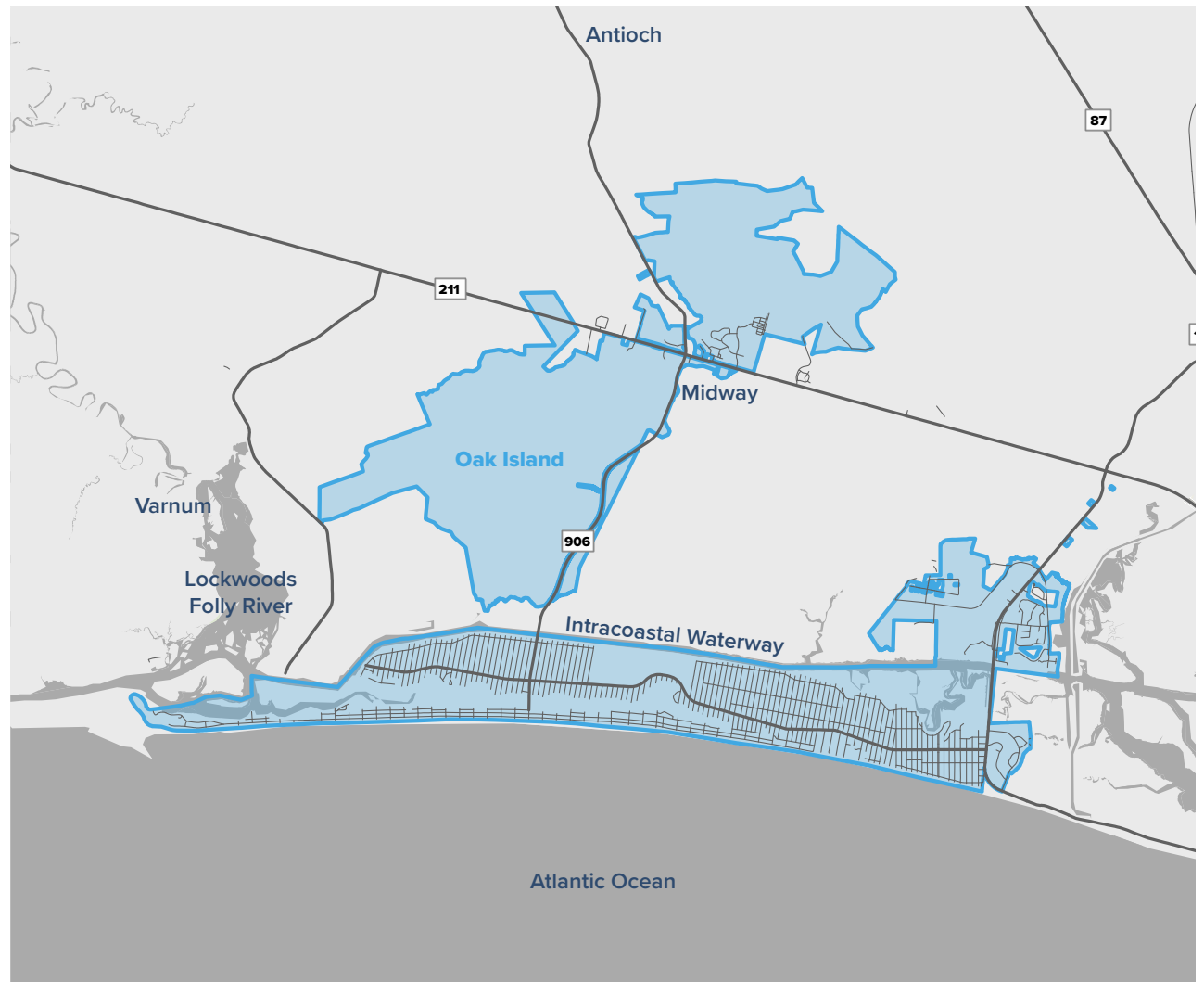
Project Area Context

Overview

The Town of Oak Island, North Carolina, encompasses nearly 20 square miles across both island and mainland areas, including approximately 10 miles of Atlantic Ocean shoreline. Situated between the Atlantic Ocean and the Intracoastal Waterway, the barrier island contains the town's emergency services, residences, and other critical infrastructure. North of the waterway, the mainland is comprised primarily of state-owned open space, with a small concentration of commercial and residential development along Route 211. Approximately 21% of Oak Island's land area is developed, while the remaining 79% remains vacant or undeveloped. Oak Island has an estimated permanent population of 9,337, though the population swells to nearly 90,000 during the summer season.



Oak Island Atlantic Ocean Shoreline
Credit: Margaret Rudd & Associates Inc., Realtors



Vision & Goals

Vision Statement

Oak Island will be a resilient coastal community that proactively anticipates, adapts to, and recovers swiftly from climate-related impacts. Through collaborative partnerships across all levels of government, community stakeholders, and residents, we will transparently evaluate the long-term sustainability of every policy, program, and project before implementation.

Together, we will build lasting resilience to flooding and coastal hazards by implementing efficient, impactful solutions that protect our community while preserving the character and environment of Oak Island.

Goals



Goal 1

Take a holistic view of climate change and consider a range of climate impacts

from sea level rise and flooding to extreme precipitation.



Goal 2

Understand the impacts of climate change on Oak Island's systems

including, infrastructure, health and social services, natural and cultural resources, and vulnerable populations.



Goal 3

Identify projects to build resilience to the impacts of climate change

through various strategies including policy adoption, capital improvements, and community planning and capacity building.

Community Action Team

Overview

The Resilient Coastal Communities Program (RCCP) requires each participating community to form a multi-disciplinary Community Action Team (CAT) comprising diverse stakeholders who contribute input throughout the RCCP process. The CAT also facilitates broader community engagement to ensure wide participation in the initiative. Both the CAT composition and engagement efforts should include representation from under-served communities. The Town of Oak Island formed its CAT through collaborative input from Town staff and the Town Council.

Community Action Team (CAT)	
Name	Position
Bill Millard	Vice-Chair of the Parks & Recreation Advisory Board, Resident
Chris Brown	Mayor
Kent Jackson	Assistant Town Manager
Margaret Johnson	Environmental Advisory Committee Chair
Margaret Mendez	Town Planner
Mark Dolak	Secretary of the Parks & Recreation Advisory Board, Business Owner
Mike Sprayberry	CAT Champion , Former Emergency Response Director
Sam Boswell	Regional Planner
Scott Thornall	Public Works Director
Sue Stewart	Board of Adjustment
Taylor Davis	Town Planning Manager

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Community Engagement

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Public Outreach

Outreach Strategies

Community Action Team (CAT) Meetings

The volunteers on the CAT met at key milestones of the planning process and reviewed project deliverables to ensure they aligned with Oak Island's trajectory and needs.

Quarter 1 March 5, 2026

This meeting was a kick off meeting and included roles and responsibilities, the resilience strategy, community engagement, and a visioning exercise.

Quarter 2 April 30, 2026

The CAT reviewed project progress including community engagement activities, the asset inventory, and upcoming project activities.

Quarter 3 August 21, 2026

This meeting was to review project status including community survey responses, risk assessment findings potential project discussions, and a group activity and report out.

Quarter 4 October 2, 2026

The CAT members received feedback from Public Meeting #2 and community survey responses, discussed the recommended project portfolio and coastal resilience strategy.

Public Meetings

Two public meetings held over the course of the planning process to inform and engage the public.

- **Meeting #1 April 30, 2026**

This meeting helped establish a vision, gather feedback on assets and risks, and identify resilience priorities.

- **Meeting #2 September 16, 2026**

This event was structured as an open house where the public could attend at their leisure and provide the project team insight on the prioritization of the recommended projects. This meeting helped gather feedback on the draft strategy and priority projects.

Community Surveys

To broaden participation and capture a more diverse range of perspectives, the Town distributed online surveys that mirrored the information presented at

public meetings. The first survey, which focused on identifying community concerns and existing resilience-related challenges, received 419 responses. A second survey, focused on prioritizing potential projects and strategies, generated 211 responses. Together, these surveys provided valuable input from residents who may not have been able to attend public engagement events and helped inform the planning process.

Pop-Up Events

Pop-up events provided the public the opportunity to meet one-on-one with the team and gain an understanding of the project background and goals, the available project website and interactive map. Events were held at the Earth Day Festival on April 22, 2026 and The Point (Beach) and Barbee Library on April 30 and May 1, 2026.

Project Website

www.OakIslandResilience.com

The project website provided an opportunity to learn more about the project, provide input, and access related project information like meeting

Public Outreach

notifications and summaries, and draft project deliverables. The website also included an online comment form allowing the public to submit comments at any time. Website visitors could subscribe to receive email notifications about project updates and meeting opportunities.

Interactive Map

An online map was publicly available at the start of the project to help identify assets, issues, and opportunities within Oak Island. This map helped identify potential areas of risk for further exploration and gather first-hand accounts of flooding, erosion, and other coastal hazards. In addition to comments submitted directly through the interactive map, responses from the community survey were incorporated to help identify and illustrate geographic areas of concern throughout Oak Island.

Stakeholder Coordination

Targeted outreach and coordination with key stakeholders, partner organizations, and agency representatives were undertaken to support the collection and review of technical datasets, identify local concerns and vulnerabilities, and inform

the assessment of resilience challenges and opportunities considered throughout the Coastal Resilience Strategy planning process.

Non-Resident Property Owners

Recognizing that non-resident property owners represent an important stakeholder group in Oak Island, targeted outreach was conducted through seven rental and property management companies to help ensure their perspectives were incorporated into the Coastal Resilience Strategy. Companies were contacted in June and again in September and were asked to distribute project information and survey opportunities to property owners and guests, expanding engagement beyond full-time residents and supporting broader participation in the planning process.

Additional Town Efforts

The Town implemented a comprehensive outreach campaign to promote the survey and project website through multiple channels and community engagement efforts. Outreach included advertisements on the Town Hall digital

sign, a billboard along Long Beach Road, Town newsletters, and a televised Planning Board meeting. Flyers and tabletop displays were distributed at public facilities, local businesses, churches, and other community gathering places. Additional engagement was conducted through pop-up events at the Farmers and Artisans Market and other locations, while Town staff performed daily canvassing at the beach, pier, and The Point to encourage participation and gather feedback from residents and visitors.

What We Heard

Public Outreach Breakdown

10

CAT Members

2

Public Meetings

2

Pop-Up Events

125

Project Subscribers

2

Community Surveys

The Public's Greatest Concerns

- Extreme Participation and Flooding
- Storm Surge
- Erosion
- Marsh Migration and Degradation
- High Winds

The Public's Most Desired Resilience Solutions

- Dune Fortification
- Increased Tree Canopy

The Public's Idea of the Greatest Resilience Benefits

- Preservation of Environmental Assets
- Preservation of Critical Public Services

Accessing Oak Island

- Over 70% of survey participants use Middleton Avenue (Route 9036) to access Oak Island

Preferred Communication Methods

- Text Message
- Email

Public input from the first visioning meeting for the Town of Oak Island Coastal Resilience Strategy revealed widespread concern about environmental and infrastructure challenges, including hurricanes, flooding, sea level rise, pollution, and over-development.

Participants identified the island's natural environment, beaches, tree canopy, and strong community character as its greatest assets and expressed a desire for Oak Island to remain environmentally sound, resilient, and recognizable in the decades ahead.

Respondents noted that continued development pressures and changing weather patterns pose significant challenges to achieving this vision and emphasized the need for investments in stormwater management, flood mitigation, infrastructure improvements, pedestrian safety, and community engagement to strengthen the island's long-term resilience.

Section 03

Review of Existing Local & Regional Plans

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Existing Planning Initiatives

Introduction

An excellent foundation has been laid regionally and locally to help build this coastal resilience strategy. Supplemental plans provide additional support, guidance, and strategies to address specific aspects of coastal management and resilience. These plans complement this planning effort by focusing on particular areas of concern or opportunity, ensuring a more comprehensive and effective approach.

National Initiatives

2022 National Oceanic and Atmospheric Administration (NOAA) Sea Level Rise Technical Report

This report provides U.S. coastal communities, planners, and decision-makers with the most current and comprehensive sea level rise projections to help advance coastal resilience initiatives and help communities adopt planning strategies. The report offers scenarios extending to the year 2150 and includes information to help communities assess potential changes in average tide heights and height-specific threshold frequencies as they prepare for and adapt to rising seas.

North Carolina Initiatives

2020 Climate Risk Assessment and Resilience Plan

This plan serves as a comprehensive framework to guide state action and facilitate collaboration in addressing the state's vulnerability to climate change, based on scientific assessment and stakeholder input. The plan focuses attention on climate resilience actions while addressing underlying stressors such as changing climate, aging infrastructure, socioeconomic disparities, and competing development priorities.

2021 Southeastern NC Regional Hazard Mitigation Plan

This plan spans across four counties: Brunswick, New Hanover, Onslow, and Pender. Oak Island is included in this effort. The plan identifies and assesses hazard risks, then provides mitigation recommendations through a comprehensive action plan designed to protect residents and property throughout the region.

2024 State Transportation Improvement Plan

This federally mandated 10-year plan identifies priority transportation projects and construction timetables, updated biennially by NCDOT. Five projects in the plan affect the Town, with three focused on NC 211 improvements. The remaining projects involve Fort Fisher Ferry and Cape Fear Regional Jetport.

Brunswick County Initiatives

2024 Brunswick County Transportation Plan

This coordinated effort identifies transportation needs and develops future implementation recommendations. Plan recommendations range from regional highway improvements to street-level pedestrian enhancements.

2021 NC 211 East Coast Greenway Feasibility Study

This study analyzed bicycle and pedestrian facility opportunities along approximately 17 miles of NC 211 in Brunswick County, focusing on interconnection with the East Coast Greenway. Oak Island, while

adjoining NC 211, is primarily accessed via EF Middleton Boulevard and Country Club Drive.

Oak Island Initiatives

2023 Tree Canopy Cover Assessment

This assessment evaluated vegetative cover across the Town and found that Oak Island had 59% tree canopy cover in 2022, a 9% increase from 2014. Most canopy loss occurred in the OK-R-6 residential district, while the OK-CLD commercial district contains 530 acres of plantable space. The existing canopy provides over \$2.5 million in annual benefits through air quality enhancement, stormwater reduction, and carbon sequestration. Recommendations include community education on canopy preservation, strategic planting in suitable locations, and continued monitoring of tree coverage.

2023 Town of Oak Island Water Supply Plan

The 2023 Local Water Supply Plan reports Oak Island's water system includes approximately 120 miles of infrastructure serving 11,012 residential and 203

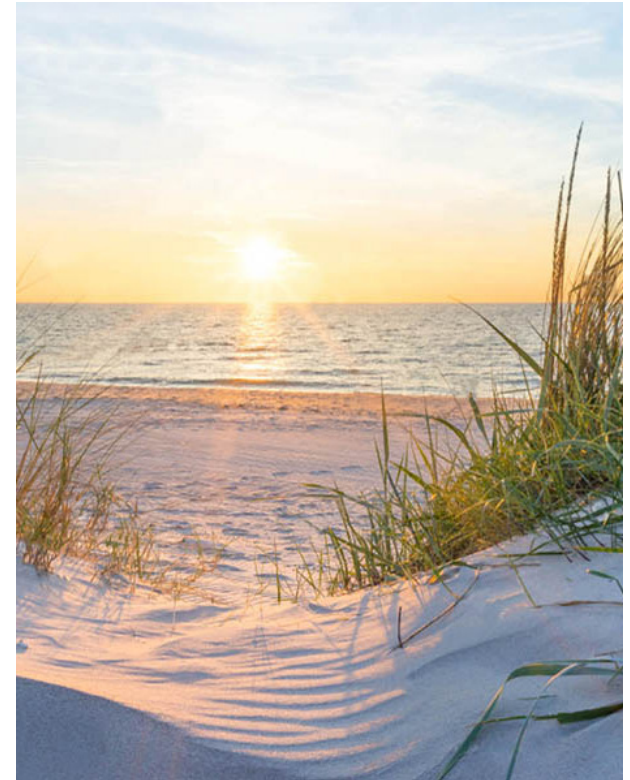
commercial connections. The system supports a year-round population and peak seasonal population of around 35,000 during summer months, with the capacity to support future development. Brunswick County supplies up to 3 million gallons daily to meet current and future demands.

2025 Comprehensive Land Use Plan Update

This plan update outlines current local conditions and identifies planned future actions in sensitive coastal areas in accordance with guidelines established by the North Carolina Coastal Resources Commission (CRC).

Town of Oak Island Unified Development Ordinance (UDO)

The UDO outlines various regulations governing land use and development, including zoning provisions, administrative and legislative procedures, development standards, and enforcement mechanisms. The UDO governs land use, development, and environmental regulations, aligning them with the overarching goals of sustainability, environmental protection, and growth management.



Oak Island, NC
Credit: OakIslandNC.com

Review of Existing Local & Regional Efforts

Existing Documents Reviewed for Oak Island				
Document Name (Year)	Information Gleaned			
	Asset Location	Hazard Information	Potential Resilience Projects	Resilience Strategies Already in Place
Climate Risk Assessment & Resilience Plan (2020)				●
Southeastern NC Regional Hazard Mitigation Plan (2021)	●	●	●	●
Hurricane Matthew Resilient Redevelopment Plan - Brunswick County	●	●	●	●
Town of Oak Island Strategic Economic Development Plan	●			

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Asset Inventory

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Asset Inventory

Introduction

As part of the Risk and Vulnerability Assessment, the Resilient Coastal Communities Program (RCCP) recommends identifying and mapping critical community assets and natural infrastructure that support the health, safety, and well-being of residents. To guide this effort, the RCCP encourages communities to use FEMA's Community Lifelines Framework, which provides a consistent approach for evaluating the systems and services that are essential to community function before, during, and after hazard events.

The Community Lifelines Framework

FEMA defines community lifelines as the essential services and assets that enable communities to function and support public health, safety, and economic stability. These lifelines include the facilities, infrastructure, and resources that residents depend on every day, such as transportation networks, utility systems, public safety services, healthcare facilities, communications systems, and natural resources.

Although the framework was originally developed to support emergency response and recovery operations, it also serves as a valuable tool for resilience planning. Understanding where critical assets are located and how they may be affected by hazards helps communities prioritize investments, reduce risk, and strengthen preparedness. Protecting community lifelines before disasters occur, minimizing disruptions during emergencies, and rebuilding stronger following major events are all important strategies for enhancing Oak Island's long-term resilience.

The FEMA Community Lifelines



Communications



Energy



Food, Hydration, Shelter



Hazardous Materials



Health & Medical



Safety & Security



Transportation



Water Systems

Defining Critical Assets

The project team worked with the Community Action Team (CAT) to identify the facilities, infrastructure, and resources that are most important to Oak Island's ability to function during and after hazard events. These critical assets are categorized according to FEMA's Community Lifelines Framework.

In addition to FEMA-defined lifeline assets, the assessment identified several important natural and community resources, including parks, open spaces, and golf courses. While these features do not fall within a specific FEMA lifeline category, they contribute significantly to community resilience by providing stormwater storage, flood mitigation benefits, recreational opportunities, and open space that supports environmental and community well-being. As a result, they are also considered critical assets within this resilience strategy.



Communications

- Local Alarms
- Satellite Towers



Food, Hydration, Shelter

- Senior Living



Water System

- Water Towers
- Reuse Tower
- Lift Stations
- Vacuum Stations



Transportation

- Bridges
- Roads
- Evacuation Route
- Waterways
- Regional Jetport



Energy

- Electric Substation
- Municipal Fueling Station



Health & Medical

- Medical Center



Safety & Security

- Police Station
- Fire Stations
- Water Rescue
- Town Offices



Hazardous Materials

- Nuclear Power Plant

Natural Systems

- Dunes
- Tree Cover
- Beaches
- Parks
- Wetlands
- Golf Courses

Critical Assets

Introduction

The RCCP requires that critical roads, utilities, community services, and natural assets are mapped. These assets form the foundation of Oak Island's ability to function during both everyday conditions and emergency events. These resources support public safety, mobility, stormwater management, and overall quality of life, making them important components of the town's resilience planning efforts.

Road and Utilities

Oak Island's transportation network supports daily travel, emergency response, and evacuation. Major roadways include Oak Island Drive, Yacht Drive, Middleton Avenue (NC 906), and Country Club Drive (NC 133). NC 906 serves as a primary evacuation route, and two bridges along NC 906 and NC 133 provide critical connections between the island and mainland.

Stormwater is managed through a combination of storm sewer infrastructure and open drainage ditches that collect and convey runoff to surrounding waterways, helping reduce localized flooding.

Refer to **Figure 4.1** for the Roads and Utilities Map.

Community Services

Essential public services, including police, fire, EMS, government offices, and medical facilities, are located throughout Oak Island. These facilities provide critical support during emergencies and are

important to community response and recovery efforts.

Refer to **Figure 4.2** for the Community Services Map.

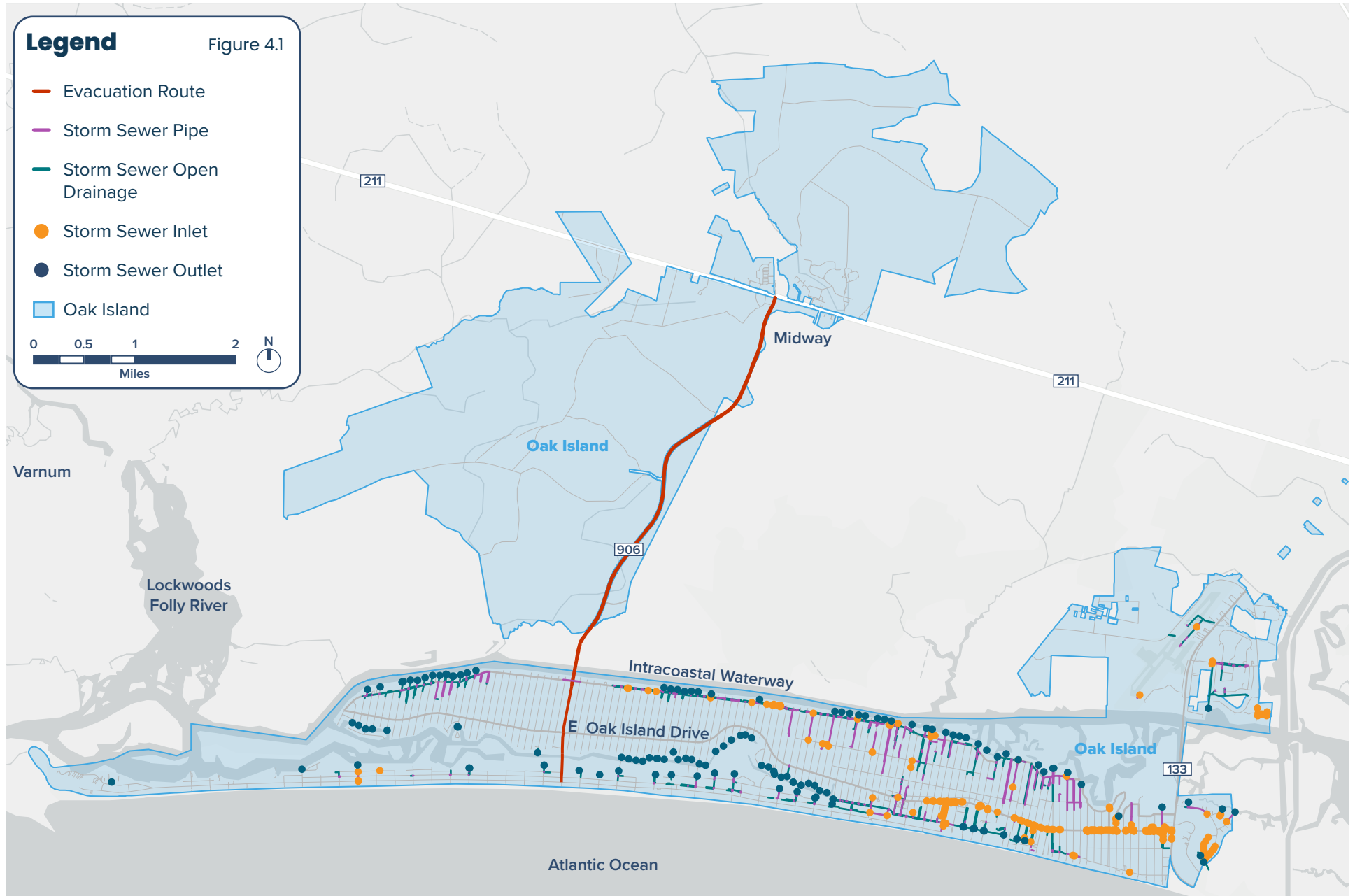
Natural Assets

Natural assets such as wetlands, parks, open spaces, and golf courses provide important environmental and community benefits. In addition to supporting recreation and habitat, these areas help absorb, store, and slow stormwater runoff, reducing flood risks and enhancing resilience.

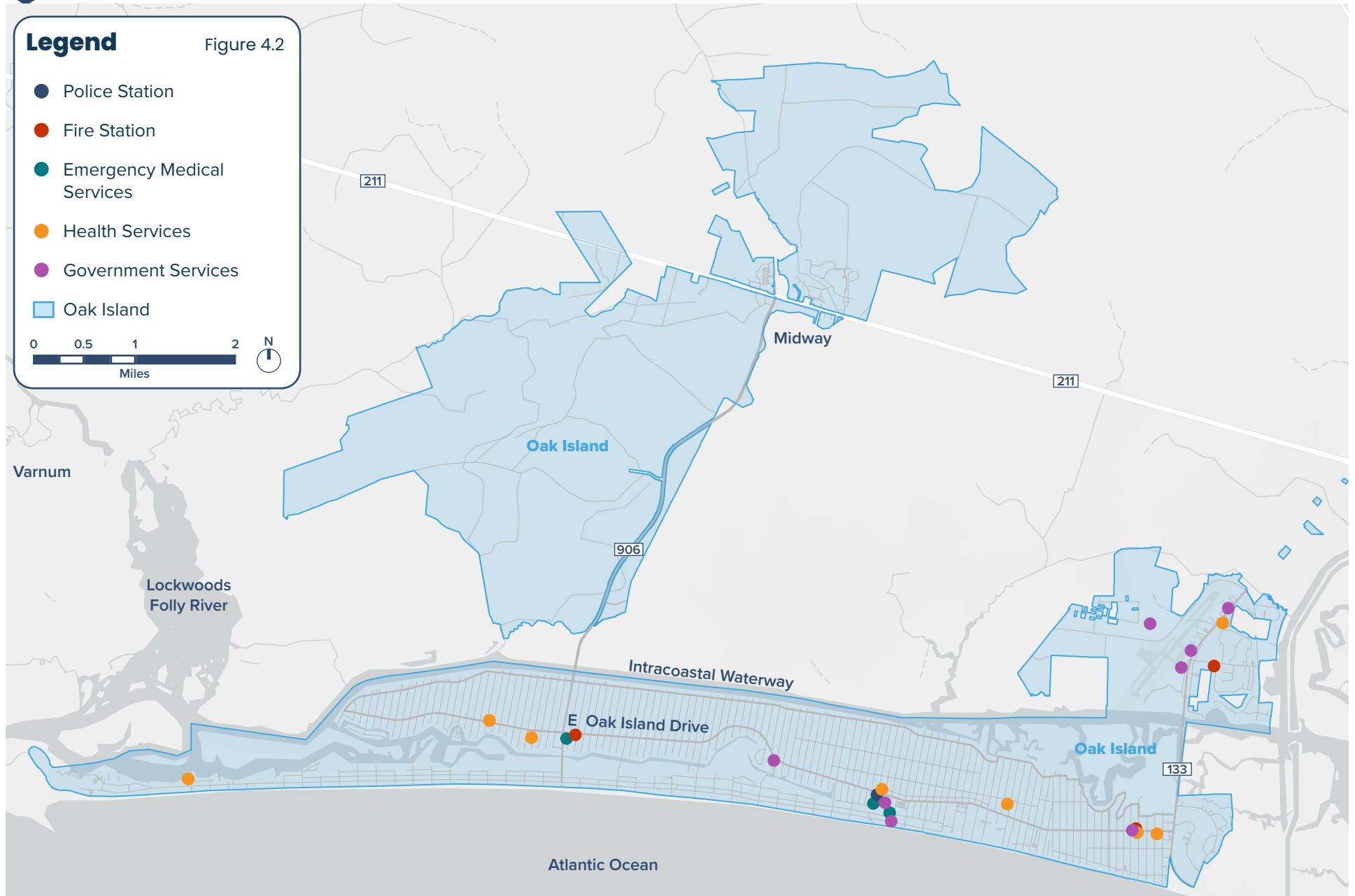
Oak Island's parks and two golf courses serve as valuable green infrastructure that contribute to both flood mitigation and community quality of life.

Refer to **Figure 4.3** for the Natural Assets Map.

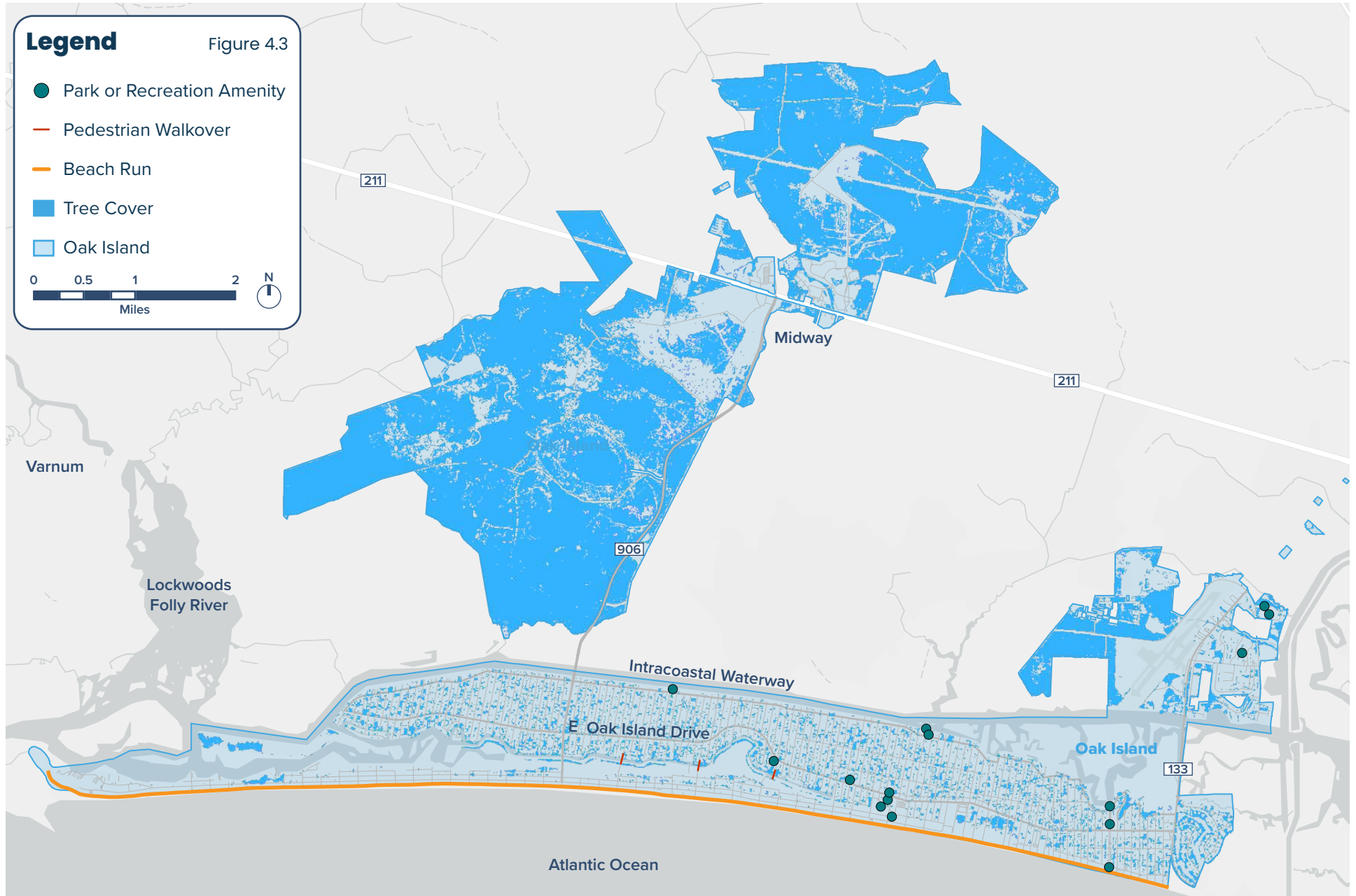
Roads and Utilities



Services



Natural



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Section 05

Risk & Vulnerability Assessment

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Overview

Introduction

A Risk and Vulnerability Assessment (RVA) was conducted to evaluate the susceptibility of Oak Island's critical built, network, and natural assets to coastal hazards. The assessment methodology and key findings are summarized in the following pages.

The RVA evaluated risks associated with storm surge, coastal flooding, sea level rise, high-tide flooding, shoreline erosion, and social vulnerability. Vulnerability was assessed for each hazard individually and through a cumulative analysis of combined hazard impacts.

Vulnerability & Risk

Vulnerability and risk scores were assigned to key public and natural assets in Oak Island, including:

- **Critical Built Infrastructure:** Facilities that provide essential services and support public health, safety, and economic stability, such as Town offices, and emergency services.
- **Critical Network Infrastructure:** Transportation and utility systems that support government, business, and community functions, including roads, bridges, water systems, and sewer infrastructure.
- **Natural Assets:** Lands managed to provide community benefits, such as recreational opportunities and healthy ecosystem support.

Vulnerability was assessed based on the potential loss of asset functionality.

Critical Assets

Critical Built Infrastructure

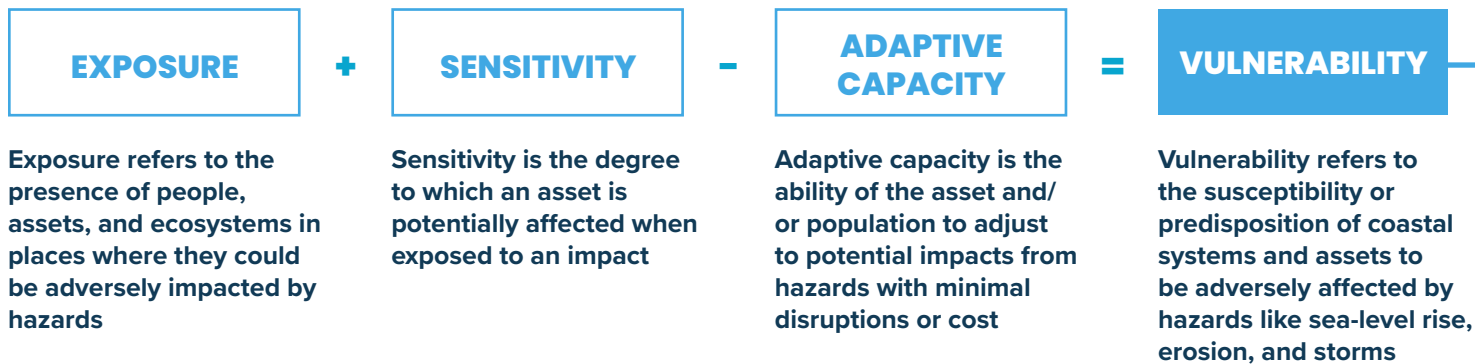
- Fire Departments
- Police Department
- Water Rescue
- Recreation Center
- Town Offices
- Medical Center
- Senior Living
- Regional Jetport

Critical Network Infrastructure

- Water towers
- Reuse towers
- Lift stations
- Vacuum stations
- Power station
- Bridges
- Evacuation route
- Primary Roads

Natural Assets

- Waterways
- Beachfront
- Dunes
- Wetlands
- Tree Cover
- Parks
- Golf Courses
- Nature Center



High (5-6)

Likely loss of service of an asset for an extended period of time. Actions to reduce vulnerability such as elevating or flood-proofing are necessary. Relocation may be necessary if other means of adaptation are not effective.

Moderate (3-4)

Flooding may pose moderate to serious consequences. Use a combination of measures to reduce exposure and/or vulnerability. Adaptation may be of lower priority in this category.

Residual (1-2)

Only infrequent consequences expected.

Vulnerability Score (without adaptive capacity)

Asset Category	Average Exposure*	Average Sensitivity*	Average Vulnerability (without Adaptive Capacity)**
Critical Built Infrastructure	2	3	5
Critical Network Infrastructure	1.25	2.5	3.75
Natural Assets	1.5	1.5	3

* Values are rounded to the nearest 0.25.
 ** These values represent the average baseline vulnerability of each asset category prior to implementing any resilience measures and without considering adaptive capacity.

Vulnerability Score (with adaptive capacity)

Asset Category	Average Exposure*	Average Sensitivity*	Average Adaptive Capacity*	Average Vulnerability***
Critical Built Infrastructure	2	3	2.5	2.5
Critical Network Infrastructure	1.25	2.5	2	1.75
Natural Assets	1.5	1.5	2.75	.25

* Values are rounded to the nearest 0.25.
 *** These values represent the average vulnerability of each asset category following the RCCP formula.

Social Vulnerability

Introduction

Social vulnerability refers to the characteristics that influence a community's ability to prepare for, respond to, and recover from hazards. According to the Centers for Disease Control and Prevention (CDC), a range of factors can affect how individuals and communities experience and recover from disasters.

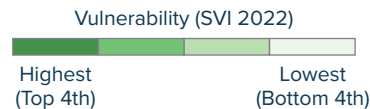
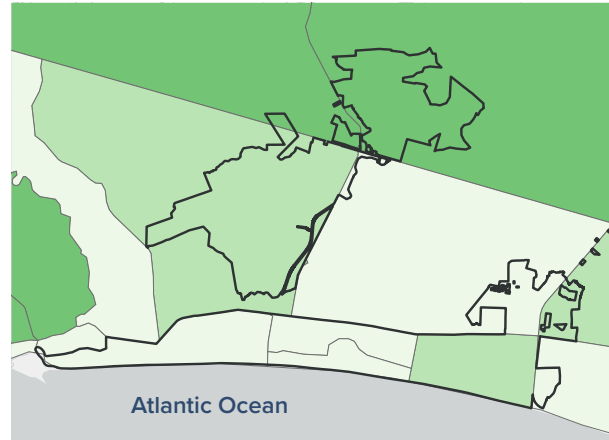
Determining Vulnerability

This strategy uses the Social Vulnerability Index (SVI) developed by the CDC to identify populations that may be more vulnerable to the impacts of hazards.

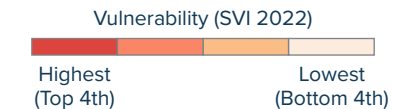
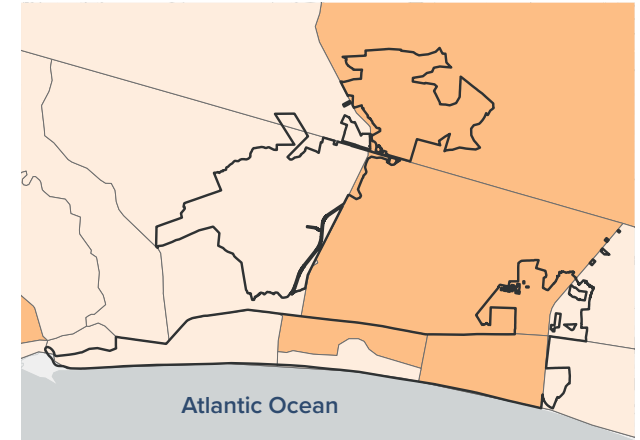
The SVI evaluates 15 demographic and socioeconomic indicators grouped into four themes: Socioeconomic Status, Household Characteristics, Minority Status, and Housing Type and Transportation. Each census area receives a ranking for each theme and an overall vulnerability score.

These rankings help identify areas where residents may face greater challenges during and after hazard events, supporting more equitable planning, emergency preparedness, outreach efforts, and resilience investments.

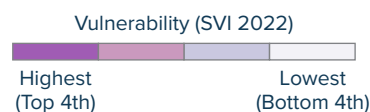
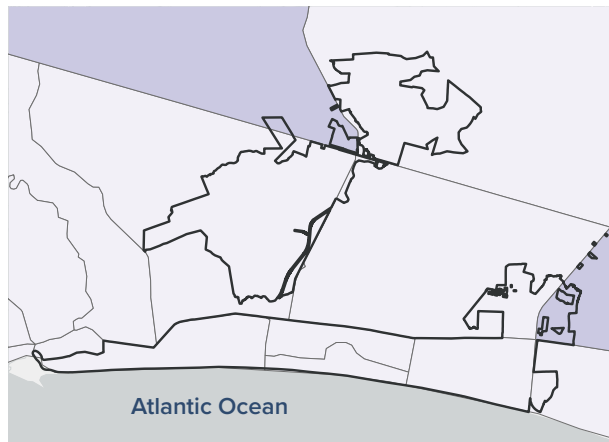
Socioeconomic Status



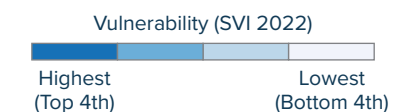
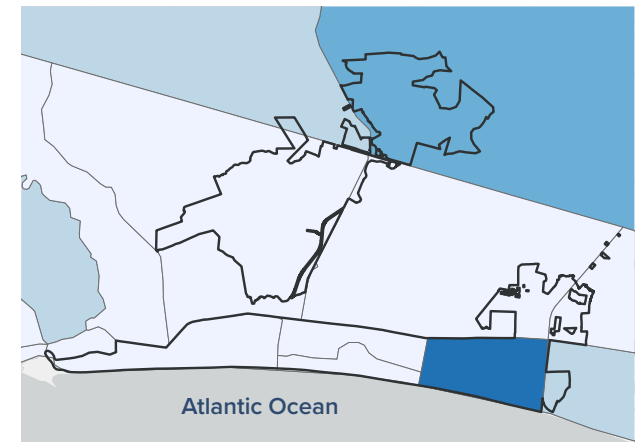
Household Characteristics



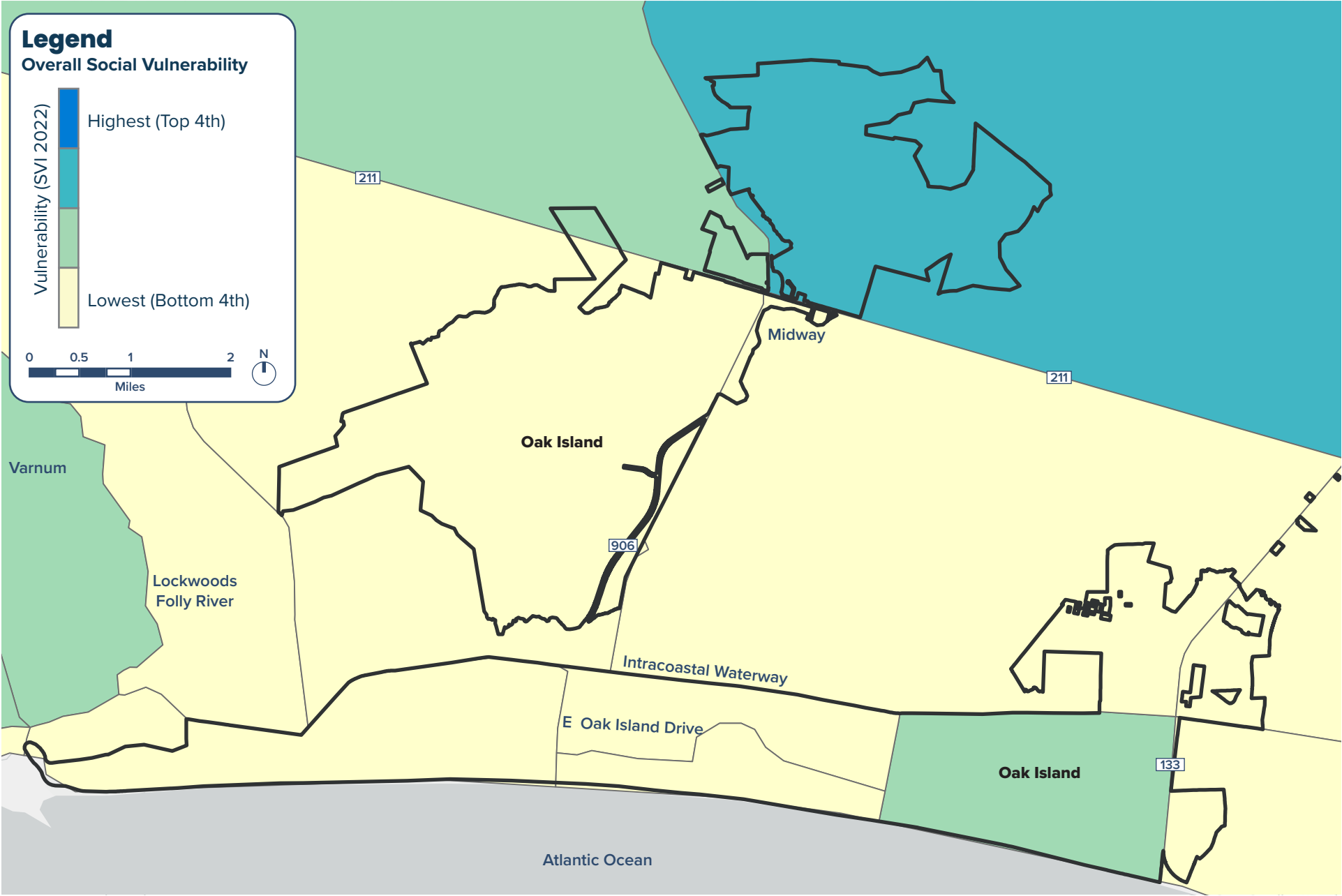
Minority Status



Housing Type / Transportation



Social Vulnerability



Hazard: Flooding

Introduction

Flooding occurs when water inundates areas that are normally dry. This often happens when rivers, streams, coastal waters, or other water bodies overflow their banks and spread into adjacent low-lying areas known as floodplains. Floodplains are naturally susceptible to flooding and play an important role in storing and conveying floodwaters during storm events.

FEMA Floodplain Mapping

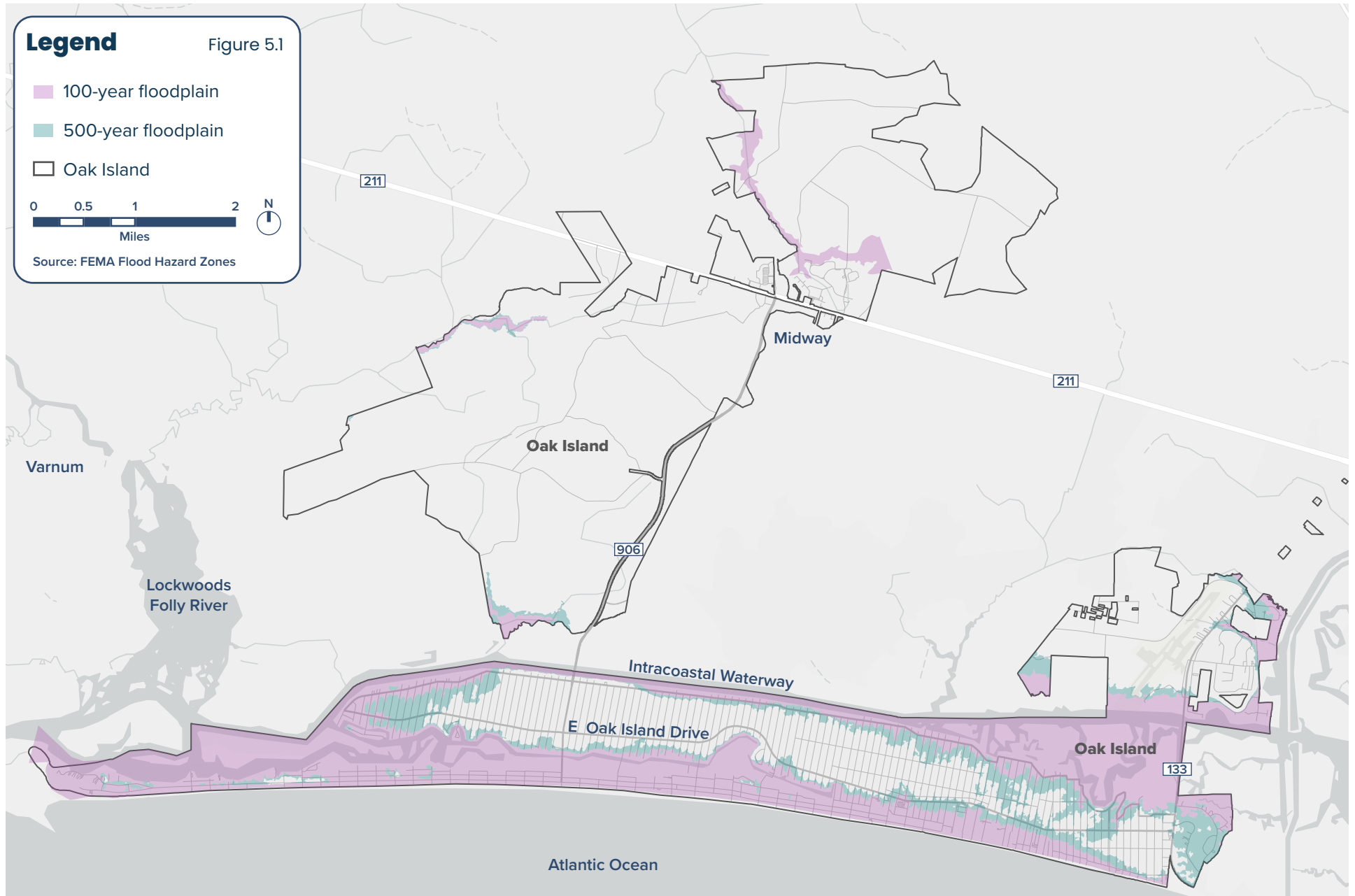
The Federal Emergency Management Agency (FEMA) identifies and maps flood-prone areas based on the likelihood of flooding. These maps help communities, property owners, and decision-makers understand flood risk and inform land use, development, and mitigation strategies.

The 1% Annual Chance Flood Zone, commonly referred to as the 100-year floodplain, represents areas that have a 1 percent chance of experiencing flooding in any given year. Likewise, the 0.2% Annual Chance Flood Zone, often called the 500-year floodplain, represents areas with a 0.2 percent chance of flooding in a given year.

It is important to note that FEMA's current flood maps are based primarily on historical data and existing conditions and generally do not incorporate future impacts from climate change, sea level rise, or other evolving environmental conditions. As a result, actual future flood risks may differ from those shown on current maps.

Figure 5.1 depicts the FEMA-designated 1% and 0.2% annual chance flood zones within the Town of Oak Island. The mapping indicates that much of Oak Island falls within the 1% annual chance floodplain, reflecting the community's exposure to coastal and storm-related flooding. In contrast, much of the mainland area lies outside of FEMA-designated flood hazard areas and is generally considered to have a lower flood risk. While the map provides a valuable foundation for understanding flood vulnerability, flooding can occur outside mapped floodplains, particularly during extreme weather events.

Hazard: Flooding



Hazard: Storm Surge

Introduction

The NOAA defines storm surge as the abnormal rise in seawater level during a storm, measured as the height of the water above the normal predicted astronomical tide. More simply, storm surge is the rise in seawater level caused solely by a storm.

The extent and severity of storm surge at a particular location are influenced by several factors, including the storm's track relative to the shoreline, its intensity, size, and forward speed, as well as local offshore and nearshore bathymetry (underwater topography).

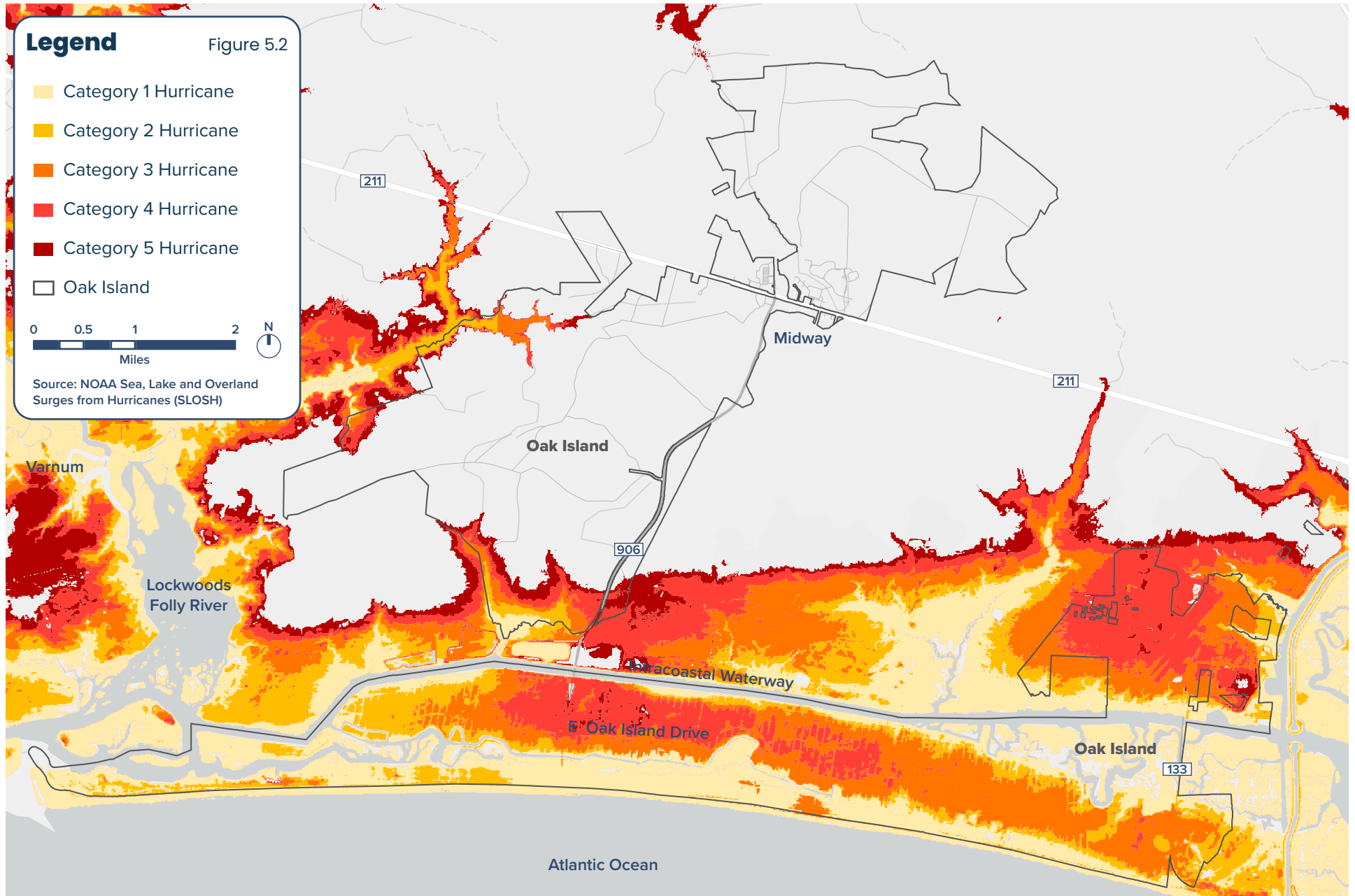
Forecasted Inundation

Figure 5.2 illustrates the potential extent of hurricane-related inundation across Oak Island for different hurricane categories.

These inundation estimates are based on the National Oceanic and Atmospheric Administration's (NOAA) Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model using the high-tide scenario and the Maximum of Maximums (MOM) storm surge dataset. The MOM approach depicts the highest water levels that could occur for a given hurricane category by evaluating a range of storm characteristics, including forward speed, storm track, and tide conditions.

While these maps represent a worst-case scenario rather than a specific storm forecast, they provide a useful illustration of the potential flood hazards Oak Island could experience during hurricanes of varying intensities. As a planning tool, the dataset helps identify areas that may be most vulnerable to storm surge and supports long-term resilience and emergency preparedness efforts.

Hazard: Storm Surge



Hazard: Sea Level Rise

Introduction

The NOAA defines sea level rise as an increase in the average height of the ocean's surface over time and is primarily driven by two factors: the expansion of seawater as it warms and the melting of glaciers and land-based ice sheets, which adds additional water to the oceans.

As the climate continues to change, sea level rise is becoming an increasingly significant challenge for coastal communities. Higher sea levels can contribute to more frequent and severe coastal flooding, increased erosion, greater storm surge impacts, and the loss of coastal habitats and infrastructure.

According to NOAA's Sea Level Rise Technical Report (2022), global sea levels have been rising at an accelerating rate over the past century. Scientific projections indicate that this trend is expected to continue, increasing the exposure of coastal communities to flooding and other coastal hazards. Understanding and preparing for sea level rise is an important component of long-term resilience planning, helping communities reduce risk and adapt to changing coastal conditions.

Forecasted Inundation

NOAA's Sea Level Rise Viewer and Local Scenarios tool identifies projected changes in sea level for locations along the U.S. coastline. For the Wilmington, North Carolina tide gauge, the nearest open-ocean monitoring station to Oak Island, NOAA's High scenario projects approximately 1.57 feet of sea level rise by 2050. To support planning and vulnerability assessment efforts, this Resilience Plan uses a 1.5-foot sea level rise scenario to evaluate potential future impacts to the Town of Oak Island.

Figure 5.3 illustrates areas within Oak Island that could be affected by a 1.5-foot increase in sea level by 2050. The mapping highlights locations that may become increasingly vulnerable to chronic tidal flooding, storm impacts, and other coastal hazards as sea levels rise.

NOAA's sea level rise inundation mapping is based on a modified "bathtub" modeling approach that incorporates local and regional tidal conditions, hydrologic connectivity, and topography. The analysis evaluates potential future flooding by applying projected sea level rise to

current Mean Higher High Water (MHHW) conditions, providing a representation of areas that may experience regular inundation under future sea level scenarios. While these projections do not predict exactly when or how flooding will occur, they serve as a valuable planning tool for understanding long-term vulnerability and informing resilience, adaptation, and infrastructure investment decisions.

Hazard: Sea Level Rise



Hazard: High Tide Flooding

Introduction

According to the NOAA, the frequency of high-tide flooding events has increased significantly across many U.S. coastal communities since the 1960s. Also referred to as tidal flooding, sunny-day flooding, or nuisance flooding, these events occur when higher-than-normal tides inundate low-lying areas, often resulting in minor impacts to roads, drainage systems, and other infrastructure even in the absence of a storm.

Rising Water Levels

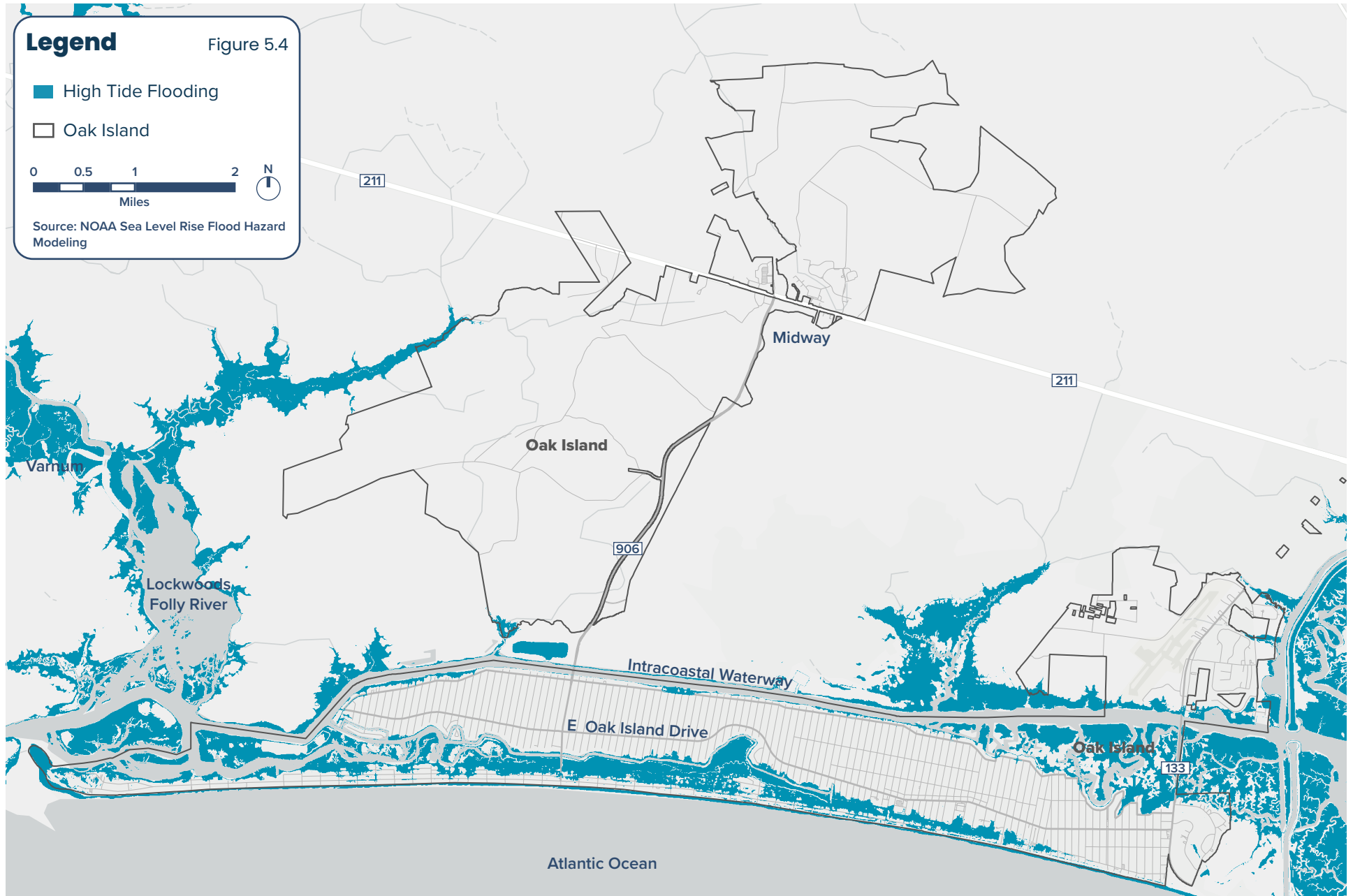
The rate at which tidal flooding is increasing varies by location and is influenced by factors such as local elevation, the rate of relative sea level rise, and natural tidal variability. Communities with lower elevations and higher rates of sea level rise tend to experience more frequent flooding events and are often among the most vulnerable.

As sea levels continue to rise, tidal flooding is expected to become more frequent, affect larger areas, and persist for longer periods of time. While these events may not cause the extensive damage

associated with major storms, recurring flooding can disrupt transportation, degrade infrastructure, affect property access, and create ongoing challenges for residents and businesses.

Figure 5.4 identifies areas within Oak Island that are currently vulnerable to tidal flooding under existing conditions. Understanding the extent of these regularly inundated areas provides valuable insight into current flood risks and helps inform long-term planning efforts aimed at improving community resilience to future sea level rise and coastal flooding.

Hazard: High Tide Flooding



Hazard: Shoreline Erosion

Introduction

The US Climate Resilience Toolkit defines coastal erosion as the process by which local sea level rise, strong wave action, and coastal flooding wear down or carry away rocks, soils, and/or sands along the coast. All coastlines are affected by storms and other natural events that cause erosion; the combination of storm surge at high tide with additional effects from strong waves creates the most damaging conditions.

The NOAA defines accretion as the gradual and imperceptible accumulation of land by natural causes, as out of the sea or a river. This may be the result from a deposit of alluvion upon the shore, or by a recession of the water from the shore. Accretion is the act, while alluvion is the deposit itself.

Changing Shorelines

The North Carolina Division of Coastal Management (DCM) regularly monitors shoreline change using aerial photography, LiDAR, and other survey data to track long-term erosion trends along the coast. These analyses support updates to oceanfront construction setback requirements and the Ocean Erodible Area (OEA), which

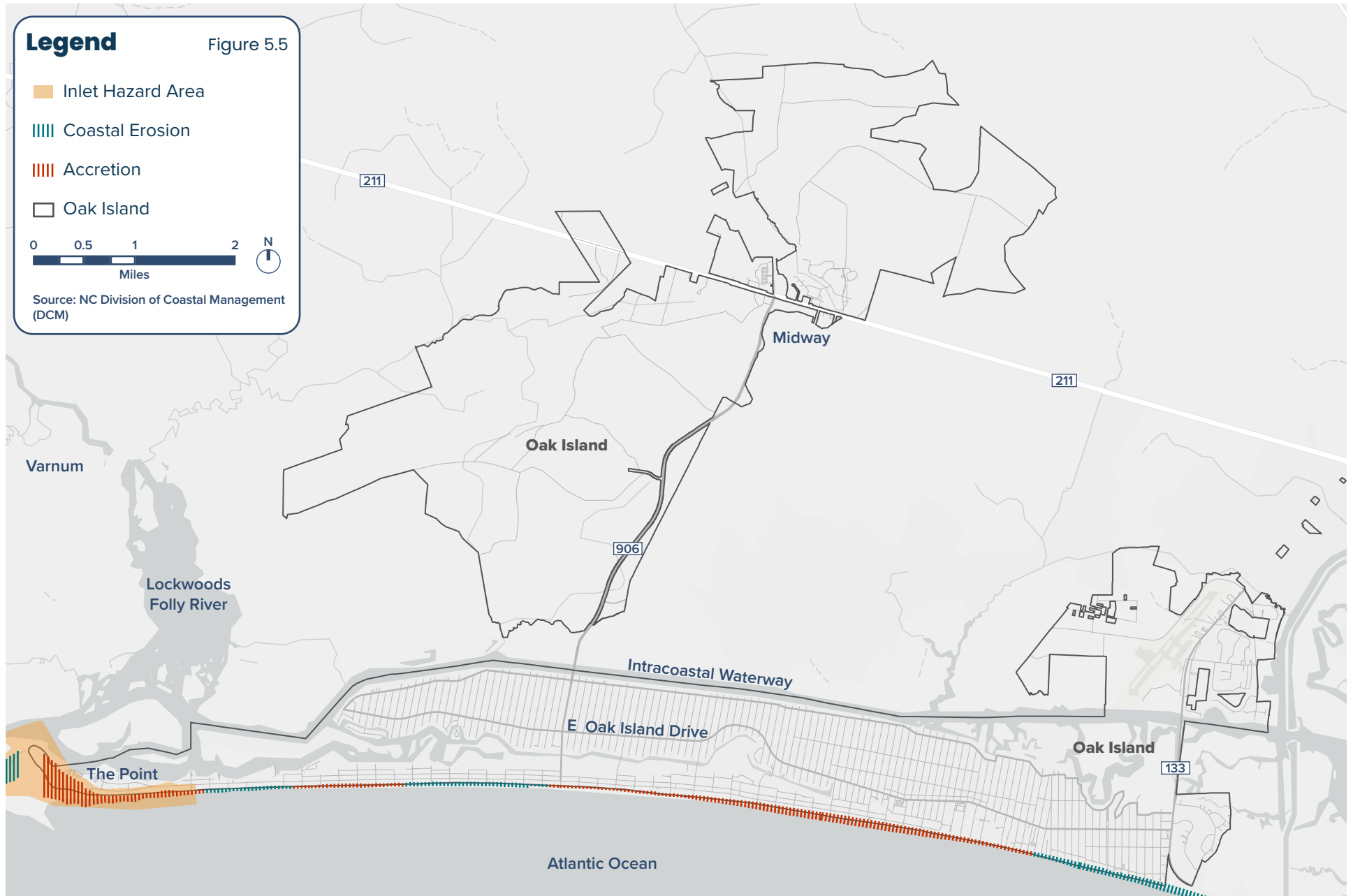
identifies locations with a substantial risk of shoreline erosion. Long-term shoreline change rates, based on more than 50 years of data, have been updated approximately every five years since 1980.

The most recent shoreline erosion rates (2025) are shown in **Figure 5.5**. The data indicate that erosion on Oak Island is primarily concentrated near The Point at the island's western end, where complex coastal processes and inlet dynamics influence shoreline movement. While much of the oceanfront shoreline remains relatively stable, areas near inlets are subject to ongoing erosion and change.

The DCM has also designated Inlet Hazard Areas (IHAs), which identify locations especially vulnerable to erosion, flooding, and other coastal hazards due to their proximity to dynamic ocean inlets. **Figure 5.5** shows the designated IHA on Oak Island, located at The Point near the confluence of several waterways. This area is particularly susceptible to shoreline migration, storm impacts, and changing inlet conditions, making it one of the most hazard-prone locations on the island.

Understanding erosion trends and inlet-related hazards is important for guiding future development, protecting coastal resources, and improving the long-term resilience of Oak Island's shoreline.

Hazard: Shoreline Erosion



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Section 06

Project Portfolio



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Resilience Projects Overview

Introduction

A central aspect of the Resilient Coastal Communities Program is the identification and prioritization of projects that reduce community vulnerability to coastal hazards. The projects presented in this plan were developed through the vulnerability assessment process and informed by previous local and regional planning efforts, input from the Community Action Team, and public feedback.

The proposed projects include infrastructure improvements, policy and planning initiatives, and asset management actions. Strategies encompass structural, non-structural, natural and nature-based, and hybrid solutions. Many of the projects address multiple hazards while providing additional community, environmental, and economic benefits beyond resilience.

The following pages describe each project, including its objectives and the hazards it is intended to address.



Oak Island Waterfront
Credit: Salt and Sand Realty

Project Component Descriptions

Project Name	Brief descriptive title for the project
Project Description	Description of strategy being proposed and the scope of the work
Location	The geographic location of the project
Hazard(s) Addressed	A summary of the community-specific coastal hazards that impact the project location
Solution Type	A description of whether the project represents infrastructure improvements, policy and planning effort, or an asset management/mapping program
Estimated Cost	A qualitative analysis of the total project cost, including initial engineering and construction as well as future maintenance (as available). Project cost is shown symbolically ranging from \$ to \$\$\$\$ \$ = less than \$100K \$\$ = \$100K to \$1M \$\$\$ = \$1M to \$5M \$\$\$\$ = more than \$5M
Anticipated Benefit	A description of the project's primary benefits and how beneficial the project will be on a range from low to high
Natural and Nature-Based Solution (NNBS) Opportunity?	Whether the project includes a natural or nature-based solution (NNBS) component
Potential Funding Sources	Recommendations on potential sources to construct or otherwise implement the project
Estimated Timeline	An estimated timeline to complete the project, including notes on any expected delays in the timeline
Preliminary Tasks/Data Required	A description of tasks and information that should be complete before starting the listed project
Advantages/Disadvantages	An analysis of the benefits and drawbacks of the proposed solution
Similar Project Examples	Examples of similar projects completed and identification of where information on the projects can be found
Priority Rating	A qualitative ranking of the project's priority in the context of the entire Project Portfolio. Rankings of High, Medium, or Low are provided for each project

Resilience Projects Overview

To develop a prioritized list of resilience projects for Oak Island, the project team first compiled a comprehensive inventory of potential projects based on a review of existing plans and studies, as well as findings from the Risk and Vulnerability Assessment.

The project prioritization process began with the Community Action Team (CAT) reviewing the initial project inventory to remove projects that had already been completed or were no longer relevant to the Town’s needs, while also identifying additional projects for consideration. The refined project list was then presented at a public open house, where community members were invited to review and provide feedback. An online survey was also made available to expand opportunities for public participation and gather additional input.

Feedback from both the CAT and the public informed the evaluation of projects, which were ultimately categorized as High, Medium, or Low priority. The project team reviewed all input to develop the final prioritization.

The six high-priority projects identified through this process are described in greater detail in the following pages. These projects were determined to provide significant community-wide risk reduction benefits, support vulnerable populations, demonstrate implementation feasibility, align with the Town’s long-term resilience goals, build upon existing plans and initiatives, and complement ongoing resilience efforts.

The projects considered during the prioritization process are shown on page 49.

Cost estimates presented for the projects are planning-level opinions of probable cost and are intended for comparative planning purposes only. These estimates are based on similar completed projects, industry benchmarks, and professional expertise. They do not represent detailed engineering, design, or construction cost estimates and should be refined during subsequent project development phases.

High Priority
Should move forward first

Medium Priority
Important but does not require immediate action

Low Priority
Valuable but less urgent or more challenging to implement

Estimated Cost

\$

= less than \$100K

\$\$

= \$100K to \$1M

\$\$\$

= \$1M to \$5M

\$\$\$\$

= more than \$5M

	Project Name	Description	Potential Location	Est. Cost	Est. Timeline*
High	Dune Restoration	Place compatible sediment on existing dunes or create an artificial dune by building up a mound of sediment at the back of the beach	To be determined in future phases	\$\$ - \$\$\$	2-5 years
	Living Shoreline	Naturally stabilize coastal edge, control erosion, and protect land from waves and storms	May Moore Park, Veterans Park (In Progress)	\$\$\$-\$\$\$\$	1-2 years
	Open Drainage Maintenance	Improve stormwater facilities (ditches, storm drains) on multiple Town streets	Town-wide	\$\$	0-2 years (ongoing)
	Land Use Regulations	Review of current land use regulations, ordinances, and plans to re-evaluate current standards and policies relating to coastal development and flood-impacted neighborhoods	Town-wide	\$	0-2 years
	Evacuation & Emergency Management	Improve evacuation signage, improve public emergency communication, and regularly publicize evacuation routes	Town-wide	\$	0-2 years (ongoing)
Medium	Permeable Surfacing Incentives	Provide priority application review and waived application fee to property owners who replace traditional hard surfaces with porous materials or green space	Properties in the 100-year and 500-year floodplain	\$	0-2 years (ongoing)
	Beach Nourishment	Add sand to eroding beaches to create a buffer against waves and flooding while improving recreational value	Beachfront	\$\$\$\$	3-5 years
	Install Bulkheads	Vertical or near-vertical walls built parallel to the shoreline to protect upland areas from erosion and wave action	Along Intracoastal Waterway	\$\$\$\$	2-5 years
	Elevate Select Roads	Raise the road profile above projected future flood levels on select primary roads that experience routine flooding	East Oak Island Drive	\$\$\$\$	3-5 years
	Environmental Education	Materials for homeowners and business owners on what can be done to address flooding on private property	Town-wide	\$	0-2 years
Low	Environmental Analysis	Evaluate cyclical environmental changes at The Point and identify coastal resilience strategies to improve resilience at the site and along the adjoining Intracoastal Waterway	The Point	\$-\$\$	0-5 years
	Native Tree Canopy Expansion	Increase native tree cover and plant materials by building off of the existing Tree Preservation Program, planting and protecting native trees, and continuing to fund the Adopt-A-Tree program	E Oak Island Drive commercial core, residences	\$\$\$	0-2 years

* Estimated project timelines represent the duration from the start of project planning through completion of implementation. They do not indicate when a project is expected to begin following publication of this strategy.

Dune Restoration

Project Description	Place compatible sediment on existing dunes or create an artificial dune by building up a mound of sediment at the back of the beach. Vegetate the dune with native plant material to stabilize the sediment and slow down wave action.
Location	To be determined in future phases
Hazard(s) Addressed	Flooding
Solution Type	Natural Infrastructure
Estimated Cost	The cost associated with dune restoration is high and can be phased to target more critical areas first Cost: \$\$ - \$\$\$ (\$100K - \$5M)
Anticipated Benefit	High
Natural and Nature-Based Solution (NNBS) Opportunity?	Yes
Potential Funding Sources	NC Land and Water Fund; FEMA Building Resilient Infrastructure and Communities (BRIC); USDA Natural Resource Conservation Service Watershed Protection and Flood Prevention Program; National Fish and Wildlife Foundation Coastal Resilience Fund; US Fish and Wildlife Service Coastal Program
Estimated Timeline	2-5 years from planning approval to final ecological completion
Preliminary Tasks/Data Required	Dune profiles and elevations are needed to establish baseline topographic data. Sediment core sampling is needed to match the new sand grain size to the existing condition. Wave exposure profiles, tidal ranges, storm surge frequencies, and predicted flood elevations under sea-level rise scenarios are needed to engineer the appropriate dune profile. Beach access points will need to be identified to account for pedestrian foot traffic and emergency vehicle access.
Advantages/Disadvantages	Dune restoration helps reduce coastal flooding and erosion by strengthening the natural protective buffer between the shoreline and inland areas. It can enhance wildlife habitat, improve beach resilience, and often becomes more effective over time as dunes and vegetation mature. However, restored dunes can be damaged by storms, erosion, and foot traffic, require ongoing maintenance and vegetation management, and may need to be combined with other resilience measures to address long-term sea level rise and increasing storm impacts.
Similar Project Examples	Northern Shoreline Dune Project – 2025 North Topsail Beach, North Carolina
Priority Rating	High



Dune Restoration in Dare County, NC
Credit: Dare County, North Carolina

Living Shoreline

Project Description	Naturally stabilize coastal edge, coastal erosion, and protect land from waves and storms
Location	May Moore Park, Veterans Park (in progress)
Hazard(s) Addressed	Flooding and shoreline erosion
Solution Type	Natural Infrastructure
Estimated Cost	The cost to install a living shoreline varies depending on materials and site characteristics. Total living shoreline cost can range up to \$2,000 per linear foot. Cost: \$\$\$ - \$\$\$\$ (\$1M - \$5M+)
Anticipated Benefit	Moderate
Natural and Nature-Based Solution (NNBS) Opportunity?	Yes
Potential Funding Sources	NC Land and Water Fund; FEMA Building Resilient Infrastructure and Communities; USDA NRCS Watershed Protection and Flood Prevention Program; National Fish and Wildlife Foundation Coastal Resilience Fund; US Fish and Wildlife Service Coastal Program; Golden Leaf Flood Mitigation Program
Estimated Timeline	A typical living shoreline project takes 12 to 18 months from the initial site assessment to physical installation, followed by 2 to 3 years for natural habitat maturation
Preliminary Tasks/Data Required	Before construction, a living shoreline project typically requires site assessments, surveying, environmental and habitat evaluations, coastal process analysis, property and utility reviews, and regulatory coordination. These efforts provide the technical, environmental, and permitting information needed to determine project feasibility and guide design.
Advantages/Disadvantages	A living shoreline helps reduce erosion and flooding while improving habitat, water quality, and the natural resilience of the shoreline. However, it may be less effective in areas with high wave energy, can require ongoing maintenance and monitoring, and may need to be combined with other adaptation measures to address increasing flood risks over time.
Similar Project Examples	Construct Living Shoreline – 2024 Town of Edenton Resilience Strategy
Priority Rating	High



Living shoreline constructed in 2001

Credit: North Carolina Coastal Federation, Pine Knoll Shores, North Carolina

Open Drainage Maintenance

Project Description	Facilitate routine drainage infrastructure inspections to ensure they are free of debris, overgrowth, blockages, and other factors that could adversely effect the functionality of the stormwater system. Where applicable, plant drainage ditches with native plants to improve water quality, minimize soil erosion, and support local wildlife while still managing excess runoff
Location	Town-wide
Hazard(s) Addressed	Stormwater management and flooding
Solution Type	Asset Maintenance
Estimated Cost	Cost is anticipated to be moderate considering the cost for maintenance crews and plant materials Cost: \$\$ (\$100K - \$500K)
Anticipated Benefit	Moderate
Natural and Nature-Based Solution (NNBS) Opportunity?	Yes
Potential Funding Sources	EDA- Investment for Public Works; National Fish Wildlife Federation: National Coastal Resilience Fund, and Economic Development Facilities; FEMA Flood Mitigation Assistance Program; Rural Grant Programs; EPA- Clean Water State Revolving Funds
Estimated Timeline	This effort could be implemented immediately if the funds and staff are available.
Preliminary Tasks/Data Required	Inventory and condition assessment of drainage assets, mapping of drainage networks, identification of erosion or blockage issues, and establishment of routine inspection and maintenance schedules. Where native plantings are proposed, basic information on site hydrology, soils, and suitable plant species is needed to ensure effective stormwater conveyance and water quality benefits.
Advantages/Disadvantages	This project will provide a visible and near-term step toward reducing flooding and addressing local coastal hazards. It is expected to help alleviate existing flooding issues and improve resilience to extreme weather events. While this strategy will deliver immediate benefits, it is not a long-term solution on its own. As flooding risks and the frequency of extreme weather continue to increase, this project will need to be complemented by additional adaptation and mitigation measures to provide lasting protection for the community.
Similar Project Examples	2026 City of Raleigh Ditch Improvement project
Priority Rating	High



Bioswale in Greendale, Wisconsin. ©
Credit: Izel Native Plants, Aaron Volkening

Land Use Regulations

Project Description	Review of current land use regulations, ordinances, and plans to re-evaluate current standards and policies relating to coastal development and flood-impacted neighborhoods
Location	Town-wide
Hazard(s) Addressed	Storm surge, runoff, riverine flooding, sea level rise, erosion
Solution Type	Local Plans and Policies
Estimated Cost	Cost is anticipated to be low. Cost: \$ (less than \$100K)
Anticipated Benefit	Moderate
Natural and Nature-Based Solution (NNBS) Opportunity?	No
Potential Funding Sources	FEMA Building Resilient Infrastructure and Communities (BRIC); FEMA Hazard Mitigation Grant Program (HMGP); FEMA Flood Mitigation Assistance (FMA); North Carolina Resilient Coastal Communities Program (RCCP); North Carolina Resilient Communities Program; NC Resilience Exchange Funding Programs
Estimated Timeline	Once a land use and zoning consultant is secured, this effort could be completed in a 1-2 year window.
Preliminary Tasks/Data Required	A review of existing zoning, subdivision, and development codes; identification of regulatory gaps or barriers; mapping of current land uses and environmental constraints; and stakeholder and legal review.
Advantages/Disadvantages	Land use regulations that promote coastal resilience and healthy development can reduce future flood risk, protect natural resources, guide growth away from vulnerable areas, and encourage more sustainable and resilient development patterns. However, updating regulations can require significant planning, public engagement, and enforcement, and may face challenges related to development restrictions, property rights concerns, and implementation costs.
Similar Project Examples	New or Updated Zoning and Development Ordinances - 2022 Bertie County Resilience Strategy
Priority Rating	High



Elevated Homes in Oak Island
Credit: Oak Island Accommodations

Evacuation & Emergency Management

Project Description	Enhance evacuation signage, expand and diversify emergency communications, and regularly publicizing evacuation routes and procedures. Conduct ongoing public outreach to ensure residents and visitors remain aware of evacuation protocols, routes, and shelter locations. Utilize multiple communication channels, including text alerts, email notifications, social media, websites, and traditional media, with an emphasis on text and email messaging to provide timely and accessible emergency information.
Location	Town-wide
Hazard(s) Addressed	Public safety risk
Solution Type	Regulatory Programming
Estimated Cost	Cost is anticipated to be low, depending on the extents of surveying that needs to be conducted Cost: \$ (less than \$100K)
Anticipated Benefit	Low
Natural and Nature-Based Solution (NNBS) Opportunity?	No
Potential Funding Sources	FEMA Building Resilient Infrastructure and Communities (BRIC); FEMA Hazard Mitigation Grant Program (HMGP) Emergency Management Performance Grant (EMPG); North Carolina Emergency Management (NCEM) EMPG Program; North Carolina Resilient Communities Program
Estimated Timeline	Short-term (0-2 years), with ongoing outreach, maintenance, and periodic updates thereafter.
Preliminary Tasks/Data Required	Review of existing emergency plans, evacuation routes, shelter locations, and communication systems, as well as identifying gaps in signage, public awareness, and emergency notifications. Coordination with emergency responders and community organizations is also needed to ensure evacuation procedures and communications are effective and widely understood.
Advantages/Disadvantages	Evacuation and emergency management improvements help protect public safety by increasing community preparedness, improving access to timely emergency information, and supporting more efficient evacuations during storms and other hazards. However, their effectiveness depends on public awareness and participation, reliable communication systems, and regular updates and maintenance to ensure emergency plans, routes, and contact information remain current.
Similar Project Examples	2023 New Hanover County Emergency Operations Plan (EOP)
Priority Rating	High



Clear evacuation route signage
Credit: Getty Images, Darwin Brandis

Permeable Surfacing Incentives

Project Description	Provide priority application review and waived application fee to property owners who replace traditional hard surfaces with porous materials or green space
Location	Properties inside the 100-year and 500-year floodplains
Hazard(s) Addressed	Stormwater Management, Flooding
Solution Type	Non-regulatory program, specifically an ongoing incentive program for community residents and business owners.
Estimated Cost	Cost is anticipated to be low and rely on Town Staff to implement Cost: \$ (less than \$100K)
Anticipated Benefit	Moderate
Natural and Nature-Based Solution (NNBS) Opportunity?	No
Potential Funding Sources	NC Community Conservation Assistance Program, North Carolina Land and Water Fund
Estimated Timeline	While no formal timeframe has been established, implementation could occur relatively quickly, depending on the Town's capacity to organize the program and promote it to the public.
Preliminary Tasks/Data Required	Determine the program's eligibility requirements and parameters. Publicly advertise the incentive program.
Advantages/Disadvantages	Can encourage residents and businesses to install porous pavement, helping to reduce stormwater runoff, improve groundwater infiltration, and lessen localized flooding while lowering barriers to participation. However, porous paving typically has higher installation and maintenance costs than traditional asphalt, which may still deter participation. Fee waivers and expedited reviews can reduce municipal revenue and require staff resources to administer the program effectively.
Similar Project Examples	City of Palo Alto, California Pervious Pavement Rebate Program
Priority Rating	High



Permeable Paver Driveway in South Carolina
Credit: American Paving Design

Town of Oak Island Coastal Resilience Strategy

Oak Island, North Carolina / Resilient Coastal Communities Program

DRAFT October 2026