PAMLICO SOUND
Regional Hazard Mitigation Plan

ESP wsp

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1 INTRODUCTION

Section 1 provides a general introduction to hazard mitigation and an introduction to the Pamlico Sound Regional Hazard Mitigation Plan. This section contains the following subsections:

- 1.1 Background
- 1.2 Purpose and Authority
- 1.3 Scope
- 1.4 References
- 1.5 Plan Organization

1.1 BACKGROUND

This document comprises a Hazard Mitigation Plan for the Pamlico Sound Region of North Carolina.

Each year in the United States, natural and human-caused hazards take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the true cost of disasters because additional expenses incurred by insurance companies and non-governmental organizations are not reimbursed by tax dollars. Many natural hazards are predictable, and much of the damage caused by hazard events can be reduced or even eliminated.

Hazards are a natural part of the environment that will inevitably continue to occur, but there is much we can do to minimize their impacts on our communities and prevent them from resulting in disasters. Every community faces different hazards, has different resources to draw upon in combating problems, and has different interests that influence the solutions to those problems. Because there are many ways to deal with hazards and many agencies that can help, there is no one solution for managing or mitigating their effects. Planning is one of the best ways to develop a customized program that will mitigate the impacts of hazards while accounting for the unique character of a community.

A well-prepared hazard mitigation plan will ensure that all possible activities are reviewed and implemented so that the problem is addressed by the most appropriate and efficient solutions. It can also coordinate activities with each other and with other goals and activities, preventing conflicts and reducing the costs of implementing each individual activity. This plan provides a framework for all interested parties to work together toward mitigation. It establishes the vision and guiding principles for reducing hazard risk and proposes specific mitigation actions to eliminate or reduce identified vulnerabilities.

In an effort to reduce the nation's mounting natural disaster losses, the U.S. Congress passed the Disaster Mitigation Act of 2000 (DMA 2000) to invoke new and revitalized approaches to mitigation planning. Section 322 of DMA 2000 emphasizes the need for state and local government entities to closely coordinate on mitigation planning activities and makes the development of a hazard mitigation plan a specific eligibility requirement for any local government applying for federal mitigation grant funds. These funds include the Hazard Mitigation Grant Program (HMGP), the Building Resilient Infrastructure and Communities (BRIC) program, and the Flood Mitigation Assistance (FMA) Program, all of which are administered by the Federal Emergency Management Agency (FEMA) under the Department of Homeland Security. Communities with an adopted and federally approved hazard mitigation plan thereby become pre-positioned and more apt to receive available mitigation funds before and after the next disaster strikes.

This plan was prepared in coordination with FEMA Region IV and the North Carolina Division of Emergency Management (NCEM) to ensure that it meets all applicable federal and state planning requirements. A Local Mitigation Plan Review Tool, found in Appendix A, provides a summary of FEMA's current minimum standards of acceptability and notes the location within this plan where each planning requirement is met.

1.2 PURPOSE AND AUTHORITY

This plan was developed in a joint and cooperative manner by members of a Hazard Mitigation Planning Committee (HMPC) which included representatives of County, City, and Town departments, federal and state agencies, citizens, and other stakeholders. This plan will ensure all jurisdictions in the Pamlico Sound Region remain eligible for federal disaster assistance including FEMA HMGP, PDM, and FMA programs.

This plan has been prepared in compliance with Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, enacted under Section 104 of the Disaster Mitigation Act of 2000, (DMA 2000) Public Law 106-390 of October 30, 2000, as implemented at CFR 201.6 and 201.7 dated October 2007.

This plan will be adopted by each participating jurisdiction in accordance with standard local procedures. Copies of adoption resolutions are provided in Section 9 Plan Adoption.

1.3 SCOPE

This document comprises a Regional Hazard Mitigation Plan for the Pamlico Sound Region. The planning area includes all incorporated municipalities and unincorporated areas in the region. All participating jurisdictions are listed in Table 1.1.

Table 1.1 – Participating Jurisdictions in the Pamlico Sound Regional Hazard Mitigation Plan

Beaufort County		
Washington	Aurora	Bath
Belhaven	Chocowinity	Pantego
Washington Park		
Carteret County		
Atlantic Beach	Beaufort	Bogue
Cape Carteret	Cedar Point	Emerald Isle
Indian Beach	Morehead City	Newport
Peletier	Pine Knoll Shores	
Craven County		
Havelock	New Bern	Bridgeton
Cove City	Dover	River Bend
Trent Woods	Vanceboro	
Pamlico County		
Alliance	Arapahoe	Bayboro
Grantsboro	Mesic	Minnesott Beach
Oriental	Stonewall	Vandemere

The Pamlico Sound Region followed the planning process prescribed by FEMA, and this plan was developed under the guidance of a HMPC comprised of representatives of County, City, and Town

departments; citizens; and other stakeholders. The HMPC conducted a risk assessment that identified and profiled hazards that pose a risk to the planning area, assessed the planning area's vulnerability to these hazards, and examined each participating jurisdiction's capabilities in place to mitigate them.

The plan evaluates and prioritizes hazards for the planning area using a Priority Risk Index, as determined through the risk and vulnerability assessments. Hazards are categorized as "low," "moderate," or "high" priority, however, mitigation strategies are identified for all profiled hazards. The hazards profiled in this plan are:

- Dam & Levee Failure
- Drought
- Earthquake
- Excessive Heat
- Flooding
- Hurricanes & Coastal Hazards
- Severe Winter Storm
- Tornadoes & Thunderstorms
- Wildfire
- Infectious Disease
- Cyber Threat

1.4 REFERENCES

The following FEMA guides and reference documents were used to prepare this document:

- FEMA 386-1: Getting Started. September 2002.
- FEMA 386-2: Understanding Your Risks: Identifying Hazards and Estimating Losses. August 2001.
- FEMA 386-3: Developing the Mitigation Plan. April 2003.
- FEMA 386-4: Bringing the Plan to Life. August 2003.
- FEMA 386-5: Using Benefit-Cost Review in Mitigation Planning. May 2007.
- FEMA 386-6: Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning. May 2005.
- FEMA 386-7: Integrating Manmade Hazards into Mitigation Planning. September 2003.
- FEMA 386-8: Multijurisdictional Mitigation Planning. August 2006.
- FEMA 386-9: Using the Hazard Mitigation Plan to Prepare Successful Mitigation Projects. August 2008.
- FEMA. Local Mitigation Planning Handbook. March 2013.
- FEMA. Local Mitigation Plan Review Guide. October 1, 2011.
- FEMA National Fire Incident Reporting System 5.0: Complete Reference Guide. January, 2008.
- FEMA Hazard Mitigation Assistance Unified Guidance. June 1, 2010.
- FEMA. Integrating Hazard Mitigation into Local Planning: Case Studies and Tools for Community Officials. March 1, 2013.
- FEMA. Mitigation Ideas. A Resource for Reducing Risk to Natural Hazards. January 2013.

Additional sources used in the development of this plan, including data compiled for the Hazard Identification and Risk Assessment, are listed in Appendix D.

1.5 PLAN ORGANIZATION

The Pamlico Sound Regional Hazard Mitigation Plan is organized into the following sections:

- Section 1: Introduction
- Section 2: Planning Process
- Section 3: Planning Area Profile
- Section 4: Hazard Identification & Risk Assessment
- Section 5: Capability Assessment
- Section 6: Mitigation Strategy
- Section 7: Mitigation Action Plans
- Section 8: Plan Implementation and Maintenance
- Section 9: Plan Adoption
- Appendix A: Local Plan Review Tool
- Appendix B: Planning Process Documentation
- Appendix C: Mitigation Alternatives
- Appendix D: References

2 PLANNING PROCESS

Requirement §201.6(b): An open public involvement process is essential to the development of an effective plan. To develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:
1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia, and other private and nonprofit interests to be involved in the planning process; and
3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.
Requirement §201.6(c)(1): The plan shall include the following:
1) Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

This section provides a review of the planning process followed for the development of the Pamlico Sound Regional Hazard Mitigation Plan. It consists of the following sub-sections:

- 2.1 Purpose and Vision
- 2.2 What's Changed in the Plan
- 2.3 Preparing the Plan
- 2.4 Hazard Mitigation Planning Committee
- 2.5 Meetings and Workshops
- 2.6 Involving the Public
- 2.7 Outreach Efforts
- 2.8 Involving the Stakeholders
- 2.9 Documentation of Plan Progress

2.1 PURPOSE AND VISION

As defined by FEMA, "hazard mitigation" means any sustained action taken to reduce or eliminate the long-term risk to life and property from a hazard event. Hazard mitigation planning is the process through which hazards are identified, likely impacts determined, mitigation goals set, and appropriate mitigation strategies determined, prioritized, and implemented.

The purpose of the Pamlico Sound Regional Hazard Mitigation Plan is to identify, assess, and mitigate hazard risk to better protect the people and property within the Region from the effects of natural and human-caused hazards. This plan documents progress on existing hazard mitigation planning efforts, updates the previous plan to reflect current conditions in the Region including relevant hazards and vulnerabilities, increases public education and awareness about the plan and planning process, maintains grant eligibility for participating jurisdictions, maintains compliance with state and federal requirements for local hazard mitigation plans, and identifies and outlines strategies the Region's participating jurisdictions will use to decrease vulnerability and increase resiliency.

During the development of the 2020 Pamlico Sound Regional Hazard Mitigation Plan, the Hazard Mitigation Planning Committee (HMPC) met to discuss their vision for the Region in terms of what the successful implementation of the plan would achieve, what outcomes the plan would generate, and what

the Region will look like in five years. This vision statement, presented below, remains relevant to define and guide the planning process for this plan update and the region's approach to hazard mitigation.

The vision of the Pamlico Sound Regional Hazard Mitigation Plan is to establish sound public policy to protect life, property, and the quality of the natural environment; to reduce risk and prevent loss from future hazard events.

2.2 WHAT'S CHANGED IN THE PLAN

This plan is an update to the 2020 Pamlico Sound Regional Hazard Mitigation Plan, which included participation from all jurisdictions involved in this plan update: Beaufort, Carteret, Craven, and Pamlico Counties. The previous plan was approved by FEMA on June 16, 2020.

This hazard mitigation plan update involved a comprehensive review and update of each section of the existing plan and an assessment of the success of the Counties and participating municipalities in evaluating, monitoring and implementing the mitigation strategy outlined in their existing plans. Only the information and data still valid from the existing plans was carried forward as applicable into this update. The following requirements were addressed during the development of this regional plan:

- Consider changes in vulnerability due to action implementation;
- Document success stories where mitigation efforts have proven effective;
- Document areas where mitigation actions were not effective;
- Document any new hazards that may arise or were previously overlooked;
- Incorporate new data or studies on hazards and risks;
- Incorporate new capabilities or changes in capabilities;
- Incorporate growth and development-related changes to inventories; and
- Incorporate new action recommendations or changes in action prioritization.

Section 4.2 provides a comparison of the hazards addressed in the 2023 State of North Carolina Hazard Mitigation Plan and the 2020 Pamlico Sound Regional Hazard Mitigation Plan and provides the final decision made by the HMPC as to which hazards should be included in this 2025 plan update.

In addition to the specific changes in hazard analyses identified in Section 4.2, the following items were also addressed in this 2025 plan update:

- GIS was used, to the extent data allowed, to analyze the priority hazards as part of the vulnerability assessment.
- Assets at risk to identified hazards were identified by property type and values of properties based on North Carolina Emergency Management's IRISK Database.
- A discussion on climate change and its projected effect on specific hazards was included in each hazard profile in the risk assessment.
- The discussion on growth and development trends was enhanced utilizing 2017 American Community Survey data.
- An effort was made to provide underserved communities and vulnerable populations with opportunities to participate in and contribute to the plan update process. Engagement opportunities were provided through the public survey, the plan website, and stakeholder coordination.

— Enhanced public outreach and agency coordination efforts were conducted throughout the plan update process in order to meet the more rigorous requirements of the 2017 CRS Coordinator's Manual, in addition to DMA requirements.

2.3 PREPARING THE PLAN

The planning process for preparing the Pamlico Sound Regional Hazard Mitigation Plan was based on DMA planning requirements and FEMA's associated guidance. This guidance is structured around a four-phase process:

1 Planning Process;
2 Risk Assessment;
3 Mitigation Strategy; and
4 Plan Maintenance.

Into this process, the planning consultant integrated a more detailed 10-step planning process used for FEMA's Community Rating System (CRS) and Flood Mitigation Assistance (FMA) programs. Thus, the modified 10-step process used for this plan meets the requirements of six major programs: FEMA's Hazard Mitigation Grant Program (HMGP); Building Resilient Infrastructure & Communities (BRIC) Program; CRS Program; FMA Program; Severe Repetitive Loss Program; and new flood control projects authorized by the U.S. Army Corps of Engineers.

Table 2.1 shows how the 10-step CRS planning process aligns with the four phases of hazard mitigation planning pursuant to the Disaster Mitigation Act of 2000.

Table 2.1 – Mitigation Planning and CRS 10-Step Process Reference Table

DMA Process	CRS Process
Phase I – Planning Process	
§201.6(c)(1)	Step 1. Organize to Prepare the Plan
§201.6(b)(1)	Step 2. Involve the Public
§201.6(b)(2) & (3)	Step 3. Coordinate
Phase II – Risk Assessment	
§201.6(c)(2)(i)	Step 4. Assess the Hazard
§201.6(c)(2)(ii) & (iii)	Step 5. Assess the Problem
Phase III – Mitigation Strategy	
§201.6(c)(3)(i)	Step 6. Set Goals
§201.6(c)(3)(ii)	Step 7. Review Possible Activities
§201.6(c)(3)(iii)	Step 8. Draft an Action Plan
Phase IV – Plan Maintenance	
§201.6(c)(5)	Step 9. Adopt the Plan
§201.6(c)(4)	Step 10. Implement, Evaluate and Revise the Plan

In addition to meeting DMA and CRS requirements, this plan also meets the recommended steps for developing a Community Wildfire Protection Plan (CWPP). Table 2.2 below outlines the recommended CWPP process and the CRS step and sections of this plan that meet each step.

Table 2.2 – Community Wildfire Protection Plan Process Reference

CWPP Process	CRS Step	Fulfilling Plan Section
Convene decision makers	Step 1	Section 2 – HMPC
Involve Federal agencies	Step 3	Section 2 – Involving Stakeholders

CWPP Process	CRS Step	Fulfilling Plan Section
Engage interested parties (such as community representatives)	Step 1, 2, and 3	Section 2 – HMPC, Involving the Public, Involving Stakeholders
Establish a community base map		Section 4 – Wildfire
Develop a community risk assessment, including fuel hazards, risk of wildfire occurrence, homes, business and essential infrastructure at risk, other community values at risk, local preparedness, and firefighting capability	Step 4 and 5	Section 4 – Wildfire Section 6 – Capability
Establish community hazard reduction priorities and recommendations to reduce structural ignitability	Step 6, 7, and 8	Section 6 – Mitigation Strategy Section 7 – Mitigation Action Plans
Develop an action plan and assessment strategy	Step 8 and 10	Section 7 – Mitigation Action Plans Section 8 – Plan Maintenance
Finalize the CWPP	Step 9	Section 9 – Plan Adoption

The process followed for the preparation of this plan, as outlined in Table 2.1 above, is as follows:

2.3.1 PHASE I – PLANNING PROCESS

Planning Step 1: Organize to Prepare the Plan

With the Region's commitment to participate in the DMA planning process, community officials worked to establish the framework and organization for development of the plan. An initial meeting was held with key community representatives to discuss the organizational aspects of the plan development process. The County Emergency Managers led the Region's effort to reorganize and coordinate for the plan update. Consultants from WSP and ESP assisted by leading the Region through the planning process and preparing the plan document.

Planning Step 2: Involve the Public

Public involvement in the development of the plan was sought using various methods, as detailed in Section 2.6.

Planning Step 3: Coordinate

The HMPC that was formed for the 2020 Pamlico Sound Regional Hazard Mitigation Plan was reconvened for this plan update. Membership was updated where necessary to ensure each community had adequate representation from staff and stakeholders. More details on the HMPC are provided in Section 2.4. Stakeholder coordination was incorporated into the formation of the HMPC and was sought through additional outreach methods. These efforts are detailed in Section 2.8 and documentation of additional stakeholder outreach is provided in Appendix B.

Coordination with Other Community Planning Efforts and Hazard Mitigation Activities

In addition to stakeholder involvement, coordination with other community planning efforts was also seen as paramount to the success of this plan. Mitigation planning involves identifying existing policies, tools, and actions that will reduce a community's risk and vulnerability to hazards. Communities in the Pamlico Sound Region use a variety of planning mechanisms, such as comprehensive plans, subdivision regulations, building codes, and ordinances to guide growth and development. Integrating existing planning efforts, mitigation policies, and action strategies into this plan establishes a credible and comprehensive plan that ties into and supports other community programs. As detailed in These and other documents were reviewed and considered, as appropriate, during the collection of data to support the planning process and plan development. Data from these sources was incorporated into the risk and

vulnerability assessment and was used in determining the capability of each jurisdiction to implement certain mitigation strategies. The Risk Assessment is presented in Section 4 and the Capability Assessment can be found in Section 5.

Table 2.3, the development of this plan incorporated information from existing plans, studies, reports, and initiatives as well as other relevant data from neighboring communities and other jurisdictions.

These and other documents were reviewed and considered, as appropriate, during the collection of data to support the planning process and plan development. Data from these sources was incorporated into the risk and vulnerability assessment and was used in determining the capability of each jurisdiction to implement certain mitigation strategies. The Risk Assessment is presented in Section 4 and the Capability Assessment can be found in Section 5.

Table 2.3 – Summary of Existing Studies and Plans Reviewed

Resource Referenced	Use in this Plan
Local Comprehensive Plans	Where available, each community's comprehensive plan was referenced to develop the Planning Area Profile in Section 3, with future land use maps and descriptions incorporated into community annexes. Local land use and comprehensive plans were also used to develop Mitigation Action Plans in Section 7 and were referenced in the Capability Assessment in Section 5.
Local Ordinances (Flood Damage Prevention Ordinances, Subdivision Ordinances, Zoning Ordinances, etc)	Local ordinances were referenced in the Capability Assessment in Section 5 and where applicable for updates or enforcement in Mitigation Action Plans in Section 7.
Flood Insurance Study Reports for Beaufort, Carteret, Craven, and Pamlico Counties and Incorporated Areas	FIS reports were referenced in the preparation of the flood hazard profile in Section 4.
Pamlico Sound Regional Hazard Mitigation Plan, 2020	The previous plan was referenced in compiling the Hazard Identification and Risk Assessment in Section 4 and in reporting on implementation status and developing the Mitigation Action Plans in Section 2 and Section 7, respectively.
Resilient Coastal Communities Program (RCCP) Resilience Strategies (Beaufort County, Aurora, Belhaven, Washington, Washington Park, Beaufort, Cape Carteret, Pine Knoll Shores, Craven County, Pamlico County, Vandemere)	These plans were referenced in the Capability Assessment in Section 5 and for development of the Mitigation Action Plans in Section 7.
Eastern Carolina Regional Resilience Portfolio; Mid-East Regional Resilience Portfolio	These plans were referenced in the Capability Assessment in Section 5 and for development of the Mitigation Action Plans in Section 7.
North Carolina State Hazard Mitigation Plan, 2023	The State plan was referenced in compiling the Hazard Identification and Risk Assessment in Section 4.

2.3.2 PHASE II – RISK ASSESSMENT

Planning Steps 4 and 5: Identify/Assess the Hazard and Assess the Problem

The HMPC completed a comprehensive effort to identify, document, and profile all hazards that have, or could have, an impact on the planning area. Geographic information systems (GIS) were used to display, analyze, and quantify hazards and vulnerabilities. A draft of the risk and vulnerability assessment was made available on the plan website for the HMPC, stakeholders, and the public to review and comment.

The HMPC also conducted a capability assessment to review and document the planning area's current capabilities to mitigate risk from and vulnerability to hazards. By collecting information about existing government programs, policies, regulations, ordinances, and emergency plans, the HMPC could assess those activities and measures already in place that contribute to mitigating some of the risks and vulnerabilities identified. A more detailed description of the risk assessment process and the results are included in Section 4 Risk Assessment.

2.3.3 PHASE III – MITIGATION STRATEGY

Planning Steps 6 and 7: Set Goals and Review Possible Activities

WSP facilitated a discussion with the HMPC to review and revise the planning goals and objectives and a comprehensive range of mitigation alternatives. The HMPC also discussed a method of selecting and defending recommended mitigation actions using a series of selection criteria. This information is included in Section 6 Mitigation Strategy.

Planning Step 8: Draft an Action Plan

A complete first draft of the plan was prepared based on input from the HMPC regarding the draft risk assessment and the goals and activities identified in Planning Steps 6 and 7. This draft was shared for HMPC, stakeholder, and public review and comment via the plan website. HMPC, public, and stakeholder comments were integrated into the final draft for NCEM and FEMA Region 4 to review and approve, contingent upon final adoption by all participating jurisdictions.

2.3.4 PHASE IV – PLAN MAINTENANCE

Planning Step 9: Adopt the Plan

To secure buy-in and officially implement the plan, the plan will be reviewed and adopted by all participating jurisdictions. Resolutions will be provided in Section 9.

Planning Step 10: Implement, Evaluate and Revise the Plan

Implementation and maintenance of the plan is critical to the overall success of hazard mitigation planning. Up to this point in the planning process, the HMPC's efforts have been directed at researching data, coordinating input from participating entities, and developing mitigation actions. Section 8 Plan Maintenance provides an overview of the strategy for plan implementation and maintenance and outlines the method and schedule for monitoring, updating, and evaluating the plan. The Section also discusses integrating the plan into existing planning mechanisms and how to continue public involvement.

2.4 HAZARD MITIGATION PLANNING COMMITTEE

This hazard mitigation plan was developed under the guidance of a planning committee comprising representatives of County, City, and Town departments, federal and state agencies, citizens, and stakeholders.

To form the HMPC, the County Emergency Managers coordinated with County, City, and Town officials to designate representatives for each jurisdiction. Each community was asked to designate a primary and secondary contact for the HMPC. Communities were also asked to identify local stakeholder representatives to participate on the HMPC alongside the local staff to improve the integration of stakeholder input into the plan. Table 2.4 lists the membership of the HMPC, the agencies and jurisdictions that members represented, and members' attendance at meetings. Many of these representatives were involved in the development of the 2020 Hazard Mitigation Plan and have since participated in regular plan reviews and maintenance. For this plan update, an effort was made to involve additional stakeholders who could represent or coordinate with underserved communities and vulnerable populations.

Table 2.4 – Hazard Mitigation Planning Committee

Jurisdiction	Representative	Agency	Position/Title or *Stakeholder	HMPC Meeting Attendance			
				Mtg.1	Mtg.2	Mtg.3	Mtg.4
Beaufort County	Chris Newkirk	Beaufort County Emergency Services	Emergency Services Director	✓			
Belhaven	Lynn Davis	Town of Belhaven Administration	Town Manager	✓	✓		✓
Belhaven	Ricky Credle	Town of Belhaven Administration	Mayor				
Belhaven	Myers Williams	N/A	Resident*				
Belhaven	Nelson Guy	N/A	Resident*				
Washington	Jonathan Russell	City of Washington Administration	City Manager		✓		
Washington	Mike Dail	Washington Community & Cultural Services Dept.	Director	✓			
Washington	Steve Fuchs	N/A	Resident*				
Washington	Donna Pittman	N/A	Resident*				
Washington Park	April Alligood	Town of Washington Park Administration	Town Clerk				✓
Washington Park	Thomas B. Richter	Town of Washington Park Administration	Mayor				
Washington Park	Seth Laughlin	N/A	Resident*				
Washington Park	Dylan Bowen	N/A	Resident*				
Carteret County	Gregg Hartman	Carteret County Planning Department	Assistant Planning Director	✓	✓		✓
Carteret County	Aaron Stryker	Carteret County Emergency Services Dept.	Emergency Services Emergency Management Coordinator		✓	✓	✓
Carteret County	John Rouse	N/A	Planning Board Member*	✓			
Carteret County	Drew Kennedy	N/A	Planning Board Member*	✓			
Atlantic Beach	Jennifer Ansell	Atlantic Beach Planning, Zoning, & Inspections Dept.	Planning and Development Director	✓			
Atlantic Beach	Elisabeth Webster	Atlantic Beach Planning, Zoning, & Inspections Dept.	Planner II	✓			✓
Atlantic Beach	Sharron Wilson	N/A	Planning Board Member/Citizen*	✓			
Atlantic Beach	Austin Waters	N/A	Resident*				
Beaufort	Michelle Eitner	Beaufort Planning & Inspections Dept.	Town Planner		✓	✓	✓
Beaufort	Jeremy Ganey	Beaufort Planning & Inspections Dept.	Zoning Manager			✓	
Beaufort	Sarah Spiegler	NC Sea Grant	Resident*	✓	✓		
Beaufort	Becky Bowler	N/A	Planning Board Member*				

Jurisdiction	Representative	Agency	Position/Title or *Stakeholder	HMPC Meeting Attendance			
				Mtg.1	Mtg.2	Mtg.3	Mtg.4
Bogue	Shawne Southard	Town of Bogue Administration	Town Clerk				✓
Cape Carteret	Julie Shambaugh	Cape Carteret Development Services	Town Planner	✓	✓		
Cape Carteret	Frank Rush	Town of Cape Carteret Administration	Town Manager				
Cedar Point	David Reif	Town of Cedar Point Administration	Town Manager	✓	✓		✓
Cedar Point	Alisha Dahart	Town of Cedar Point Code Enforcement	Code Enforcement Officer	✓	✓		✓
Cedar Point	Frankie Winberry	N/A	Citizen*		✓		
Emerald Isle	Chris Seaberg	Emerald Isle Planning & Inspections	Planning Director	✓	✓	✓	
Emerald Isle	Greg Hayes	Emerald Isle Planning & Inspections	Assistant Town Planner				
Indian Beach	Tim White	Town of Indian Beach Administration	Town Manager	✓	✓	✓	✓
Morehead City	Sandi Watkins	Morehead City Planning & Inspections	Planning & Inspections Director	✓	✓	✓	
Morehead City	Annie Bunnell	Morehead City Planning & Inspections	Planner	✓	✓	✓	✓
Morehead City	Diana Tootle	N/A	Vice-Chair MHC Planning Board*		✓	✓	
Morehead City	Bill Stompf	N/A	Vice-Chair MHC ZBA*	✓	✓		
Newport	John Nevel	Newport Planning & Inspections Dept.	Planning & Inspections Director	✓			
Newport	William Shanahan	Town of Newport Administration	Town Manager				
Pine Knoll Shores	Charlie Rocci	Pine Knoll Shores Planning & Inspections Dept.	Planning Administrator	✓	✓	✓	✓
Pine Knoll Shores	Jason Baker	Pine Knoll Shores Fire	Fire Chief	✓	✓	✓	
Pine Knoll Shores	Paul Payne	N/A	Citizen*	✓			
Pine Knoll Shores	Jimmie Beckom	N/A	Citizen*	✓			
Craven County	Chad Strawn	Craven County Planning Dept.	Planning Director	✓	✓	✓	
Craven County	Jason Frederick	Craven County Planning Dept.	Asst. Planning Director	✓		✓	✓
Craven County	Daniel Hill, Jr.	N/A	Planning Board Chairman*				
Craven County	Tom Lelli	N/A	Planning Board Vice-chairman*				
Bridgeton	William Howard	Bridgeton Planning & Zoning Dept	Zoning Administrator				✓
Havelock	Katrina Marshall	Havelock Planning & Inspections Dept.	Planning Director	✓		✓	
Havelock	Sue Steinhauser	Havelock Planning & Inspections Dept.	Code Enforcement Officer		✓	✓	
Havelock	Ernest Cutler, Sr.	N/A	Planning Board Chairman*	✓			
Havelock	Iris Wooliever	N/A	Planning Board Vice-chair*				
New Bern	Foster Hughes	City of New Bern Administration	City Manager		✓		
New Bern	Brenda E. Blanco	City of New Bern Administration	City Clerk				

Jurisdiction	Representative	Agency	Position/Title or *Stakeholder	HMPC Meeting Attendance			
				Mtg.1	Mtg.2	Mtg.3	Mtg.4
River Bend	John Kirkland	Town of River Bend Administration	Mayor	✓			
River Bend	Delane Jackson	Town of River Bend Administration	Town Manager	✓	✓	✓	✓
River Bend	Bob Edwards	N/A	Resident*	✓	✓	✓	✓
River Bend	Egon Lippert	N/A	Resident*		✓	✓	✓
Trent Woods	Mike Haber	Trent Woods Public Works	Maintenance Director			✓	
Pamlico County	Tim Buck	Pamlico County Administration	County Manager	✓			
Pamlico County	Beth Bucksot	Pamlico County Planning & Economic Development Dept.	Economic Development Director		✓		✓
Pamlico County	Marvella Jones	N/A	Citizen*				
Pamlico County	Paul Slobodian	N/A	Citizen*				
Alliance	Linda Marshall	Town of Alliance Administration	Town Clerk				✓
Alliance	Andy Grove	Town of Alliance Administration	Mayor				
Alliance	Kenny Riggs	N/A	Citizen*				
Alliance	Sherry Riggs	N/A	Citizen*				
Bayboro	Susan Kachur	Town of Bayboro Administration	City Clerk/Finance Officer				
Bayboro	Mark Howell	Town of Bayboro Administration	Maintenance Supervisor				
Bayboro	Joan Arnette	N/A	Citizen*				
Bayboro	Rebecca H. Ackiss	Hollowell & Hollowell	Office Manager/Legal Asst.*				
Grantsboro	Ray Lewis	Town of Grantsboro Administration	Town Clerk				✓
Mesic	Violette Ollison	Town of Mesic Administration	Mayor				
Minnesott Beach	Carolyn Braly	Town of Minnesott Beach Administration	Town Manager	✓			
Minnesott Beach	Denise Burns	Town of Minnesott Beach Administration	Town Clerk				
Minnesott Beach	Tim Fowler	N/A	Resident*				
Minnesott Beach	Wilfred DeMoranville	N/A	Resident*				
Oriental	Diane H. Miller	Town of Oriental Administration	Town Manager	✓		✓	
Oriental	Ann Rost	Town of Oriental Administration	Board of Adjustment Member	✓	✓		
Oriental	Bill Marlowe	N/A	Resident*	✓			
Oriental	Bill Kepp	N/A	Resident*	✓	✓	✓	
Oriental	Dan Allen	N/A	Resident*	✓			
Stonewall	Marie Spain	Town of Stonewall Administration	Town Clerk				✓[1]

Jurisdiction	Representative	Agency	Position/Title or *Stakeholder	HMPC Meeting Attendance			
				Mtg.1	Mtg.2	Mtg.3	Mtg.4
Stonewall	Charles Alexander	Town of Stonewall Administration	Mayor				
Stonewall	Jim Spain	N/A	Citizen*				
Stonewall	Irene Wright	N/A	Citizen*				
Vandemere	Judy Thaanum	Town of Vandemere Administration	Commissioner	✓			
Vandemere	Sue Britt	Town of Vandemere Administration	Town Clerk				
Vandemere	Will Sanderson	N/A	Citizen*	✓			
Vandemere	Scott Harvey	N/A	Citizen*	✓			
N/A	Chris Crew	NCEM	Mitigation Plans Manager*	✓		✓	✓
N/A	John Mello	NCEM	Mitigation Planner*			✓	✓
N/A	Carl Baker	NCEM	Mitigation Planner*		✓		
N/A	Greg Hardee	NCEM	Area 3 Coordinator*				
N/A	Charles Tripp	NCEM	Area 2 Coordinator*	✓			
N/A	Dianne Curtis	NCEM	Eastern Branch Manager*				
N/A	Brad Connell	NCDEQ	NC Blueprint*			✓	✓
N/A	Chris Dreps	NCDEQ	NC Blueprint*			✓	✓
N/A	Holly White	NCORR	Resilience Planner*			✓	
N/A	Helene Weatherington	NCORR	Resilient Communities Specialist*			✓	

*Asterisk indicates that the representative is a citizen or outside stakeholder not affiliated with the local government

[1]Attended the public meetings in lieu of the HMPC meeting

Several of the jurisdictions elected to designate their respective county official to represent their jurisdiction on the HMPC, generally because they did not have the time or staff to be able to attend on their own. Although these members designated county officials to represent them at in-person meetings, each was still contacted throughout the planning process and participated by providing suggestions and comments on the plan and updates to mitigation actions and local capabilities via emails and phone conversations. These members are listed in Table 2.5 by jurisdiction.

Table 2.5 – Jurisdictions Designating County Representation on the HMPC

Jurisdiction	Representative	Agency/Position
Aurora	Clif Williams	Town of Aurora Administration, Mayor
Bath	Elna Lewis	Town of Bath Administration, Town Clerk
Chocowinity	James H. Mobley Jr.	Town of Chocowinity Administration, Mayor
Pantego	Chad Keech	Town of Pantego Administration, Commissioner
Peletier	Dale Sowers	Town of Peletier Administration, Mayor
Cove City	Dred C. Mitchell, Jr.	Town of Cove City Administration, Mayor
Dover	Randy Mitchell	Town of Dover Administration, Mayor
Vanceboro	Beverly Drake	Town of Vanceboro Administration, Town Clerk
Arapahoe	David Peterson	Town of Arapahoe Administration, Town Clerk/Finance Officer
Bayboro	Susan Kachur	Town of Bayboro Administration, City Clerk/Finance Officer
Mesic	Violette Ollison	Town of Mesic Administration, Mayor

The HMPC led the planning and decision-making efforts throughout the planning process; however, other staff from the participating communities were involved in an advisory role to provide input and local data, review plan drafts, update the status of their respective mitigation actions, and otherwise support the HMPC in this plan update. These were not members of the HMPC. Additional local staff that supported the HMPC are recognized in Table 2.6 below.

Table 2.6 – Additional Staff Supporting the Planning Process

Jurisdiction	Representative	Agency	Position/Title
Beaufort County	Brian M. Alligood	Beaufort County Manager's Office	County Manager
Beaufort County	Melissa Beacham	Beaufort County Emergency Services	Emergency Management Specialist
Beaufort County	DC Linton	Beaufort County Emergency Services	Operations Chief of Fire/EM
Aurora	Jeff Peed	Town of Aurora Administration	Commissioner
Bath	James G. Latham	Town of Bath Administration	Mayor
Bath	Bubs Carson	Town of Bath Administration	Town Manager
Belhaven	Gloria Rogers	Town of Belhaven Administration	Town Clerk
Cedar Point	Jayne Beyer	Town of Cedar Point Administration	Town Clerk
Chocowinity	Kevin Brickhouse	Chocowinity Public Works Dept.	Director
Chocowinity	Ralph Whitehurst	Town of Chocowinity Administration	Chief/Town Manager
Pantego	Bobbi Jo Ricks	Town of Pantego Administration	Town Clerk
Washington	Brett Burbage	Washington Development Services Dept.	Sr. Building Inspector
Washington Park	Wade Dale	Town of Washington Park Administration	Commissioner
Carteret County	Stephen Rea	Carteret County Emergency Services Dept.	Emergency Services Director

Jurisdiction	Representative	Agency	Position/Title
Carteret County	Cole Barrow	Carteret County Planning Department	Planning & Development Planner
Beaufort	Kyle Garner	Beaufort Planning & Inspections Dept.	Planning Director
Bogue	Robert O'Chat	Town of Bogue Administration	Mayor
Indian Beach	Stephanie Corman	Town of Indian Beach Administration	Town Clerk
Pine Knoll Shores	Julie Anderson	Town of Pine Knoll Shores Administration	Town Manager
Craven County	Donnie Lavelle	Craven County Planning Dept.	Planner II
Craven County	William Flynn	Craven County Planning Dept.	Planner I
Bridgeton	William Howard	Bridgeton Planning and Zoning Dept.	Zoning Administrator
Bridgeton	Tonya Bell	Town of Bridgeton Administration	Town Clerk
Cove City	Lydia Parker Monette	Town of Cove City Administration	Town Clerk
Dover	Diane Pike	Town of Dover Administration	Town Clerk
Trent Woods	Holly Willis	Town of Trent Woods Administration	Town Clerk
Vanceboro	Brittany Mumford	Town of Vanceboro Administration	Asst. Town Clerk
Pamlico County	Mark Brewington	Pamlico County Administration	Assistant County Manager
Pamlico County	Melanie Dixon	Pamlico County Health Department	Health Director
Pamlico County	Jake Brown	Pamlico County Planning & Economic Development Dept.	Planner
Pamlico County	Autumn Hardison	Pamlico County Emergency Mgmt	Operations Assistant
Grantsboro	Ray Poole	Town of Grantsboro Administration	Town Council Member
Minnesott Beach	Carol DeMoranville	Town of Minnesott Beach Administration	Mayor

The formal HMPC meetings followed the CRS 10-step planning process. Agendas, minutes, and sign-in sheets for the HMPC meetings are provided in Appendix B. The meeting dates and topics discussed are summarized in Section 2.5 Meetings and Workshops. All HMPC meetings were open to the public.

The DMA planning regulations and guidance stress that each local government seeking FEMA approval of their mitigation plan must participate in the planning effort in the following ways:

- Participate in the process as part of the HMPC;
- Detail where within the planning area the risk differs from that facing the entire area;
- Identify potential mitigation actions; and
- Formally adopt the plan.

For the Pamlico Sound Regional HMPC, "participation" meant the following:

- Providing facilities for meetings;
- Attending and participating in the HMPC meetings;
- Collecting and providing requested data (as available);
- Managing administrative details;
- Making decisions on plan process and content;
- Identifying mitigation actions for the plan;
- Reviewing and providing comments on plan drafts;

- Informing the public, local officials, and other interested parties about the planning process and providing opportunity for them to comment on the plan;
- Coordinating, and participating in the public input process; and
- Coordinating the formal adoption of the plan by local governing bodies.

Detailed summaries of HMPC meetings are provided under Section 2.5 Meetings and Workshops, including meeting dates, locations, and topics discussed. During the planning process, the HMPC members communicated through face-to-face meetings, email, and telephone conversations. This continued communication ensured that coordination was ongoing throughout the entire planning process even though not all HMPC members could be present at every meeting. Additionally, draft documents were distributed via the plan website so that the HMPC members could easily access and review them and provide comments.

2.5 MEETINGS AND WORKSHOPS

The preparation of this plan required a series of meetings and workshops for facilitating discussion, gaining consensus, and initiating data collection efforts with local government staff, community officials, and other identified stakeholders. More importantly, the meetings and workshops prompted continuous input and feedback from relevant participants throughout the drafting stages of the plan.

Table 2.7 summarizes the key meetings and workshops held by the HMPC during the development of the plan. In many cases, routine discussions and additional meetings were held by local staff to accomplish planning tasks specific to their department or agency. For example, completing the Local Capability Self-Assessment or seeking approval of specific mitigation actions for their department or agency to undertake and include in their Mitigation Action Plan. These meetings were informal and are not documented here.

Public meetings are summarized in subsection 2.6.

Table 2.7 – Summary of HMPC Meetings

Meeting Title	Meeting Topic	Meeting Date	Meeting Location
HMPC Mtg. #1 – Project Kickoff	1) Introduction to DMA and CRS requirements and the planning process 2) Review of HMPC responsibilities and the project schedule	June 12, 2024	Craven County Cooperative Extension Building, 300 Industrial Dr, New Bern NC 28562 & Microsoft Teams
HMPC Mtg. #2	1) Review the draft Hazard Identification & Risk Assessment 2) Discuss updates to local capabilities 3) Review problem statements and mitigation action ideas	October 29, 2024	Crystal Coast Civic Center, 3505 Arendell Street, Morehead City, NC 28557 & Microsoft Teams
HMPC Mtg. #3	1) Review draft goals and objectives 2) Review mitigation alternatives and draft mitigation strategies	December 4, 2024	Microsoft Teams
HMPC Mtg. #4	1) Review the draft Hazard Mitigation Plan 2) Solicit comments and feedback	January 28, 2025	Microsoft Teams

2.6 INVOLVING THE PUBLIC

An important component of any mitigation planning process is public participation. Individual citizen and community-based input provides the entire planning team with a greater understanding of local concerns and increases the likelihood of successfully implementing mitigation actions by developing community "buy-in" from those directly affected by the decisions of public officials. As citizens become more involved in decisions that affect their safety, they are more likely to gain a greater appreciation of the hazards present in their community and take the steps necessary to reduce their impact. Public awareness is a key component of any community's overall mitigation strategy aimed at making a home, neighborhood, school, business, or entire planning area safer from the potential effects of hazards.

Public involvement in the development of the plan was sought using various methods including open public meetings, an interactive plan website, a public participation survey, and by making copies of draft plan documents available for public review online and at government offices. Additionally, all HMPC meetings were made open to the public.

All public meetings were advertised on the plan website, which was shared on local community websites, and on local community websites, where possible. Copies of meeting announcements are provided in Appendix B. The public meetings held during the planning process are summarized in Table 2.8.

Table 2.8 – Summary of Public Meetings

Meeting Title	Meeting Topic	Meeting Date	Meeting Location
Public Meeting #1	1) Introduction to the planning process and project schedule 2) Explanation of mitigation 3) Review of hazard identification	August 27, 2024 6pm	Microsoft Teams
Public Meeting #2	1) Review draft Hazard Mitigation Plan 2) Solicit comments and feedback	January 28, 2025 6pm	Microsoft Teams

2.7 OUTREACH EFFORTS

The HMPC agreed to employ a variety of public outreach methods including established public information mechanisms and resources within the community. Table 2.9 below details public outreach efforts employed during the preparation of this plan.

Table 2.9 – Public Outreach Efforts

Location	Date	Event/Message
Plan website	Ongoing	Meeting announcements, meeting materials, planning resources, and contact information provided to request additional information and/or provide comments
Community websites & social media pages & email newsletter	June – August 2024	Link to the plan website and survey shared to expand reach
Community websites & social media pages	August 2024	Announcements and invitations to attend public meeting #1
Public survey	June – December 2024	Survey hosted online and made available via shareable link

Location	Date	Event/Message
Plan website – HIRA draft	October 2024	Draft HIRA made available for review and comment online
Plan website – Draft Plan	January 2025	Full draft plan made available for review and comment online

Public involvement activities for this plan update included press releases, creation of a website for the plan, a public survey, and the collection of public and stakeholder comments on the draft plan.

A public outreach survey was made available in June 2024 and remained open for response until January 2025. The public survey requested public input on the planning process, risk perception, and the identification of mitigation activities to lessen the impact of future hazard events. The survey is shown in Appendix B. The survey was available online on the plan website and in hard copy. In total, 558 survey responses were received. The following is a list of high-level summary results and analysis derived from survey responses:

- 31% of responses were from residents of Carteret County, 30% were from Pamlico County, 22 were from Craven County, and 12% were from Beaufort County. About 5% of respondents live outside the region but work or recreate in the region.
- 59% of respondents have experienced or been impacted by a hazard or disaster event in the Pamlico Sound region. Of these responses, 72% reference experiences related to hurricanes.
- Concern about the possibility of future hazard events is high. 44% of respondents rated their concern about future hazard impacts in their community at a 5 out of 5. Another 32% rated their concern at 4 out of 5.
- Earthquake and winter storm were largely rated as no risk or low risk to the region. Hurricane, flood, severe weather, extreme heat, and coastal hazards were largely rated as high risk or moderate risk to the region.
- 44% of respondents say their home is located in a floodplain, but 60% indicate they have flood insurance for their home and/or property.
- 61% of respondents report taking actions to protect their home or neighborhood from hazards. Common responses include tree maintenance, generators, hurricane shutters, elevating the house, and on-site drainage work.
- 56% of respondents do not know where to get more information about hazard risk and ways to reduce vulnerability.
- Suggested mitigation measures for local governments to undertake included stormwater improvements, drainage maintenance, tree trimming, development and buildings restrictions and standards, infrastructure protection, and communication of hazard risks and preparedness and response resources.
- Respondents favored emergency services and prevention projects for mitigation.

A complete summary of survey results is provided in Appendix B.

2.8 INVOLVING THE STAKEHOLDERS

In addition to representatives of each participating jurisdiction, the HMPC included a variety of stakeholders so that the committee would involve a variety of perspectives. Some residents and stakeholders were able to represent underserved communities and vulnerable populations. Stakeholders on the HMPC included residents, planning board members, among others. Representatives from North Carolina Emergency Management also attended HMPC meetings. Input from additional stakeholders, including neighboring communities, was solicited through invitation to the public meetings and distribution of the public survey. However, if any additional stakeholders representing other agencies and

organizations participated through the public survey, that information is unknown due to the anonymous nature of the survey.

2.9 DOCUMENTATION OF PLAN PROGRESS

Progress on the mitigation strategy developed in the previous plan is documented in this plan update. Table 2.10 below details the status of mitigation actions from the previous plan for each participating jurisdiction. It should be noted that most mitigation actions are multi-jurisdictional and implementation is led at the county level with local support. More detail on actions being carried forward is provided in Section 7: Mitigation Action Plans.

Table 2.10 – Status of Previous Mitigation Actions

Jurisdiction	Completed	Deleted	Carried Forward
Beaufort County	**0**	**0**	**27**
Town of Aurora	0	0	27
Town of Bath	0	0	27
Town of Belhaven	0	0	26
Town of Chocowinity	0	0	27
Town of Pantego	0	0	27
City of Washington	0	0	26
Town of Washington Park	0	0	26
Carteret County	**3**	**0**	**21**
Town of Atlantic Beach	3	0	20
Town of Beaufort	3	0	21
Town of Bogue	3	0	20
Town of Cape Carteret	3	0	20
Town of Cedar Point	3	0	20
Town of Emerald Isle	3	0	20
Town of Indian Beach	3	0	20
Town of Morehead City	3	0	21
Town of Newport	3	0	20
Town of Peletier	3	0	20
Town of Pine Knoll Shores	3	0	20
Craven County	**0**	**0**	**21**
Town of Bridgeton	0	0	17
Town of Cove City	0	0	17
Town of Dover	0	0	16
City of Havelock	0	0	20
City of New Bern	0	0	20
Town of River Bend	0	0	20
Town of Trent Woods	0	0	18
Town of Vanceboro	0	0	17
Pamlico County	**0**	**0**	**14**
Town of Alliance	0	0	14
Town of Arapahoe	0	0	14
Town of Bayboro	0	0	14
Town of Grantsboro	0	0	14

Jurisdiction	Completed	Deleted	Carried Forward
Town of Mesic	0	0	14
Town of Minnesott Beach	0	0	14
Town of Oriental	0	0	18
Town of Stonewall	0	0	14
Town of Vandemere	0	0	14
Counties Total	**3**	**0**	**69**

Table 2.11 on the following pages details all completed and deleted actions from the 2020 plan.

It should be noted that although many communities have no completed actions removed from their mitigation action plans, this does not convey that mitigation has not been completed. Many actions have been carried forward into this plan update that reflect ongoing implementation and progress achieved or that incorporate revisions to address new priorities. See Section 7: Mitigation Action Plans for status updates on carried forward mitigation actions.

Community capability continues to improve with the implementation of new plans, policies, and programs that help to promote hazard mitigation at the local level. The current state of local capabilities for the participating jurisdictions is captured in Section 5: Capability Assessment. The participating jurisdictions continue to demonstrate their commitment to hazard mitigation and have proven this by reconvening the HMPC to update this multi-jurisdictional plan and by continuing to involve the public in the hazard mitigation planning process.

Moving forward, information in this plan will be used to help guide and coordinate mitigation activities and decisions for local plans and policies in the future. Proactive mitigation planning will help reduce the cost of disaster response and recovery to communities and their residents by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruptions. This plan identifies activities that can be undertaken by both the public and the private sectors to reduce safety hazards, health hazards, and property damage.

Table 2.11 – Completed and Deleted Actions from the 2020 Pamlico Sound Regional Hazard Mitigation Plan

2020 Action #	Jurisdictions	Description	2024 Status	Status Comments/Explanation
Beaufort County				
n/a	*n/a*	*n/a*	*n/a*	*Beaufort County and its incorporated communities do not have any completed or deleted actions from the 2020 plan.*
Carteret County				
CA1	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Address the sheltering needs of County residents. Continue to work on improving the preparedness of all existing shelter facilities, including the installation of on-site generators at all shelter locations. Maintain updated information regarding all shelters on the County website. Continue support of the NC Coastal Region Evacuation and Sheltering (CRES) plan aimed at providing inland sheltering resources for coastal counties and preparation and adoption of a county sheltering plan.	Completed	Completed in April 2024. Next review will occur in 2026. Carteret County Emergency Services continues to work towards improving emergency shelters and updates to the state CRES plan. A list of shelters is maintained on the County website. Beaufort maintains shelter information on the Town's website. Pine Knoll Shores Emergency Services coordinates with Carteret County Emergency Management in complying with CRES plan.

2020 Action #	Jurisdictions	Description	2024 Status	Status Comments/Explanation
CA2	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Provide information regarding evacuation procedures and routes through County and municipal websites, and other methods when feasible. These efforts will involve assisting the Towns of Atlantic Beach, Cape Carteret, Indian Beach, Morehead City, and Pine Knoll Shores with efforts relating to bridge closures and re-entry policies and procedures. As part of these efforts, the County will make handouts available for citizens and visitors outlining evacuation routes and procedures provide education and outreach for implementation of the Know Your Zone initiative.	Completed	The County maintains up to date evacuation route information on the County website and has educational materials for the Know Your Zone initiative and coordination of re-entry procedures. Beaufort maintains evacuation information on the Hurricane Preparedness/ Flood Information website and provides emergency alerts for evacuation information. Pine Knoll Shores maintains up to date evacuation route information in tandem with County website. Evacuation procedures are covered in the annual hurricane preparedness seminar and distributed on the town email list and social media.
CA12	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Maintain reciprocal mutual aid agreements with all neighboring communities in an effort to ensure adequate fire protection throughout the County. Additionally, all jurisdictions will provide preventive maintenance efforts to ensure the fire hydrants and equipment are working properly.	Completed	Completed with the State Wide Mutual Aid Agreement with NC Emergency Management. Cedar Point participates in the statewide agreement. Pine Knoll Shores maintain mutual aid agreements with neighboring communities and update them annually. Beaufort maintains applicable mutual aid agreements and conducts required hydrant and equipment testing.

2020 Action #	Jurisdictions	Description	2024 Status	Status Comments/Explanation
Craven County				
n/a	*n/a*	*n/a*	*n/a*	*Craven County and its incorporated communities do not have any completed or deleted actions from the 2020 plan.*
Pamlico County				
n/a	*n/a*	*n/a*	*n/a*	*Pamlico County and its incorporated communities do not have any completed or deleted actions from the 2020 plan.*

3 PLANNING AREA PROFILE

This section provides an overview of the current conditions and characteristics of the Pamlico Sound Region. As Beaufort, Carteret, Craven, and Pamlico Counties collectively comprise the Pamlico Sound Region, general information such as geography and climate are discussed at the regional scale, while more detailed information is provided for each county and participating municipal jurisdiction. The section is organized into the following sub-sections:

3.1 Regional Characteristics
3.2 Beaufort County
3.3 Carteret County
3.4 Craven County
3.5 Pamlico County

The regional characteristics section discusses the Region's overall location within North Carolina, as well as significant geographic, transportation, and geologic features. It also provides an overview of average annual climactic conditions, documents the presence of mapped wetlands located throughout each of the participating county jurisdictions, and outlines the presence of threatened and endangered species.

Each of the county profiles contains the following information: an overview of each county's hydrology, a discussion of parks and open space; demographic data for all participating jurisdictions including population counts, racial composition, housing characteristics, and employment and industry statistics; a list of all properties in each participating jurisdiction that are on the National Register of Historic Places; and an overview of land use and development trends in each participating jurisdiction.

3.1 REGIONAL CHARACTERISTICS

3.1.1 GEOGRAPHY

The Pamlico Sound Region is in eastern North Carolina's Coastal Plain, as shown in Figure 3.1. The Coastal Plain forms the eastern edge of North Carolina, making up about 45% of the state's total land area. It is bounded on the east by the Atlantic Ocean and on the west by the Fall Line, a broad zone where the soft rocks of the Coastal Plain meet the hard crystalline rocks of the Piedmont. The Coastal Plain varies in width from 100 to 140 miles. It rises gently in elevation to the west, from about sea level at the coast to as much as 500 feet in the Sand Hills district.

An abundance of watercourses surround the area, with the Pamlico and Pungo Rivers in Beaufort County and the Neuse River between Craven and Pamlico County. Additionally, there are abundant fishing grounds located within the Atlantic Ocean adjacent to Carteret County. The area is also rich in wildlife refuges, with the Cedar Island National Wildlife Refuge located in Carteret County. The area's countryside is enhanced by streams and brooks, natural lakes and ponds, and swampy woodlands.

The North Carolina Railroad, Norfolk-Southern, and Carolina Coastal Railways run through Beaufort, Carteret, and Craven Counties. Roadway transportation for the area is provided by US Route 17 (running in a north-south direction), 70 and 264 (east-west), and State Highways 24, 32, 33, 43, 45, 55, 58, 92, 94, 99, 304, and 306. General aviation airports in the area include Warren Field in Washington, NC, and the Michael J. Smith Field in Beaufort, NC. Air carrier service is provided by Coastal Carolina Regional

Airport in New Bern. The region is also home to two military airfields: Marine Corps Air Station Cherry Point in Havelock and Marine Corps Auxiliary Landing Field Bogue on Bogue Sound.

The Pamlico Sound Region comprises 3,628 square miles of total area, 2,384 square miles of land area, and 1,245 square miles of water, as detailed by participating jurisdiction in Table 3.1.

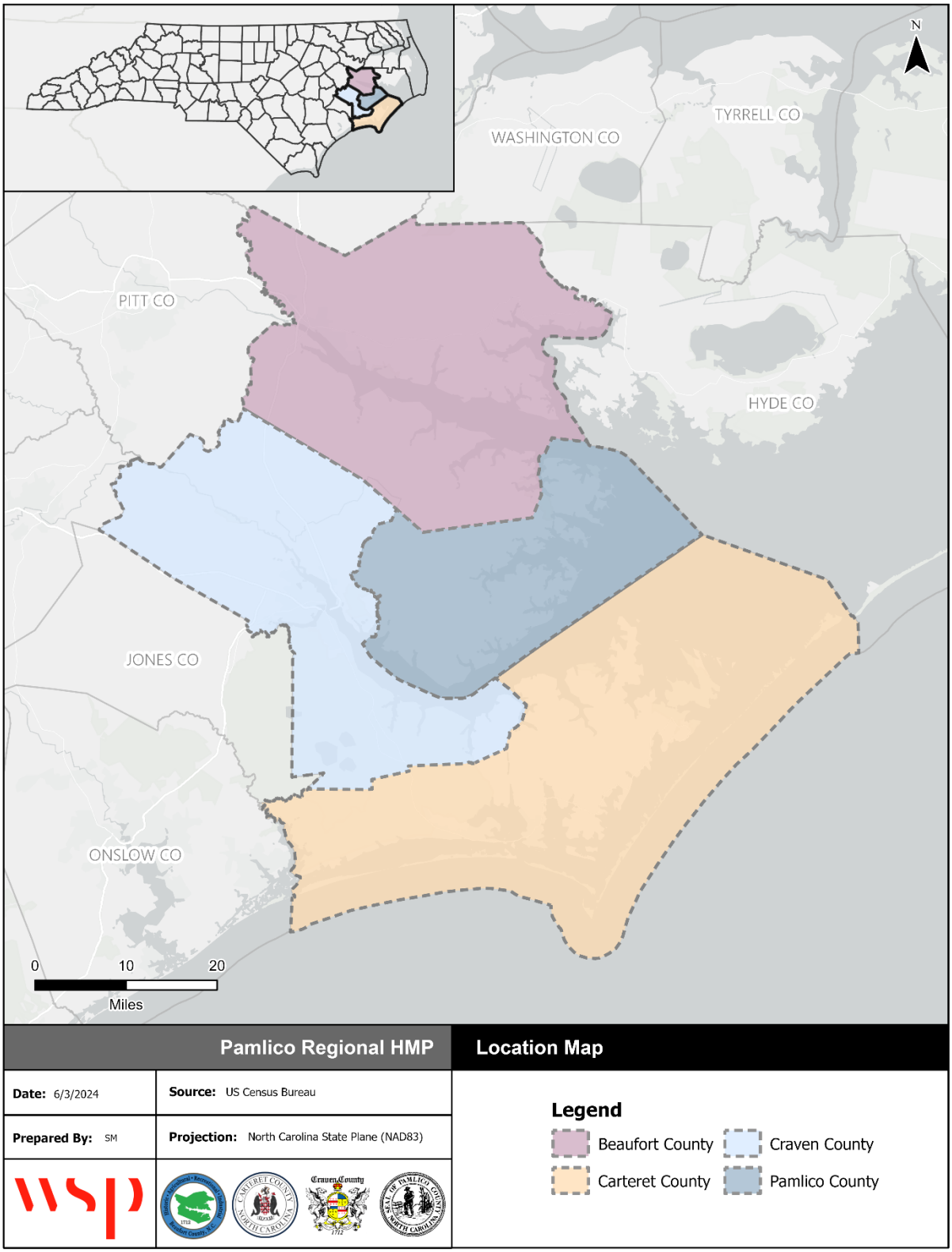
Table 3.1 - Pamlico Sound Region Total Land Area

Jurisdiction	Total Area (sq mi)	Land Area (sq mi)	Water Area (sq mi)
Beaufort County	**962.9**	**832.8**	**130.1**
Aurora	1.0	0.9	0.1
Bath	0.9	0.4	0.6
Belhaven	2.1	1.6	0.5
Chocowinity	1.0	1.0	-
Pantego	0.8	0.8	-
Washington	9.0	8.2	0.8
Washington Park	0.3	0.3	-
Unincorporated Area	947.7	819.6	128.1
Carteret County	**1,330.4**	**507.6**	**822.8**
Atlantic Beach	2.7	2.3	0.4
Beaufort	7.8	5.1	2.8
Bogue	3.0	2.8	0.2
Cape Carteret	2.7	2.5	0.2
Cedar Point	2.3	2.2	0.1
Emerald Isle	5.1	5.0	0.1
Indian Beach	1.5	0.6	0.9
Morehead City	10.6	7.4	3.2
Newport	7.8	7.7	0.1
Peletier	3.7	3.6	0.1
Pine Knoll Shores	2.5	2.2	0.3
Unincorporated Area	1,280.8	466.2	814.6
Craven County	**773.3**	**706.6**	**66.7**
Bridgeton	2.1	2.1	-
Cove City	0.6	0.6	-
Dover	1.0	1.0	-
Havelock	17.6	16.8	0.8
New Bern	29.7	28.4	1.4
River Bend	2.8	2.5	0.2
Trent Woods	3.4	2.9	0.5
Vanceboro	1.7	1.7	-
Unincorporated Area	714.4	650.6	63.8
Pamlico County	**561.6**	**336.5**	**225.1**
Alliance	2.0	2.0	-
Arapahoe	2.2	2.2	-
Bayboro	1.9	1.9	-
Grantsboro	3.9	3.9	-
Mesic	1.1	1.0	0.1
Minnesott Beach	3.6	3.5	0.1
Oriental	1.6	1.4	0.2

Jurisdiction	Total Area (sq mi)	Land Area (sq mi)	Water Area (sq mi)
Stonewall	2.0	1.7	0.3
Vandemere	1.6	1.5	0.1
Unincorporated Area	541.7	317.4	224.3

Source: NC OSBM Municipal and Non-Municipal Land Area as of 2023; County Profiles – Wikipedia as of 2022

Figure 3.1 – Pamlico Sound Region Location Map



Source: U.S. Census Bureau

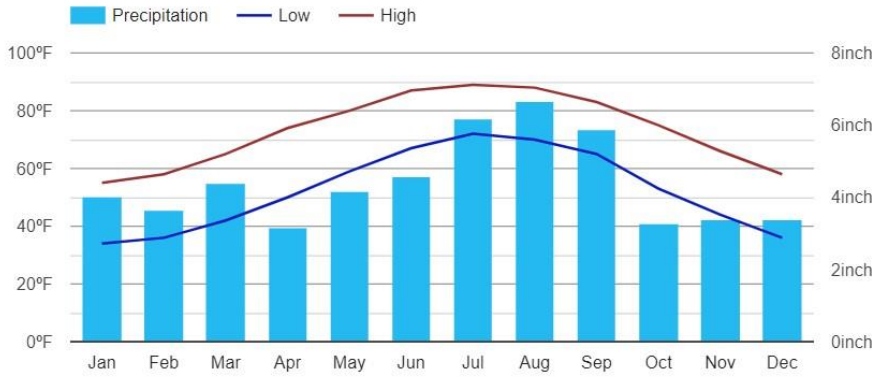
3.1.2 CLIMATE

The Pamlico Sound Region is hot and humid in summer, but the coast is frequently cooled by sea breezes. Winter is cool with occasional brief cold spells. Afternoon thunderstorms are the main form of precipitation during the summer, with most summer precipitation occurring in July and August. Precipitation is generally adequate for all crops, and the region benefits by a lengthy growing season.

The average annual temperature is 66.1˚F, the average maximum temperature is 71.5˚F, and the average minimum temperature is 51.2˚F. In winter, the average minimum temperature is 39.5˚F. In summer, the average maximum temperature is 86.8˚F. Rainfall is usually well distributed throughout the year, with a peak in July through September and an average annual precipitation of 55.32 inches.

Figure 3.2 shows the average monthly temperature and precipitation for a New Bern weather station, which approximates temperature and precipitation of the Region.

Figure 3.2 – Average Monthly Precipitation



Source: NOAA

3.1.3 NATURAL RESOURCES

WETLANDS

According to data from the U.S. Fish and Wildlife Service's National Wetlands Inventory, there are approximately 555,559 acres of wetlands in the Region. Wetlands areas are shown by type in each county's annex. Table 3.2 provides a summary of wetland coverage within each County.

Table 3.2 – Pamlico Sound Region Wetlands Acreage

County	Wetland Acreage	% of Total County Acreage
Beaufort County	112,242	18.2%
Craven County	177,350	35.8%
Carteret County	166,406	19.5%
Pamlico County	99,651	27.7%
Total	**555,559**	--

Source: U.S. Fish & Wildlife Service, National Wetlands Inventory

Natural and Beneficial Wetland Functions: The benefits of wetlands are hard to overestimate. They provide critical habitat for many plant and animal species that could not survive in other habitats. They are also critical for water management as they absorb and store vast quantities of storm water, helping

reduce floods and recharge aquifers. Not only do wetlands store water like sponges, they also filter and clean water as well, absorbing toxins and other pollutants.

THREATENED AND ENDANGERED SPECIES

The U.S. Fish and Wildlife Service maintains a regular listing of threatened species, endangered species, species of concern, and candidate species for counties across the United States. The Pamlico Region has 28 species that are listed with the U.S. Fish and Wildlife Services. **Table 3.3** below lists the species identified as threatened, endangered, or other classification.

Table 3.3 – Pamlico Sound Region Threatened and Endangered Species

Group	Common Name	Scientific Name	Federal Status	Counties Identified
Amphibians	Neuse River Waterdog	Necturus Lewisi	Threatened	B, Cr
Birds	Red-Cockaded Woodpecker	Picoides Borealis	Threatened	B, Ca, Cr, P
Birds	Rufa Red Knot	Calidris Canutus Rufa	Threatened	B, Ca, Cr, P
Birds	Piping Plover	Charadrius Melodus	Threatened	B, Ca, Cr, P
Birds	Roseate Tern	Sterna Dougallii Dougallii	Endangered	Ca
Birds	Eastern Black Rail	Laterallus Jamaicensis ssp. Jamaicensis	Threatened	B, Ca, Cr, P
Birds	Black Rail	Laterallus Jamaicensis	Species of Concern	Ca, Cr, P
Clams	Tar River Spinymussel	Elliptio Steinstansana	Endangered	B
Clams	Dwarf Wedgemussel	Alasmidonta Heterodon	Endangered	B, Cr
Clams	Atlantic Pigtoe	Fusconaia Masoni	Threatened	B
Fishes	Carolina Madtom	Noturus Furiosus	Endangered	Cr
Fishes	Shortnose Sturgeon	Acipenser Brevirostrum	Endangered	B, Ca, Cr, P
Flowering Plants	Sensitive Joint-Vetch	Aeschynomene Virginica	Threatened	B, Ca, Cr, P
Flowering Plants	Seabeach Amaranth	Amaranthus Pumilus	Threatened	Ca
Flowering Plants	Rough-Leaved Loosestrife	Lysimachia Asperulaefolia	Endangered	B, Ca, Cr, P
Flowering Plants	Pondberry	Lindera Melissifolia	Endangered	Ca
Insects	Monarch Butterfly	Danaus Plexippus	Proposed Threatened	B, Ca, Cr, P
Mammals	West Indian Manatee	Trichechus Manatus	Threatened	B, Ca, Cr, P
Mammals	Red Wolf	Canis Rufus	Endangered	B, Ca, Cr, P
Mammals	Northern Long-Eared Bat	Myotis Septentrionalis	Endangered	B, Ca, Cr
Mammals	Tricolored Bat	Perimyotis Subflavus	Proposed Endangered	B, Ca, Cr, P
Mammals	Little Brown Bat	Myotis Lucifugus	Under Review	B, Ca, Cr, P
Reptiles	American Alligator	Alligator Mississippiensis	Similarity of Appearance (Threatened)	B, Ca, Cr, P
Reptiles	Hawksbill Sea Turtle	Eretmochelys Imbricata	Endangered	B, Ca, P
Reptiles	Leatherback Sea Turtle	Dermochelys Coriacea	Endangered	B, Ca, Cr, P
Reptiles	Loggerhead Sea Turtle	Caretta Caretta	Threatened	Ca
Reptiles	Kemp's Ridley Sea Turtle	Lepidochelys Kempii	Endangered	B, Ca, Cr, P
Reptiles	Green Sea Turtle	Chelonia Mydas	Threatened	B, Ca, Cr, P

Source: U.S. Fish & Wildlife Service

Note: B = Beaufort, Ca = Carteret, Cr = Craven, P = Pamlico

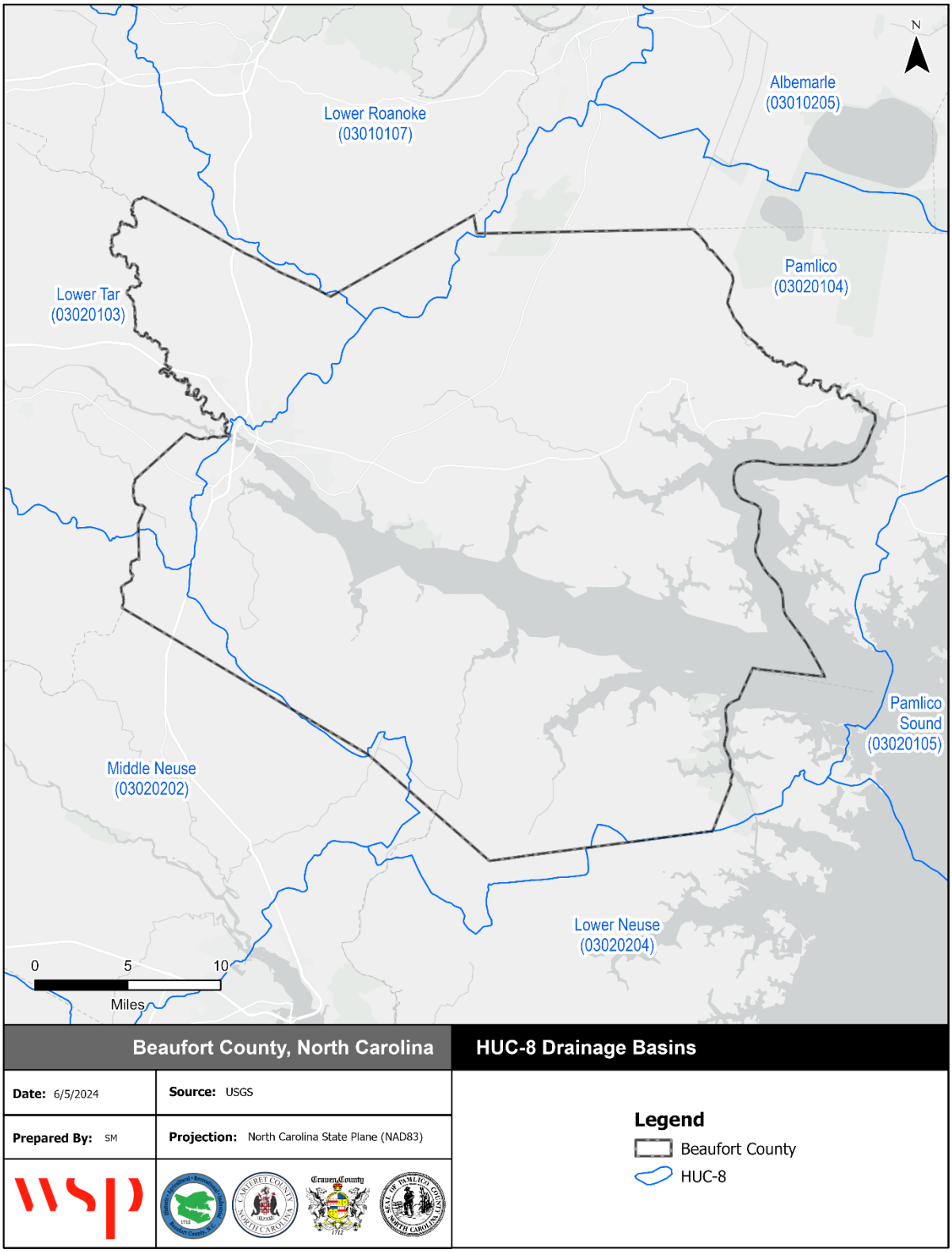
3.2 BEAUFORT COUNTY

3.2.1 HYDROLOGY

Nearly all of Beaufort County falls within the Pamlico River Basin. Roughly two percent of the County's northern extent falls within the Roanoke River Basin and a little less than four percent of the County's southwestern extent falls within the Neuse River Basin. A detailed overview of the Region's River Basin and boundaries is provided in Figure 3.3. The following provides a summary of each River Basin relevant to Beaufort County's jurisdiction:

- **Pamlico River Basin:** The Pamlico River Basin is the fourth largest river basin in North Carolina and is one of only four river basins whose boundaries are located entirely within the state. The Tar River originates in north central North Carolina in Person, Granville and Vance counties and flows southeasterly until it reaches tidal waters near Washington and becomes the Pamlico River and empties into the Pamlico Sound. The entire basin is classified as Nutrient Sensitive Waters (NSW).
- **Roanoke River Basin**: The Roanoke River basin extends from its source in the Blue Ridge Mountains of Virginia to the Albemarle Sound in North Carolina, encompassing mountainous, piedmont, and coastal topography as it flows generally east-southeastward. Its five subbasins constitute approximately 3,500 square miles of drainage area and approximately 2,400 miles of streams and rivers in North Carolina and contains diversity with classified trout streams in the western portion and swamp classified waters in the eastern portion. Seventeen counties and 42 municipalities are within the NC portion of the basin.
- **Neuse River Basin:** The Neuse River Basin is one of 17 basins designated for planning purposes in North Carolina. It lies entirely within the state. With a drainage area of 6,235 square miles, it is the third largest river basin in North Carolina. The headwater streams merge in Falls Lake Reservoir to form the Neuse River. Below Falls Lake Reservoir the river and its tributary streams flow through the broad flat terrain of the Coastal Plain. The low gradients of the Coastal Plain slow the river as it continues to flow southeasterly toward New Bern, where it changes character. The freshwater flowing downstream becomes brackish as it merges with the tidally influenced saltwater of the estuary and flows into Pamlico Sound.

Figure 3.3 – Beaufort County, HUC8 River Basins



Source: National Hydrology Dataset

3.2.2 PARKS AND OPEN SPACE

There are several parks located throughout Beaufort County, both in unincorporated areas of the County and participating municipalities. Goose Creek State Park, which is a North Carolina State Park, is also located within the County near the City of Washington. Goose Creek State Park covers 1,672 acres just off of the Pamlico Sound and is home to a wide variety of wildlife that make their homes in the extensive saltwater marshes, inlets and creeks on the northern side of the sound. Goose Creek State Park is open for year-round passive and active recreation.

The following provides a listing of county and municipal parks located in Beaufort County:

- Havens Gardens – 1001 Park Drive, Washington, NC
- Off Leash Dog Park – 4th and Brown Street, Washington, NC
- Festival Park – 119 East Water Street, Washington, NC
- Belhaven Waterfront – East Water Street, Belhaven, NC
- Bonner's Point – 207 Front Street, Bath, NC
- Beebe Memorial Park – 1101 North Bridge Street, Washington, NC
- Veterans Park – 404 East Third Street, Washington, NC

3.2.3 DEMOGRAPHICS

POPULATION TOTAL

The population estimates for Beaufort County, NC, from 2000 to 2023 reveal significant trends and shifts across various jurisdictions. Overall, the county experienced a slight decline of 0.8 percent in population from 2000 to 2023, with a notable decrease of 6.5 percent between 2010 and 2020. Certain municipalities experienced more rapid population decreases, such as Bath (-16.7 percent) and Aurora (-27.8 percent). In contrast, Pantego (161.8 percent) and Chocowinity (48.7 percent) experienced rapid growth over the same period. The unincorporated areas also faced an 8.8 percent decrease from 2010 to 2020. Figure 3.4 provides an overview of region-wide population density as of 2023 as reported by the American Community Survey.

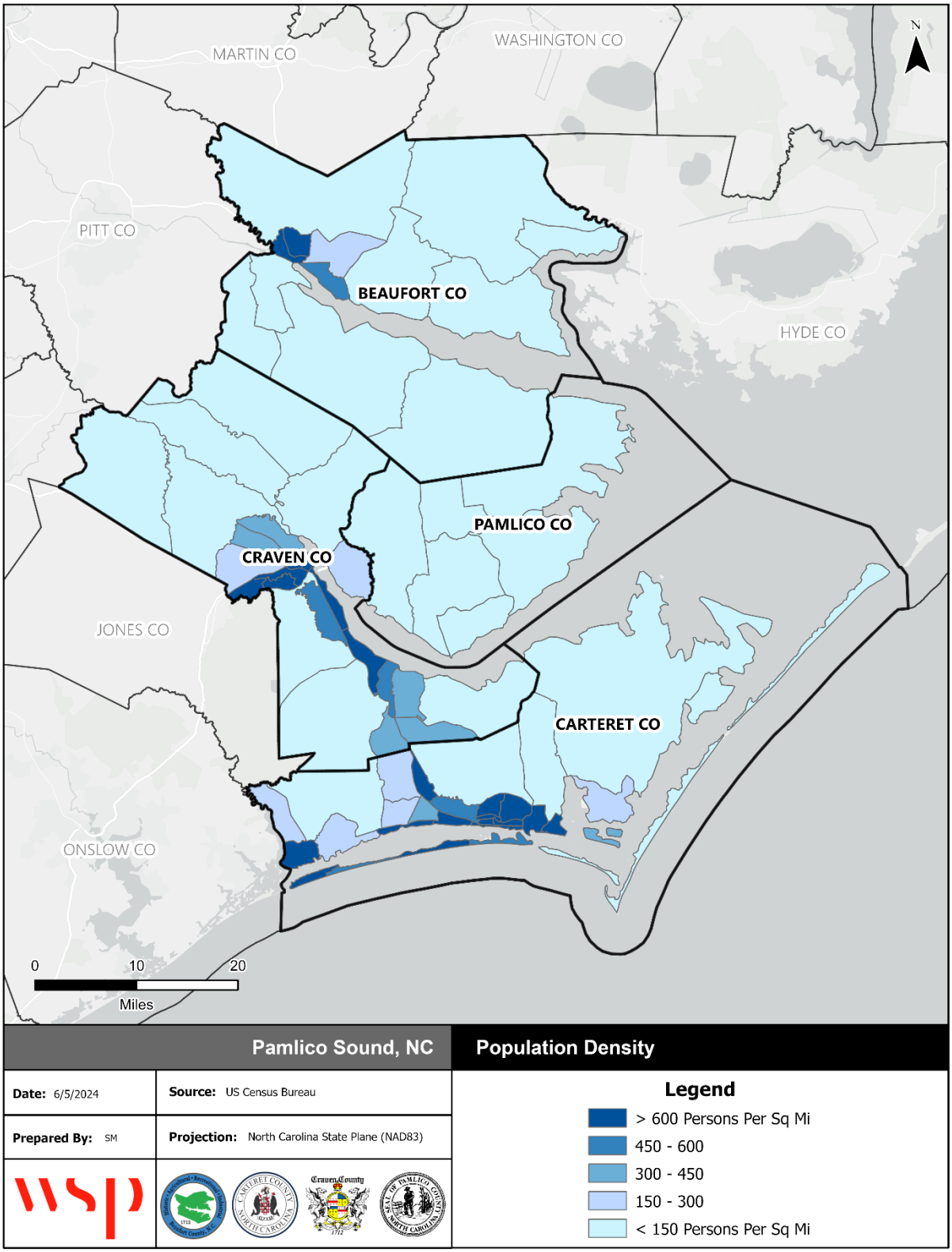
Table 3.4 provides a breakdown of total population for Beaufort County and the participating municipalities for the years 2000, 2010, 2020, and 2023.

Table 3.4 – Beaufort County Total Population

Jurisdiction	2000	2010	2020	2023	% Change 2010-2020	Overall % Change 2000-2023
Aurora	583	520	454	620	-12.7%	6.5%
Bath	275	249	245	229	-1.6%	-16.7%
Belhaven	1,968	1,688	1,412	1,421	-16.4%	-27.8%
Chocowinity	733	820	750	1,090	-8.5%	48.7%
Pantego	170	179	164	445	-8.4%	161.8%
Washington	9,619	9,477	9,887	9,754	4.3%	1.4%
Washington Park	440	451	390	470	-13.5%	6.8%
Municipalities	**13,788**	**13,384**	**13,302**	**14,029**	**-0.6%**	**1.8%**
Unincorporated Areas	31,170	34,375	31,357	30,568	-8.8%	-1.9%
Total	**44,958**	**47,759**	**44,659**	**44,597**	**-6.5%**	**-0.8%**

Source: US Census Bureau American Community Survey

Figure 3.4 – Pamlico Sound Region Population Density



Source: American Community Survey 2019-2023 5-Year Estimates

GROWTH TRENDS

Table 3.5 provides population forecast through the year 2050 for Beaufort County, as well as all participating municipal jurisdictions. Municipal forecasts are based on the annual growth rate (per individual) calculated from 2000 and 2023 population change presented in Table 3.4. According to the North Carolina Office of State Budget and Management (NCOSBM), Beaufort County is expected to decrease in population at a rate of 13.7 percent through 2050 (a total of 6,118 less individuals).

Table 3.5 – Beaufort County Population Projections, 2023-2050

Jurisdiction	2023	2030	2040	2050	% Change 2023-2050
Aurora	620	627	637	657	6.0%
Bath	229	215	195	175	-23.6%
Belhaven	1,421	1,260	1,030	800	-43.7%
Chocowinity	1,090	1,195	1,345	1,495	37.2%
Pantego	445	522	632	742	66.7%
Washington	9,754	9,789	9,839	9.889	1.4%
Washington Park	470	477	487	497	5.8%
Municipalities	**14,029**	**14,099**	**14,199**	**14,299**	**1.9%**
Unincorporated Areas	30,568	30,386	30,126	29,866	-2.3%
Beaufort County*	**44,597**	**42,413**	**40,448**	**38,479**	**-13.7%**

Source: US Census Bureau American Community Survey and NCOSBM State/County Population Projections

Note: Municipal population projections were calculated using the linear growth formula, which assumes the same growth occurs annually. The annual growth rate (in persons) was determined by subtracting the initial population (2000) from the base population (2023) dividing it by the number of years (23 years). The annual growth rate (in person) was then multiplied by base population (2023) and number of years (7 years for 2030, 17 years for 2040, and 27 years for 2050).

*Unlike the Municipal population projections, the County population projections were forecasted and provided by NCOSBM, which considers estimates of births, deaths, migration, and other demographic data.

RACIAL DEMOGRAPHICS

The overall Beaufort County population is predominantly Caucasian comprising 66.8 percent of residents, while most of the remaining population is African American (22.8 percent). Overall, Beaufort County has a Hispanic/Latino population of 7.8 percent. Municipalities boasting the largest Hispanic population throughout the County include the Town of Chocowinity (13.9 percent) and the Town of Pantego (60.2 percent).

According to the American Community Survey, the 2023 median age within Beaufort County was 47.1 years. Approximately 80.6 percent of the County's population is over the age of eighteen, while 48 percent is male and 52 percent is female. Table 3.6 provides a summary of racial composition for Beaufort County, as well as all participating municipal jurisdictions.

Table 3.6 – Beaufort County Racial Composition

Jurisdiction	Caucasian	African-American	Asian	Other Race*	Two or More Races	Persons of Hispanic or Latino Origin**
Aurora	44.0%	45.3%	0.0%	0.0%	10.6%	0.0%
Bath	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Belhaven	43.3%	48.6%	0.0%	0.1%	8.0%	12.0%
Chocowinity	28.5%	53.7%	0.0%	15.7%	2.1%	13.9%
Pantego	34.4%	5.4%	0.0%	0.0%	60.2%	60.2%

Jurisdiction	Caucasian	African-American	Asian	Other Race*	Two or More Races	Persons of Hispanic or Latino Origin**
Washington	48.5%	43.4%	0.4%	1.9%	6.1%	4.6%
Washington Park	96.2%	0.9%	0.2%	0.2%	2.6%	0.4%
Beaufort County	**68.8%**	**22.8%**	**0.3%**	**2.3%**	**5.7%**	**7.8%**

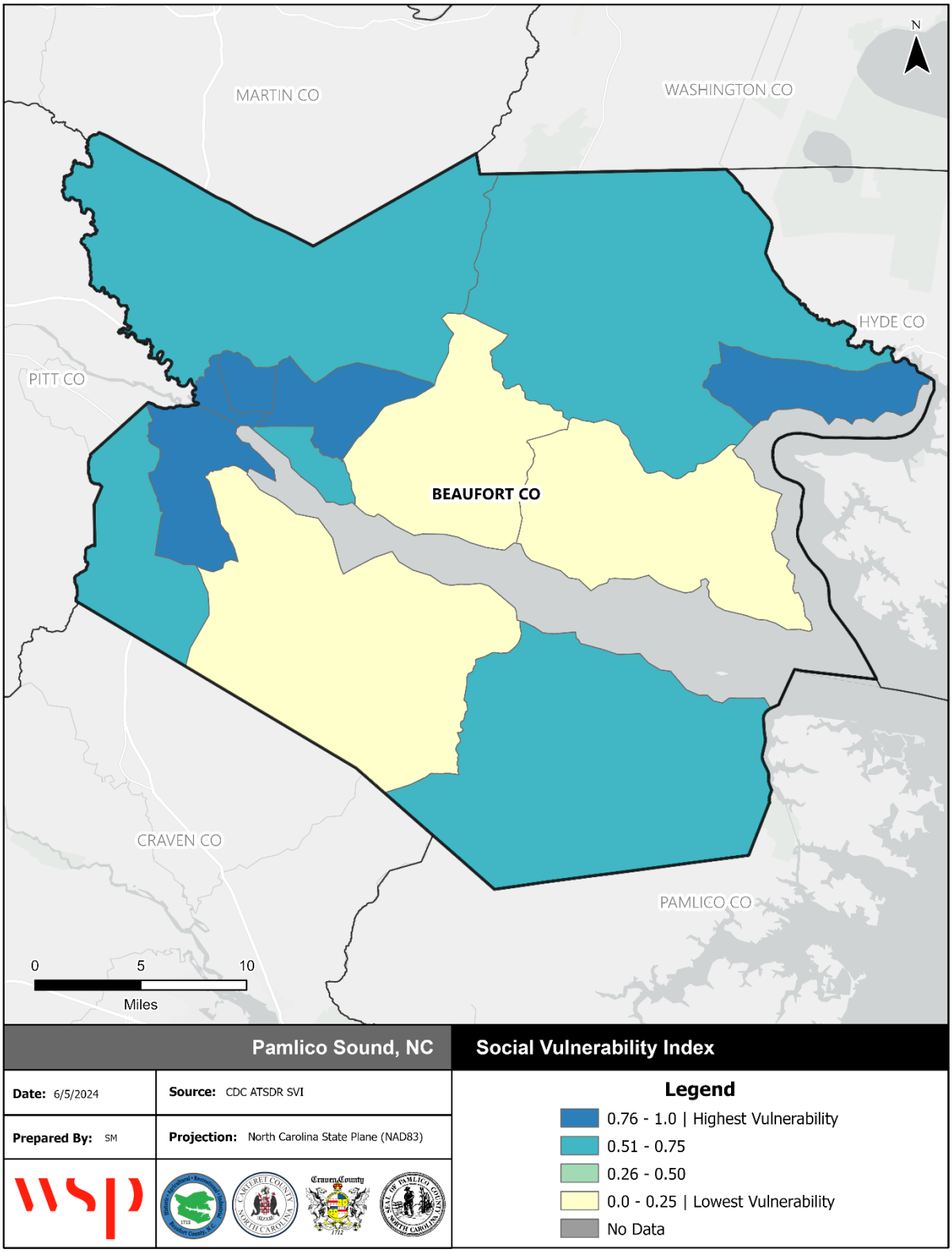
*Other races includes American Indian, Alaskan Native, Native Hawaiian, and Pacific Islander.
**Persons of Hispanic or Latino Origin are classified regardless of race; therefore, this percentage is considered independent of the other race classifications listed.
Source: US Census Bureau American Community Survey.

SOCIAL VULNERABILITY

Figure 3.5 below displays social vulnerability information for Beaufort County by census tract according to 2022 data and analysis by the Centers for Disease Control and Prevention (CDC). The CDC's Social Vulnerability Index (SVI) indicates the relative vulnerability within census tracts based on 15 social factors: poverty, unemployment, income, education, age, disability, household composition, minority status, language, housing type, and transportation access. Higher social vulnerability is an indicator that a community may be limited in its ability to respond to and recover from hazard events. Therefore, using this SVI information can help the County and municipal jurisdictions to prioritize pre-disaster aid, allocate emergency preparedness and response resources, and plan for the provision of recovery support.

Overall, Beaufort County has a moderate SVI index. A majority of the County has moderate to high SVI, with the highest SVI along portions of the eastern and western County boundaries near and adjacent to Washington Park and Belhaven. Central portions of the County adjacent to River Road and the Pamlico River have a much lower SVI than the County overall.

Figure 3.5 – Beaufort County Social Vulnerability Index



3.2.4 HOUSING CHARACTERISTICS

According to the American Community Survey, there were approximately 24,385 housing units in Beaufort County as of 2023. This figure marks a negative 1.2 percent, or 313 units, decrease since 2010 for unincorporated portions of Beaufort County. Although the County's housing unit inventory slightly decreased, several County municipalities have experienced a much more rapid increase in their housing stock with the Towns of Chocowinity and Pantego having the most notable growth.

Throughout Beaufort County, the housing is predominantly comprised of owner occupants (70.1 percent). This percentage varies significantly across the participating municipal jurisdictions, ranging from roughly 40 percent to 90 percent. This factor is important in regard to mitigation and post disaster recovery because homeownership directly correlates to the long-term maintenance and flood proofing of property, as well as the eligibility for funding of impacted units following a flooding event associated with nor'easters and tropical storms/hurricanes.

In terms of vulnerability associated with natural hazard events such as tropical storms, hurricanes, and tornadoes, roughly 23 percent of the Beaufort County housing stock is comprised of manufactured homes, which is much higher than the state overall (10.5 percent). The prevalence of manufactured housing poses a unique threat regarding both sustainability, as well as emergency response with defined flood hazard areas.

Table 3.7 below provides a summary of housing characteristics for Beaufort County, as well as participating municipal jurisdictions.

Table 3.7 – Beaufort County Housing Characteristics

Jurisdiction	Housing Units (2010)	Housing Units (2023)	% Change 2010-2023	% Owner Occupied Units (2023)	% Vacant Units (2023)
Aurora	315	295	-6.5%	47.9%	27.8%
Bath	176	167	-5.1%	84.4%	26.9%
Belhaven	940	827	-12.0%	59.9%	32.5%
Chocowinity	393	510	29.8%	43.6%	6.1%
Pantego	88	108	22.7%	75.5%	13.0%
Washington	4,754	5,372	13.0%	50.8%	12.9%
Washington Park	220	254	15.5%	92.3%	8.3%
Beaufort County	**24,688**	**24,385**	**-1.2%**	**70.1%**	**21.7%**

Source: US Census Bureau American Community Survey.

3.2.5 WAGES, EMPLOYMENT AND INDUSTRY

The 2023 American Community Survey indicates that the median household income for Beaufort County was $57,997, which is substantially lower than the state's median household income ($69,904). Approximately 18 percent of the population is considered to be living below the poverty level. Moreover, 32.1 percent of people under 18 years of age are living below the poverty level.

Within Beaufort County, approximately 55.3 percent of the population is in the labor force. This is generally characteristic of all participating municipal jurisdictions as well. The percentage of the population currently employed in Beaufort County is 52.5 percent, while only two of the jurisdictions have an employment rate over 50 percent. According to the American Community Survey, the unemployment rate for Beaufort County overall was 5.4 percent. Additionally, as of 2023 approximately 14.6 percent of households throughout Beaufort County relied on food stamps/SNAP benefits.

The following tables provides a summary of key economic indicators and population employed by industry for both incorporated and unincorporated portions of Beaufort County.

Table 3.8 – Beaufort County Key Economic Indicators

Jurisdiction	Population in Labor Force	Percent Employed (%)	Percent Unemployed (%)	Percent Not in Labor Force (%)	Unemployment Rate (%)
Aurora	281	44.5%	10.6%	44.9%	19.2%
Bath	78	37.6%	0.5%	62.0%	1.3%
Belhaven	494	37.6%	7.8%	54.6%	17.2%
Chocowinity	466	42.5%	15.2%	42.3%	26.4%
Pantego	100	60.8%	4.6%	34.6%	7.0%
Washington	4,235	50.5%	2.0%	47.4%	3.9%
Washington Park	218	48.3%	5.1%	46.6%	9.6%
Beaufort County	**20,463**	**52.2%**	**3.0%**	**44.7%**	**5.4%**

Source: US Census Bureau American Community Survey.

Table 3.9 – Beaufort County Employment by Industry

Jurisdiction	Management, Business, Science and Arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, Transportation, and Material Moving (%)
Aurora	18.1%	26.9%	24.2%	15.0%	15.9%
Bath	59.7%	7.8%	10.4%	13.0%	9.1%
Belhaven	17.8%	34.5%	16.9%	15.9%	14.9%
Chocowinity	25.7%	6.7%	39.7%	9.9%	18.1%
Pantego	37.6%	14.0%	9.7%	26.9%	11.8%
Washington	39.4%	17.7%	16.4%	7.6%	18.9%
Washington Park	52.8%	12.2%	26.9%	4.6%	3.6%
Beaufort County	32.1%	17.3%	21.2%	13.3%	16.1%

Source: US Census Bureau American Community Survey.

The top industries in Beaufort County are (1) Educational Services, and Health Care and Social Assistance Management, (2) Manufacturing, and (3) Retail Trade. Top employers across the County include:

- PCS Phosphate Company, Inc.
- Beaufort County Schools
- Cleanaire Inc.
- County of Beaufort
- Food Lion
- Beaufort County Community College
- Walmart Associates, Inc.
- City of Washington
- River City Construction Inc.
- Precisionaire Inc. Flanders Airpure

3.2.6 HISTORIC PROPERTIES

As of January 2025, Beaufort County had 18 listings on the National Register of Historic Places. This list includes 14 Historic Structures and 4 Historic Districts. Presence on the National Register signifies that these structures have been determined to be worthy of preservation for their historical or cultural values. The following provides a listing of all Nationally Registered Properties in Beaufort County:

- Bath Historic District (Bath) – 2/26/1970
- Bath School (Bath) – 1/30/2008
- Bonner House (Bath) – 2/26/1970
- Palmer-Marsh House (Bath) – 2/26/1970
- St. Thomas Episcopal Church (Bath) – 11/20/1970
- Belhaven City Hall (Belhaven) – 1/27/1981
- Belhaven Commercial Historic District (Belhaven) – 4/24/2015
- Ware Creek School (Blounts Creek) – 12/6/1996
- Trinity Cemetery (Chocowinity) – 8/19/2011
- Belfont Plantation House (Latham) – 12/12/1976
- Pantego Academy (Pantego) – 10/25/1984
- Bank of Washington, West End Branch (Washington) – 2/18/1971
- Beaufort County Courthouse (Washington) – 3/31/1971
- Bowers-Trip House (Washington) – 4/1/1999
- North Market Street Historic District (Washington) – 10/25/2011
- Rosedale (Washington) – 4/29/1982
- Washington Historic District (Washington) – 2/9/1979
- Zion Episcopal Church (Washington) – 8/16/2000

3.2.7 LAND DEVELOPMENT TRENDS

Throughout Beaufort County, approximately 54 percent of parcels are currently developed. Table 3.10 provides an overview of developed and undeveloped properties located throughout Beaufort County. A majority of development is focused within the County's municipal areas; however, the County is also home to a burgeoning agricultural industry. Aside from agricultural uses and urbanized growth, development is centralized along key highway corridors.

Table 3.10 – Beaufort County Developed and Undeveloped Parcel Counts

Jurisdiction	Developed Parcels	Undeveloped Parcels	% Developed
Aurora	329	175	65.3%
Bath	211	92	69.6%
Belhaven	1,004	643	61.0%
Chocowinity	341	172	66.5%
Pantego	114	76	60.0%
Washington	4,168	1,194	77.7%
Washington Park	224	67	77.0%
Unincorporated Beaufort County	18,510	18,880	49.5%
Total	**24,901**	**21,299**	**53.9%**

Source: County Parcel GIS Data and iRisk Building Footprints

Growth and development have been slow throughout unincorporated Beaufort County. Most development that has taken place involves residential subdivision construction generally located on properties on or adjacent to the County's abundant shoreline areas. Non-residential development has occurred through modest industrial and commercial expansion. Most of this growth has been focused on properties fronting major transportation thoroughfares including US Highways 17 and 264, as well as NC Highways 32 and 33. These development trends are expected to continue.

Unincorporated Beaufort County does not maintain zoning regulations. As a result, there is a higher likelihood that incompatible land uses may be developed adjacent to one another. The County's future land use map provides some guidance regarding future development, but this will only impact land use in a regulatory manner within areas defined as an "Area of Environmental Concern" by the NC Division of Coastal Management.

All municipalities within Beaufort County maintain zoning regulations that provide for better control of land use and development. All municipalities, except for the Town of Bath and the City of Washington, fall under the Beaufort County CAMA Land Use Plan. This land use plan provides for general parameters focused on limiting the potential for inappropriate/incompatible land uses; however, it has not been updated in over ten years. The Beaufort County Joint CAMA Land Use Plan was adopted by the Beaufort County Board of Commissioners in October of 2009 and was last amended in May 2023.

The plan still serves these communities and provides the basis for the location of each community's defined zoning districts. The plan defines seven future land use districts:

- Conservation I
- Conservation II Overlay Classification
- Towns and Community Centers
- Transition Classification
- Transition – Water Oriented Development
- Transition – US 17/264 Sector Development
- Agriculture-Forestry-Rural Housing

Figure 3.6 and Figure 3.7 provide the delineation of each Future Land Use District for the County.

Development within Aurora, Bath, Belhaven, Chocowinity, and Pantego is predominantly characterized by commercial land use centered around the downtown district and medium density residential development toward the edges of their respective corporate limits. The Town of Washington Park is a quiet single-family residential community located adjacent to the City of Washington. Growth and development policies of each community are summarized below:

- Aurora favors compact development pattern where possible and aims to preserve and protect historic resources.
- Belhaven's future growth and development objectives include encouraging residential growth in areas served by central water and sewer and promoting responsible growth with emphasis on redevelopment of waterfront areas.
- Chocowinity encourages new development requiring urban services to locate within city limits while reserving outlying areas for agriculture and low density uses.
- Pantego's growth and development objectives include encouraging new development within the city limits while directly low density uses to outlying areas.
- Washington Park seeks to maintain its low density detached single-family residential character. The Town seeks to provide central sewer service, preserve natural systems, and encourage development consistent with existing character.

The Town of Bath adopted an updated land use plan in May 2024. The Town's vision is to maintain its low density single-family residential character, preserve historical significance, conserve natural resources, and provide a safe small town character. Growth is not promoted or expected.

The City of Washington maintains a more robust Planning and Development department than the remainder of Beaufort County. The City has developed both short- and long-range plans intended to promote organized development and enhance economic development. These efforts focus on the development/redevelopment of the City's downtown historic/central business district, while also addressing the issue of adequate market rate and affordable housing. The City of Washington also addresses the issue of development throughout its extensive flood hazard area through their planning efforts. These efforts have been two-fold through both structural mitigation to existing structures and regulation of new development through the City's Flood Damage Prevention Ordinance.

The City of Washington adopted the One Washington Forward Together comprehensive plan in January 2024. Through this plan, the City encourages high density development near the core area of the City and near developed commercial areas. Vertical mixed use is encouraged in these areas. Future residential development is expected for use existing infrastructure and avoid environmentally sensitive areas, including floodplain and areas vulnerable to sea level rise. The City aims to prevent the expansion of public infrastructure into sensitive or hazardous areas. Future flooding and sea level rise areas are shown on the City's future land use map. Washington's future land use map is shown in Figure 3.8.

Figure 3.6 – Beaufort County Future Land Use Map

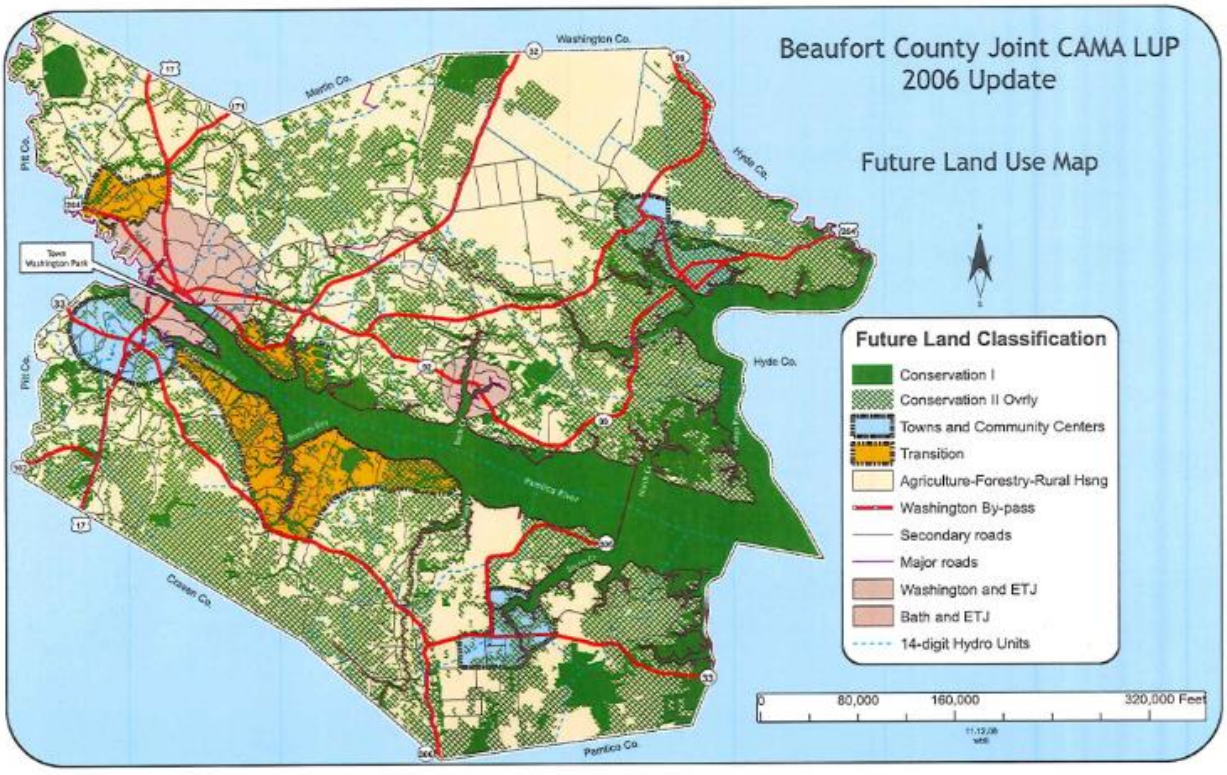


Figure 3.7 – Beaufort County Future Land Use Map, Belhaven-Pantego Vicinity

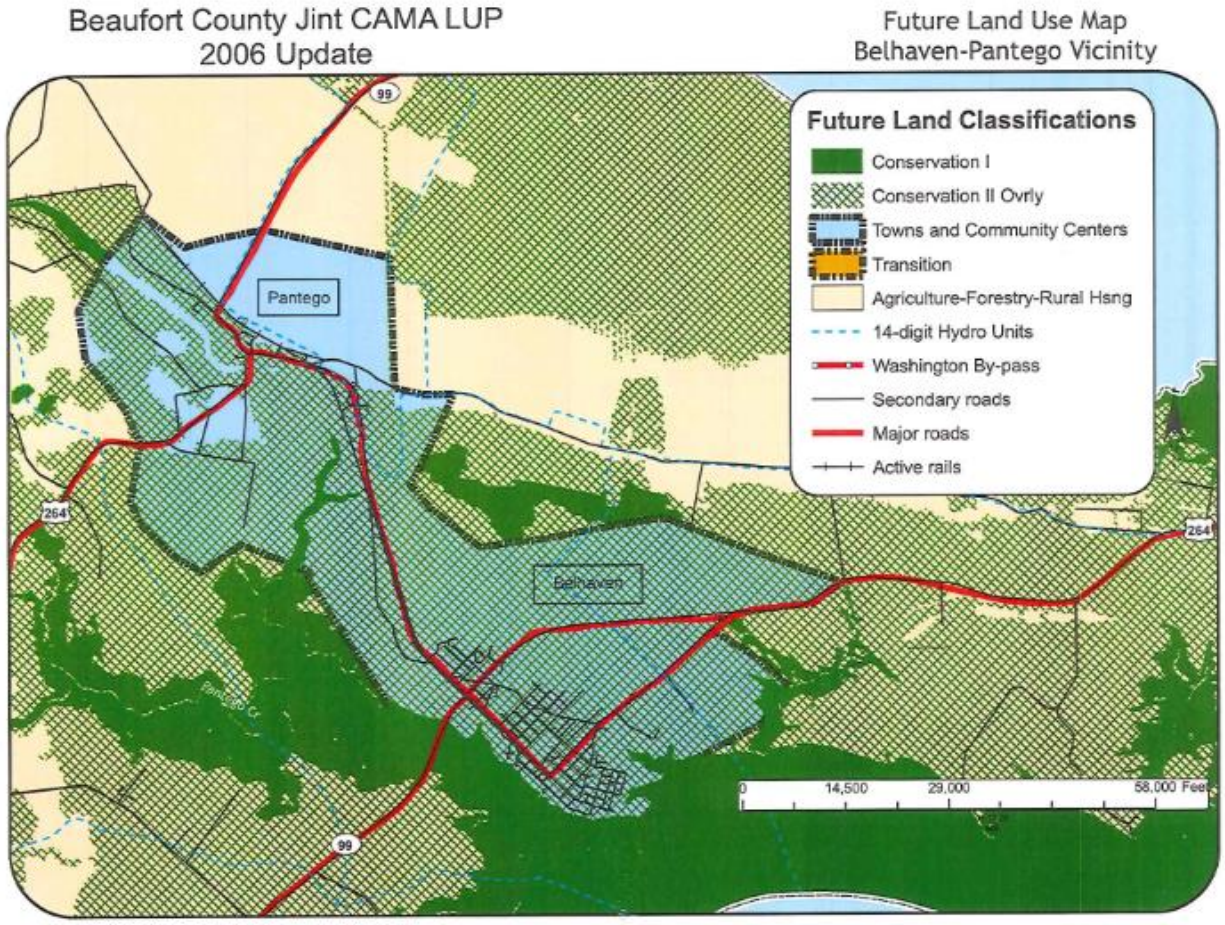
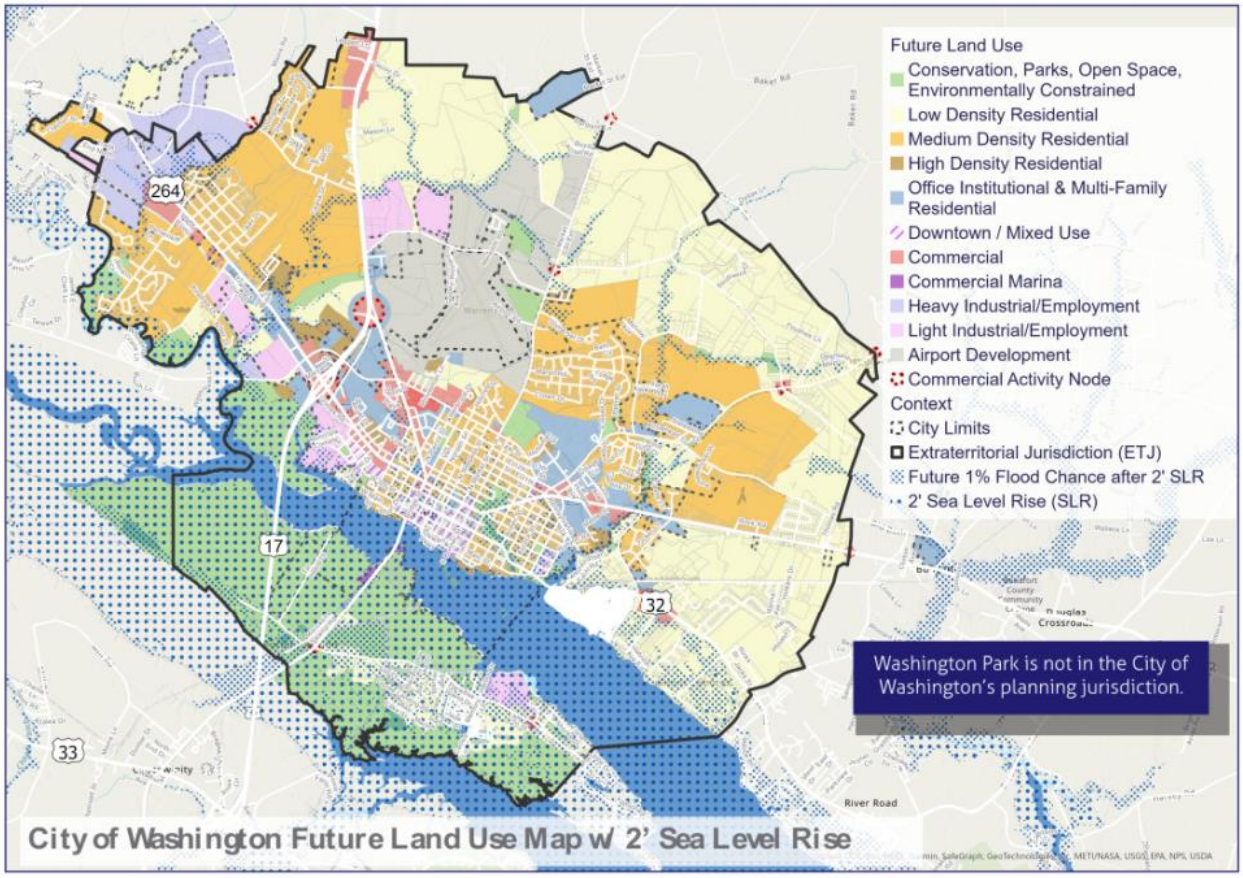


Figure 3.8 – City of Washington Future Land Use Map



3.3 CARTERET COUNTY

3.3.1 HYDROLOGY

Parts of three river basins are found in Carteret County: the Onslow Bay River Basin, the Neuse River Basin, and the Pamlico River Basin, as shown in Figure 3.9. The Onslow Bay Basin encompasses most of the populated land area whereas the Neuse Basin encompasses undeveloped, agricultural, and sparsely populated land. A small area of the Pamlico Sound is part of the Pamlico River Basin portion of the County.

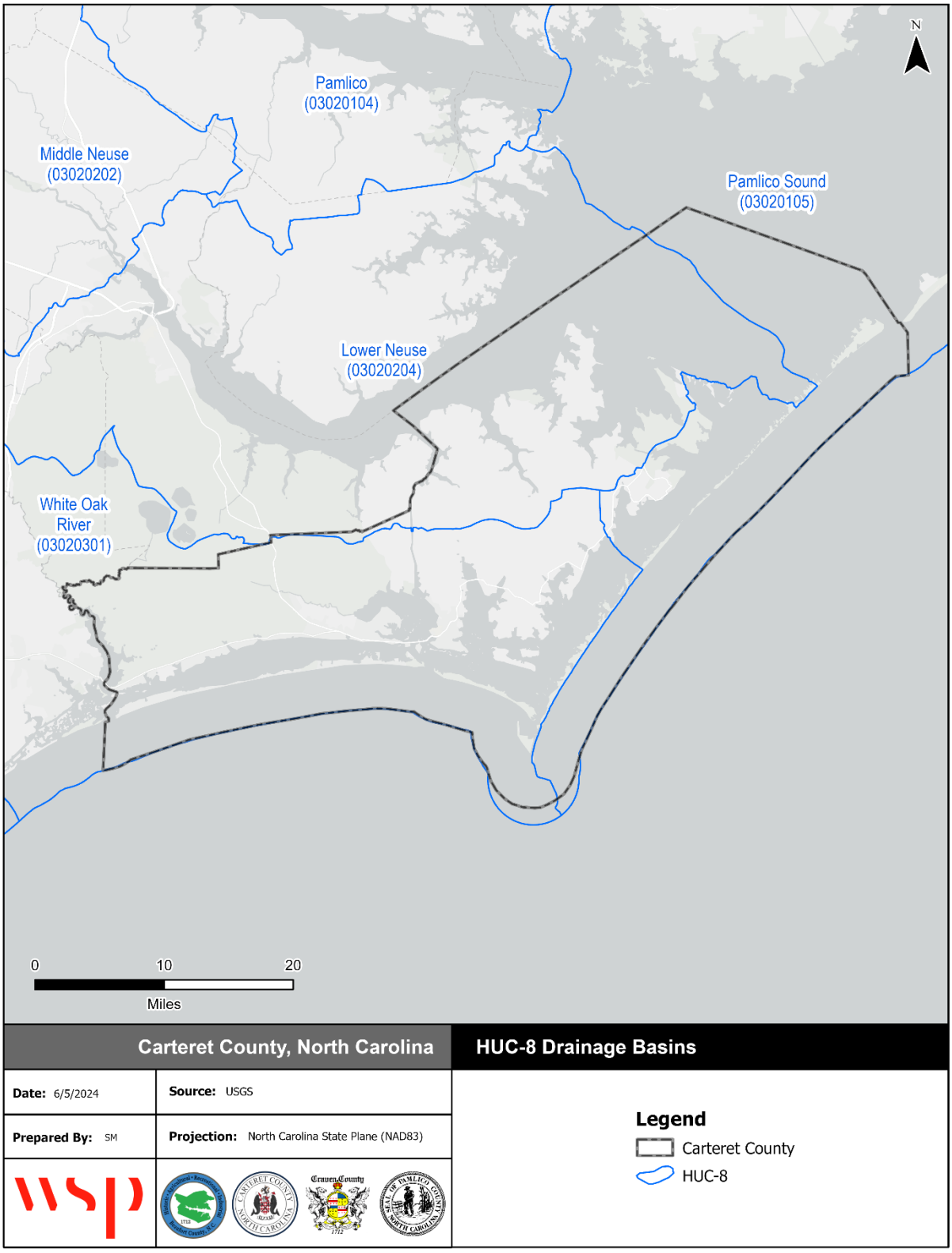
The following provides a summary of each river basin:

- **Onslow Bay River Basin:** The Onslow Bay Basin drains 910 square miles of the North Carolina Coastal Plain and includes the barrier islands from Browns Inlet to Ocracoke Inlet. The basin encompasses the drainage areas of three separate rivers, the White Oak River, the Newport River, and the North River. The basin also includes the waters of Bogue Sound and Core Sound. About 45% of the area of the basin is classified as water by the 1997 Natural Resource Inventory. An additional 40 of the basin is forested, with much of it being in the Croatan National Forest.
- **Neuse River Basin:** The Neuse River originates in north central North Carolina in Person and Orange counties and flows southeasterly until it reaches tidal waters near Streets Ferry upstream of New

Bern. At New Bern, the river broadens dramatically and changes from a free-flowing river to a tidal estuary that eventually flows into the Pamlico Sound. The Neuse River basin is the third largest river basin in North Carolina (6,235 square miles) and is one of only four major river basins whose boundaries are located entirely within the state. There are 3,389 freshwater stream miles, 17,902 acres of freshwater reservoirs and lakes, 143 saltwater stream miles, and 370,779 estuarine/saltwater acres in the Neuse River basin. There are also numerous miles of unmapped small perennial, intermittent and ephemeral streams. Extensive wetland communities are also found in the lower Neuse River basin. The Neuse River basin encompasses all or portions of 18 counties and 77 municipalities.

- **Pamlico River Basin:** The Tar-Pamlico River Basin is the fourth largest river basin in North Carolina and is one of only four river basins whose boundaries are located entirely within the state. The Tar River originates in north central North Carolina in Person, Granville and Vance counties and flows southeasterly until it reaches tidal waters near Washington and becomes the Pamlico River and empties into the Pamlico Sound. The entire basin is classified as Nutrient Sensitive Waters (NSW).

Figure 3.9 – Carteret County, HUC8 River Basins



Source: National Hydrology Dataset

3.3.2 PARKS AND OPEN SPACE

There are several parks located throughout Carteret County, both within unincorporated portions of the County, as well as within participating municipalities. Additionally, the Croatan National Forest is located within the County.

The Croatan National Forest is one of four National Forests in North Carolina and the only true coastal forest in the East. The Croatan National Forest's 160,000 acres have pine forests, saltwater estuaries, bogs and raised swamps called pocosins. Bordered on three sides by tidal rivers and the Bogue Sound, the forest is defined by water.

All this water provides a variety of recreation and diversity of wildlife- from deer, black bears and turkeys to wading birds, ospreys and alligators. Canoeing and fishing are popular on blackwater creeks and saltwater marshes. The Croatan is also home to the carnivorous Venus fly-trap, sunder and pitcherplant.

The following provides a listing of parks and facilities located throughout Carteret County:

- Western Park Community Center – 275 Ole Hwy 58, Cedar Point, NC
- Fort Benjamin Recreation Center – 100 McQueen Ave, Newport, NC
- Western Park – 275 Ole Hwy 58, Cedar Point, NC
- Salter Path Park – 126 Ball Park Dr, Salter Path, NC
- Salter Path Beach Access – 1025 Salter Path Rd, Pine Knoll Shores, NC
- Fort Benjamin Park – 100 McQueen Ave, Newport, NC
- Swinson Park – 145 Swinson Park Rd, Morehead City, NC
- Radio Island Beach Access – 501 Marine Dr, Morehead City, NC
- West Beaufort Boat Access – 138 Town Creek Drive, Beaufort, NC
- Harkers Island Beach Access – 106 Harkers Island Rd, Harkers Island, NC
- Freedom Park – 201 Freedom Park Rd, Beaufort, NC
- Marshallberg Picnic Area – 1328 Marshallberg Rd, Marshallberg, NC
- Eastern Park – 450 Hwy 70 E, Smyrna, NC
- Straits Fishing Pier – 1651 Harkers Island Rd, Beaufort, NC
- Mariners Park – 201 East St, Sea Level, NC
- South River Park – 1030 South River Rd, Beaufort, NC

3.3.3 DEMOGRAPHICS

POPULATION TOTAL

The total population of Carteret County according to the 2023 American Community Survey was 68,682 persons. Overall, County population has increased by roughly 16 percent since 2000, which equates to less than a 1 percent annual growth rate. Over the last two decades, unincorporated portions of the County have increased in population by roughly 6 percent. Although this growth has been slow but steady, municipal population growth has been rapid, especially in relation to barrier-island and coastal communities. From the years 2000 to 2023, Cape Carteret (114 percent), Cedar Point (115.8 percent), and Indian Beach (141.1 percent), all experienced drastic increases in population. The only communities showing negative growth over this same period were Atlantic Beach (-4.3 percent) and Pine Knoll Shores (-9 percent). Figure 3.4 in Section 3.2 provides an overview of region-wide population density as of 2023 as reported by the American Community Survey.

Table 3.11 provides a breakdown of total population for Carteret County and the participating municipalities for the years 2000, 2010, 2020, and 2023.

Table 3.11 – Carteret County Total Population

Jurisdiction	2000	2010	2020	2023	% Change 2010-2023	Overall % Change 2000-2023
Atlantic Beach	1,781	1,495	1,374	1,705	-8.1%	-4.3%
Beaufort	3,771	4,039	4,460	4,613	10.4%	22.3%
Bogue	590	684	691	800	1.0%	35.6%
Cape Carteret	1,214	1,917	2,230	2,598	16.3%	114.0%
Cedar Point	929	1,279	1,776	2,005	38.9%	115.8%
Emerald Isle	3,488	3,655	3,849	3,915	5.3%	12.2%
Indian Beach	95	112	222	229	98.2%	141.1%
Morehead City	7,691	8,661	9,562	9,696	10.4%	26.1%
Newport	3,349	4,150	4,358	4,428	5.0%	32.2%
Peletier	487	644	770	779	19.6%	60.0%
Pine Knoll Shores	1,524	1,339	1,378	1,387	2.9%	-9.0%
Municipalities	**24,919**	**27,975**	**30,670**	**32,155**	**9.6%**	**29.0%**
Unincorporated Areas	34,464	38,494	37,006	36,527	-3.9%	6.0%
Total	**59,383**	**66,469**	**68,699**	**68,682**	**3.4%**	**15.7%**

Source: US Census Bureau American Community Survey.

GROWTH TRENDS

Table 3.12 provides population forecast through the year 2050 for Carteret County, as well as all participating municipal jurisdictions. Municipal forecasts are based on the annual growth rate calculated from 2000 and 2023 population change presented in Table 3.11. According to the North Carolina Office of State Budget and Management (NCOSBM), the population of Carteret County is expected to increase by approximately 20.7 percent by 2050 (a total of 14,239 more persons).

Table 3.12 – Carteret County Population Projections, 2023-2050

Jurisdiction	2023	2030	2040	2050	% Change 2023-2050
Atlantic Beach	1,705	1,684	1,654	1,624	-4.8%
Beaufort	4,613	4,865	5,225	5,585	21.1%
Bogue	800	863	953	1,023	27.9%
Cape Carteret	2,598	3,018	3,618	4,218	62.4%
Cedar Point	2,005	2,327	2,787	3,247	62.0%
Emerald Isle	3,915	4,041	4,221	4,401	12.4%
Indian Beach	229	264	314	364	59.0%
Morehead City	9,696	10,305	11,175	12,045	24.2%
Newport	4,428	4,750	5,210	5,670	28.1%
Peletier	779	863	983	1,103	41.6%
Pine Knoll Shores	1,387	1,352	1,302	1,252	-9.7&
Municipalities	**32,155**	**34,353**	**37,493**	**40,633**	**26.5%**
Unincorporated Areas	36,527	37,150	38,080	38,930	6.6%
Carteret County*	**68,682**	**73,690**	**78,307**	**82,921**	**20.7%**

Source: US Census Bureau American Community Survey and NCOSBM State/County Population Projections

Note: Municipal population projections were calculated using the linear growth formula, which assumes the same growth occurs annually. The annual growth rate (in persons) was determined by subtracting the initial population (2000) from the base population (2023) dividing it by the number of years (23 years). The annual growth rate (in person) was then multiplied by base population (2023) and number of years (7 years for 2030, 17 years for 2040, and 27 years for 2050).
*Unlike the Municipal population projections, the County population projections were forecasted and provided by NCOSBM, which considers estimates of births, deaths, migration, and other demographic data.

RACIAL DEMOGRAPHICS

The overall Carteret County population is predominantly Caucasian comprising 86.7 percent of residents, while most of the remaining population is either African American (4.4 percent) or is two or more races (5.6 percent). The racial composition of the County's municipal jurisdictions is similar to the County makeup with the exception of the Towns of Beaufort, Newport, and Morehead City, which each have a higher African American population (9.5 percent average between the three communities) as well as a higher population of two or more races. Overall Carteret County has a Hispanic/Latino population of 4.7 percent. Municipalities with the largest Hispanic population throughout the County include Bogue (12.8 percent) and Morehead City (9.9 percent).

According to the American Community Survey, the 2023 median age in Carteret County was 50.1 years. Approximately 83 percent of the County's population is over the age of eighteen, while 48.5 percent is male, and 51.5 percent is female. Table 3.13 provides a summary of racial composition for Carteret County, as well as all participating municipal jurisdictions.

Table 3.13 – Carteret County Racial Composition

Jurisdiction	Caucasian	African-American	Asian	Other Race*	Two or More Races	Persons of Hispanic or Latino Origin**
Atlantic Beach	91.8%	0.8%	0.4%	0.2%	6.9%	0.0%
Beaufort	80.6%	11.7%	0.0%	3.3%	4.4%	1.9%
Bogue	92.9%	0.9%	0.5%	0.6%	5.1%	12.8%
Cape Carteret	94.7%	0.3%	0.0%	0.0%	5.0%	3.2%
Cedar Point	92.0%	0.8%	0.7%	1.9%	4.4%	4.3%
Emerald Isle	93.2%	0.3%	0.2%	0.1%	6.4%	0.2%
Indian Beach	93.9%	1.3%	0.9%	0.4%	3.5%	2.6%
Morehead City	78.7%	5.6%	1.1%	3.3%	11.3%	9.9%
Newport	74.0%	11.4%	2.6%	0.0%	12.0%	4.4%
Peletier	86.8%	1.5%	6.0%	2.8%	2.8%	4.0%
Pine Knoll Shores	98.2%	0.1%	0.0%	0.0%	1.7%	1.3%
Carteret County	**86.7%**	**4.4%**	**0.9%**	**2.4%**	**5.6%**	**4.7%**

*Other races includes American Indian, Alaskan Native, Native Hawaiian, Pacific Islander, etc.
**Persons of Hispanic or Latino Origin are classified regardless of race; therefore, this percentage is considered independent of the other race classifications listed.
Source: US Census Bureau American Community Survey.

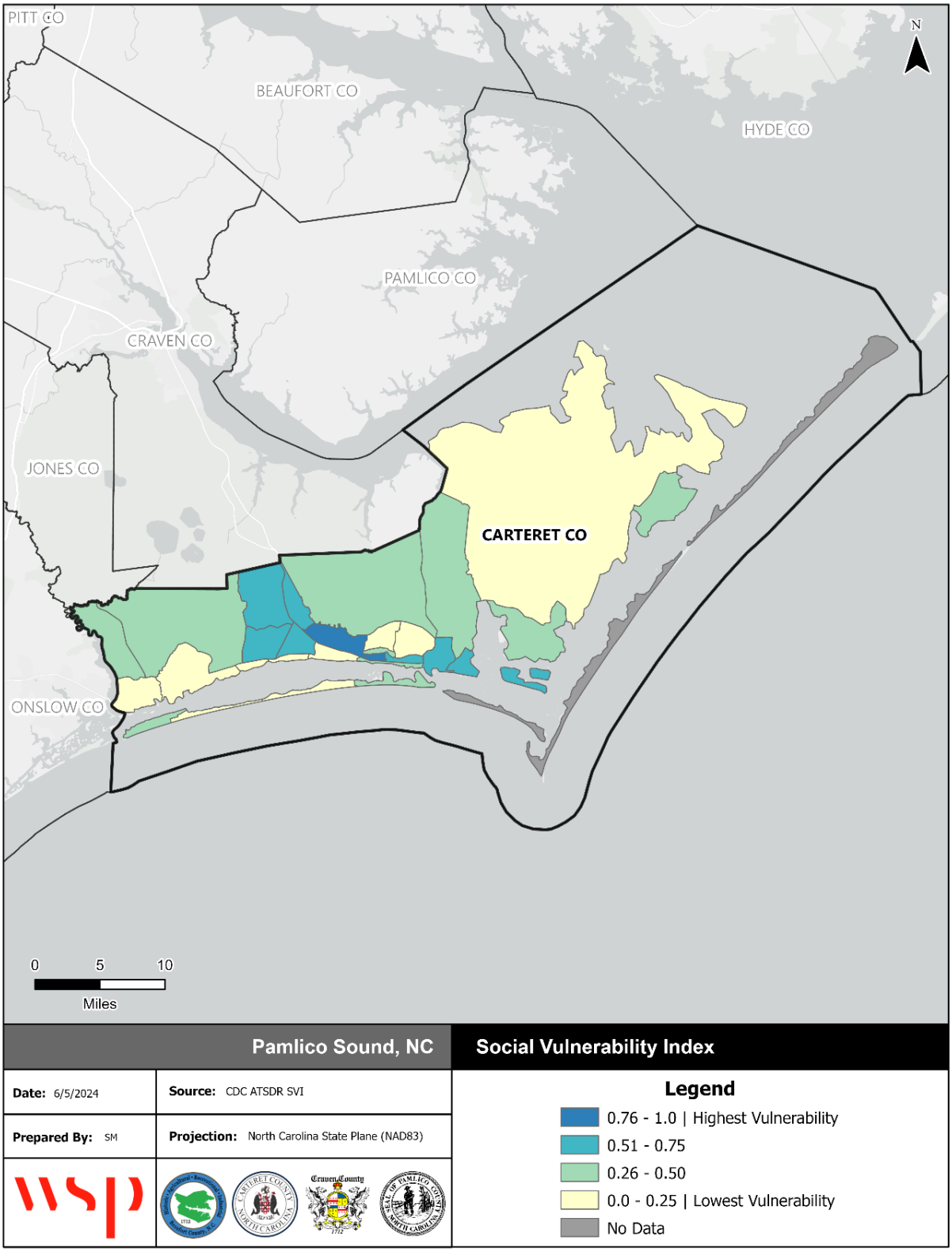
SOCIAL VULNERABILITY

Figure 3.10 below displays social vulnerability information for Carteret County by census tract according to 2022 data and analysis by the Centers for Disease Control and Prevention (CDC). The CDC's Social Vulnerability Index (SVI) indicates the relative vulnerability within census tracts based on 15 social factors: poverty, unemployment, income, education, age, disability, household composition, minority status, language, housing type, and transportation access. Higher social vulnerability is an indicator that a community may be limited in its ability to respond to and recover from hazard events. Therefore, using

this SVI information can help the County and municipal jurisdictions to prioritize pre-disaster aid, allocate emergency preparedness and response resources, and plan for the provision of recovery support.

Nearly all of Carteret County has a low to moderate SVI index. Aside from portions of the County in an around Morehead City and the Town of Newport, Carteret County is rural in nature and the availability of municipal/County infrastructure is available yet limited. Additionally, incomes throughout a majority of the County are lower than the NC State median.

Figure 3.10 – Carteret County Social Vulnerability Index



3.3.4 HOUSING CHARACTERISTICS

According to the American Community Survey, there were approximately 51,615 housing units in Carteret County as of 2023. This figure marks an 8.8 percent, or 4,156 unit, increase since 2010 for unincorporated portions of Carteret County. Although the County's housing unit growth has been somewhat modest, several County municipalities have experienced a much more rapid increase in their housing stock. Housing unit counts have increased by roughly 53.9 percent in Peletier, 25 percent in Cape Carteret, and 22.7 percent in Cedar Point over the same period. Residential housing counts have been fairly modest within the Bogue Banks beach communities, with Atlantic Beach, Pine Knoll Shores, and Emerald Isle all falling under 5 percent. The one exception to this growth was Indian Beach which experienced a higher residential growth rate of 13 percent.

Throughout Carteret County, the housing is predominantly comprised of owner occupants (73.5 percent). This percentage is generally characteristic of all municipal jurisdictions as well except for Beaufort and Morehead City, which maintain an owner occupancy rate below 50 percent. One unusual factor relating to home occupancy is that a majority of the County's barrier island beach communities maintain high rates of owner occupancy. This factor is important in regards to mitigation and post disaster recovery due to the fact that homeownership directly correlates to the long-term maintenance and flood proofing of property, as well as the eligibility for funding of impacted units following a flooding event associated with nor'easters and tropical storm/hurricanes.

In terms of vulnerability associated with natural hazard events such as tropical storms, hurricanes, and tornadoes, roughly 16.8 percent of the Carteret County housing stock is comprised of manufactured homes, which is higher than the state overall (10.5 percent). The prevalence of manufactured housing poses a unique threat regarding both sustainability, as well as emergency response within defined flood hazard areas.

Table 3.14 below provides a summary of housing characteristics for Carteret County, as well as participating municipal jurisdictions.

Table 3.14 – Carteret County Housing Characteristics

Jurisdiction	Housing Units (2010)	Housing Units (2023)	% Change 2010-2023	% Owner Occupied (2023)	% Vacant Units (2023)
Atlantic Beach	4,935	5,166	4.7%	64.7%	81.0%
Beaufort	2,745	3,112	13.4%	48.0%	22.8%
Bogue	296	330	11.5%	78.9%	10.9%
Cape Carteret	1,027	1,284	25.0%	80.6%	13.0%
Cedar Point	955	1,172	22.7%	84.4%	33.3%
Emerald Isle	6,735	6,802	1.0%	83.1%	73.3%
Indian Beach	1,565	1,769	13.0%	100.0%	93.8%
Morehead City	5,383	6,254	16.2%	47.3%	19.8%
Newport	1,697	1,901	12.0%	61.5%	11.3%
Peletier	393	605	53.9%	71.1%	33.6%
Pine Knoll Shores	2,049	2,134	4.2%	97.8%	68.2%
Carteret County	**47,459**	**51,615**	**8.8%**	**73.5%**	**39.6%**

Source: US Census Bureau American Community Survey.

3.3.5 WAGES, EMPLOYMENT AND INDUSTRY

The 2023 American Community Survey reports that the median household income for Carteret County was $70,235 which is higher than the state's median household income ($69,904). However, approximately 10 percent of the population is living below the poverty level. Moreover, 12.5 percent of people under 18 years of age are living below the poverty level.

Within Carteret County, approximately 55.6 percent of the population is in the labor force. This is generally characteristic of all participating municipal jurisdictions as well, with the exception of Pine Knoll Shores and Indian Beach. Throughout Carteret County, including all municipal jurisdictions, the percentage of the population currently employed is at or above 50 percent except for Atlantic Beach (40.8 percent), Emerald Isle (42.6 percent), Indian Beach (31.2 percent), Newport (47.8 percent), and Pine Knoll Shores (39.6 percent). According to the American Community Survey, the unemployment rate for Carteret County overall was 4.3 percent. Additionally, as of 2023, approximately 9.1 percent of households in Carteret County relied on food stamps/SNAP benefits.

The following tables provides a summary of key economic indicators and population employed by industry for both incorporated and unincorporated portions of Carteret County.

Table 3.15 – Carteret County Key Economic Indicators

Jurisdiction	Population in Labor Force	Percent Employed (%)	Percent Unemployed (%)	Percent Not in Labor Force (%)	Unemployment Rate (%)
Atlantic Beach	42.2%	40.8%	1.4%	57.8%	3.2%
Beaufort	57.0%	53.1%	3.9%	43.0%	6.8%
Bogue	65.8%	65.5%	0.0%	34.2%	0.0%
Cape Carteret	55.0%	50.8%	1.2%	45.0%	2.3%
Cedar Point	57.1%	52.4%	1.6%	42.9%	3.1%
Emerald Isle	45.0%	42.6%	0.6%	55.0%	1.4%
Indian Beach	35.1%	31.2%	4.0%	64.9%	11.3%
Morehead City	59.7%	56.4%	2.1%	40.3%	3.6%
Newport	54.2%	47.8%	4.1%	45.8%	7.9%
Peletier	57.0%	50.0%	7.0%	43.0%	12.3%
Pine Knoll Shores	41.5%	39.6%	1.3%	58.5%	3.1%
Carteret County	**55.6%**	**52.1%**	**2.3%**	**44.4%**	**4.3%**

Source: US Census Bureau American Community Survey.

Table 3.16 – Carteret County Employment by Industry

Jurisdiction	Management, Business, Science and Arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, Transportation, and Material Moving (%)
Atlantic Beach	48.0%	9.1%	23.8%	12.7%	6.4%
Beaufort	41.0%	17.9%	23.2%	5.4%	12.6%
Bogue	33.3%	23.0%	18.9%	10.0%	14.7%
Cape Carteret	41.0%	22.4%	17.5%	15.1%	4.0%
Cedar Point	48.0%	14.7%	20.6%	2.7%	14.0%
Emerald Isle	47.0%	12.0%	29.2%	5.0%	6.8%
Indian Beach	66.7%	6.3%	22.2%	3.2%	1.6%

Jurisdiction	Management, Business, Science and Arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, Transportation, and Material Moving (%)
Morehead City	41.8%	25.8%	14.6%	6.9%	11.0%
Newport	45.4%	12.7%	19.9%	9.0%	12.9%
Peletier	17.5%	23.6%	24.2%	28.8%	5.8%
Pine Knoll Shores	55.7%	12.1%	25.3%	3.0%	4.0%
Carteret County	39.9%	18.0%	20.1%	9.4%	12.5%

Source: US Census Bureau American Community Survey.

The top industries in Carteret County include (1) Management, Business, Science, and Arts, (2) Sales and Office, and (3) Service industries. The top 10 employers in the County are listed below:

- Carteret County Board of Education
- Carteret County General Hospital
- County of Carteret
- Wal-Mart Associates, Inc.
- Lowes Home Center, Inc.
- Carteret Technical College
- Food Lion
- Bally Refrigerated Boxes, Inc.
- Town of Morehead City Human Resources
- PMC of North Carolina, LLC.

3.3.6 HISTORIC PROPERTIES

As of January 2025, Carteret County had 15 listings on the National Register of Historic Places. This list includes 12 Historic Structures and 3 Historic Districts. Presence on the National Register signifies that these structures have been determined to be worthy of preservation for their historical or cultural values. The following provides a comprehensive listing of all Nationally Registered Properties in Carteret County.

- Fort Macon (Atlantic Beach) – 2/26/1970
- Queen Anne's Revenge (Atlantic Beach) – 3/9/2004
- Beaufort Historic District (Beaufort) – 5/6/1974
- Cape Lookout Coast Guard Station (Beaufort) – 2/1/1989
- Carteret County Home (Beaufort) – 12/20/1984
- Gibbs House (Beaufort) – 3/14/1973
- Henry, Jacob House (Beaufort) – 5/7/1973
- Old Burying Ground (Beaufort) – 4/8/1974
- Cape Lookout Light Station (Core Banks) – 10/18/1972
- Cape Lookout Village Historic District (Harkers Island) – 6/3/2000
- Morehead City Historic District (Morehead City) – 4/18/2003
- Morehead City Municipal Building (Morehead City) – 8/11/2004
- Salter-Battle Hunting and Fishing Lodge (Ocracoke) – 5/5/2005

— Earle W. Webb, Jr. Memorial Civic Center and Library (Morehead City) – 8/20/2021
— Portsmouth Village (Portsmouth) – 11/29/1978

3.3.7 LAND DEVELOPMENT TRENDS

Throughout Carteret County, approximately 65 percent of parcels are currently developed. Table 3.17 provides an overview of developed and undeveloped properties located throughout Carteret County. Most of the development is focused along coastal areas, in particular the Towns of Beaufort and Morehead City, as well as communities located along Bogue Banks. However, the County is also home to a burgeoning agricultural industry. Additional development is centralized along key highway corridors.

Table 3.17 – Carteret County Developed and Undeveloped Parcel Counts

Jurisdiction	Developed Parcels	Undeveloped Parcels	% Developed Parcels
Atlantic Beach	4,387	752	85.4%
Beaufort	2,284	1,623	58.5%
Bogue	296	194	60.4%
Cape Carteret	890	652	57.7%
Cedar Point	745	685	52.1%
Emerald Isle	6,181	1,319	82.4%
Indian Beach	976	162	85.8%
Morehead City	4,415	2,040	68.4%
Newport	1,304	428	75.3%
Peletier	323	420	43.5%
Pine Knoll Shores	2,065	372	84.7%
Unincorporated Carteret County	17,449	13,171	57.0%
Total	**41,315**	**21,818**	**65.4%**

Source: County Parcel GIS Data and iRisk Building Footprints

Future development throughout Carteret County is characterized by each community's respective Future Land Use Map. Carteret County, Atlantic Beach, Beaufort, Cedar Point, Cape Carteret, Morehead City, and Newport have all updated their comprehensive or land use plans within the last five years. Within unincorporated Carteret County, the 2021 CAMA Land Use Plan defines development policy. The Towns of Bogue and Peletier fall under the purview of the Carteret County plan. Most residential and non-residential development in Carteret County is expected to occur along the NC Highway 24 corridor between the Town of Morehead City and the Town of Bogue and along NC Highway 10 north of the Town of Beaufort.

Future development within incorporated towns located along Bogue Banks will generally occur as infill growth. Municipal infrastructure services limit development potential within these areas and non-residential development is generally relegated to properties fronting NC Highway 58, which connects Emerald Isle to Atlantic Beach. Opportunities for greenfield development are limited throughout Bogue Banks communities due to a lack of available land. Additionally, high density condo development is generally not possible due to a lack of central sewer service throughout Bogue Banks, with the exception of those properties served by package treatment systems. The most substantial package treatment system on the island is located within the Town of Atlantic Beach and serves development associated with the Grove located around the Circle in the center of town.

Growth and development within the County's mainland incorporated areas is expected to take place in a more traditional manner. Development and redevelopment of non-residential uses is expected to occur

within and adjacent to each respective community's commercial core. Mixed use opportunities will also exist within these areas, while additional commercial/office type development will also occur adjacent to key thoroughfares leading out to unincorporated portions of the County. The Towns of Morehead City, Beaufort, and Newport also have portions of their corporate limits that will support light industrial growth without generating adverse impacts on adjoining properties.

Future land use maps from each community's land use plan are provided in Figure 3.11 through Figure 3.19 below.

Figure 3.11 – Carteret County Future Land Use Map

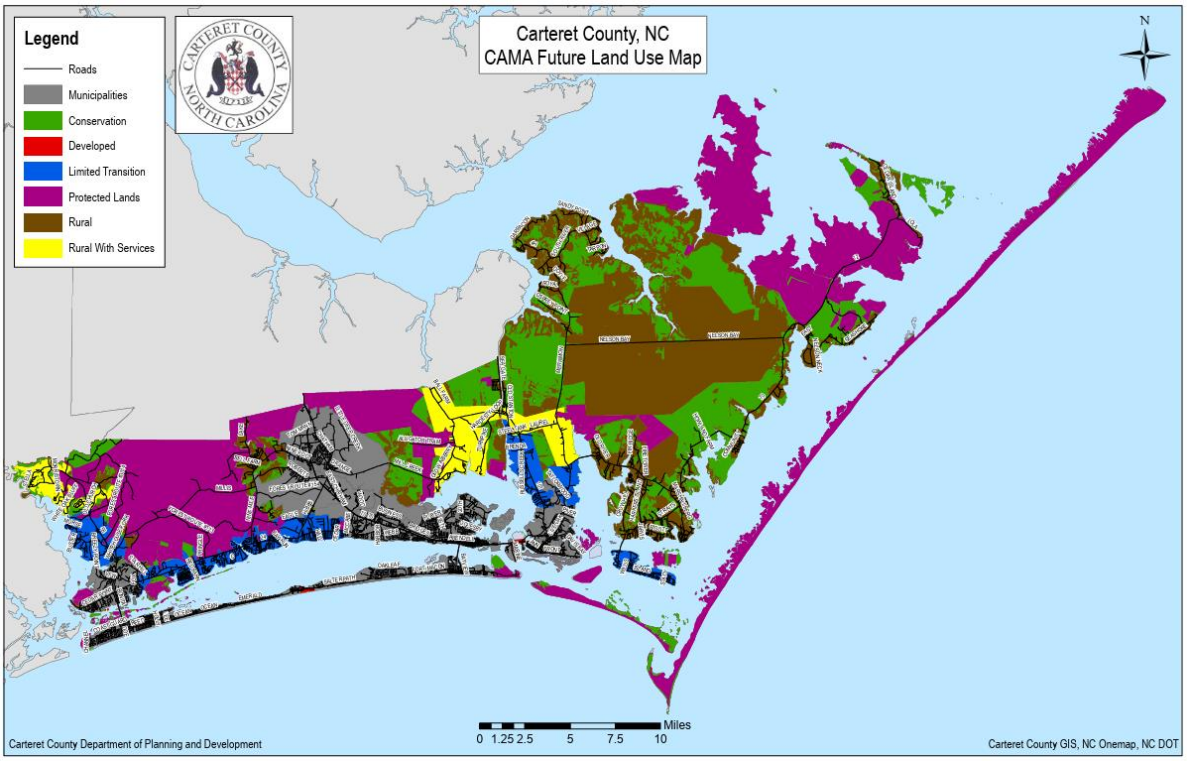


Figure 3.12 – Town of Atlantic Beach Future Land Use Map

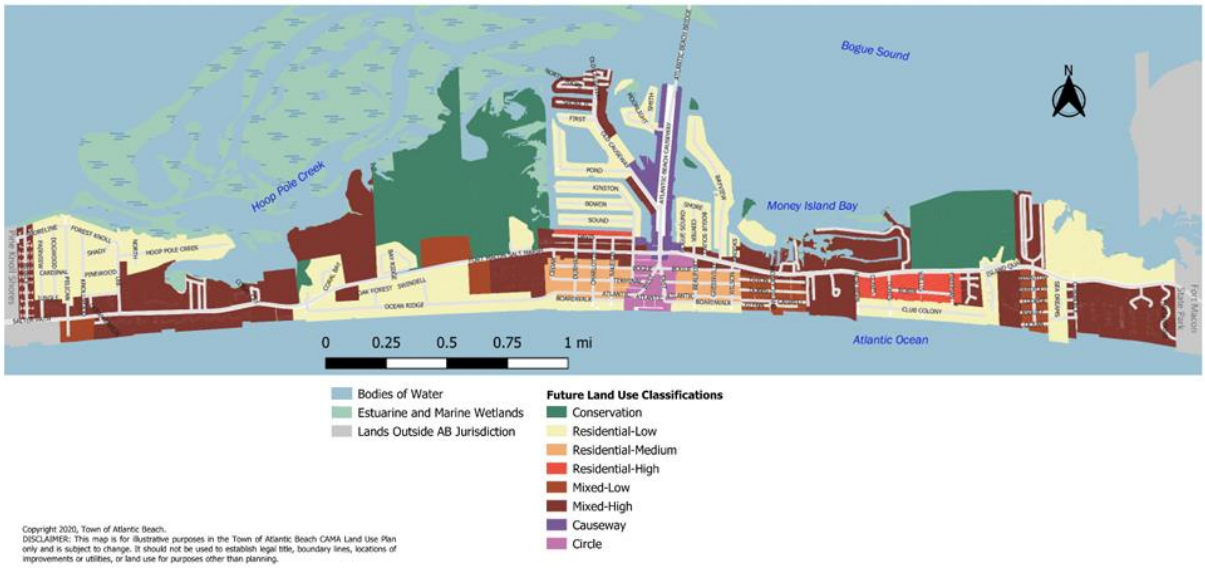


Figure 3.13 – Town of Beaufort Future Land Use Map

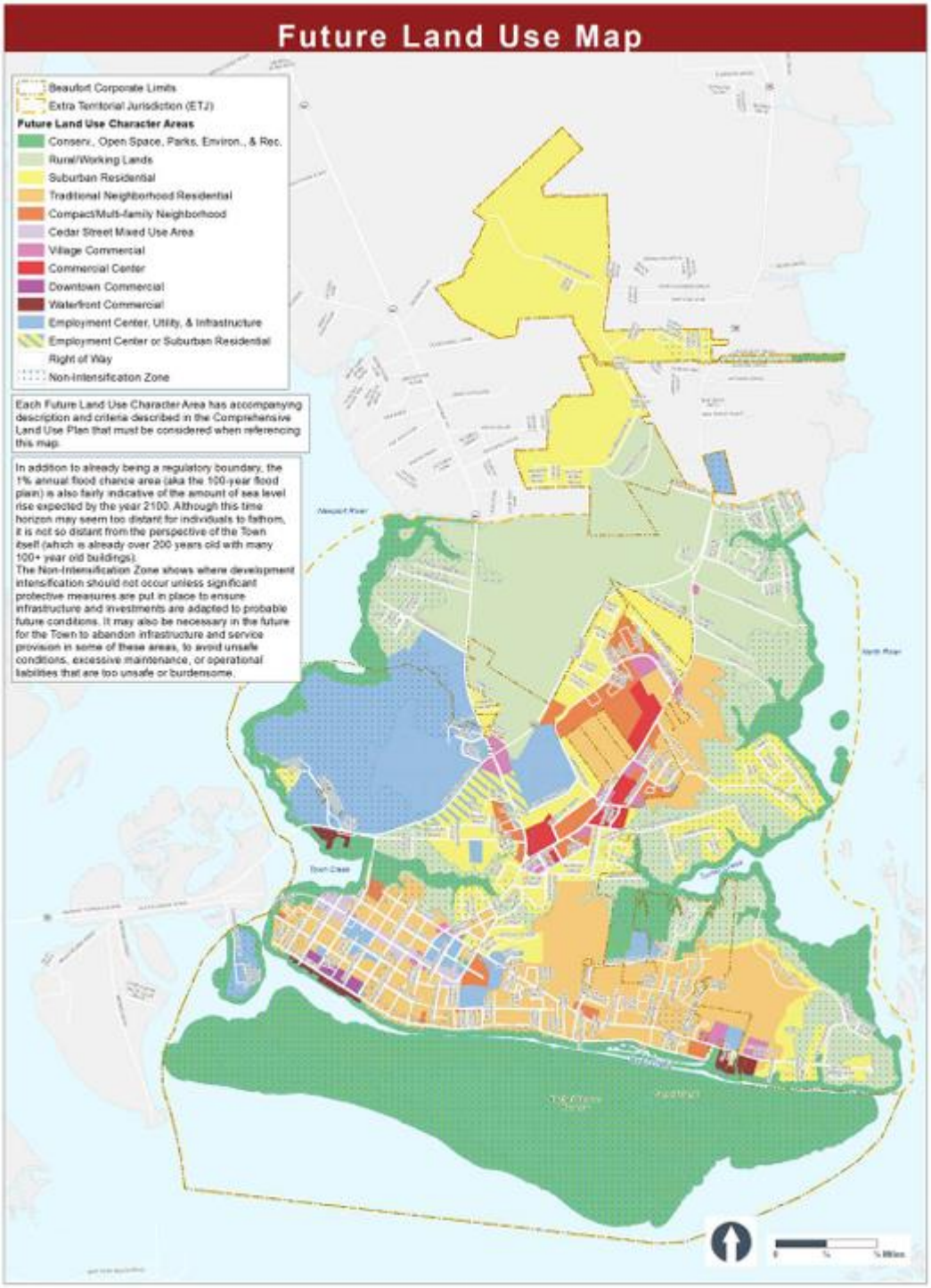
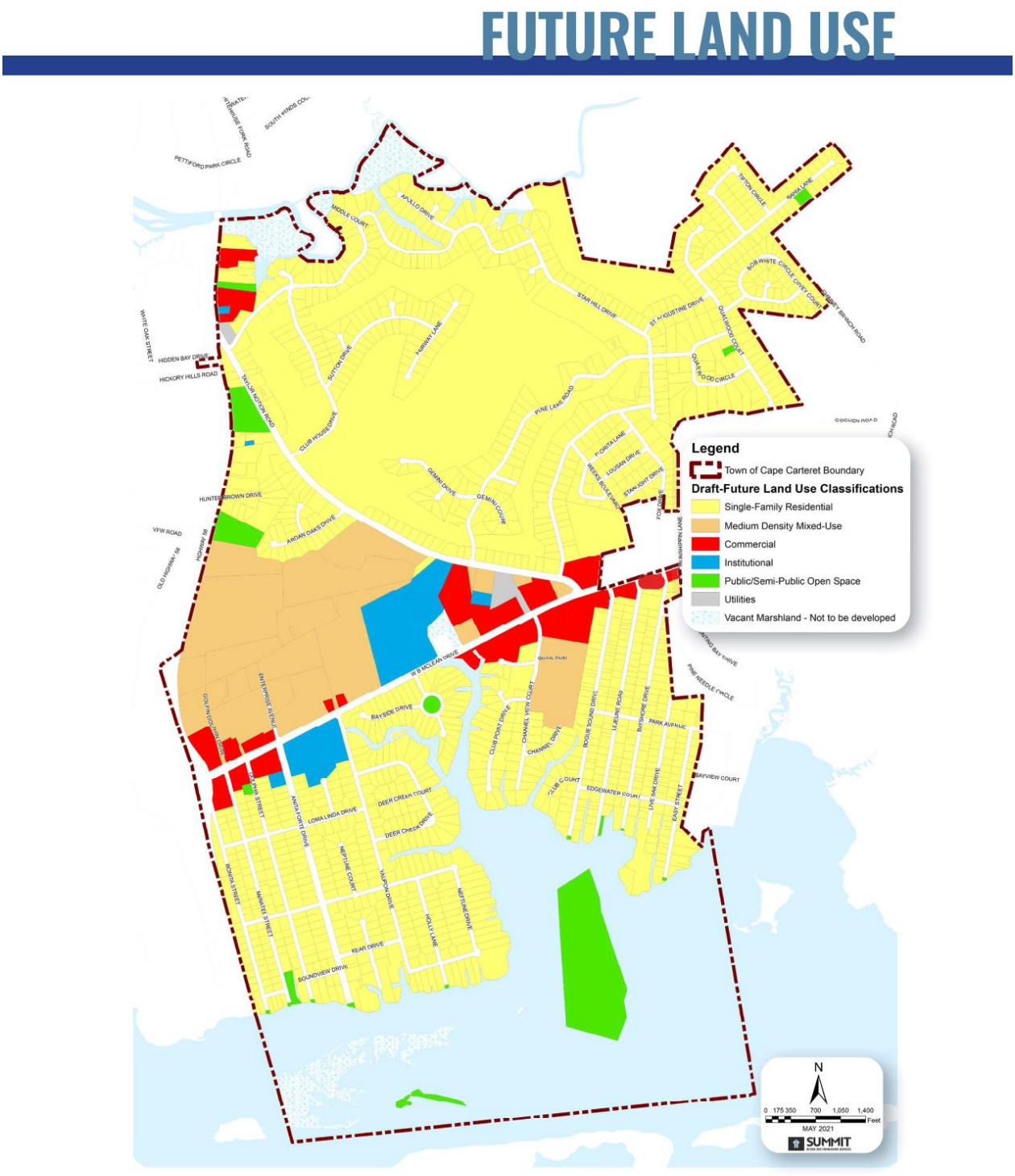


Figure 3.14 – Town of Cape Carteret Future Land Use



CAMA and Comprehensive Plan CRC Certification Date 11-14-22 123

Figure 3.15 – Town of Cedar Point Future Land Use

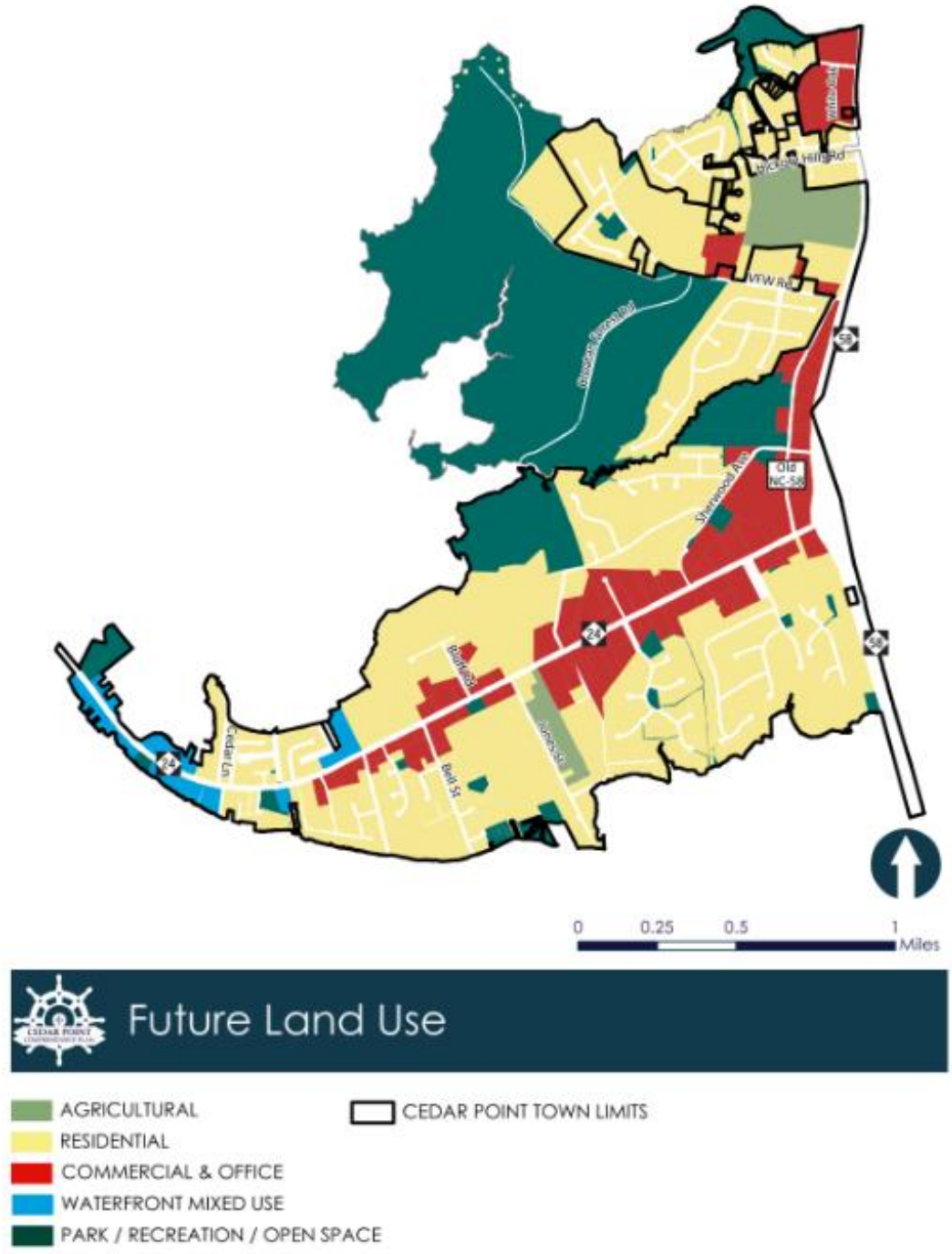


Figure 3.16 – Town of Emerald Isle Future Land Use Map

Figure 3.17 – Town of Indian Beach Future Land Use Map

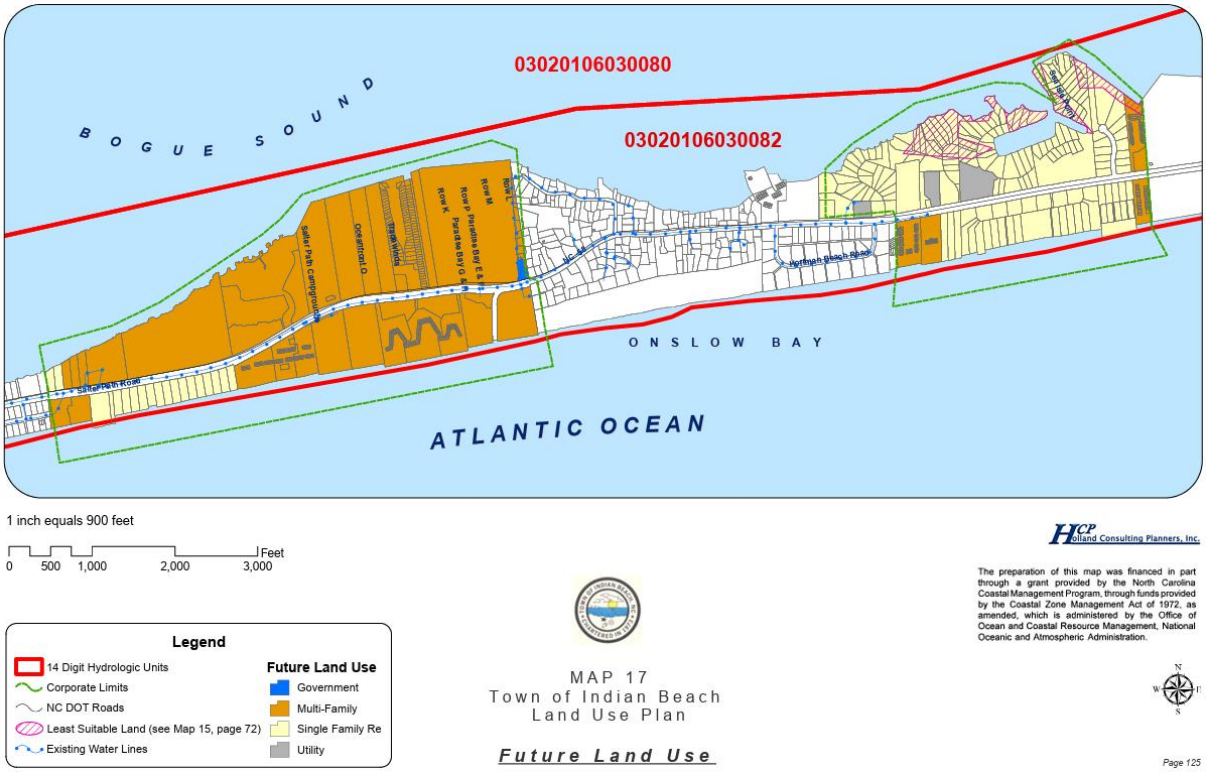


Figure 3.18 – Town of Newport Future Land Use Map

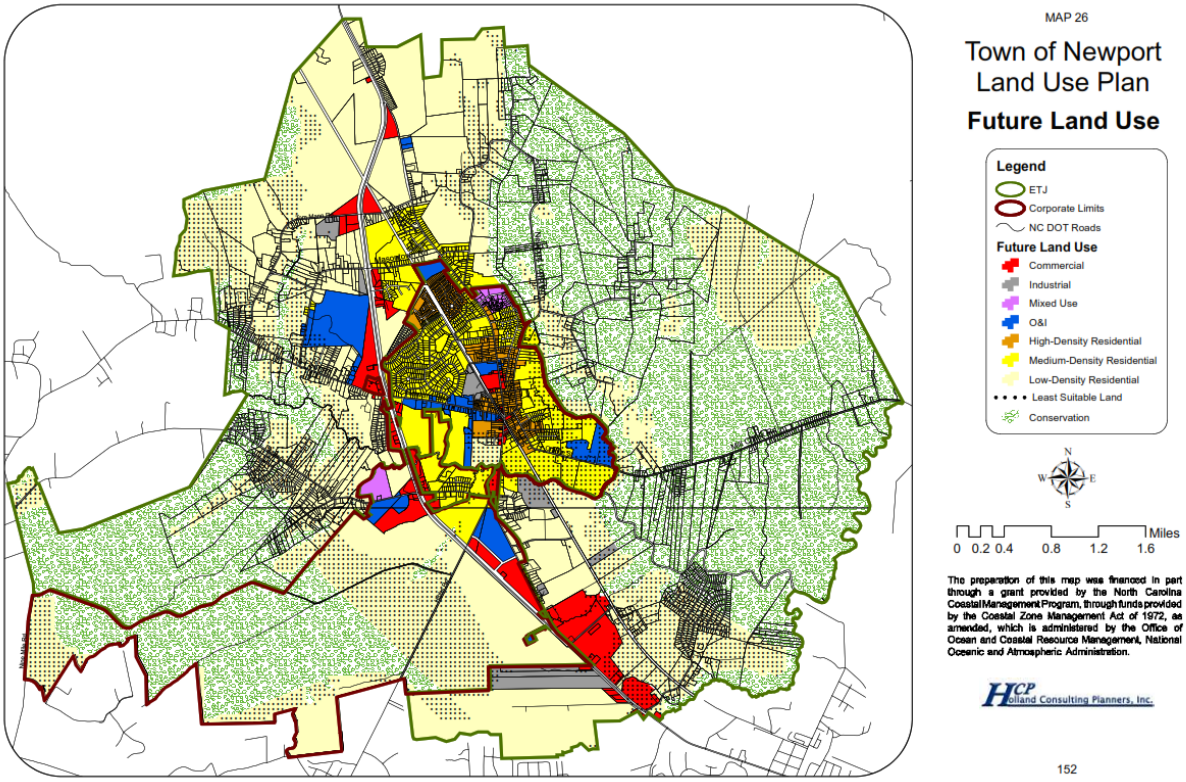


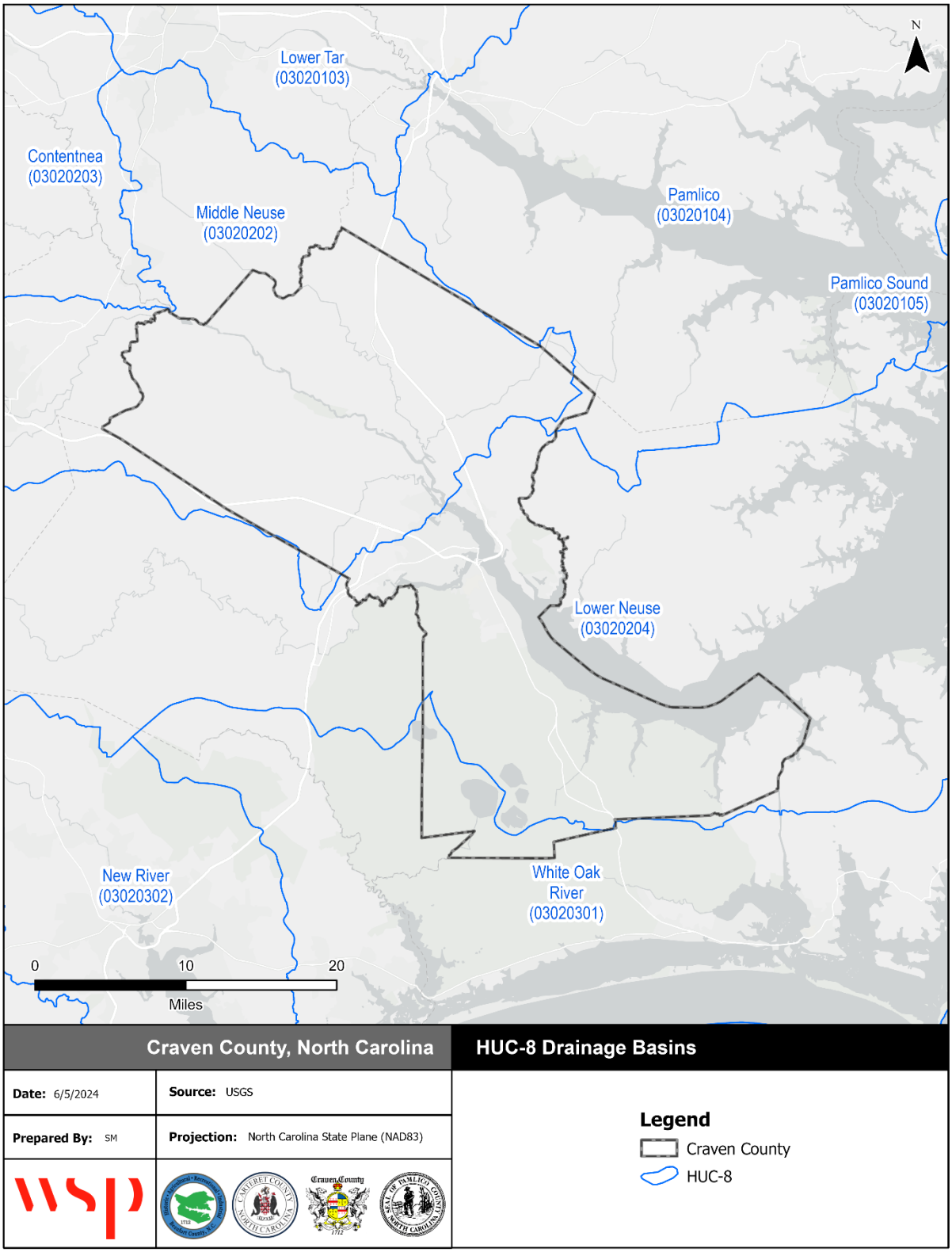
Figure 3.19 – Town of Pine Knoll Shores Future Land Use Map

3.4 CRAVEN COUNTY

3.4.1 HYDROLOGY

As with Carteret County, Craven County has three separate river basins traversing through its boundaries. These basins include the Onslow Bay, Neuse, and Pamlico, as shown in Figure 3.9. Descriptions of these river basins can be found in Section 3.2.8.

Figure 3.20 – Craven County, HUC8 River Basins



Source: National Hydrology Dataset

3.4.2 PARKS AND OPEN SPACE

There are several parks located throughout Craven County, both within unincorporated portions of the County, as well as within participating municipalities. Additionally, a portion of the Croatan National Forest is located within Craven County. The Croatan National Forest is one of four National Forests in North Carolina and the only true coastal forest in the East. Refer to the Carteret County Parks and Open Space discussion for more details regarding the Croatan National Forest.

The following provides a listing of parks and recreational facilities located in Craven County:

- Creekside Park – 1821 Old Airport Rd, New Bern, NC
- West Craven Park – 2791 Streets Ferry Rd, Vanceboro, NC
- Latham-Whitehurst Nature Park – 1095 Broad Creek Rd, New Bern, NC
- Rocky Run Park – 411 Rocky Run Rd, New Bern, NC

3.4.3 DEMOGRAPHICS

POPULATION TOTAL

The total population of Craven County according to the 2023 American Community Survey was 101,074 persons. Population growth throughout unincorporated portions of Craven County has been moderate since Census year 2000 at a rate of 18.5 percent while some municipalities have experienced rapid growth like Bridgeton (71 percent), Cove City (34.6 percent), and New Bern (36.6 percent). On the contrary, some participating municipalities have experienced declining populations during the same time period including Dover (-14.5 percent), Havelock (-26.6 percent), River Bend (-0.9 percent), and Trent Woods (-3.3 percent).

Table 3.18 provides a breakdown of total population for Craven County and the participating municipalities for the years 2000, 2010, 2020, and 2023.

Table 3.18 – Craven County Total Population

Jurisdiction	2000	2010	2020	2023	% Change 2010-2023	Overall % Change 2000-2023
Bridgeton	328	454	346	561	-23.7%	71.0%
Cove City	433	399	381	583	-4.5%	34.6%
Dover	443	401	349	379	-13.0%	-14.5%
Havelock	22,442	20,735	16,688	16,471	-19.5%	-26.6%
New Bern	23,111	29,524	31,287	31,563	6.0%	36.6%
River Bend	2,923	3,119	2,899	2,896	-7.1%	-0.9%
Trent Woods	4,224	4,155	4,079	4,086	-1.8%	-3.3%
Vanceboro	898	1,055	872	939	-17.4%	4.6%
Municipalities	**54,802**	**59,842**	**56,901**	**57,478**	-4.9%	4.9%
Unincorporated Areas	36,784	36,721	43,891	43,596	19.5%	18.5%
Total	**91,586**	**96,563**	**100,792**	**101,074**	4.4%	10.4%

Source: US Census Bureau American Community Survey.

GROWTH TRENDS

Table 3.12 provides population forecast through the year 2050 for Craven County, as well as all participating municipal jurisdictions. Municipal forecasts are based on the annual growth rate calculated from 2000 and 2023 population change presented in Table 3.18. According to the North Carolina Office

of State Budget and Management (NCOSBM), the population of Craven County is expected to increase by approximately 2.2 percent by 2050 (a total of 2,261 more persons).

Table 3.19 – Craven County Population Projections, 2023-2050

Jurisdiction	2023	2030	2040	2050	% Change 2023-2050
Bridgeton	561	631	731	831	48.1%
Cove City	583	625	685	745	27.8%
Dover	379	365	345	325	-14.3%
Havelock	16,471	14,658	12,068	9,478	-42.5%
New Bern	31,563	34,132	37,802	41,472	31.4%
River Bend	2,896	2,889	2,879	2,869	-0.9%
Trent Woods	4,086	4,044	3,984	3,924	-4.0%
Vanceboro	939	932	922	912	-2.9%
Municipalities	**57,478**	**58,290**	**59,450**	**60,610**	**5.5%**
Unincorporated Areas	43,596	45,668	48,628	51,588	18.3%
Craven County*	**101,074**	**103,334**	**103,336**	**103,335**	**2.2%**

Source: US Census Bureau American Community Survey and NCOSBM State/County Population Projections
Note: Municipal population projections were calculated using the linear growth formula, which assumes the same growth occurs annually. The annual growth rate (in persons) was determined by subtracting the initial population (2000) from the base population (2023) dividing it by the number of years (23 years). The annual growth rate (in person) was then multiplied by base population (2023) and number of years (7 years for 2030, 17 years for 2040, and 27 years for 2050).
*Unlike the Municipal population projections, the County population projections were forecasted and provided by NCOSBM, which considers estimates of births, deaths, migration, and other demographic data.

RACIAL DEMOGRAPHICS

The overall Craven County population is predominantly Caucasian comprising 67.4 percent of residents, while most of the remaining population is African American (20.3 percent). The racial composition of the County's municipal jurisdictions varies substantially. The Town of Dover is predominantly African American (59.6 percent), while Cove City, New Bern, and Vanceboro have an African American population over 25 percent. One other unique characteristic is that the City of New Bern maintains an Asian population of 5.8 percent. Overall, Craven County has a Hispanic/Latino population of 7.4 percent. Municipalities with the largest Hispanic population in the County include Bridgeton (38.9 percent) and Havelock (15.1 percent).

According to the American Community Survey, the 2023 median age in Craven County was 39.2 years. Approximately 78 percent of the County's population is over the age of eighteen, while 50 percent is male and 50 percent is female. Table 3.20 provides a summary of racial composition for Craven County, as well as all participating municipal jurisdictions.

Table 3.20 – Craven County Racial Composition

Jurisdiction	Caucasian	African-American	Asian	Other Race*	Two or More Races	Persons of Hispanic or Latino Origin**
Bridgeton	80.2%	10.9%	0.0%	8.9%	0.0%	38.9%
Cove City	61.1%	28.0%	0.0%	1.4%	9.6%	7.7%
Dover	33.0%	59.6%	0.0%	0.0%	7.4%	0.3%
Havelock	61.3%	18.2%	3.8%	3.4%	13.1%	15.1%
New Bern	55.0%	28.9%	5.8%	3.8%	6.6%	6.1%
River Bend	83.7%	12.6%	0.0%	0.5%	3.1%	3.3%

Jurisdiction	Caucasian	African-American	Asian	Other Race*	Two or More Races	Persons of Hispanic or Latino Origin**
Trent Woods	99.0%	0.0%	0.0%	0.1%	0.8%	0.1%
Vanceboro	50.2%	45.2%	0.0%	2.3%	2.3%	3.0%
Craven County	**67.4%**	**20.3%**	**2.7%**	**2.8%**	**6.8%**	**7.4%**

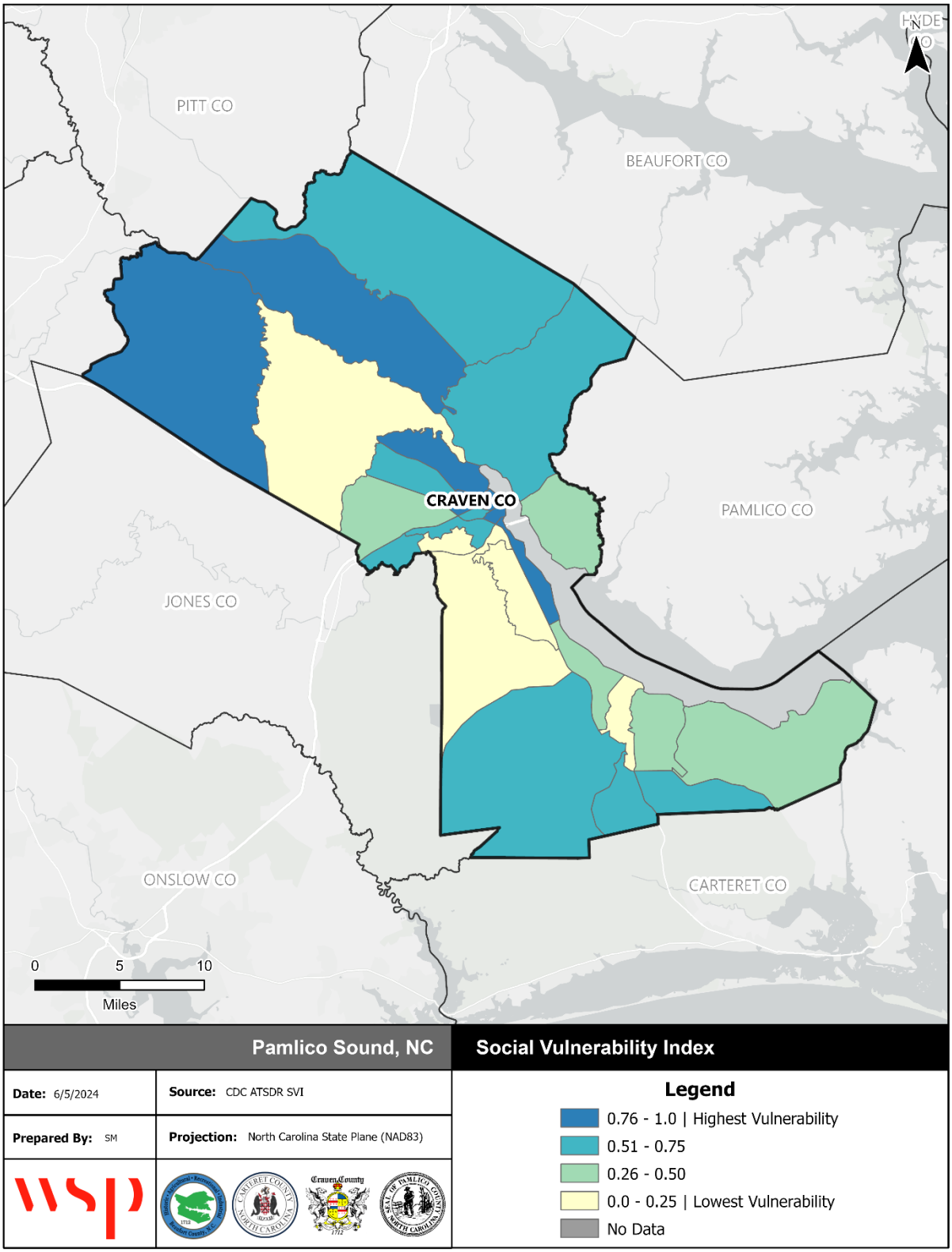
*Other races includes American Indian, Alaskan Native, Native Hawaiian, Pacific Islander, etc.
**Persons of Hispanic or Latino Origin are classified regardless of race; therefore, this percentage is considered independent of the other race classifications listed.
Source: US Census Bureau American Community Survey.

SOCIAL VULNERABILITY

Figure 3.21 below displays social vulnerability information for Craven County by census tract according to 2022 data and analysis by the Centers for Disease Control and Prevention (CDC). The CDC's Social Vulnerability Index (SVI) indicates the relative vulnerability within census tracts based on 15 social factors: poverty, unemployment, income, education, age, disability, household composition, minority status, language, housing type, and transportation access. Higher social vulnerability is an indicator that a community may be limited in its ability to respond to and recover from hazard events. Therefore, using this SVI information can help the County and municipal jurisdictions to prioritize pre-disaster aid, allocate emergency preparedness and response resources, and plan for the provision of recovery support.

The SVI throughout Craven County is moderate to high with highest vulnerability in Northern portions of Craven County, in and around Cove City, Vanceboro, and Dover. Central portions of the County in and around the City of New Bern and Town of Bridgeton also have a high SVI index, while portions Northwest of Havelock and Southeast of Cove City have a much lower SVI score. Within Craven County development is distributed more evenly throughout the County than other portions of Pamlico Region; however, developed density is higher throughout northern Craven County.

Figure 3.21 – Craven County Social Vulnerability Index



3.4.4 HOUSING CHARACTERISTICS

According to the American Community Survey, there were approximately 47,404 housing units in Craven County as of 2023. This figure marks a 7 percent, or 3,102 unit, increase since 2010 for unincorporated portions of Craven County. Although the County's housing unit growth has been somewhat modest, several County municipalities have experienced a much more rapid increase in their housing stock. Housing unit counts have increased by roughly 24.7 percent in Bridgeton and 33.2 percent in Vanceboro over the same period. With the exception of these two municipalities, housing starts have been slow throughout Craven County.

Housing in Craven County is predominantly comprised of owner occupants (69.9 percent). Overall, the County and its municipalities maintain a fairly high owner occupancy rate. Of the eight (8) municipal jurisdictions, six (6) have an owner occupancy rate above 50 percent. This factor is important in regards to mitigation and post disaster recovery due to the fact that homeownership directly correlates to the long term maintenance and flood proofing of property, as well as the eligibility for funding of impacted units following a flooding event associated with nor'easters and tropical storm/hurricanes.

In terms of vulnerability associated with natural hazard events such as tropical storms, hurricanes, and tornadoes, roughly 13.2 percent of the Craven County housing stock is comprised of manufactured homes, which is higher than the state average of 10.5 percent. The prevalence of manufactured housing poses a unique threat regarding both sustainability, as well as emergency response within defined flood hazard areas.

Table 3.21 below provides a summary of housing characteristics for Craven County, as well as participating municipal jurisdictions.

Table 3.21 – Craven County Housing Characteristics

Jurisdiction	Housing Units (2010)	Housing Units (2023)	% Change 2010-2023	% Owner Occupied (2023)	% Vacant Units (2023)
Bridgeton	194	242	24.7%	58.3%	14.9%
Cove City	230	248	7.8%	66.8%	5.2%
Dover	258	194	-24.8%	64.7%	12.4%
Havelock	6,844	5,840	-14.7%	45.0%	12.3%
New Bern	14,504	16,314	12.5%	60.1%	12.1%
River Bend	1,618	1,627	0.6%	88.3%	17.3%
Trent Woods	1,805	1,867	3.4%	92.8%	6.7%
Vanceboro	359	478	33.2%	46.4%	15.7%
Craven County	**44,302**	**47,404**	**7.0%**	**69.9%**	**12.5%**

Source: US Census Bureau American Community Survey.

3.4.5 WAGES, EMPLOYMENT AND INDUSTRY

The 2023 American Community Survey reports that the median household income for the Craven County was $64,635, which is slightly lower than the state's median household income of ($69,904). However, approximately 17.6 percent of the population is living below the poverty level. Moreover, 31.3 percent of people under 18 years of age are living below the poverty level.

Within Craven County, approximately 58.9 percent of the population is in the labor force. This is generally characteristic of all participating municipal jurisdictions as well, apart from Cove City, River Bend, and Dover which fall under 50 percent. According to the American Community Survey, the

unemployment rate for Craven County overall was 4.5 percent. Additionally, as of 2023, approximately 15.9 percent of households throughout Craven County relied on food stamps/SNAP benefits.

The following tables provides a summary of key economic indicators and population employed by industry for both incorporated and unincorporated portions of Craven County.

Table 3.22 – Craven County Key Economic Indicators

Jurisdiction	Population in Labor Force	Percent Employed (%)	Percent Unemployed (%)	Percent Not in Labor Force (%)	Unemployment Rate (%)
Bridgeton	54.3%	44.9%	6.5%	45.7%	12.6%
Cove City	44.7%	44.7%	0.0%	55.3%	0.0%
Dover	43.8%	41.4%	2.4%	56.2%	5.5%
Havelock	77.0%	41.3%	2.2%	23.0%	5.1%
New Bern	60.1%	55.5%	2.4%	39.9%	4.1%
River Bend	45.7%	44.3%	1.4%	54.3%	3.2%
Trent Woods	56.6%	55.0%	1.6%	43.4%	2.9%
Vanceboro	55.0%	53.1%	1.9%	45.0%	3.5%
Craven County	**58.9%**	**49.8%**	**2.4%**	**41.1%**	**4.5%**

Source: US Census Bureau American Community Survey.

Table 3.23 – Craven County Employment by Industry

Jurisdiction	Management, Business, Science and Arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, Transportation, and Material Moving (%)
Bridgeton	37.3%	15.0%	23.5%	16.3%	7.8%
Cove City	37.3%	17.9%	14.6%	23.6%	6.6%
Dover	22.5%	10.1%	17.4%	24.6%	25.4%
Havelock	33.4%	24.2%	22.2%	5.8%	14.5%
New Bern	38.5%	19.8%	20.6%	6.6%	14.6%
River Bend	42.4%	12.9%	24.7%	1.3%	18.7%
Trent Woods	52.1%	19.1%	19.2%	3.4%	6.3%
Vanceboro	50.9%	19.9%	12.3%	7.9%	9.0%
Craven County	**36.5%**	**19.6%**	**20.8%**	**8.1%**	**14.9%**

Source: US Census Bureau American Community Survey.

The top industries in Craven County include (1) Management, Business, Science, and Arts, (2) Sales and Office, and Service industries. The top 10 employers in the County are listed below:

- Department of Defense
- Carolina East Health System
- Craven County Board of Education
- BSH Home Appliances Corporation
- Wal-Mart Associates, Inc.
- Craven County
- Moen Incorporated
- Marine Corps Exchange Service

- Craven Community College
- City of New Bern

3.4.6 HISTORIC PROPERTIES

As of January 2025, Craven County had 57 listings on the National Register of Historic Places. This list includes 51 Historic Structures and 6 Historic Districts. Presence on the National Register signifies that these structures have been determined to be worthy of preservation for their historical or cultural values. The following provides a comprehensive listing of all Nationally Registered Properties in Craven County.

- Attmore-Oliver House (New Bern) – 1/20/1972
- Barber, J.T., School (New Bern) – 12/20/2006
- Baxter Clock (New Bern) – 7/2/1973
- Bellair (New Bern) – 8/25/1972
- Blades House (New Bern) – 1/14/1972
- Bryan House and Office (New Bern) – 3/24/1972
- Cedar Grove Cemetery (New Bern) – 12/5/1972
- Cedar Street Recreation Center (New Bern) – 8/21/2003
- Centenary Methodist Church (New Bern) – 9/11/1972
- Central Elementary School (New Bern) – 1/20/1972
- Christ Episcopal Church and Parish House (New Bern) – 4/13/1973
- Clear Springs Plantation (Jasper) – 3/14/1973
- Coor-Bishop House (New Bern) – 11/9/1972
- Coor-Gaston House (New Bern) – 2/1/1972
- Craven Terrace (New Bern) – 8/19/2014
- DeGraffenried Park Historic District (New Bern) – 8/9/2006
- Ebenezer Presbyterian Church (New Bern) – 6/30/1997
- First Baptist Church (New Bern) – 3/24/1972
- First Church of Christ, Scientist (New Bern) – 10/2/1973
- First Missionary Baptist Church (New Bern) – 6/30/1997
- First Presbyterian Church and Churchyard (New Bern) – 2/1/1972
- Ghent Historic District (New Bern) – 3/17/1988
- Gull Harbor (New Bern) – 8/14/1973
- Harvey Mansion (New Bern) – 11/12/1971
- Hawks House (New Bern) – 3/16/1972
- Hollister, William, House (New Bern) – 6/30/1972
- Jerkins, Thomas, House (New Bern) – 10/18/1972
- Jerkins--Duffy House (New Bern) – 3/17/1988
- Jones-Jarvis House (New Bern) – 4/11/1973
- Mace, Ulysses S., House (New Bern) – 6/4/1973
- Masonic Temple and Theater (New Bern) – 3/16/1972
- Mount Shiloh Missionary Baptist Church (New Bern) – 3/1/2007
- New Bern Battlefield Site (New Bern) – 10/19/2001

- New Bern Historic District (New Bern) – 6/19/1973
- New Bern Historic District (Boundary Increase) (New Bern) – 9/25/2003
- New Bern Historic District (Boundary Increase II) (New Bern) – 1/5/2016
- New Bern Municipal Building (New Bern) – 6/4/1973
- New Bern National Cemetery (New Bern) – 1/31/1997
- Rhem-Waldrop House (New Bern) – 10/18/1972
- Riverside Historic District (New Bern) – 2/9/1988
- Rue Chapel AME Church (New Bern) – 6/30/1997
- Simpson-Oaksmith-Patterson House (New Bern) – 1/20/1972
- Sloan, Dr. Earl S., House (Trent Woods) – 8/14/1986
- Slover-Bradham House (New Bern) – 4/11/1973
- Smallwood, Eli, House (New Bern) – 12/15/1972
- Smith Jr., Isaac H., House (New Bern) – 9/14/2002
- Smith, Benjamin, House (New Bern) – 4/13/1972
- Smith-Whitford House (New Bern) – 4/13/1972
- St. John's Missionary Baptist Church (New Bern) – 6/30/1997
- St. Paul's Roman Catholic Church (New Bern) – 3/24/1972
- St. Peter's AME Zion Church (New Bern) – 6/30/1997
- Stanly, Edward R., House (New Bern) – 3/24/1972
- Stanly, John Wright, House (New Bern) – 2/26/1970
- Stevenson House (New Bern) – 8/26/1971
- Taylor, Isaac, House (New Bern) – 12/27/1972
- Tisdale-Jones House (New Bern) – 4/25/1972
- York-Gordon House (New Bern) – 6/18/1973

3.4.7 LAND DEVELOPMENT TRENDS

Throughout Craven County, approximately 77 percent of parcels are currently developed. Table 3.24 provides an overview of developed and undeveloped properties located throughout Craven County. A majority of development is focused within the urban communities of New Bern and Havelock. Additionally, increased growth has begun to occur within communities adjacent to New Bern including Trent Woods, River Bend, and Vanceboro. Development is also centralized along key highway corridors, especially throughout portions of the County adjacent to Havelock between New Bern and the Carteret County line. It should also be noted that agriculture and associated land uses are a critical component of the County's economy.

Table 3.24 – Craven County Developed and Undeveloped Parcel Counts

Jurisdiction	Developed Parcels	Undeveloped Parcels	% Developed Parcels
Bridgeton	295	102	74.3%
Cove City	242	101	70.6%
Dover	264	111	70.4%
Havelock	4,711	266	94.7%
New Bern	14,702	2,956	83.3%
River Bend	1,583	174	90.1%

Jurisdiction	Developed Parcels	Undeveloped Parcels	% Developed Parcels
Trent Woods	1,931	271	87.7%
Vanceboro	465	174	72.8%
Unincorporated Craven County	21,990	9,606	69.6%
Total	**46,183**	**13,761**	**77.0%**

Source: County Parcel GIS Data and iRisk Building Footprints

Craven County does not maintain zoning regulations within unincorporated areas. The County is characterized by rural landscapes interspersed with small towns that maintain a commercial core and moderate density residential development. However, Craven County has two large municipal jurisdictions including the City of New Bern and the City of Havelock. These two communities are connected by a fifteen mile stretch of US Highway 70.

It is anticipated that residential and non-residential development will continue to occur at a fairly rapid pace along this stretch. As this development continues, the County will consider instituting corridor planning and ultimately, there is potential for the establishment of corridor specific zoning regulations. In addition to US Highway 70 leading to Havelock, growth will also continue to materialize along US Highway 70 east of New Bern and along US Highway 17 north of New Bern to the Pitt County line.

As with many of the other municipalities in the region, development within New Bern and Havelock will continue to expand in a traditional fashion. It is expected that New Bern's downtown commercial core will continue to experience redevelopment and expansion. This is limited in some ways due to the historical protection measures which exist in this area. Development in Havelock will continue along the US Highway 70 corridor, which in many ways serves at the City's commercial core. Future growth within Havelock is dependent upon potential growth of Cherry Point Naval Air Station. The Town of River Bend is predominantly residential in character and is located outside the City of New Bern's corporate limits.

The Craven County land use plan, adopted in 2009, covers the unincorporated county and the Towns of Cove City, Dover, and Vanceboro. Bridgeton will participate in future county land use planning. The City of New Bern and the Towns of Trent Woods and River Bend have a regional land use plan, adopted in 2010 and 2011. The City of Havelock's land use plan was updated in 2023.

Figure 3.22 – Craven County Future Land Use Map

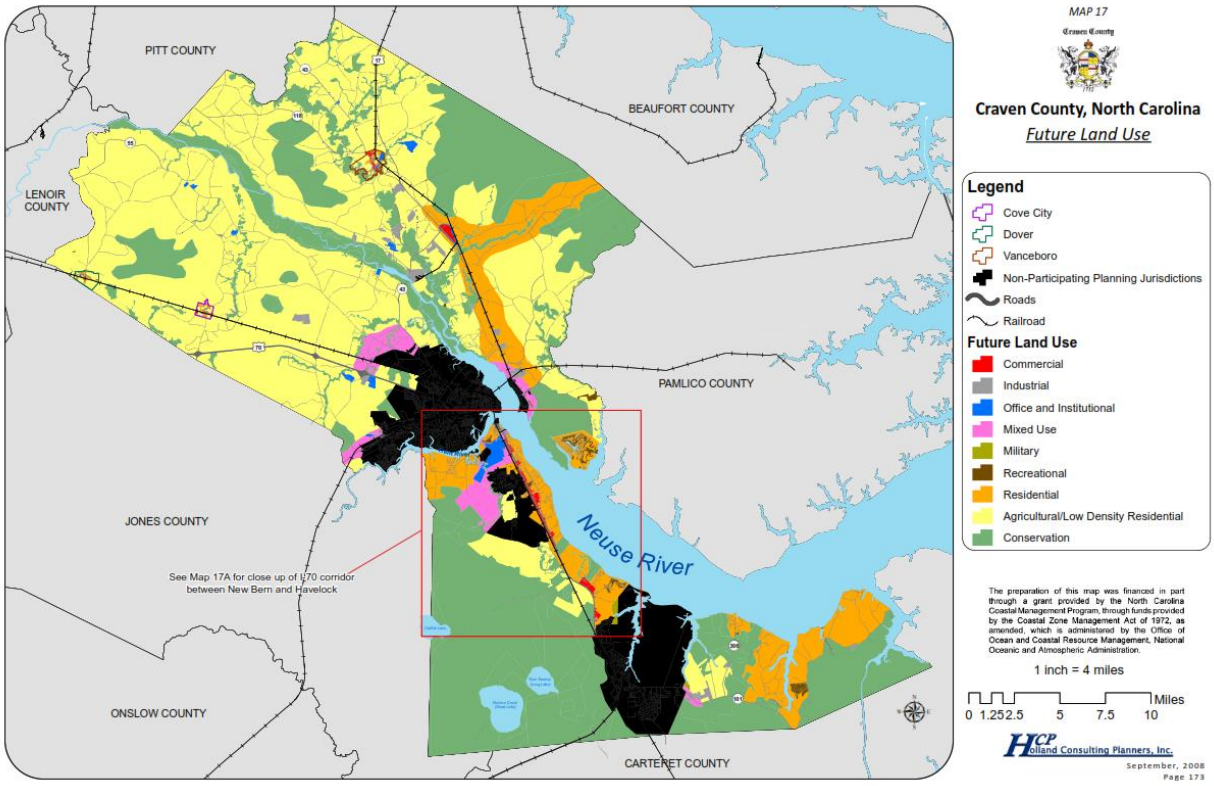


Figure 3.23 – City of Havelock Future Land Use Map

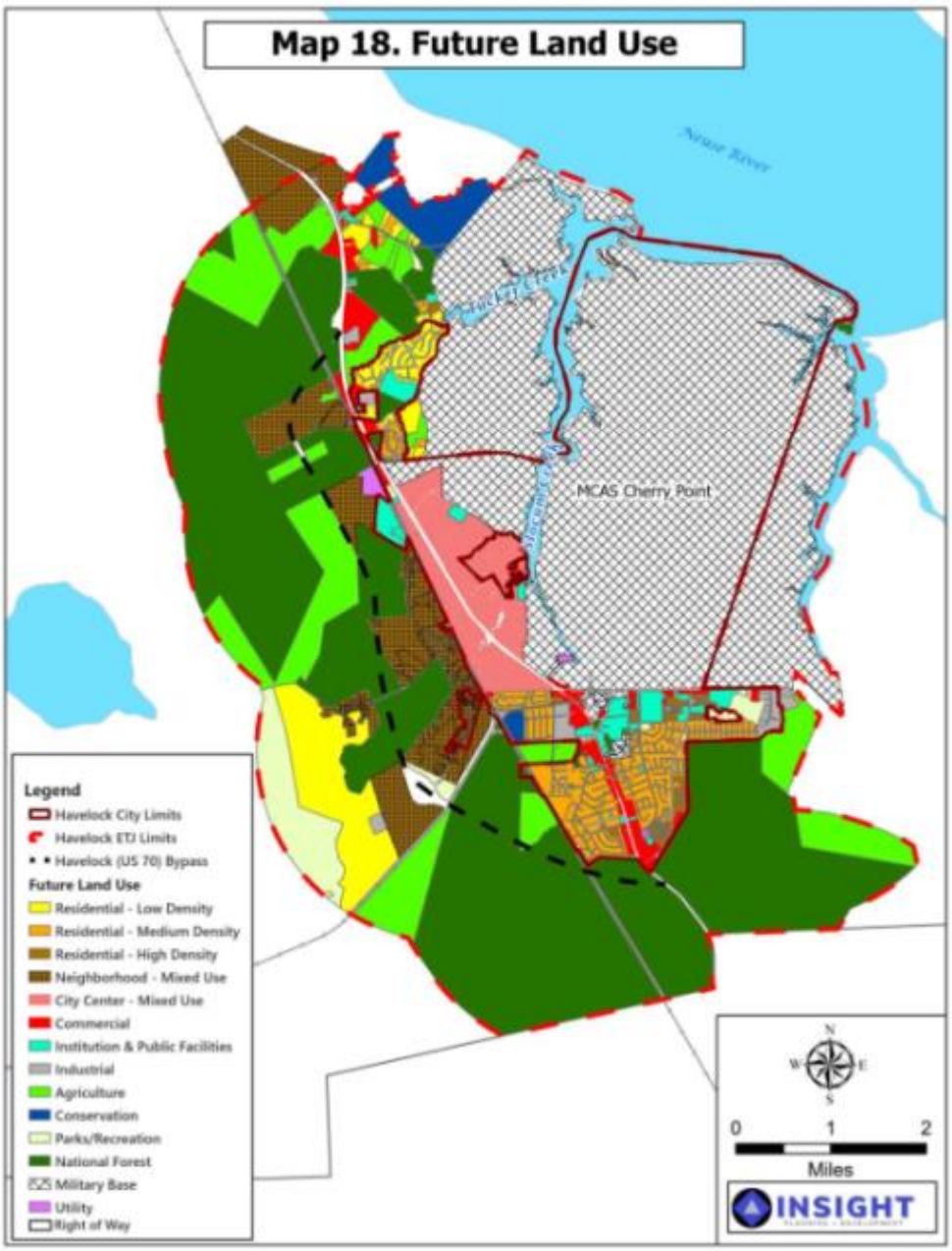
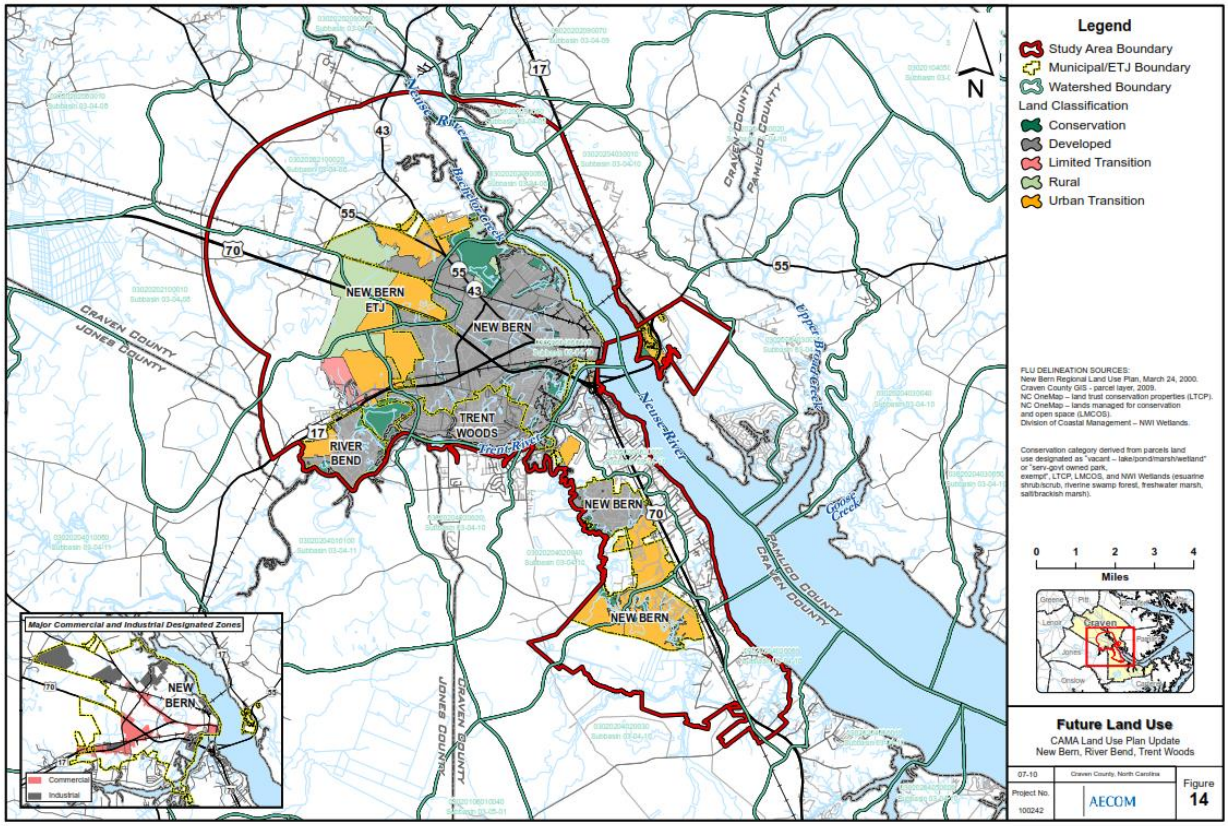


Figure 3.24 – New Bern, Trent Woods, and River Bend Future Land Use Map

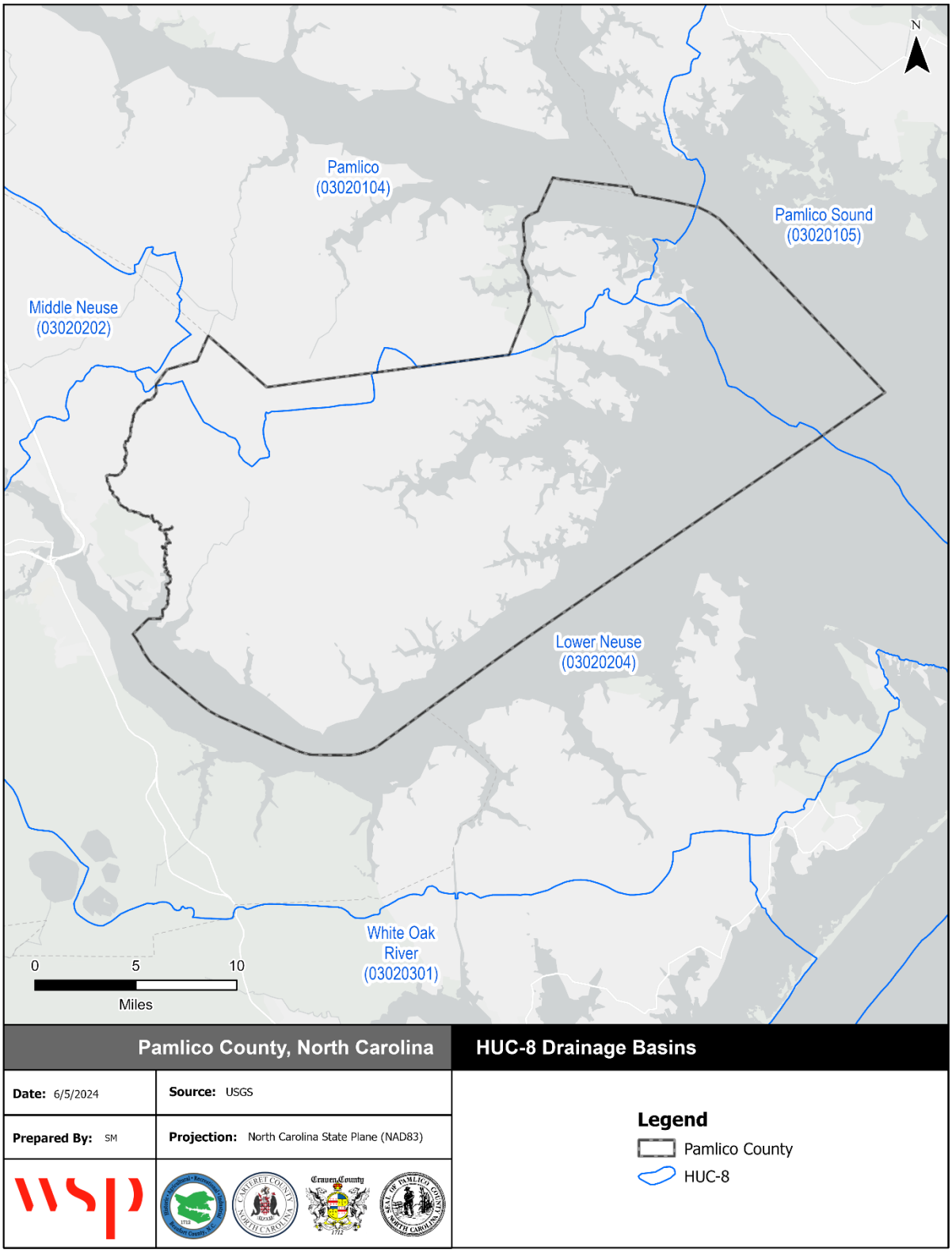


3.5 PAMLICO COUNTY

3.5.1 HYDROLOGY

Pamlico County's waters are situated in two river basins: the northern portion of Goose Creek Island adjacent to the Pamlico River is in the Pamlico River Basin and the remainder of the County's estuarine waters are located in the Neuse River Basin, as shown in Figure 3.9. Descriptions of these river basins can be found in previous Section 3.2.8.

Figure 3.25 – Pamlico County, HUC8 River Basins



Source: National Hydrology Dataset

3.5.2 PARKS AND OPEN SPACE

There are several parks located throughout Pamlico County, both within unincorporated portions of the County, as well as within participating municipalities. The following provides a listing of those parks and recreational facilities:

- Alliance Recreation Park – 256 Ireland Rd, Bayboro, NC
- Newton Creek Park – 229 Matthew Rd, Bayboro, NC
- Bayboro Community Park (Bayboro)
- Raccoon Creek Park – 1206 NC 304, Bayboro, NC
- Dawson's Creek Beach Access – 3886 Janiero Rd, Arapahoe, NC
- Styron Beach Access – 681 Styrontown Beach Rd, Oriental, NC
- Lupton Park – 702 3rd Ave, Oriental, NC
- Lou Mac Park – 504 South Ave, Oriental, NC
- Oriental Recreation Park – 6417 Straight Rd, Oriental, NC

3.5.3 DEMOGRAPHICS

POPULATION TOTAL

The total population of Pamlico County according to the 2023 American Community Survey was 12,315 persons. Population throughout unincorporated portions of Pamlico County has been in decline since the 2000 Census at a rate of -4.8 percent. This negative growth has also been experienced by several of the County's municipalities, including the Towns of Arapahoe, Grantsboro, Mesic, Stonewall, and Vandemere. There are several municipalities that have experienced quite rapid population increase over this same period, including Bayboro (73 percent) and Minnesott Beach (70.1 percent). It should be noted that much of this growth occurred between the years 2000 and 2010.

Table 3.25 provides a breakdown of total population for Pamlico County and the participating municipalities for the years 2000, 2010, 2020, and 2023.

Table 3.25 – Pamlico County Total Population

Jurisdiction	2000	2010	2020	2023	% Change 2010-2023	Overall % Change 2000-2023
Alliance	785	776	736	812	-5.2%	3.4%
Arapahoe	436	556	415	384	-25.4%	-11.9%
Bayboro	741	1,263	1,159	1,282	-8.2%	73.0%
Grantsboro	754	688	695	698	1.0%	-7.4%
Mesic	257	220	144	206	-34.6%	-19.8%
Minnesott Beach	311	440	528	529	20.0%	70.1%
Oriental	875	900	880	930	-2.2%	6.3%
Stonewall	285	281	211	151	-24.9%	-47.0%
Vandemere	289	245	245	204	0.0%	-29.4%
Municipalities	**4,733**	**5,369**	**5,013**	**5,196**	-6.6%	9.8%
Unincorporated Areas	8,201	7,775	7,257	7,119	-6.7%	-13.2%
Total	**12,934**	**13,144**	**12,270**	**12,315**	-6.7%	-4.8%

Source: US Census Bureau American Community Survey.

GROWTH TRENDS

Table 3.26 provides population forecast through the year 2050 for Pamlico County, as well as all participating municipal jurisdictions. Municipal forecasts are based on the annual growth rate calculated from 2000 and 2023 population change presented in Table 3.25. According to the North Carolina Office of State Budget and Management (NCOSBM), the population of Pamlico County is expected to increase by approximately 4.9 percent by 2050 (a total of 603 more persons). The most substantial increase regarding the County's municipalities is expected to be the Town of Bayboro at a rate of 48.4 percent (621 individuals) over the same period.

Table 3.26 – Pamlico County Population Projections, 2023-2050

Jurisdiction	2023	2030	2040	2050	% Change 2023-2050
Alliance	812	819	829	839	3.3%
Arapahoe	384	370	350	330	-14.1%
Bayboro	1,282	1.443	1,673	1,903	48.4%
Grantsboro	698	684	664	644	-7.7%
Mesic	206	192	172	152	-26.2%
Minnesott Beach	529	592	682	772	45.9%
Oriental	930	944	964	984	5.8%
Stonewall	151	116	66	16	-89.4%
Vandemere	204	183	153	123	-39.7%
Municipalities	**5,196**	**5,336**	**5,536**	**5,736**	**10.4%**
Unincorporated Areas	7,119	6,790	6,320	5,850	-17.8%
Pamlico County*	**12,315**	**12,917**	**12,918**	**12,919**	**4.9%**

Source: US Census Bureau American Community Survey and NCOSBM State/County Population Projections
Note: Municipal population projections were calculated using the linear growth formula, which assumes the same growth occurs annually. The annual growth rate (in persons) was determined by subtracting the initial population (2000) from the base population (2023) dividing it by the number of years (23 years). The annual growth rate (in person) was then multiplied by base population (2023) and number of years (7 years for 2030, 17 years for 2040, and 27 years for 2050).
*Unlike the Municipal population projections, the County population projections were forecasted and provided by NCOSBM, which considers estimates of births, deaths, migration, and other demographic data.

RACIAL DEMOGRAPHICS

The overall Pamlico County population is predominantly Caucasian comprising 74.6 percent of residents, while most of the remaining population is African American (18.6 percent). The racial composition of the County's municipal jurisdictions varies slightly. The Towns of Bayboro and Mesic are predominantly African American. Overall, Pamlico County has a low Hispanic/Latino population of 4.6 percent. Municipalities with the largest Hispanic population throughout the County include Grantsboro and Arapahoe.

According to the American Community Survey, the 2023 median age within Pamlico County was 54.1 years. Approximately 86 percent of the County's population is over the age of eighteen, while 51 percent is male and 49 percent is female. Table 3.20 provides a summary of racial composition for Pamlico County, as well as all participating municipal jurisdictions.

Table 3.27 – Pamlico County Racial Composition

Jurisdiction	Caucasian	African-American	Asian	Other Race*	Two or More Races	Persons of Hispanic or Latino Origin**
Alliance	82.5%	16.1%	0.0%	0.5%	0.9%	4.2%

Jurisdiction	Caucasian	African-American	Asian	Other Race*	Two or More Races	Persons of Hispanic or Latino Origin**
Arapahoe	87.8%	1.3%	0.0%	3.9%	7.0%	6.8%
Bayboro	37.1%	54.4%	0.0%	0.2%	8.3%	2.9%
Grantsboro	68.6%	16.2%	0.0%	12.5%	2.7%	12.5%
Mesic	49.5%	50.5%	0.0%	0.0%	0.0%	0.0%
Minnesott Beach	88.1%	1.5%	0.0%	0.4%	10.0%	3.8%
Oriental	94.4%	1.2%	0.4%	0.6%	5.6%	5.1%
Stonewall	69.5%	14.6%	4.0%	0.0%	11.9%	0.0%
Vandemere	52.9%	45.6%	0.0%	0.0%	1.5%	0.5%
Pamlico County	**74.6%**	**18.6%**	**0.6%**	**1.2%**	**5.1%**	**4.6%**

*Other races includes American Indian, Alaskan Native, Native Hawaiian, Pacific Islander, etc.

**Persons of Hispanic or Latino Origin are classified regardless of race; therefore, this percentage is considered independent of the other race classifications listed.

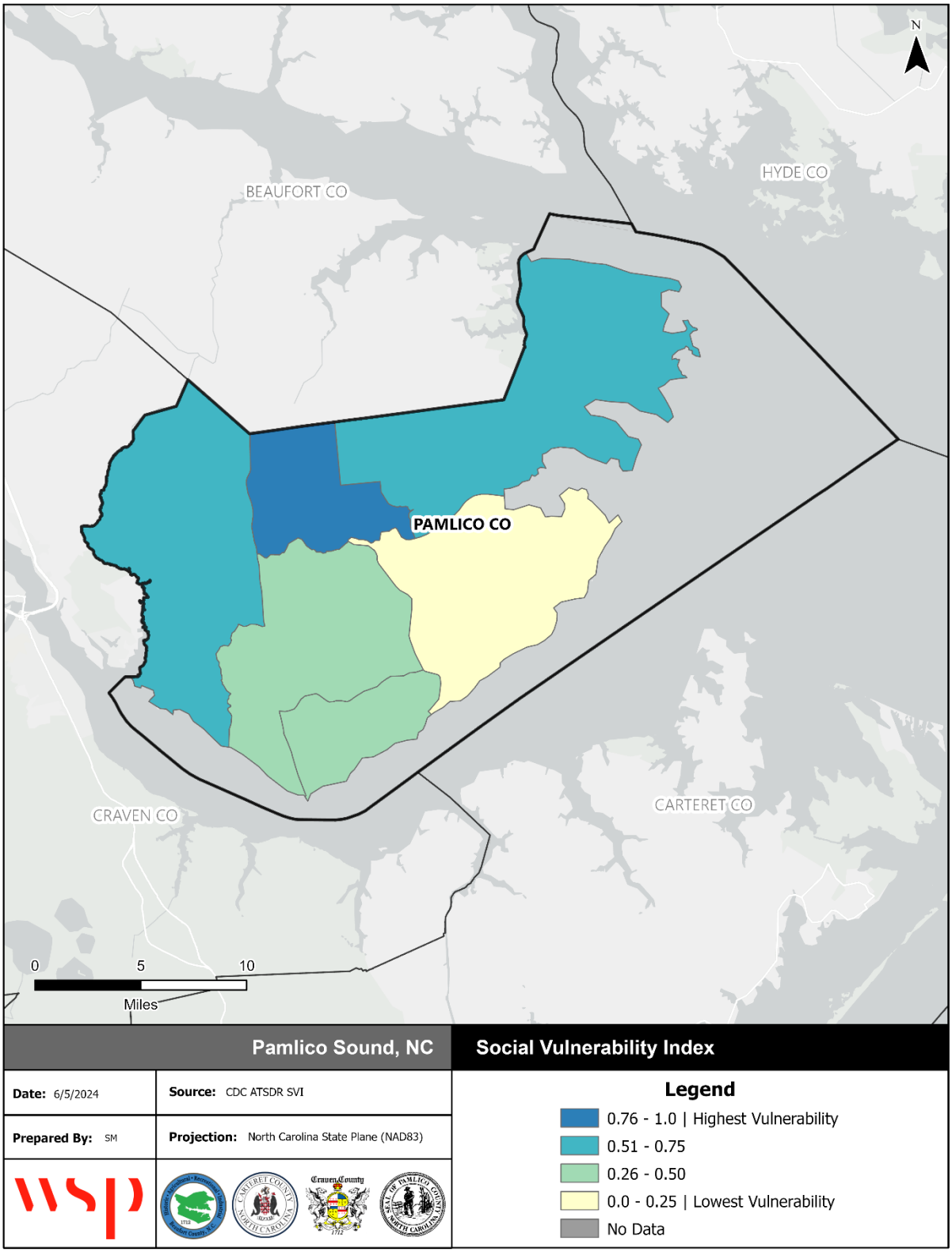
Source: US Census Bureau American Community Survey.

SOCIAL VULNERABILITY

Figure 3.26 below displays social vulnerability information for Pamlico County by census tract according to 2022 data and analysis by the Centers for Disease Control and Prevention (CDC). The CDC's Social Vulnerability Index (SVI) indicates the relative vulnerability within census tracts based on 15 social factors: poverty, unemployment, income, education, age, disability, household composition, minority status, language, housing type, and transportation access. Higher social vulnerability is an indicator that a community may be limited in its ability to respond to and recover from hazard events. Therefore, using this SVI information can help the County and municipal jurisdictions to prioritize pre-disaster aid, allocate emergency preparedness and response resources, and plan for the provision of recovery support.

Overall Pamlico County is into three areas regarding the SVI Index. Northern Pamlico County, abutting Beaufort County, has a high a high SVI score, while Western and North Central Pamlico County have a moderate index. Pamlico County is the most rurally developed County within the Pamlico Region. This is reflected through the delineation of the SVI index areas where individual factors impacted large portions of the County.

Figure 3.26 – Pamlico County Social Vulnerability Index



3.5.4 HOUSING CHARACTERISTICS

According to the American Community Survey, there were approximately 7,239 housing units in Pamlico County as of 2023. This figure marks a -2.5 percent, or 210 unit decrease, since 2010 for unincorporated portions of Pamlico County. Although the County's housing unit growth has been somewhat modest, several County municipalities have experienced a much more rapid increase in their housing stock. Housing unit increases have been much more substantial in Minnesott Beach (25 percent) and Oriental (31.8 percent).

Throughout Pamlico County, the housing is predominantly comprised of owner occupants (83.3 percent). Overall, the County and its municipalities maintain a fairly high owner occupancy rate. Of the nine municipal jurisdictions all but one (Arapahoe) maintain an owner occupancy rate above 70 percent. This factor is important in regards to mitigation and post disaster recovery due to the fact that homeownership directly correlates to the long term maintenance and flood proofing of property, as well as the eligibility for funding of impacted units following a flooding event associated with nor'easters and tropical storm/hurricanes.

In terms of vulnerability associated with natural hazard events such as tropical storms, hurricanes, and tornadoes, roughly 24.5 percent of the Pamlico County housing stock is comprised of manufactured homes, which is much higher than the state average of 10.5 percent. The prevalence of manufactured housing poses a unique threat regarding both sustainability, as well as emergency response within defined flood hazard areas.

Table 3.28 below provides a summary of housing characteristics for Pamlico County, as well as participating municipal jurisdictions.

Table 3.28 – Pamlico County Housing Characteristics

Jurisdiction	Housing Units (2010)	Housing Units (2023)	% Change 2010-2023	% Owner Occupied (2023)	% Vacant Units (2023)
Alliance	360	403	11.9%	71.3%	12.7%
Arapahoe	281	196	-30.3%	68.9%	9.7%
Bayboro	406	378	-6.9%	70.7%	31.5%
Grantsboro	323	305	-5.6%	84.3%	16.7%
Mesic	189	122	-35.5%	78.3%	32.0%
Minnesott Beach	296	370	25.0%	84.5%	23.2%
Oriental	620	817	31.8%	81.5%	29.7%
Stonewall	130	115	-11.5%	76.0%	34.8%
Vandemere	159	156	-1.9%	90.0%	45.9%
Pamlico County	**7,449**	**7,239**	**-2.5%**	**83.3%**	**27.8%**

Source: US Census Bureau American Community Survey.

3.5.5 WAGES, EMPLOYMENT AND INDUSTRY

The 2023 American Community Survey reports that the median household income for Pamlico County was $61,624, which is lower than the state's median household income of ($69,904). However, approximately 12.4 percent of the population is living below the poverty level. Moreover, 17.4 percent of people under 18 years of age are living below the poverty level.

Within Pamlico County, approximately 43.8 percent of the population is in the labor force. This varies significantly across all participating municipal jurisdictions from roughly 20 percent to 60 percent. Throughout Pamlico County, including all municipal jurisdictions, the percentage of the labor force

currently employed falls below 50%, except for Arapahoe (56.4 percent). According to the American Community Survey, the unemployment rate for Pamlico County overall was 4.5 percent. Additionally, as of 2023, approximately 9 percent of households throughout Pamlico County relied on food stamps/SNAP benefits.

The following tables provide a summary of key economic indicators and population employed by industry for both incorporated and unincorporated portions of Pamlico County.

Table 3.29 – Pamlico County Key Economic Indicators

Jurisdiction	Population in Labor Force	Percent Employed (%)	Percent Unemployed (%)	Percent Not in Labor Force (%)	Unemployment Rate (%)
Alliance	32.7%	30.2%	2.5%	67.3%	7.6%
Arapahoe	61.2%	56.4%	3.6%	38.8%	6.1%
Bayboro	20.3%	19.9%	0.3%	79.7%	1.6%
Grantsboro	48.9%	48.2%	0.7%	51.1%	1.4%
Mesic	44.6%	44.6%	0.0%	55.4%	0.0%
Minnesott Beach	39.7%	37.9%	1.8%	60.3%	4.6%
Oriental	28.8%	27.9%	0.4%	71.2%	1.6%
Stonewall	38.6%	38.6%	0.0%	61.4%	0.0%
Vandemere	34.5%	31.6%	2.9%	65.5%	8.5%
Pamlico County	**43.8%**	**41.7%**	**1.9%**	**56.2%**	**4.5%**

Source: US Census Bureau American Community Survey.

Table 3.30 – Pamlico County Employment by Industry

Jurisdiction	Management, Business, Science and Arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, Transportation, and Material Moving (%)
Alliance	37.8%	9.6%	19.6%	26.5%	6.5%
Arapahoe	28.5%	17.7%	24.7%	10.2%	18.8%
Bayboro	15.1%	25.5%	31.4%	20.1%	7.9%
Grantsboro	29.3%	11.6%	22.5%	15.2%	21.4%
Mesic	22.0%	17.1%	25.6%	15.9%	19.5%
Minnesott Beach	43.6%	10.1%	32.4%	11.7%	2.1%
Oriental	41.9%	21.7%	25.7%	4.7%	5.9%
Stonewall	45.1%	9.8%	27.5%	7.8%	9.8%
Vandemere	29.6%	29.6%	25.9%	1.9%	12.0%
Pamlico County	**30.7%**	**15.7%**	**19.4%**	**18.5%**	**15.7%**

Source: US Census Bureau American Community Survey.

The top industries in Pamlico County include (1) Management, Business, Science, and Arts, (2) Sales and Office, and (3) Natural Resources, Construction and Maintenance industries. The top 10 employers in the County are listed below:

- YMCA
- Pamlico County Board of Education
- County of Pamlico
- Wal-Mart Associates, Inc.
- Food Lion

- NC Department of Adult Corrections
- Pamlico Community College
- Home Life Care Inc.
- Arapahoe Charter School
- Principle Long Term Care Inc.

3.5.6 HISTORIC PROPERTIES

As of January 2025, Pamlico County had 2 listings on the National Register of Historic Places: China Grove (Oriental) – 2/6/1973 and Holt's Chapel School – 8/8/2023 (Oriental). Presence on the National Register signifies that this structure has been determined to be worthy of preservation for its historical or cultural values.

3.5.7 LAND DEVELOPMENT TRENDS

Throughout Pamlico County approximately 59.1 percent of parcels are currently developed.

Table 3.31 – Pamlico County Developed and Undeveloped Parcel Counts

Jurisdiction	Developed Parcels	Undeveloped Parcels	% Developed
Alliance	396	102	79.5%
Arapahoe	282	97	74.4%
Bayboro	429	159	73.0%
Grantsboro	383	181	67.9%
Mesic	161	83	66.0%
Minnesott Beach	461	463	49.9%
Oriental	1,119	331	77.2%
Stonewall	170	950	15.2%
Vandemere	214	188	44.9%
Unincorporated Pamlico County	6,258	5,669	52.5%
Total	**10,573**	**7,317**	**59.1%**

Source: County Parcel GIS Data and iRisk Building Footprints

Pamlico County and the municipalities throughout the County are the most rural of the Pamlico Sound Region. There is no zoning throughout unincorporated Pamlico County and development is generally associated with agriculture and industry within rural portions of the County. This development, like Beaufort County and Craven County, is located along the County's key transportation thoroughfares including NC Highway 55, NC Highway 306, and NC Highway 304. Development is expected to continue in this manner; however, it should be noted that growth throughout the County is expected to be fairly limited.

Throughout Pamlico County, there are several small towns with quaint small downtown districts and supporting residential land uses. There has been new investment within these small communities, but it generally has not taken place in the form of greenfield development. All towns within the County maintain current zoning ordinances which promote organized growth and will continue to regulate development within low lying portions of the County.

The 2004 Pamlico County Joint Land Use Plan guides growth and development in unincorporated Pamlico County and the Towns of Bayboro, Mesic, Minnesott Beach, and Vandemere. The future land use map for these communities is shown in Figure 3.27 and Figure 3.28. The Town of Oriental's 2008 land use plan, updated in 2023, establishes the Town's future land use map, shown in Figure 3.29.

Figure 3.27 – Pamlico County Future Land Use Map, Part A

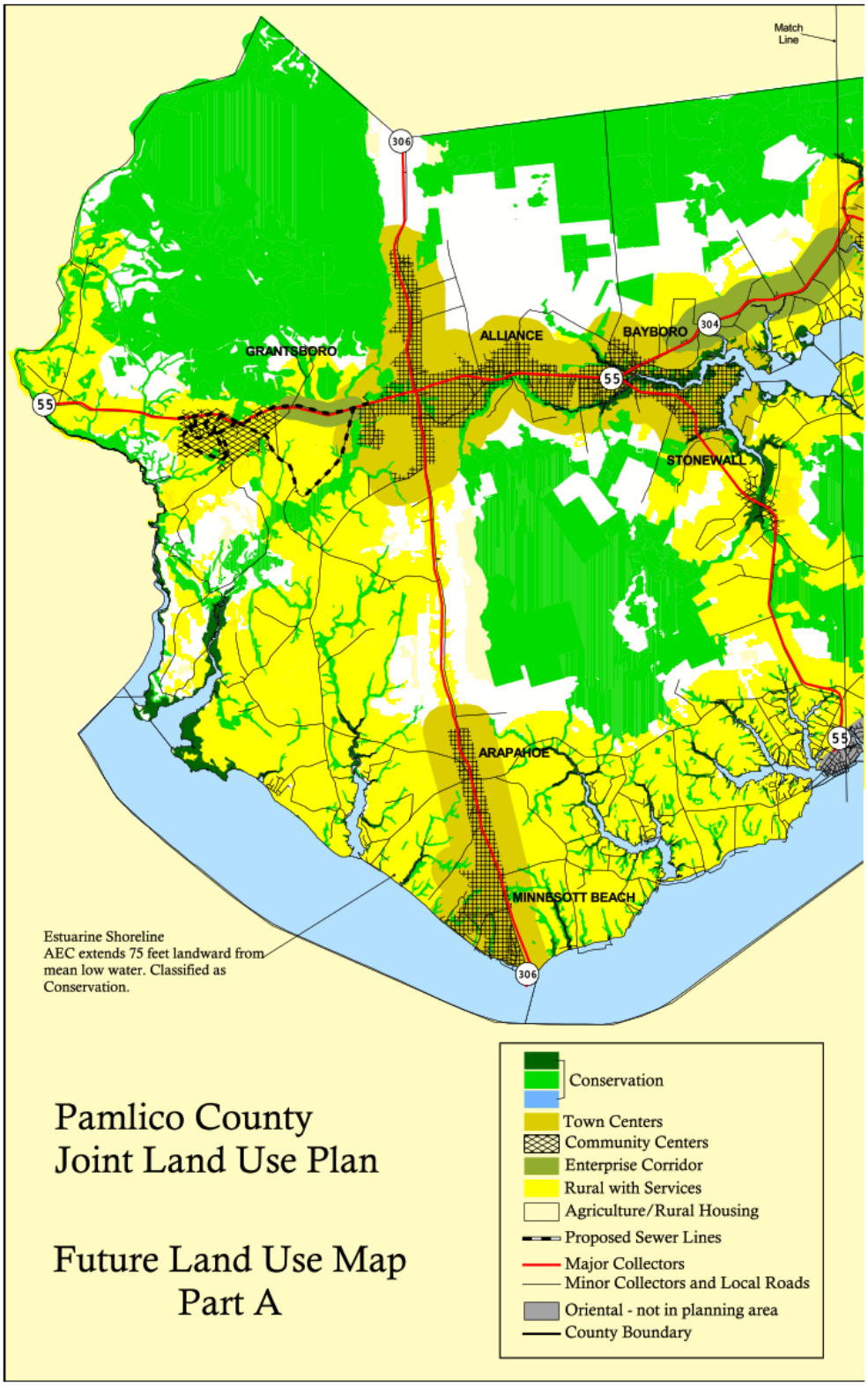


Figure 3.28 – Pamlico County Future Land Use Map, Part B

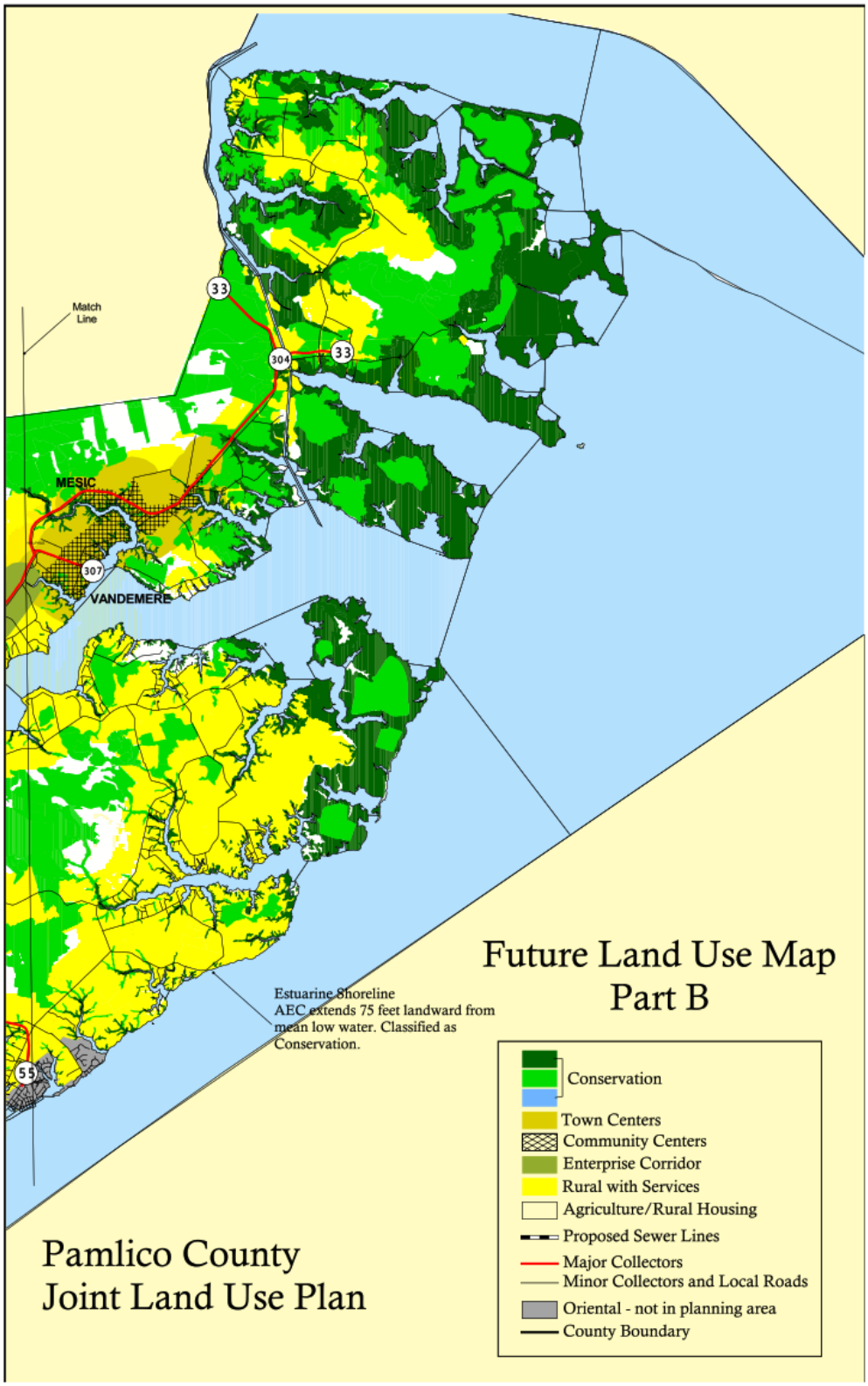
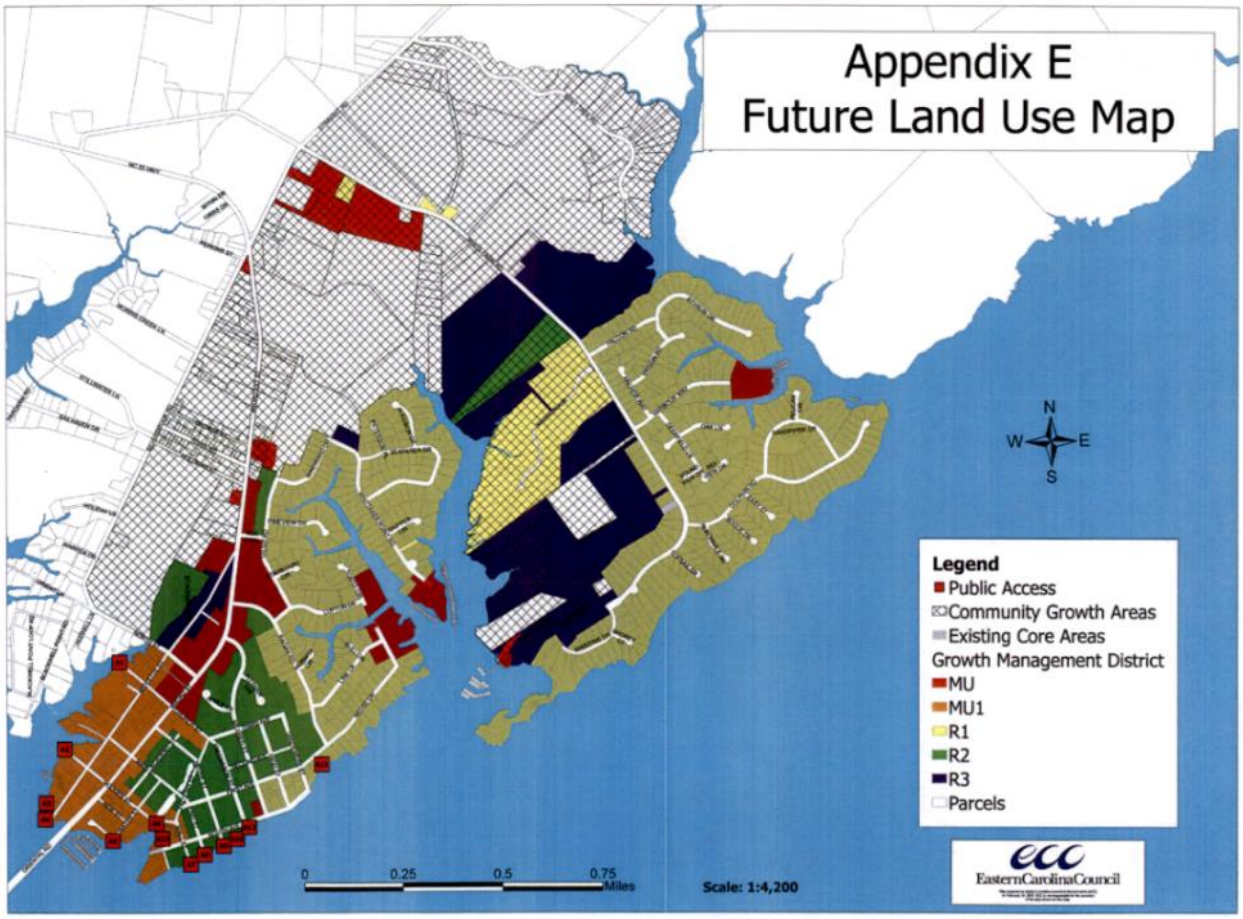


Figure 3.29 – Town of Oriental Future Land Use Map



4 RISK ASSESSMENT

4.1 OVERVIEW

Requirement §201.6(c)(2): [The plan shall include] A risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.
Requirement §201.6(c)(2)(i): [The risk assessment shall include a] description of the type...of all natural hazards that can affect the jurisdiction.

Requirement §201.6(c)(2)(i): [The risk assessment shall include a] description of the...location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

44 CFR Subsection D §201.6(c)(2)(ii): [The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. Plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:
A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;
(B): An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(A) of this section and a description of the methodology used to prepare the estimate; and
(C): Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

This section describes the Hazard Identification and Risk Assessment process for the development of the Pamlico Sound Regional Hazard Mitigation Plan. It describes how the Region met the following requirements from the 10-step planning process:

- Planning Step 4: Assess the Hazard
- Planning Step 5: Assess the Problem

As defined by FEMA, risk is a combination of hazard, vulnerability, and exposure. "It is the impact that a hazard would have on people, services, facilities, and structures in a community and refers to the likelihood of a hazard event resulting in an adverse condition that causes injury or damage."

This hazard risk assessment covers all of the Pamlico Sound Region, including the unincorporated counties and all incorporated jurisdictions participating in this plan.

The risk assessment process identifies and profiles relevant hazards and assesses the exposure of lives, property, and infrastructure to these hazards. The process allows for a better understanding of the potential risk to natural hazards in the county and provides a framework for developing and prioritizing mitigation actions to reduce risk from future hazard events. This risk assessment followed the methodology described in the FEMA publication Understanding Your Risks—Identifying Hazards and Estimating Losses (FEMA 386-2, 2002), which breaks the assessment down to a four-step process:

Data collected through this process has been incorporated into the following sections of this plan:

- **Section 4.2**: **Hazard Identification** identifies the natural and human-caused hazards that threaten the planning area.
- **Section 4.3: Risk Assessment Methodology and Assumptions** describes how the risk and vulnerability assessment was conducted and presented.
- **Section 4.4: Asset Inventory** details the population, buildings, and critical facilities at risk within the planning area.
- **Section 4.5**: **Hazard Profiles, Analysis, and Vulnerability** discusses the threats to the planning area, describes previous occurrences of hazard events and the likelihood of future occurrences, and assesses the planning area's exposure to each hazard profiled; considering assets at risk, critical facilities, and future development trends.
- **Section 4.6: Conclusions on Hazard Risk** summarizes the results of the Priority Risk Index and defines each hazard as a Low, Moderate, or High Risk hazard.

4.2 HAZARD IDENTIFICATION

To identify the full range of hazards relevant to the planning area, the HMPC began with a review of the list of hazards identified in the 2023 State Hazard Mitigation Plan and the 2020 Pamlico Sound Regional Hazard Mitigation Plan. This review of hazards is summarized in Table 4.1. The HMPC used this process to ensure consistency across hazard mitigation planning efforts. All hazards on the below list were evaluated for inclusion in this plan update. Where appropriate, the hazard list in this plan was updated to be consistent with the State Hazard Mitigation Plan.

Table 4.1 – Full Range of Hazards Evaluated

Hazard	Included in 2023 State HMP?	Included in 2020 Pamlico Sound Regional HMP?
Coastal Hazards (Erosion and Rip Current)	Yes, included with Hurricanes and Coastal Hazards	Yes
Dam Failure	Yes	Yes
Levee Failure	No	Yes
Drought	Yes	Yes
Earthquake	Yes	Yes
Extreme Heat	Yes	Yes
Flood	Yes	Yes
Hurricane and Tropical Storm	Yes, included with Hurricanes and Coastal Hazards	Yes
Severe Weather (Thunderstorm, Lightning, and Hail)	Yes, included with Tornadoes/ Thunderstorms	Yes
Severe Winter Storm	Yes	Yes
Tornado	Yes, included with Tornadoes/ Thunderstorms	Yes
Wildfire	Yes	Yes
Geological Hazards (Landslide & Sinkholes)	Yes	No
Infectious Disease	Yes	No
Hazardous Materials Incident	Yes	No
Radiological Emergency	Yes	No

Hazard	Included in 2023 State HMP?	Included in 2020 Pamlico Sound Regional HMP?
Cyber Threat	Yes	No
Terrorism	Yes	No
Civil Disturbance	Yes	No
Electromagnetic Pulse	Yes	No
Food Emergency	Yes	No

The HMPC evaluated the above list of hazards using existing hazard data, past disaster declarations, local knowledge, and information from the 2023 State Plan and the 2020 Pamlico Sound Regional Hazard Mitigation Plan to determine the significance of these hazards to the planning area. Significance was measured in general terms and focused on key criteria such as frequency and resulting damage, which includes deaths and injuries, as well as property and economic damage.

One significant resource in this effort was the National Oceanic and Atmospheric Administration's (NOAA) National Center for Environmental Information (NCEI), which contains an archive by county of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce. The database also provides a partial record of other significant meteorological events, such as record maximum or minimum temperatures or precipitation that occurs in connection with another event. The database contains records of tornado events since 1950, thunderstorm wind and hail events since 1955, and all other tracked event types since 1996. NCEI receives storm data from the National Weather Service (NWS), which receives their information from a variety of sources, which include but are not limited to county, state and federal emergency management officials, local law enforcement officials, SkyWarn spotters, NWS damage surveys, newspaper clipping services, the insurance industry and the general public, among others. Due to its reliance on reporting from a variety of sources, the accuracy of NCEI data can be limited. It is not a comprehensive database of all storm and weather events that have occurred, but it provides useful information on past reported events.

The NCEI Storm Events database contains 1,395 records of severe weather events that occurred in Beaufort, Carteret, Craven, and Pamlico Counties in the 26-year period from November 1998 through March 2024. Table 4.2 summarizes these events.

Table 4.2 – NCEI Severe Weather Reports for the Pamlico Sound Region Counties, Nov 1998 – March 2024

Type	# of Events	Property Damage	Crop Damage	Deaths	Injuries
Blizzard	0	$0	$0	0	0
Coastal Flood	21	$2,000	$0	0	0
Cold/Wind Chill	0	$0	$0	0	0
Drought	12	$0	$0	0	0
Excessive Heat	17	$0	$0	0	0
Extreme Cold/Wind Chill	0	$0	$0	0	0
Flash Flood	77	$1,145,000	$55,500,000	0	0
Flood	33	$106,000	$0	1	0
Frost/Freeze	4	$0	$0	0	0
Hail	351	$920,000	$0	0	0
Heat	0	$0	$0	0	0
Heavy Rain	11	$0	$0	0	0
Heavy Snow	17	$0	$0	0	0
High Wind	45	$9,000	$0	0	0
Hurricane	37	$316,770,000	$74,850,000	3	5
Ice Storm	7	$0	$0	0	0
Lightning	7	$6,107,000	$0	2	1
Storm Surge	24	$127,240,000	$0	0	0

Type	# of Events	Property Damage	Crop Damage	Deaths	Injuries
Strong Wind	10	$2,000	$0	0	0
Thunderstorm Wind	497	$687,000	$3,000	2	41
Tornado	115	$34101500	$0	0	35
Tropical Storm	55	$43,467,000	$16,900,000	0	0
Wildfire	0	$0	$0	0	0
Winter Storm	42	$0	$0	0	0
Winter Weather	13	$0	$0	0	0
Total:	**1,395**	**$530,556,500**	**$147,253,000**	**8**	**82**

Source: National Center for Environmental Information Events Database, accessed July 2024
Note: Losses reflect totals for all impacted areas for each event.

The HMPC also researched past events that resulted in a federal and/or state emergency or disaster declaration for Beaufort, Carteret, Craven, and Pamlico Counties to identify significant hazards. When the local government's capacity has been surpassed, a state disaster declaration may be issued, allowing for the provision of state assistance. If the disaster is so severe that both the local and state government capacities are exceeded and the Governor certifies the situation is beyond their recovery capabilities, a federal emergency or disaster declaration may be issued allowing for the provision of federal assistance.

Records of designated counties for FEMA major disaster declarations start in 1964. Since then, Beaufort, Carteret, Craven, and Pamlico Counties have been designated in 19 different major disaster declarations. Table 4.3 summarizes the declarations per county, and Table 4.4 provides details for these declarations.

Table 4.3 – Summary of Disaster Declarations by County

County	Major Declarations Received
Beaufort	16
Carteret	13
Craven	16
Pamlico	14

Source: FEMA Disaster Declarations Summary, updated July 2, 2024

Table 4.4 – FEMA Major Disaster Declarations for Pamlico Sound Region Counties

County*	Disaster #	Dec. Date	Incident Type	Event Title
B	4588	3/3/2021	Severe Storm(s)	Tropical Storm Eta
B, Ca, Cr, P	4568	10/14/2020	Hurricane	Hurricane Isaias
B, Ca, Cr, P	4487	3/25/2020	Biological	COVID-19 Pandemic
B, Ca, Cr, P	4465	10/4/2019	Hurricane	Hurricane Dorian
B, Ca, Cr, P	4393	9/14/2018	Hurricane	Hurricane Florence
B, Ca, Cr, P	4285	10/10/2016	Hurricane	Hurricane Matthew
B, Ca, Cr, P	4019	8/31/2011	Hurricane	Hurricane Irene
Cr	1969	4/19/2011	Severe Storm(s)	Severe Storms, Tornadoes, and Flooding
B, Cr	1942	10/14/2010	Severe Storm(s)	Severe Storms, Flooding, and Straight-Line Winds
B	1801	10/8/2008	Severe Storm(s)	Tropical Storm Hanna
Ca, Cr, P	1608	10/7/2005	Hurricane	Hurricane Ophelia
B, Ca, Cr, P	1490	9/18/2003	Hurricane	Hurricane Isabel
B, Ca, Cr, P	1292	9/16/1999	Hurricane	Hurricane Floyd Major Disaster Declarations
B, Ca, Cr, P	1291	9/9/1999	Hurricane	Hurricane Dennis
B, Ca, Cr, P	1240	8/27/1998	Hurricane	Hurricane Bonnie

County*	Disaster #	Dec. Date	Incident Type	Event Title
B, Ca, Cr, P	1134	9/6/1996	Hurricane	Hurricane Fran
B, Ca, Cr, P	1127	7/18/1996	Hurricane	Hurricane Bertha
P	818	12/2/1988	Tornado	Severe Storms & Tornadoes
B, Cr	234	2/10/1968	Severe Ice Storm	Severe Ice Storm

Source: FEMA Disaster Declarations Summary, updated July 2, 2024
*County code: B = Beaufort, Ca = Carteret, Cr = Craven, P = Pamlico

Using the above information and additional discussion, the HMPC evaluated each hazard's significance to the planning area in order to decide which hazards to include in this plan update. Some hazard titles have been updated either to better encompass the full scope of a hazard or to assess closely related hazards together. Table 4.5 summarizes the determination made for each hazard.

Table 4.5 – Hazard Evaluation Results

Hazard	Included in this plan update?	Explanation for Decision
Flooding	Yes	The 2020 Pamlico Sound plan and 2023 State plan addressed this hazard. Multiple disaster declarations for the region are related to flooding. NCEI reports 155 flood-related events, and flooding is a significant component of hurricanes, which have resulted in most of the region's past disaster declarations. In keeping with the 2023 State plan, sea level rise is included with the flood hazard.
Hurricane and Coastal Hazards	Yes	The 2020 Pamlico Sound plan addressed these hazards and found them high and medium priorities. Past disaster declarations and NCEI storm reports indicate hurricanes are a significant hazard for the region, and associated erosion can be severe. Rip currents warrant inclusion given the region's coastal location and prominence as a tourist destination. The 2023 State plan combines these hazards; this hazard has been updated accordingly.
Severe Winter Weather	Yes	The 2020 Pamlico Sound plan and 2023 State plan addressed this hazard. The region received a past disaster declaration related to ice. NCEI reports 83 severe winter weather related events.
Excessive Heat	Yes	The 2020 Pamlico Sound plan and 2023 State plan addressed this hazard. NCEI reports 17 heat related events.
Earthquake	Yes	The 2020 Pamlico Sound plan and 2023 State plan addressed this hazard. The region could potentially be impacted by the New Madrid fault and the Charleston fault.
Wildfire	Yes	The 2020 Pamlico Sound plan and 2023 State plan addressed this hazard. Significant past wildfires have affected the region.
Dam & Levee Failure	Yes	The 2023 State plan addressed dam failure and the 2020 Pamlico Sound plan addressed levees in conjunction with dam failure. The North Carolina Dam Inventory identified 10 high hazard dams in the region, and USACE's National Levee Database identifies three USACE levee systems in the region.
Drought	Yes	The 2020 Pamlico Sound plan and 2023 State plan addressed this hazard. There have been multiple past instances of severe drought.

Hazard	Included in this plan update?	Explanation for Decision
Geological Hazards (Landslide & Sinkholes)	No	The 2023 State plan addressed this hazard, but the 2020 Pamlico Sound plan did not. There is no history of geological hazards in the region.
Tornadoes & Thunderstorms	Yes	The 2020 Pamlico Sound plan addressed these hazards separately, finding them to be moderate and high priority hazards. The region has received multiple disaster declarations for severe storms. NCEI reports 910 severe weather-related events and 115 tornado tracks passing through the region in the past 25 years. Given this frequency, analysis is warranted. The 2023 State plan combines these hazards; this hazard has been updated accordingly
Infectious Disease	Yes	The 2023 State plan addressed this hazard, but the 2020 Pamlico Sound plan did not. The State HMP reports the entire State is equally at risk, but vulnerability is low across all but one impact category. The HMPC decided to evaluate this hazard given the recent Covid-19 pandemic.
Cyber Threat	Yes	The 2023 State plan addressed this hazard, but the 2020 Pamlico Sound plan did not. The HMPC decided to evaluate this hazard due to high level of perceived risk to community assets and operations.
Hazardous Substances	No	The 2023 State plan addressed this hazard, but the 2020 Pamlico Sound plan did not. The region considers this hazard more appropriately addressed through emergency operations planning and local staff training.
Radiological Emergency	No	The 2023 State plan addressed this hazard, but the 2020 Pamlico Sound plan did not. No part of the region falls within the EPZ or IPZ of a nuclear facility.
Terrorism	No	The 2023 State plan addressed this hazard, but the 2020 Pamlico Sound plan did not. The region considers this hazard more appropriately addressed at the State level.
Electromagnetic Pulse	No	The 2023 State plan addressed this hazard, but the 2020 Pamlico Sound plan did not. The region considers this hazard more appropriately addressed at the State level.

The final list of hazards included in this plan are as follows:

- Dam & Levee Failure
- Drought
- Earthquake
- Excessive Heat
- Flooding (including Sea Level Rise)
- Hurricane & Coastal Hazards (including Erosion & Rip Current)
- Severe Winter Weather
- Tornadoes & Thunderstorms (including Lightning & Hail)
- Wildfire
- Infectious Disease
- Cyber Threat

4.3 RISK ASSESSMENT METHODOLOGY AND ASSUMPTIONS

The Disaster Mitigation Act of 2000 requires that the HMPC evaluate the risks associated with each of the hazards identified in the planning process. Each hazard was evaluated to determine its probability of future occurrence and potential impact. A vulnerability assessment was conducted for each hazard using either quantitative or qualitative methods depending on the available data, to determine its potential to cause significant human and/or monetary losses. A consequence analysis was also completed for each hazard.

Each hazard is profiled in the following format:

HAZARD DESCRIPTION

This section provides a description of the hazard, including discussion of its speed of onset and duration, as well as any secondary effects followed by details specific to the Pamlico Sound Region.

LOCATION

This section includes information on the hazard's physical extent, with mapped boundaries where applicable.

EXTENT

This section includes information on the hazard extent in terms of magnitude and describes how the severity of the hazard can be measured. Where available, the most severe event on record is used as a frame of reference.

HISTORICAL OCCURRENCES

This section contains information on historical events, including the location and consequences of all past events on record within or near the Pamlico Sound Region.

PROBABILITY OF FUTURE OCCURRENCE

This section gauges the likelihood of future occurrences based on past events and existing data on current trends or future projections. The historical frequency is generally determined by dividing the number of events observed by the number of years on record and multiplying by 100. This provides the percent chance of the event happening in any given year according to historical occurrence (e.g. 10 winter storm events over a 30-year period equates to a 33 percent chance of experiencing a severe winter storm in any given year).

CLIMATE CHANGE

Where applicable, this section discusses how climate change may or may not influence the risk posed by the hazard on the planning area in the future. Resources on climate change projections and potential impacts include the Fourth National Climate Assessment, the Fifth National Climate Assessment, and the North Carolina State Climate Office.

VULNERABILITY ASSESSMENT

This section quantifies, to the extent feasible using best available data, assets at risk to natural hazards and potential loss estimates. People, properties and critical facilities, and environmental assets that are vulnerable to the hazard are identified. Future development is also discussed in this section, including how exposure to the hazard may change in the future or how development may affect hazard risk.

The vulnerability assessments followed the methodology described in the FEMA publication Understanding Your Risks—Identifying Hazards and Estimating Losses (August 2001). The vulnerability assessment first describes the total vulnerability and values at risk and then discusses vulnerability by hazard. Data used to support this assessment included the following:

- Geographic Information System (GIS) datasets, including building footprints, topography, aerial photography, and transportation layers;
- Hazard layer GIS datasets from state and federal agencies;
- Written descriptions of inventory and risks provided by the State Hazard Mitigation Plan;
- Written descriptions of inventory and risks provided by the previous Pamlico Sound Regional Hazard Mitigation Plan;
- Exposure and vulnerability estimates provided by North Carolina Emergency Management's (NCEM) IRISK database; and
- Crop insurance claims by cause from USDA's Risk Management Agency.

Two distinct risk assessment methodologies were used in the formation of the vulnerability assessment: a quantitative analysis that relies upon best available data and technology and a qualitative analysis that relies on local knowledge and rational decision making.

Vulnerability can be quantified in those instances where there is a known, identified hazard area, such as a mapped floodplain. In these instances, the numbers and types of buildings subject to the identified hazard can be counted and their values tabulated. Where hazard risk cannot be distinctly quantified and modeled, other information can be collected in regard to the hazard area, such as the location of critical facilities, historic structures, and valued natural resources (e.g., an identified wetland or endangered species habitat). Together, this information conveys the vulnerability of that area to that hazard. The quantitative analysis for this plan update involved the use of NCEM's IRISK database, which provides modeled damage estimates for earthquake, flood, wind, and wildfire hazards.

NCEM's IRISK database incorporates county building footprint and parcel data. Footprints with an area less than 500 square feet were excluded from the analysis. To determine if a building is in a hazard area, the building footprints were intersected with each of the mapped hazard areas. If a building intersects two or more hazard areas (such as the 1-percent-annual-chance flood zone and the 0.2-percent-annual-chance flood zone), it is counted as being in the hazard area of highest risk. The parcel data provided building value and year built. Building value was used to determine the value of buildings at risk. Year built was used to determine if the building was constructed prior to or after the community had joined the NFIP and had an effective FIRM and building codes enforced.

Census blocks and Summary File 1 from the 2020 Census were used to determine population at risk. This included the total population, as well as the vulnerable elderly and children age groups. To determine population at risk, the census blocks were intersected with the hazard area. To better determine the actual number of people at risk, the intersecting area of the census block was calculated and divided by the total area of the census block to determine a ratio of area at risk. This ratio was applied to the population of the census block. For example, a census block has a population of 400 people. Five percent of the census block intersects the 1-percent-annual-chance flood hazard area. The ratio estimates that 20 people are then at risk within the 1-percent-annual-chance flood hazard area (5% of the total population for that census block).

Certain assumptions are inherent in any risk assessment. For the Pamlico Sound Regional HMP, three primary assumptions were discussed by the HMPC from the beginning of the risk assessment process: (1) that the best readily available data would be used, (2) that the hazard data selected for use is reasonably accurate for mitigation planning purposes, and (3) that the risk assessment will be regional in nature with local, municipal-level data provided where appropriate and practical.

Key methodologies and assumptions made for specific hazards analysis are described in their respective profiles.

PRIORITY RISK INDEX

The conclusions drawn from the hazard profiling and vulnerability assessment process can be used to prioritize all potential hazards to the Pamlico Sound Region. The Priority Risk Index (PRI) was applied for this purpose because it provides a standardized numerical value so that hazards can be compared against one another (the higher the PRI value, the greater the hazard risk). PRI values are obtained by assigning varying degrees of risk to five categories for each hazard (probability, impact, spatial extent, warning time, and duration). Each degree of risk was assigned a value (1 to 4) and a weighting factor as summarized in Table 4.6.

The sum of all five risk assessment categories equals the final PRI value, demonstrated in the equation below (the highest possible PRI value is 4.0).

PRI = [(PROBABILITY x .30) + (IMPACT x .30) + (SPATIAL EXTENT x .20) + (WARNING TIME x .10) + (DURATION x .10)]

The purpose of the PRI is to categorize and prioritize all potential hazards for the Pamlico Sound Region as high, moderate, or low risk. The summary hazard classifications generated through the use of the PRI allow for the prioritization of high and moderate hazard risks for mitigation planning purposes.

The results of the risk assessment and PRI scoring are provided in Section 4.6 Conclusions on Hazard Risk.

Table 4.6 – Priority Risk Index

RISK ASSESSMENT CATEGORY	LEVEL	DEGREE OF RISK CRITERIA	INDEX	WEIGHT
PROBABILITY What is the likelihood of a hazard event occurring in a given year?	**UNLIKELY**	LESS THAN 1% ANNUAL PROBABILITY	**1**	**30%**
	POSSIBLE	BETWEEN 1 & 10% ANNUAL PROBABILITY	**2**	
	LIKELY	BETWEEN 10 &100% ANNUAL PROBABILITY	**3**	
	HIGHLY LIKELY	100% ANNUAL PROBABILTY	**4**	
IMPACT In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs?	**MINOR**	VERY FEW INJURIES, IF ANY. ONLY MINOR PROPERTY DAMAGE & MINIMAL DISRUPTION ON QUALITY OF LIFE. TEMPORARY SHUTDOWN OF CRITICAL FACILITIES.	**1**	**30%**
	LIMITED	MINOR INJURIES ONLY. MORE THAN 10% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR > 1 DAY	**2**	
	CRITICAL	MULTIPLE DEATHS/INJURIES POSSIBLE. MORE THAN 25% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES FOR > 1 WEEK.	**3**	
	CATASTROPHIC	HIGH NUMBER OF DEATHS/INJURIES POSSIBLE. MORE THAN 50% OF PROPERTY IN AFFECTED AREA DAMAGED OR DESTROYED. COMPLETE SHUTDOWN OF CRITICAL FACILITIES > 30 DAYS.	**4**	
SPATIAL EXTENT How large of an area could be impacted by a hazard event? Are impacts localized or regional?	**NEGLIGIBLE**	LESS THAN 1% OF AREA AFFECTED	**1**	**20%**
	SMALL	BETWEEN 1 & 10% OF AREA AFFECTED	**2**	
	MODERATE	BETWEEN 10 & 50% OF AREA AFFECTED	**3**	
	LARGE	BETWEEN 50 & 100% OF AREA AFFECTED	**4**	
WARNING TIME Is there usually some lead time associated with the hazard event? Have warning measures been implemented?	**MORE THAN 24 HRS**	SELF DEFINED	**1**	**10%**
	12 TO 24 HRS	SELF DEFINED	**2**	
	6 TO 12 HRS	SELF DEFINED	**3**	
	LESS THAN 6 HRS	SELF DEFINED	**4**	
DURATION How long does the hazard event usually last?	**LESS THAN 6 HRS**	SELF DEFINED	**1**	**10%**
	LESS THAN 24 HRS	SELF DEFINED	**2**	
	LESS THAN 1 WEEK	SELF DEFINED	**3**	
	MORE THAN 1 WEEK	SELF DEFINED	**4**	

4.4 ASSET INVENTORY

4.4.1 POPULATION

NCEM's IRISK database provided the asset inventory used for this vulnerability assessment. Population data in IRISK is pulled from the 2020 Census and includes a breakdown of population into two subpopulations considered to be a greater risk than the general population, elderly individuals and children. Table 4.7 details the population counts by jurisdiction used for the vulnerability assessment.

Table 4.7 – Population Counts by Jurisdiction, 2020

Jurisdiction	2020 Census Population	Elderly (Age 65 and Over)	Children (Age 5 and Under)
Beaufort			
Beaufort County (Unincorporated Area)	33,905	8,207	1,523
City of Washington	11,124	2,514	684
Town of Aurora	104	27	4
Town of Bath	242	69	13
Town of Belhaven	441	129	15
Town of Chocowinity	116	25	5
Town of Pantego	12	2	1
Town of Washington Park	168	41	9
Subtotal Beaufort	**46,112**	**11,014**	**2,254**
Carteret			
Carteret County (Unincorporated Area)	34,687	8,258	1,409
Town of Atlantic Beach	856	349	6
Town of Beaufort	3,815	1,094	141
Town of Bogue	795	140	42
Town of Cape Carteret	1,647	385	85
Town of Cedar Point	2,174	516	112
Town of Emerald Isle	3,275	1,005	116
Town of Indian Beach	340	140	8
Town of Morehead City	19,390	4,680	979
Town of Newport	9,170	1,730	303
Town of Peletier	617	113	21
Town of Pine Knoll Shores	1,373	566	32
Subtotal Carteret	**78,139**	**18,976**	**3,254**
Craven			
Craven County (Unincorporated Area)	64,150	12,919	3,779
City of Havelock	8,226	425	775
City of New Bern	26,554	5,735	1,705
Town of Bridgeton	147	28	11
Town of Cove City	21	5	3
Town of Dover	31	8	4
Town of River Bend	1,852	616	34

Jurisdiction	2020 Census Population	Elderly (Age 65 and Over)	Children (Age 5 and Under)
Town of Trent Woods	4,633	1,425	153
Town of Vanceboro	78	19	3
Subtotal Craven	**105,692**	**21,180**	**6,467**
Pamlico			
Pamlico County (Unincorporated Area)	11,911	3,592	331
Town of Alliance	159	37	8
Town of Arapahoe	118	37	5
Town of Bayboro	144	34	7
Town of Grantsboro	198	44	7
Town of Mesic	17	5	0
Town of Minnesott Beach	128	40	4
Town of Oriental	295	116	12
Town of Stonewall	73	32	2
Town of Vandemere	24	8	0
Subtotal Pamlico	13,067	3,945	376
Total Region	**243,010**	**55,115**	**12,351**

Source: NCEM IRISK Database; 2020 Decennial Census

4.4.2 PROPERTY

Building counts were also provided by the IRISK database and are detailed in Table 4.8. These values were generated using locally-provided building footprint and parcel data as well as data generated by NCEM in 2010 and subsequently updated. The methodology for generating the building asset inventory is described in greater detail in Section 4.3. The IRISK building inventory reflects a 21.8% increase in total building count and a 28.6% increase in total exposed building value since the development of the 2020 plan. Section 3 Planning Area Profile describes the growth that has occurred since 2010 and provides context for understanding the degree to which exposure and vulnerability may have increased.

Table 4.8 – Building Counts and Values by Jurisdiction

Jurisdiction	Building Count	Building Value
Beaufort		
Beaufort County (Unincorporated Area)	20,577	$1,692,286,922
City of Washington	5,790	$816,423,566
Town of Aurora	579	$35,523,897
Town of Bath	561	$142,692,588
Town of Belhaven	1,087	$142,638,647
Town of Chocowinity	398	$127,489,917
Town of Pantego	132	$8,731,683
Town of Washington Park	232	$29,657,288
Subtotal Beaufort	**29,356**	**$2,995,444,508**
Carteret		
Carteret County (Unincorporated Area)	29,284	$3,016,319,692
Town of Atlantic Beach	4,141	$1,099,977,842
Town of Beaufort	4,605	$716,003,873

Jurisdiction	Building Count	Building Value
Town of Bogue	642	$76,334,990
Town of Cape Carteret	1,763	$249,212,356
Town of Cedar Point	1,915	$194,177,348
Town of Emerald Isle	7,154	$1,823,928,355
Town of Indian Beach	1,138	$339,620,489
Town of Morehead City	10,811	$2,086,252,783
Town of Newport	5,441	$644,203,106
Town of Peletier	943	$78,010,380
Town of Pine Knoll Shores	2,253	$803,369,640
Subtotal Carteret	**70,090**	**$11,127,410,854**
Craven		
Craven County (Unincorporated Area)	24,876	$3,182,457,922
City of Havelock	5,417	$1,461,339,402
City of New Bern	13,049	$2,549,421,835
Town of Bridgeton	326	$94,517,232
Town of Cove City	294	$19,104,332
Town of Dover	299	$20,203,294
Town of River Bend	1,553	$208,445,155
Town of Trent Woods	1,918	$393,484,734
Town of Vanceboro	522	$192,244,515
Subtotal Craven	**48,254**	**$8,121,218,421**
Pamlico		
Pamlico County (Unincorporated Area)	6,428	$358,055,810
Town of Alliance	577	$30,365,988
Town of Arapahoe	430	$18,404,329
Town of Bayboro	515	$68,846,775
Town of Grantsboro	584	$36,880,003
Town of Mesic	186	$8,393,509
Town of Minnesott Beach	403	$44,491,896
Town of Oriental	1,378	$154,623,073
Town of Stonewall	227	$9,402,009
Town of Vandemere	192	$10,310,031
Subtotal Pamlico	**10,920**	**$739,773,423**
Total Region	**158,620**	**$22,983,847,206**

Source: NCEM IRISK Database

4.4.3 CRITICAL INFRASTRUCTURE & KEY RESOURCES AND HIGH POTENTIAL LOSS PROPERTIES

The IRISK database also identifies Critical Infrastructure and Key Resources (CIKR) buildings as well as High Potential Loss Properties. These properties are detailed in Table 4.9 and Table 4.10, respectively. Details by jurisdiction can be found in county annexes.

Table 4.9 – Critical Infrastructure and Key Resources by Type and County

County	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Healthcare	Government Facilities	Defense Industrial Base	National Monuments and Icons	Nuclear Reactors, Materials and	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Beaufort	1,236	355	0	1,353	3	447	0	82	247	0	0	0	0	0	4	26	13	**3,766**
Carteret	604	393	1	3,205	7	993	0	237	465	1	1	4	2	481	38	61	62	**6,555**
Craven	1,218	433	0	2,301	0	271	0	130	391	0	0	0	0	0	12	68	52	**4,876**
Pamlico	214	78	0	643	1	78	0	10	67	0	0	0	0	0	1	9	12	**1,113**
Total	**3,272**	**1,259**	**1**	**7,502**	**11**	**1,789**	**0**	**459**	**1,170**	**1**	**1**	**4**	**2**	**481**	**55**	**164**	**139**	**16,310**

Source: NCEM Risk Management Tool

Table 4.10 – High Potential Loss Properties by Use and County

County	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Beaufort	24	66	8	38	0	19	9	**164**
Carteret	111	172	4	63	0	29	66	**445**
Craven	48	147	36	126	2	118	36	**513**
Pamlico	0	7	1	10	0	0	3	**21**
Total	**183**	**392**	**49**	**237**	**2**	**166**	**114**	**1,143**

Source: NCEM Risk Management Tool

Using the existing CIKR inventory and local data, the HMPC and community staff refined and supplemented the IRISK asset inventory with a current list of critical facilities. These assets are considered community lifelines, which are defined by FEMA as the buildings and infrastructure that enable the continuous operation of critical business and government functions and are essential to human health and safety or economic security. Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. These critical facilities are a priority for mitigation planning and were examined against known hazard areas, where possible, in this risk assessment.

Critical facilities are summarized by county and FEMA lifeline category in Table 4.11 through Table 4.14 and are shown in Figure 4.1 through Figure 4.4. More detailed maps of critical facilities are provided in the community annexes.

Table 4.11 – Critical Facilities, Beaufort County

FEMA Lifeline	Facility Count	Structure Value
Communications	0	$0
Energy	0	$0

FEMA Lifeline	Facility Count	Structure Value
Food, Hydration, Shelter	108	$212,363,078
Hazardous Materials	0	$0
Health and Medical	44	$1,946,506
Safety and Security	43	$70,974,562
Transportation	0	$0
Water Systems	45	$74,847,631
Total	**240**	**$360,131,777**

Table 4.12 – Critical Facilities, Carteret County

FEMA Lifeline	Facility Count	Structure Value
Communications	21	$99,981,090
Energy	2	$2,809,157
Food, Hydration, Shelter	43	$126,146,394
Hazardous Materials	0	$0
Health and Medical	38	$9,498,848
Safety and Security	85	$67,568,282
Transportation	19	$40,646,009
Water Systems	166	$42,161,127
Total	**374**	**$388,810,907**

Table 4.13 – Critical Facilities, Craven County

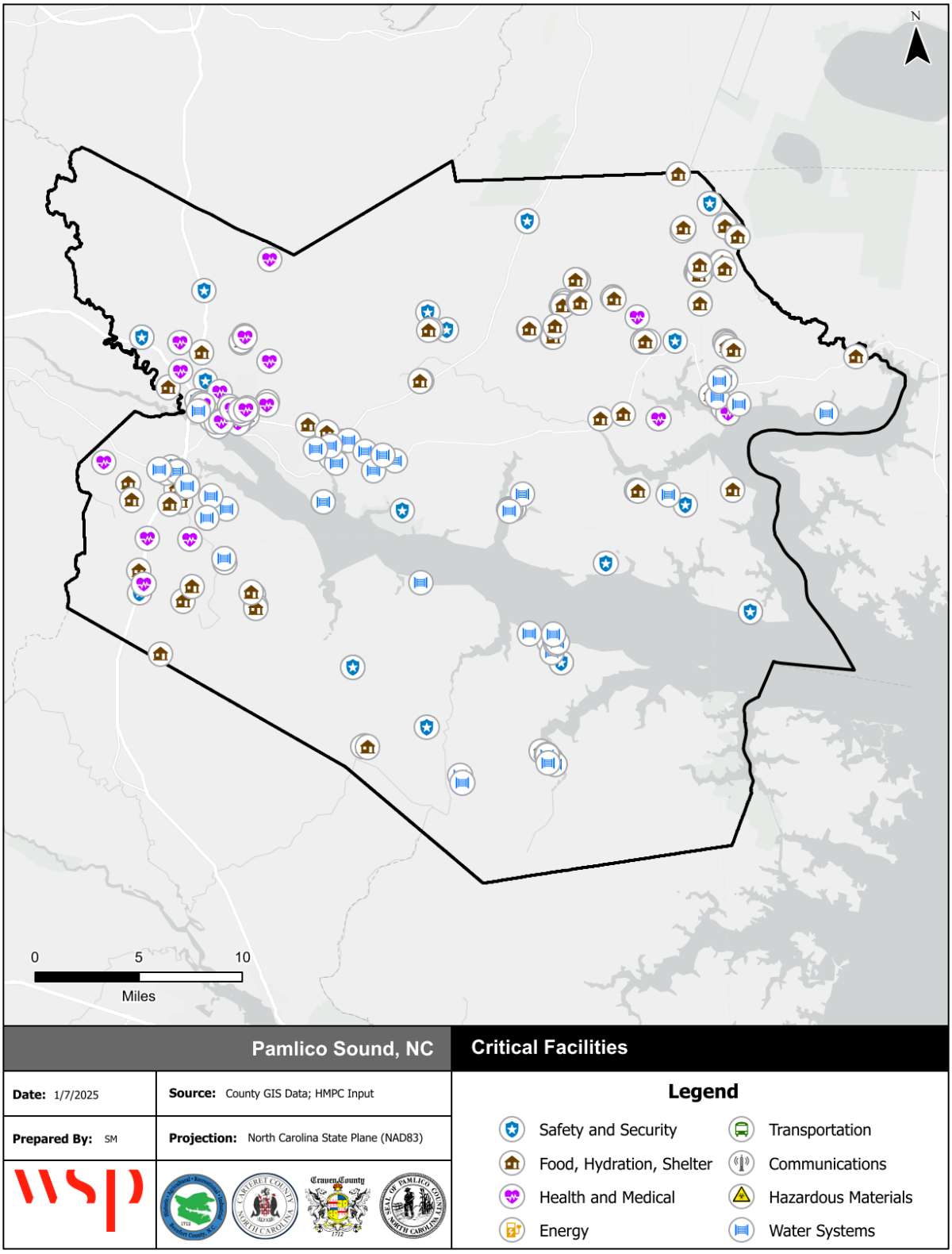
FEMA Lifeline	Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	101	$78,656,820
Hazardous Materials	0	$0
Health and Medical	34	$262,699,300
Safety and Security	60	$7,194,110
Transportation	0	$0
Water Systems	93	$32,360,290
Total	**288**	**$380,910,520**

Table 4.14 – Critical Facilities, Pamlico County

FEMA Lifeline	Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	11	$48,777,848
Hazardous Materials	0	$0

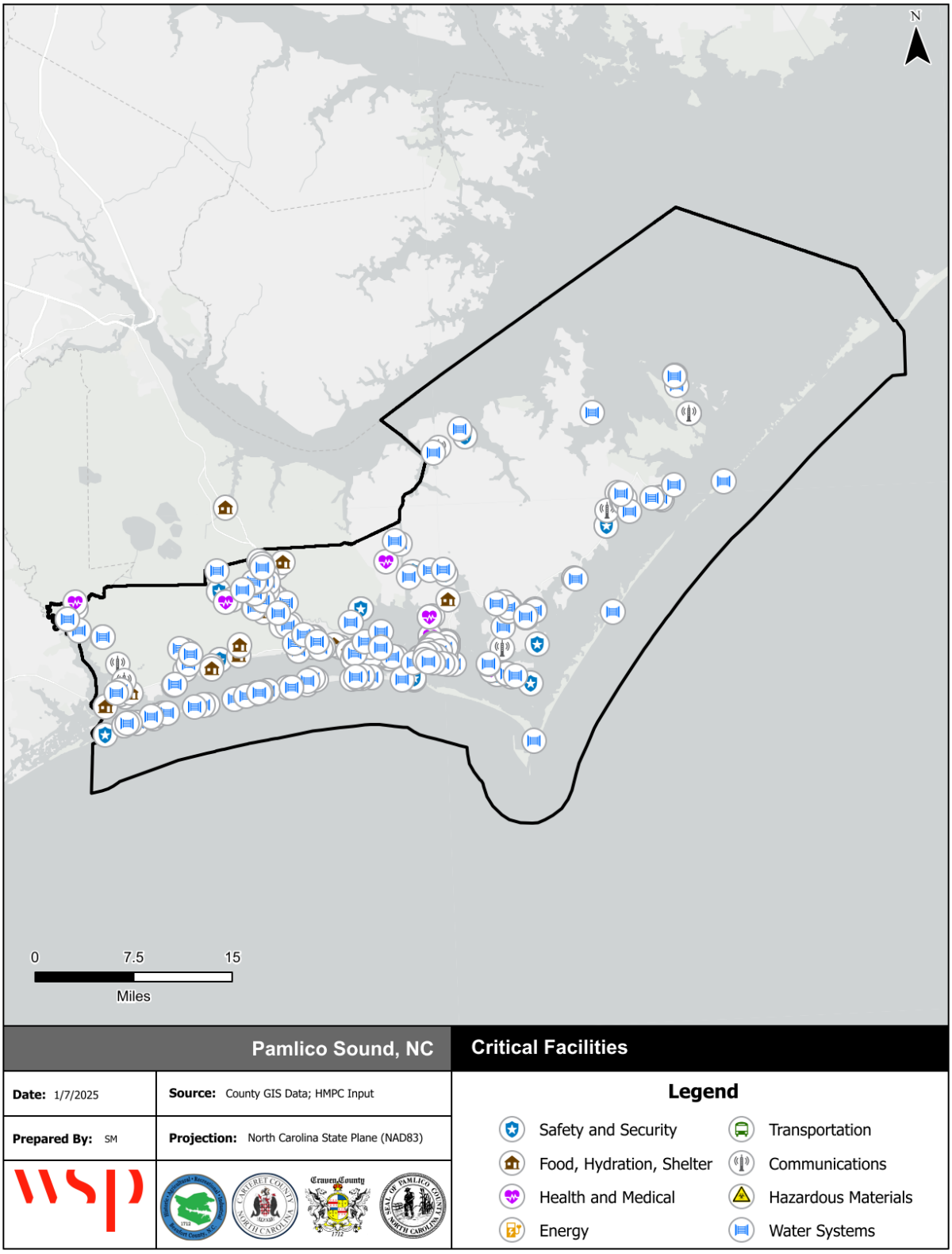
FEMA Lifeline	Facility Count	Structure Value
Health and Medical	11	$797,108
Safety and Security	17	$11,885,888
Transportation	0	$0
Water Systems	12	$5,622,700
Total	**51**	**$67,083,544**

Figure 4.1 – Beaufort County Critical Facilities



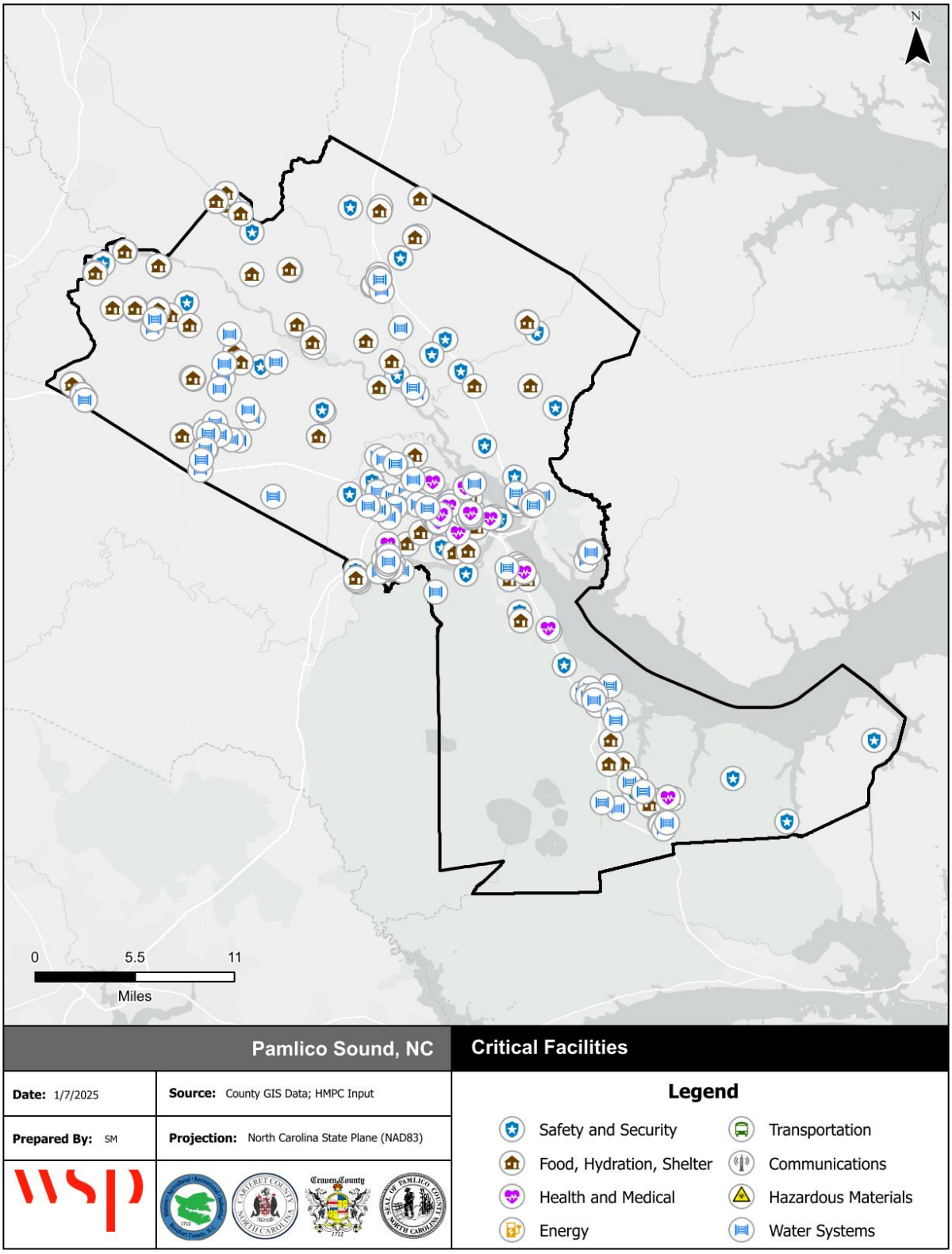
Source: NCEM IRISK Database, GIS Analysis; HMPC input

Figure 4.2 – Carteret County Critical Facilities



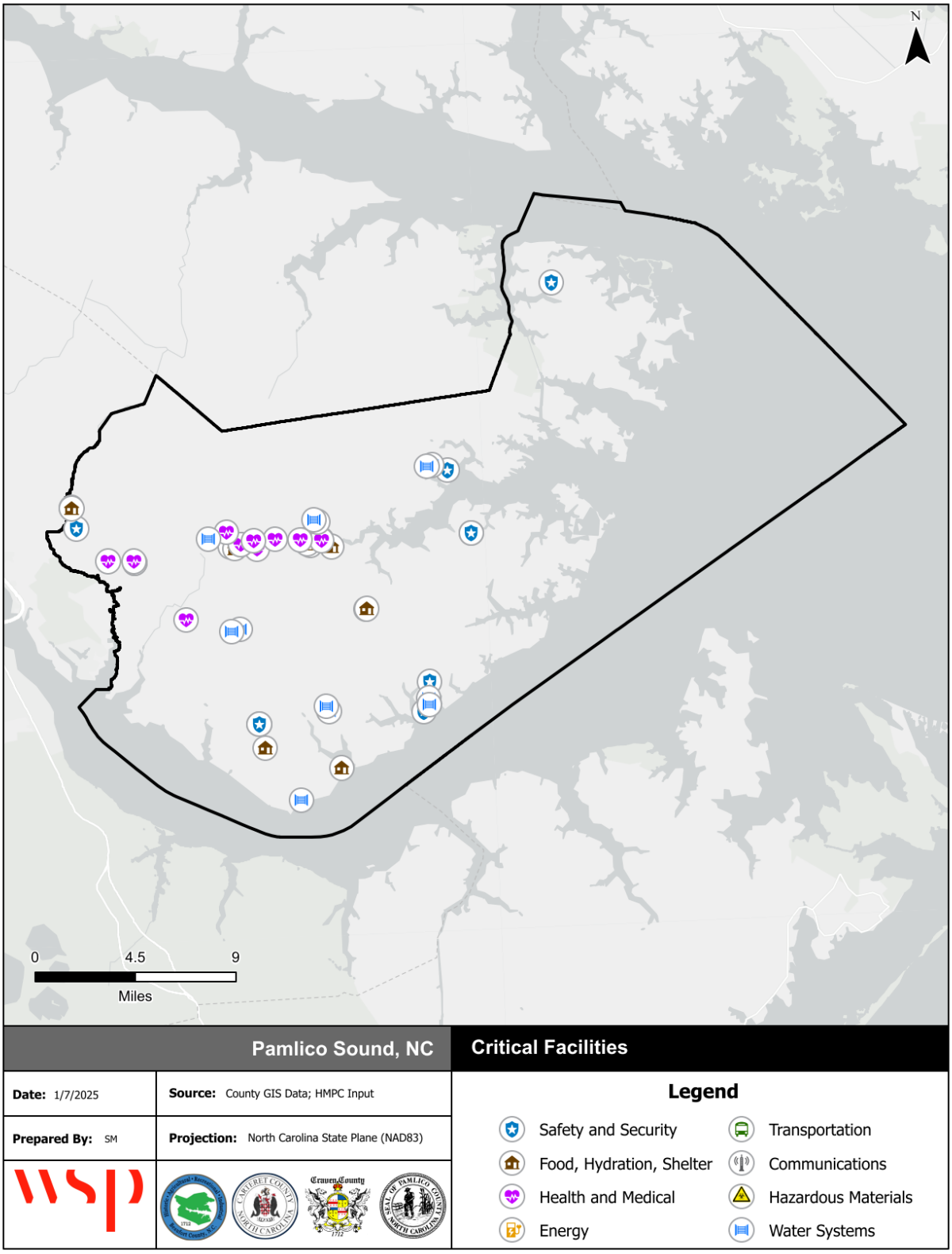
Source: NCEM IRISK Database, GIS Analysis; HMPC input

Figure 4.3 – Craven County Critical Facilities



Source: NCEM IRISK Database, GIS Analysis; HMPC input

Figure 4.4 – Pamlico County Critical Facilities



Source: NCEM IRISK Database, GIS Analysis; HMPC input

4.4.4 AGRICULTURE

The agricultural industry is also highly vulnerable to natural hazards, which can cause both crop and livestock losses. The exposure of agriculture in the region was measured using the USDA's 2022 Census of Agriculture. Table 4.15 below summarizes the agricultural exposure in the Region by county.

Table 4.15 – Summary of Agriculture Exposure by County

County	Number of Farms	Acreage in Farms	Proportion of Total Land Area in Farms	Acreage with Crop Insurance	Estimated Market Value of Land & Buildings
Beaufort County	259	139,853	26.3%	114,864 (82.1%)	$2,337,456
Carteret County	94	60,950	18.8%	43,169 (70.8%)	$1,446,877
Craven County	292	100,825	22.3%	46,987 (46.6%)	$1,057,477
Pamlico County	81	54,675	25.4%	37,604 (68.7%)	$2,174,747

Source: USDA 2022 Census of Agriculture

4.5 HAZARD PROFILES, ANALYSIS, AND VULNERABILITY

4.5.1 DAM & LEVEE FAILURE

HAZARD BACKGROUND

DAM FAILURE

A dam is a barrier constructed across a watercourse that stores, controls, or diverts water. Dams are usually constructed of earth, rock, concrete, or mine tailings. The water impounded behind a dam is referred to as the reservoir and is measured in acre-feet. One acre-foot is the volume of water that covers one acre of land to a depth of one foot. Dams can benefit farmland, provide recreation areas, generate electrical power, and help control erosion and flooding issues. A dam failure is the collapse or breach of a dam that causes downstream flooding. Dam failures may be caused by natural events, manmade events, or a combination. Due to the lack of advance warning, failures resulting from natural events, such as earthquakes or landslides, may be particularly severe. Prolonged rainfall and subsequent flooding is the most common cause of dam failure.

Dam failures usually occur when the spillway capacity is inadequate, and water overtops the dam or when internal erosion in dam foundation occurs (also known as piping). If internal erosion or overtopping causes a full structural breach, a high-velocity, debris-laden wall of water is released and rushes downstream, damaging or destroying anything in its path. Overtopping is the primary cause of earthen dam failure in the United States.

Dam failures can also result from any one or a combination of the following:

- Prolonged periods of rainfall and flooding;
- Inadequate spillway capacity, resulting in excess overtopping flows;
- Internal erosion caused by embankment or foundation leakage or piping;
- Improper maintenance, including failure to remove trees, repair internal seepage problems, replace lost material from the cross-section of the dam and abutments, or maintain gates, valves, and other operational components;
- Improper design, including the use of improper construction materials and construction practices;
- Negligent operation, including the failure to remove or open gates or valves during high flow periods;
- Failure of upstream dams on the same waterway; or
- High winds, which can cause significant wave action and result in substantial erosion.

Water released by a failed dam generates tremendous energy and can cause a flood that is catastrophic to life and property. Dam failures are generally catastrophic if the structure is breached or significantly damaged. A catastrophic dam failure could challenge local response capabilities and require evacuations to save lives. Impacts to life safety will depend on the warning time and the resources available to notify and evacuate the public. Major casualties and loss of life could result, as well as water quality and health issues. Potentially catastrophic effects to roads, bridges, and homes are also of major concern. Associated water quality and health concerns could also be issues. Factors that influence the potential severity of a full or partial dam failure are the amount of water impounded; the density, type, and value of development and infrastructure located downstream; and the speed of failure.

Dam failure can occur with little warning. Intense storms may produce a flood in a few hours or even minutes for upstream locations. Flash floods occur within six hours of the beginning of heavy rainfall,

and dam failure may occur within hours of the first signs of breaching. Other failures and breaches can take much longer to occur, from days to weeks, as a result of debris jams or the accumulation of melting snow.

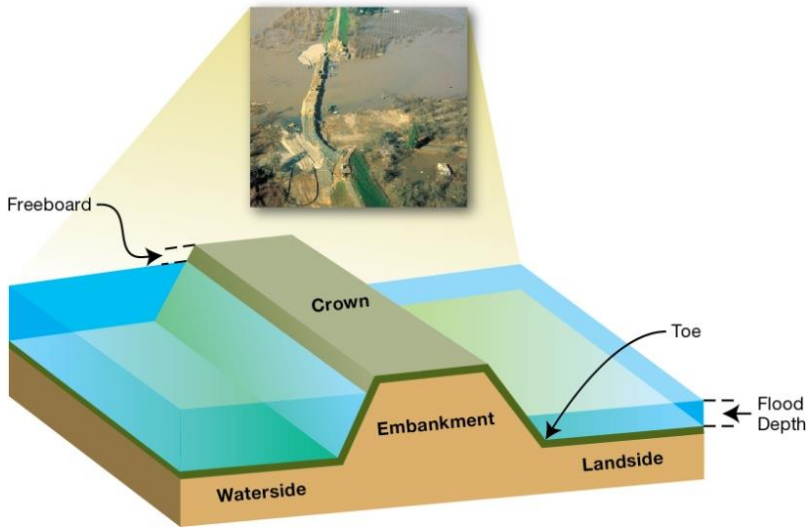
Dam failures are of particular concern because the failure of a large dam has the potential to cause more death and destruction than the failure of any other manmade structure. This is because of the destructive power of the flood wave that would be released by the sudden collapse of a large dam. Dams are innately hazardous structures. Failure or poor operation can result in the release of the reservoir contents—this can include water, mine wastes, or agricultural refuse–causing negative impacts upstream or downstream or at locations far from the dam. Negative impacts of primary concern are loss of human life, property damage, lifeline disruption, and environmental damage.

LEVEE FAILURE

FEMA defines a levee as "a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water in order to reduce the risk from temporary flooding." Levee systems consist of levees, floodwalls, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices. Levees often have "interior drainage" systems that work in conjunction with the levees to take water from the landward side to the water side. An interior drainage system may include culverts, canals, ditches, storm sewers, and/or pumps.

Levees and floodwalls are constructed from the earth, compacted soil or artificial materials, such as concrete or steel. To protect against erosion and scouring, earthen levees can be covered with grass and gravel or hard surfaces like stone, asphalt, or concrete. Levees and floodwalls are typically built parallel to a waterway, most often a river, in order to reduce the risk of flooding to the area behind it. Figure 4.5 shows the components of a typical levee.

Figure 4.5 – Components of a Typical Levee



Source: FEMA, What is a Levee Fact Sheet, August 2020

Levees provide strong flood protection, but they are not failsafe. Levees are designed to protect against a specific flood level and could be overtopped during severe weather events. Levees reduce, not eliminate, the risk to individuals and structures behind them. A levee system failure or overtopping can create severe flooding and high-water velocities. It is important to remember that no levee provides protection from

events for which it was not designed, and proper operation and maintenance are necessary to reduce the probability of failure.

For both dam and levee failure events, there is generally very little warning time. A failure may result from heavy rains and flash flooding and occur within hours of the first signs of breaching. The duration of the flood will vary but may last as long as a week.

Warning Time: 4 – Less than 6 hours

Duration: 3 – Less than 1 week

LOCATION

DAM FAILURE

The North Carolina Dam Inventory, maintained by North Carolina Department of Environmental Quality, provides a detailed inventory of all dams in the state. As of December 2023, there are 28 dams in the Pamlico Sound Region, of which 18 are rated low hazard and 10 are rated high hazard. Of all 28 dams, 21 are located in Beaufort County, 1 in Carteret County, 4 in Craven County, and 2 in Pamlico County. Figure 4.6 through Figure 4.9 show the location of all dams in the Region by county. Table 4.16 lists all dams with high hazard potential in the Region by county. Dams located in or near specific jurisdictions are shown in their respective jurisdictional annexes.

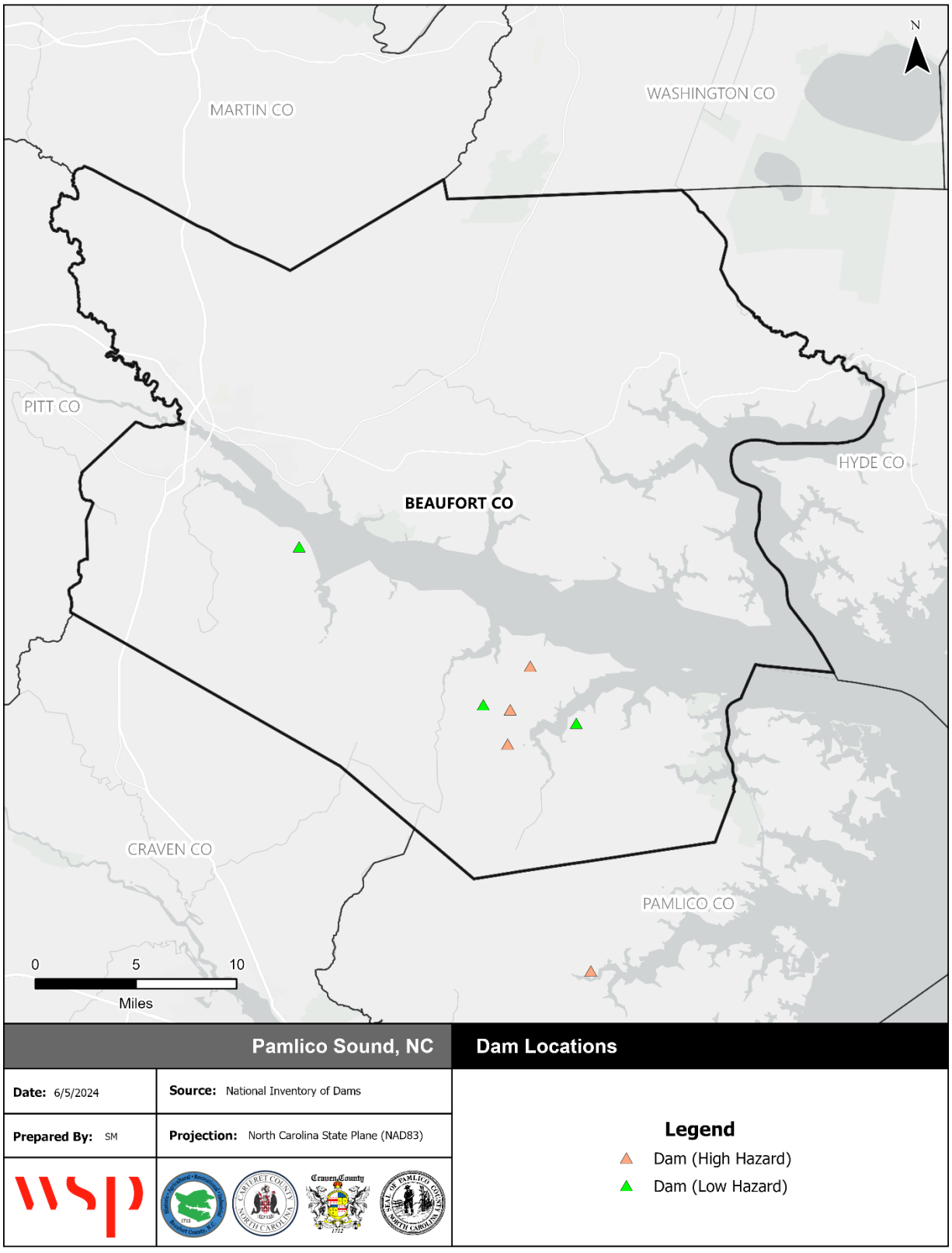
Table 4.16 – High Hazard Dams in the Pamlico Sound Region

Dam Name	NID ID	Condition as of Last Inspection	Max Capacity (Ac-Ft)	Nearest Downstream Location
Beaufort County				
PCS Phosphate R7 Blend Dike	NC05642	Fair	40875	Aurora
PCS Phosphate #1a Cooling Pond Dike	NC05885	Fair		Aurora
PCS Phosphate R-9 Blend Dike	NC06154	Fair		Aurora
Carteret County				
Walker Millpond Dam	NC01106	Fair	806	Morehead City
Craven County				
Carolina Commons Dam*	NC05962	Fair		James City
Pamlico County				
Pamlico Regional Wastewater Dike	NC05367	Unsatisfactory	6	Bayboro

Source: North Carolina Dam Inventory

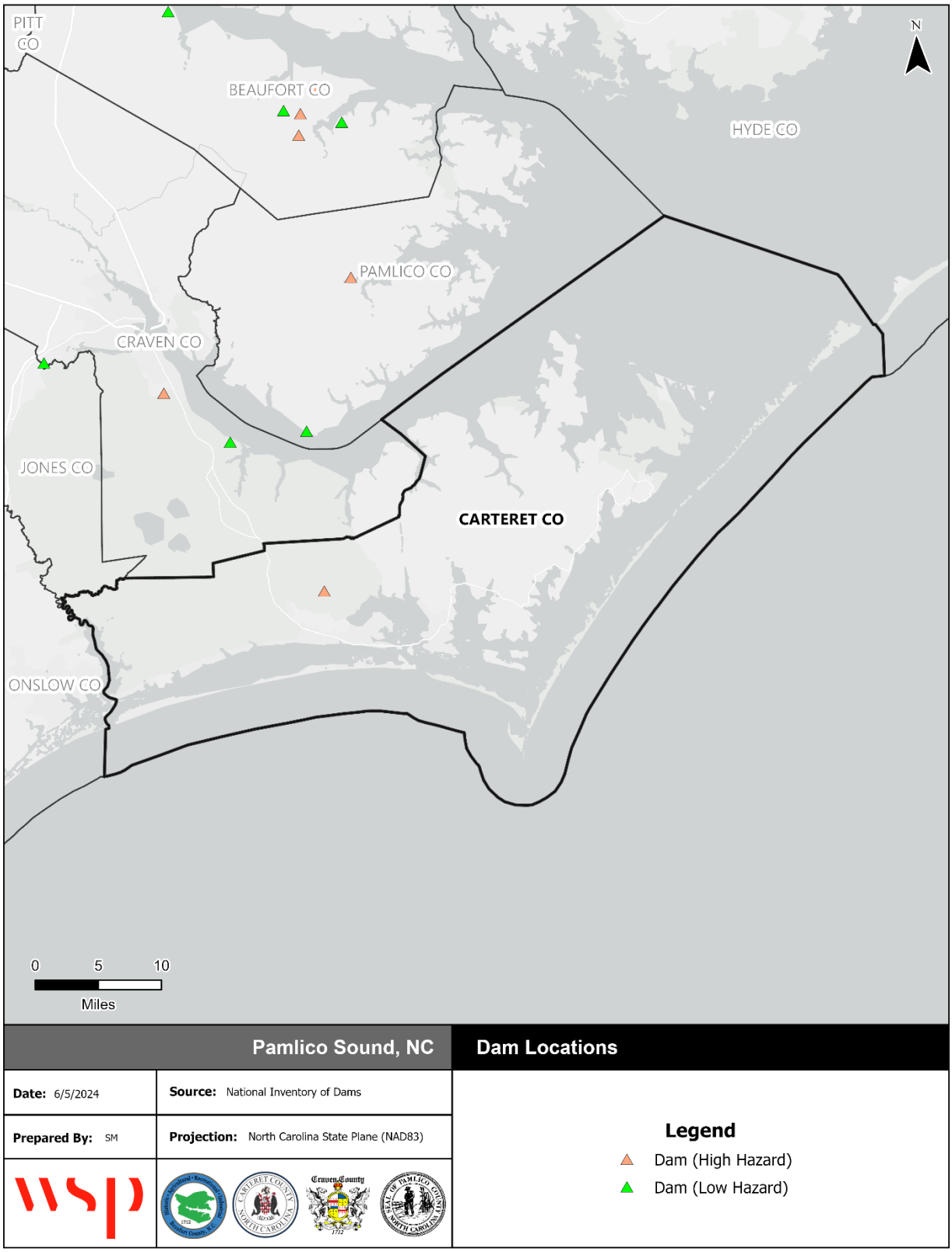
*The Carolina Commons Dam is located within the jurisdictional limits of New Bern City.

Figure 4.6 – Dam Locations in Beaufort County



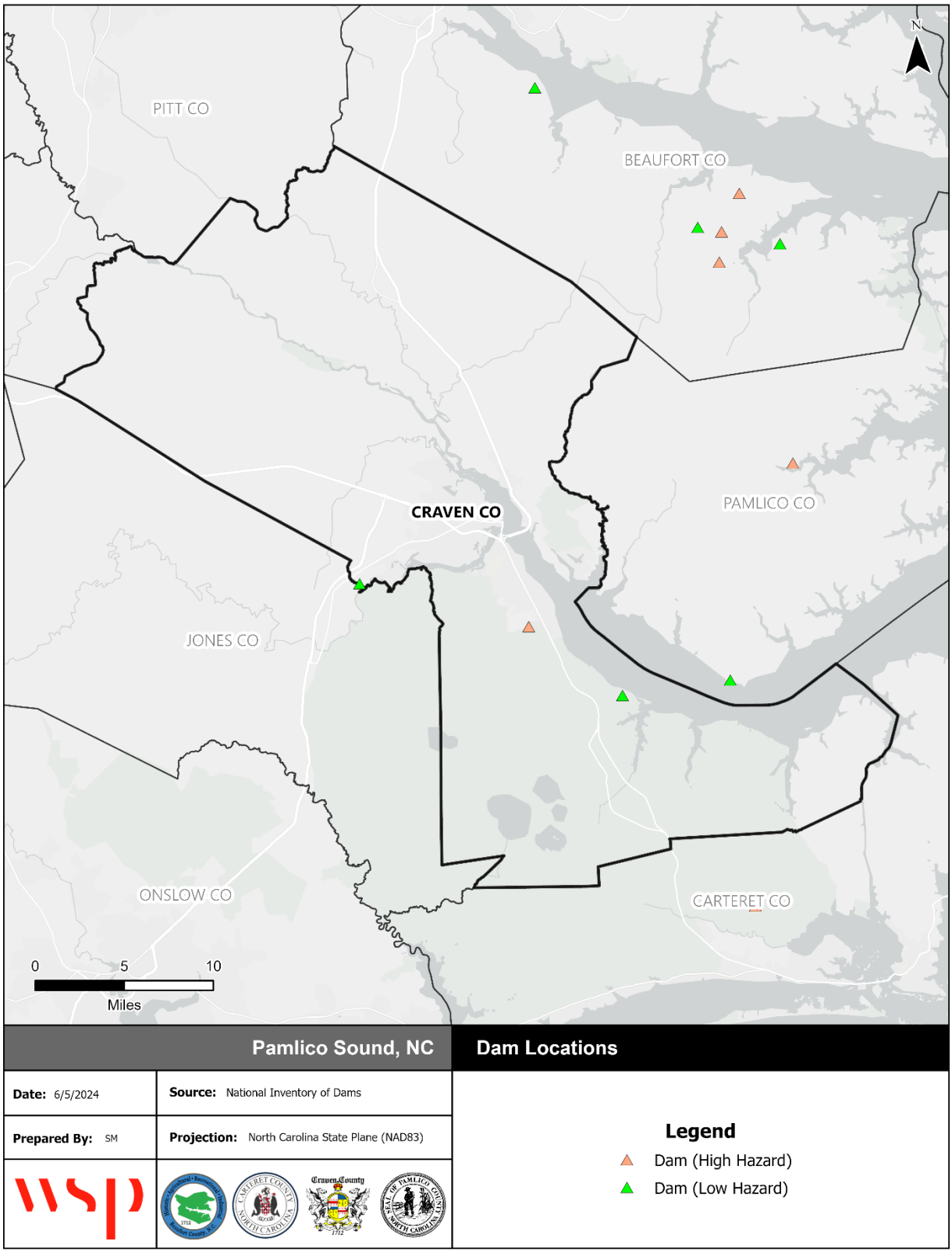
Source: North Carolina Dam Inventory, June 2024

Figure 4.7 – Dam Locations in Carteret County



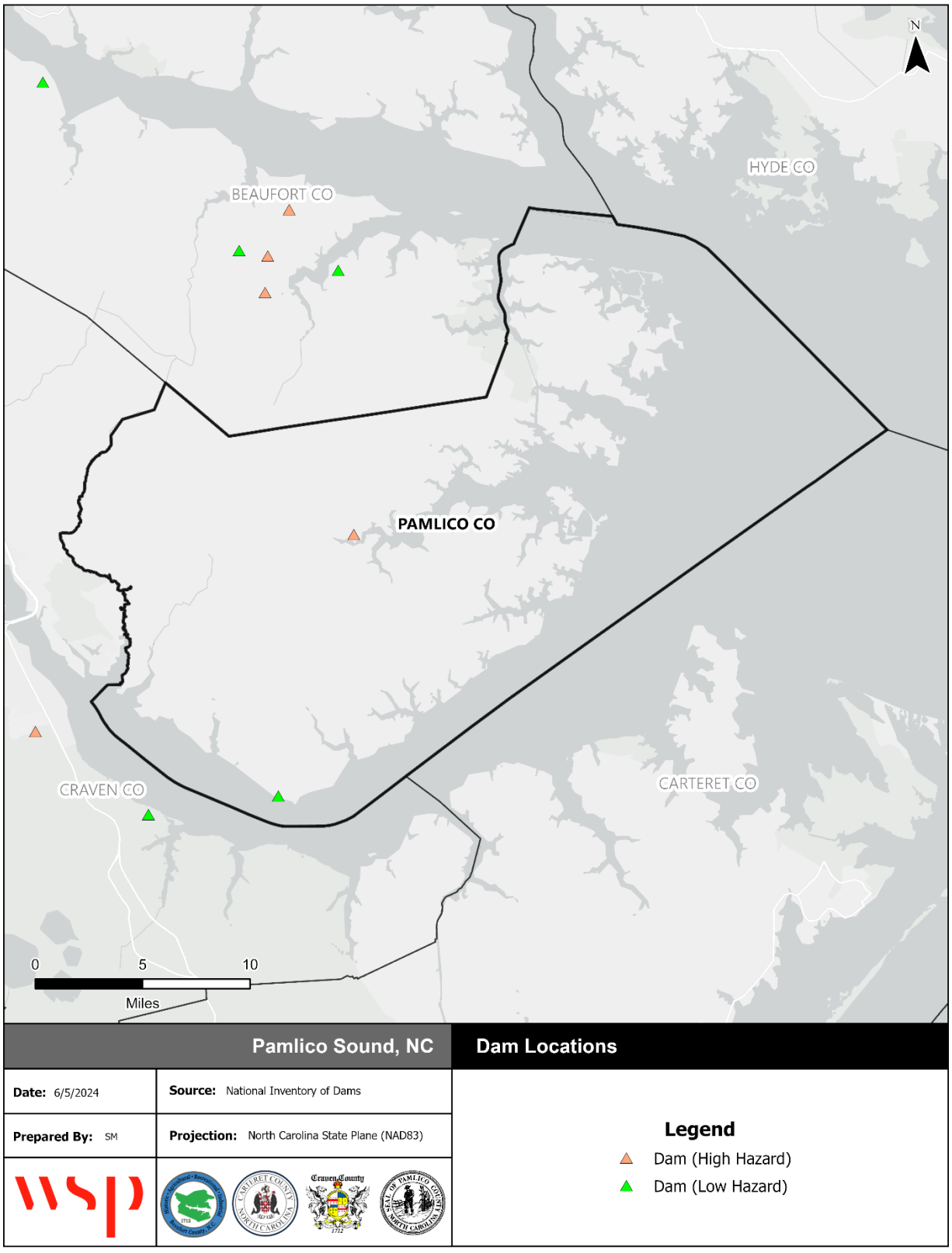
Source: North Carolina Dam Inventory, June 2024

Figure 4.8 – Dam Locations in Craven County



Source: North Carolina Dam Inventory, June 2024

Figure 4.9 – Dam Locations in Pamlico County



Source: North Carolina Dam Inventory, June 2024

LEVEE FAILURE

According to the US Army Corps of Engineers' (USACE) National Levee Database (NLD), there are three recognized levees in the Pamlico Sound Region. These levees are detailed in Table 4.17 and their locations are shown in Figure 4.10. All three levee segments are located in Beaufort County.

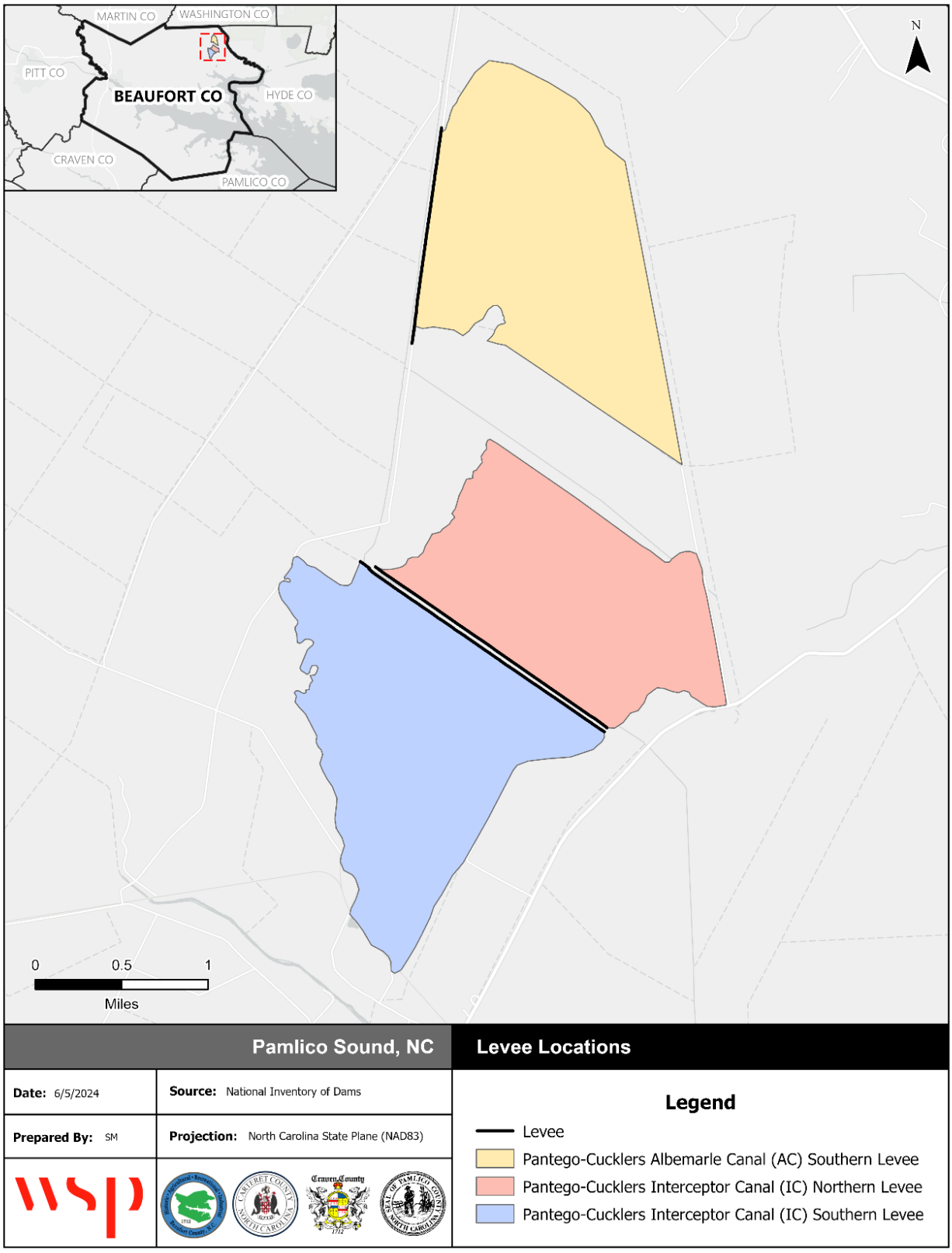
Table 4.17 – Levees in the Pamlico Sound Region

Levee Name	Year Constructed	Embankment Length (mi)	Levee Safety Action Classification	People at Risk	Structures at Risk	Property Value
Pantego-Cuckler Albemarle Canal (AC) Southern Levee	1962	1.26	Low	20	11	$4.00M
Pantego-Cuckler Interceptor Canal (IC) Northern Levee	1962	1.63	Low	15	11	$2.00M
Pantego-Cuckler Interceptor Canal (IC) Southern Levee	1962	1.73	Low	15	16	$2.00M

Source: National Levee Database 2024

Spatial Extent: 1 – Negligible

Figure 4.10 – Levee Locations in the Pamlico Sound Region



Source: National Levee Database

EXTENT

Each state has definitions and methods to determine the hazard potential of a dam. In North Carolina, dams are regulated by the state if they are 25 feet or more in height and impound 50 acre-feet or more. Dams and impoundments smaller than that may fall under state regulation if it is determined that failure of the dam could result in loss of human life or significant damage to property. The height of a dam is from the highest point on the crest of the dam to the lowest point on the downstream toe, and the storage capacity is the volume impounded at the elevation of the highest point on the crest of the dam.

Dam Safety Program engineers determine the "hazard potential" of a dam, meaning the probable damage that would occur if the structure failed, in terms of loss of human life and economic loss or environmental damage. Dams are assigned one of three classes based on the nature of their hazard potential:

- Class A (Low Hazard) includes dams located where failure may damage uninhabited low value non-residential buildings, agricultural land, or low volume roads.
- Class B (Intermediate Hazard) includes dams located where failure may damage highways or secondary railroads, cause interruption of use or service of public utilities, cause minor damage to isolated homes, or cause minor damage to commercial and industrial buildings. Damage to these structures will be considered minor only when they are located in backwater areas not subjected to the direct path of the breach flood wave; and they will experience no more than 1.5 feet of flood rise due to breaching above the lowest ground elevation adjacent to the outside foundation walls or no more than 1.5 feet of flood rise due to breaching above the lowest floor elevation of the structure.
- Class C (High Hazard) includes dams located where failure will likely cause loss of life or serious damage to homes, industrial and commercial buildings, important public utilities, primary highways, or major railroads.

Table 4.18 – Dam Hazard Classifications

Hazard Classification	Description	Quantitative Guidelines
Low	Interruption of road service, low volume roads	Less than 25 vehicles per day
	Economic damage	Less than $30,000
Intermediate	Damage to highways, interruption of service	25 to less than 250 vehicles per day
	Economic damage	$30,000 to less than $200,000
	Loss of human life*	Probable loss of 1 or more human lives
High	Economic damage	More than $200,000
	*Probable loss of human life due to breached roadway or bridge on or below the dam	250 or more vehicles per day

Source: NCDENR

Failure of a dam or levee would affect only a negligible area but could cause death and serious property damage within the affected area.

Impact: 3 – Critical

HISTORICAL OCCURRENCES

The National Performance of Dams Program at Stanford University maintains a database of historical dam incidents. Per NPDP records, there are no known historical failures or near-failures at any dams in the Pamlico Sound Region.

PROBABILITY OF FUTURE OCCURRENCE

Given the limited presence of levees and high hazard dams in the Region and the lack of any prior incidents, it can be concluded that dam or levee failure is unlikely. However, it is possible that with heavy

rain events becoming more frequent and intense, conditions conducive to failures may occur more frequently in the future.

Probability: 1 – Unlikely

CLIMATE CHANGE

Studies have been conducted to investigate the impact of climate change scenarios on dam safety. The safety of dams for the future climate can be based on an evaluation of changes in design floods and the freeboard available to accommodate an increase in flood levels. The results from the studies indicate that the design floods with the corresponding outflow floods and flood water levels will increase in the future, and this increase will affect the safety of the dams in the future. Studies concluded that the total hydrological failure probability of a dam will increase in the future climate and that the extent and depth of flood waters will increase by the future dam break scenario. These changes would likely produce similar impacts on levees.

VULNERABILITY ASSESSMENT

METHODOLOGIES AND ASSUMPTIONS

Dam inundation areas were not available for the identified dams; therefore, a quantitative vulnerability assessment could not be completed. Vulnerability to dam failure discussed below is based on anecdotal evidence and theoretical understanding of potential risks. Levee failure risk is based on the risk assessment information provided by the USACE's NLD.

PEOPLE

A person's immediate vulnerability to a dam failure is directly associated with the person's distance downstream of the dam as well as proximity to the stream carrying the floodwater from the failure. For dams that have an Emergency Action Plan (EAP), the vulnerability of loss of life for persons in their homes or on their property may be mitigated by following the EAP evacuation procedures; however, the displaced persons may still incur sheltering costs. For persons located on the river (e.g. for recreation) the vulnerability of loss of life is significant.

People are also vulnerable to the loss of the uses of the lake upstream of a dam following failure. Several uses are minor, such as aesthetics or recreational use. However, some lakes serve as drinking water supplies and their loss could disrupt the drinking water supply and present a public health problem.

The NLD estimates that 34 people are at risk to levee failure in the Pamlico Sound Region, all located in Beaufort County.

PROPERTY

Vulnerability of the built environment includes damage to the dam or levee itself and any man-made feature located within the inundation area caused by the failure. Downstream of the dam, vulnerability includes potential damage to homes, personal property, commercial buildings and property, and government owned buildings and property; destruction of bridge or culvert crossings; weakening of bridge supports through scour; and damage or destruction of public or private infrastructure that cross the stream such as water and sewer lines, gas lines and power lines. Water dependent structures on the lake upstream of the dam, such as docks/piers, floating structures or water intake structures, may be damaged by the rapid reduction in water level during the failure.

Similarly, levee failures can result in inundation and damages to buildings, personal property, and infrastructure. If a levee fails or is overtopped, the resulting flooding may be severe, as the levee then acts

as a barrier, preventing drainage of the flood waters. According to NLD, there are 27 buildings at risk in leveed areas, worth an estimated $5.8 million.

ENVIRONMENT

Aquatic species within the lake will either be displaced or destroyed due to dam failure. The velocity of the flood wave will likely destroy riparian and instream vegetation and destroy wetland function. The flood wave will like cause erosion within and adjacent to the stream. Deposition of eroded deposits may choke instream habitat or disrupt riparian areas. Sediments within the lake bottom and any low oxygen water from within the lake will be dispersed, potentially causing fish kills or releasing heavy metals found in the lake sediment layers.

CONSEQUENCE ANALYSIS

Table 4.19 summarizes the potential negative consequences of dam and levee failure.

Table 4.19 – Consequence Analysis – Dam and Levee Failure

Category	Consequences
Public	Localized impact expected to be severe for inundation area and moderate to light for other adversely affected areas.
Responders	Localized impact expected to limit damage to personnel in the inundation area at the time of the incident.
Continuity of Operations (including Continued Delivery of Services)	Damage to facilities/personnel in the area of the incident may require temporary relocation of some operations. Localized disruption of roads and/or utilities may postpone delivery of some services. Regulatory waivers may be needed locally. Fulfillment of some contracts may be difficult. Impact may reduce deliveries.
Property, Facilities and Infrastructure	Localized impact to facilities and infrastructure in the inundation area of the incident. Some severe damage possible.
Environment	Localized impact expected to be severe for inundation area and moderate to light for other adversely affected areas. Consequences include erosion, water quality degradation, wildlife displacement or destruction, and habitat destruction.
Economic Condition of the Jurisdiction	Local economy and finances adversely affected, possibly for an extended period of time, depending on damage and length of investigation.
Public Confidence in the Jurisdiction's Governance	Localized impact expected to primarily adversely affect only the dam owner and local entities.

HAZARD SUMMARY BY JURISDICTION

The following table summarizes dam and levee failure hazard risk by jurisdiction. Warning time and duration are inherent to the hazard and remain constant across jurisdictions. Spatial extent of any dam failure will be negligible relative to the planning area. Jurisdictions with high hazard dams upstream or within their boundaries were assigned a probability rating of possible and an impact score of critical. Jurisdictions with no high hazard dams were assigned a probability rating of unlikely and an impact rating of limited.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Beaufort County	2	3	1	4	3	2.4	M

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
City of Washington	1	2	1	4	3	1.8	L
Town of Aurora	1	2	1	4	3	1.8	L
Town of Bath	1	2	1	4	3	1.8	L
Town of Belhaven	1	2	1	4	3	1.8	L
Town of Chocowinity	1	2	1	4	3	1.8	L
Town of Pantego	1	2	1	4	3	1.8	L
Town of Washington Park	1	2	1	4	3	1.8	L
Carteret County	2	3	1	4	3	2.4	M
Town of Atlantic Beach	1	2	1	4	3	1.8	L
Town of Beaufort	1	2	1	4	3	1.8	L
Town of Bogue	1	2	1	4	3	1.8	L
Town of Cape Carteret	1	2	1	4	3	1.8	L
Town of Cedar Point	1	2	1	4	3	1.8	L
Town of Emerald Isle	1	2	1	4	3	1.8	L
Town of Indian Beach	1	2	1	4	3	1.8	L
Town of Morehead City	2	3	1	4	3	2.4	M
Town of Newport	1	2	1	4	3	1.8	L
Town of Peletier	1	2	1	4	3	1.8	L
Town of Pine Knoll Shores	1	2	1	4	3	1.8	L
Craven County	2	3	1	4	3	2.4	M
City of Havelock	1	2	1	4	3	1.8	L
City of New Bern	1	2	1	4	3	1.8	L
Town of Bridgeton	1	2	1	4	3	1.8	L
Town of Cove City	1	2	1	4	3	1.8	L
Town of Dover	1	2	1	4	3	1.8	L
Town of River Bend	1	2	1	4	3	1.8	L
Town of Trent Woods	1	2	1	4	3	1.8	L
Town of Vanceboro	1	2	1	4	3	1.8	L
Pamlico County	2	3	1	4	3	2.4	M
Town of Alliance	1	2	1	4	3	1.8	L
Town of Arapahoe	1	2	1	4	3	1.8	L
Town of Bayboro	1	2	1	4	3	1.8	L
Town of Grantsboro	1	2	1	4	3	1.8	L
Town of Mesic	1	2	1	4	3	1.8	L
Town of Minnesott Beach	1	2	1	4	3	1.8	L
Town of Oriental	1	2	1	4	3	1.8	L
Town of Stonewall	1	2	1	4	3	1.8	L
Town of Vandemere	1	2	1	4	3	1.8	L

4.5.2 DROUGHT

HAZARD BACKGROUND

Drought is a condition of climatic dryness that is severe enough to reduce soil moisture and water below the minimum necessary for sustaining plant, animal, and human life systems. Influencing factors include temperature patterns, precipitation patterns, agricultural and domestic water-supply needs, and growth. Lack of annual precipitation and poor water conservation practices can result in drought conditions.

Drought is a gradual phenomenon. Although droughts are sometimes characterized as emergencies, they differ from typical emergency events. Most natural disasters, such as floods or wildland fires, occur relatively rapidly and afford little time for preparing for disaster response. Droughts occur slowly, over a multi-year period, and can take years before the consequences are realized. It is often not obvious or easy to quantify when a drought begins and ends. Droughts can be a short-term event over several months or a long-term event that lasts for years or even decades.

Drought is a complex issue involving many factors—it occurs when a normal amount of moisture is not available to satisfy an area's usual water-consuming activities. Drought can often be defined regionally based on its effects and common drought types are detailed below:

- **Meteorological drought** is usually defined by a period of below average water supply.
- **Agricultural drought** occurs when there is an inadequate water supply to meet the needs of the State's crops and other agricultural operations such as livestock.
- **Hydrological drought** is defined as deficiencies in surface and subsurface water supplies. It is generally measured as streamflow, snowpack, and as lake, reservoir, and groundwater levels.
- **Socioeconomic drought** occurs when a drought impacts health, well-being, and quality of life or when a drought starts to have an adverse economic impact on a region.

Drought impacts are wide-reaching and may be economic, environmental, and/or societal. The most significant impacts associated with drought in the Pamlico Sound Region are those related to water intensive activities such as agriculture, wildland fire protection, municipal usage, commerce, tourism, recreation, and wildlife preservation. Drought conditions can also cause soil to compact, increasing an area's susceptibility to flooding, and reduce vegetation cover, which exposes soil to wine and erosion. A reduction to electric power generation and water quality deterioration are also potential problems.

The U.S. Drought Monitor provides a summary of drought conditions across the United States and Puerto Rico. Often described as a blend of art and science, the Drought Monitor map is updated weekly by combining a variety of data-based drought indices and indicators and local expert input into a single composite drought indicator.

The **Palmer Drought Severity Index** (PDSI) devised in 1965, was the first drought indicator to assess moisture status comprehensively. It uses temperature and precipitation data to calculate water supply and demand, incorporates soil moisture, and is considered most effective for unirrigated cropland. It primarily reflects long-term drought and has been used extensively to initiate drought relief. It is more complex than the Standardized Precipitation Index (SPI) and the Drought Monitor.

The **Standardized Precipitation Index** (SPI) is a way of measuring drought that is different from the Palmer Drought Severity Index (PDSI). Like the PDSI, this index is negative for drought, and positive for wet conditions. But the SPI is a probability index that considers only precipitation, while Palmer's indices are water balance indices that consider water supply (precipitation), demand (evapotranspiration) and loss (runoff).

Describe local conditions pertaining to this hazard. Include descriptions of geographic boundaries, recognized districts, localized areas of concern, etc.

The State of North Carolina has a Drought Assessment and Response Plan as an Annex to its Emergency Operations Plan. This plan provides the framework to coordinate statewide response to a drought incident.

Warning Time: 1 – More than 24 hours

Duration: 4 – More than one week

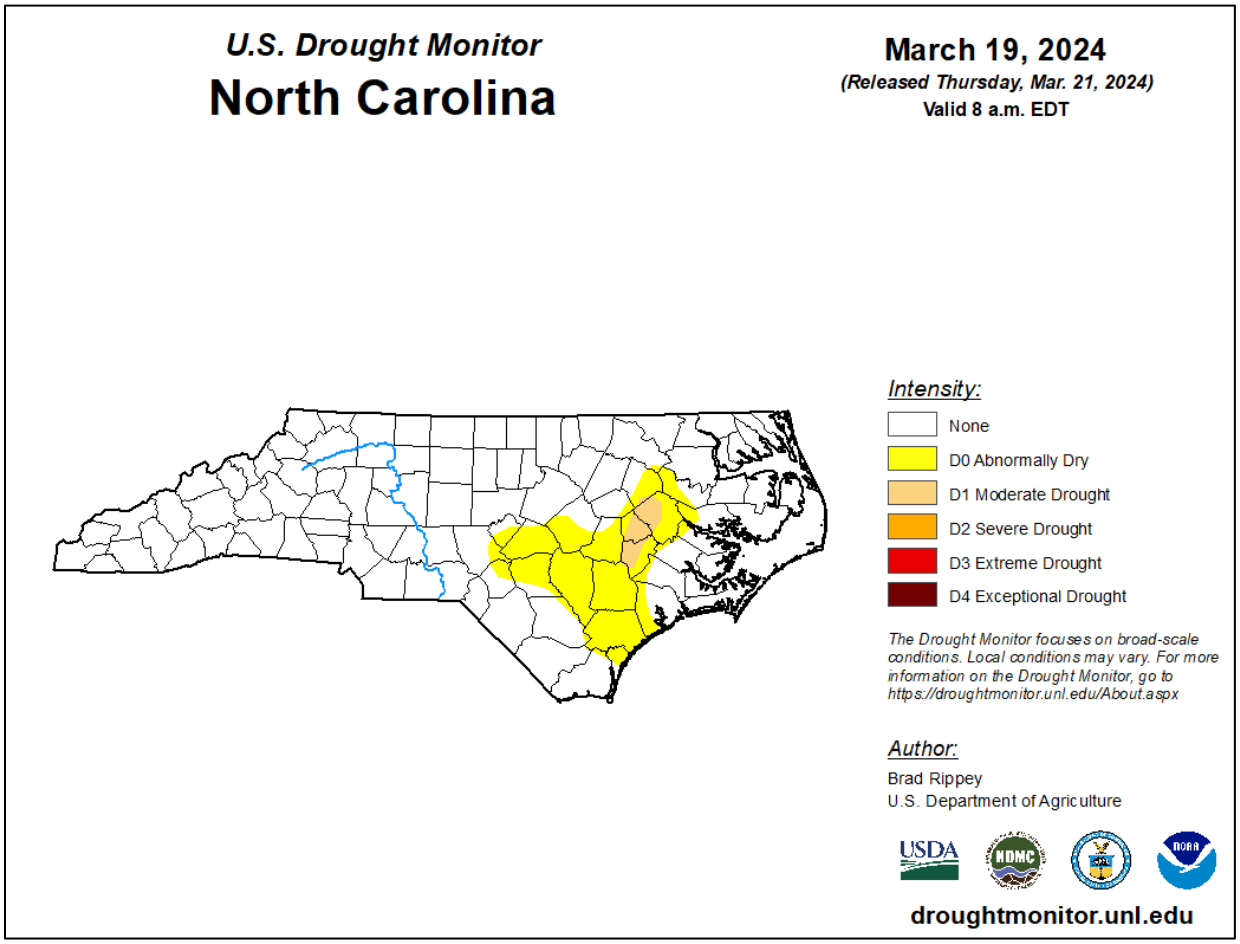
LOCATION

Drought poses a regional threat that can encompass an entire planning area, and in certain instances, even an entire state. The National Weather Service views drought and extreme heat as a phenomenon affecting broad forecast "zones", making it uncommon to pinpoint locations within planning areas that are more vulnerable to these hazards than others. Historically, the Eastern United Staes has experienced fewer significant long-term droughts compared to the Central and Western regions of the county.

The figure below illustrates the U.S. Drought Monitor's drought ratings for North Carolina as of March 19, 2024, indicating that as of that date, the Pamlico Sound Region is experiencing none to abnormally dry areas in parts of the Region.

Spatial Extent: 4 – Large

Figure 4.11 – U.S. Drought Monitor for Week of March 19, 2024



Source: U.S. Drought Monitor

EXTENT

The most significant impacts with drought in the Pamlico Sound Region are those related to water intensive activities such as agriculture, wildfire protection, municipal usage, commerce, tourism, recreation, and wildlife preservation. Drought conditions can cause soil to compact and not absorb water well, potentially making an area more susceptible to flooding.

Drought extent can be defined in terms of intensity, using the U.S. Drought Monitor scale. The Drought Monitor Scale measures drought episodes with input from the Palmer Drought Severity Index, the Standardized Precipitation Index, the Keetch-Byram Drought Index, soil moisture indicators, and other inputs as well as information on how drought is affecting people. Figure 4.12 details the classifications used by the U.S. Drought Monitor. A category of D2 (severe) or higher on the U.S. Drought Monitor Scale can typically result in crop or pasture losses, water shortages, and the need to institute water restrictions.

Figure 4.12 – U.S. Drought Monitor Classifications

			Ranges				
Category	Description	Possible Impacts	Palmer Drought Severity Index (PDSI)	CPC Soil Moisture Model (Percentiles)	USGS Weekly Streamflow (Percentiles)	Standardized Precipitation Index (SPI)	Objective Drought Indicator Blends (Percentiles)
D0	Abnormally Dry	Going into drought: ▪ short-term dryness slowing planting, growth of crops or pastures Coming out of drought: ▪ some lingering water deficits ▪ pastures or crops not fully recovered	-1.0 to -1.9	21 to 30	21 to 30	-0.5 to -0.7	21 to 30
D1	Moderate Drought	▪ Some damage to crops, pastures ▪ Streams, reservoirs, or wells low, some water shortages developing or imminent ▪ Voluntary water-use restrictions requested	-2.0 to -2.9	11 to 20	11 to 20	-0.8 to -1.2	11 to 20
D2	Severe Drought	▪ Crop or pasture losses likely ▪ Water shortages common ▪ Water restrictions imposed	-3.0 to -3.9	6 to 10	6 to 10	-1.3 to -1.5	6 to 10
D3	Extreme Drought	▪ Major crop/pasture losses ▪ Widespread water shortages or restrictions	-4.0 to -4.9	3 to 5	3 to 5	-1.6 to -1.9	3 to 5
D4	Exceptional Drought	▪ Exceptional and widespread crop/pasture losses ▪ Shortages of water in reservoirs, streams, and wells creating water emergencies	-5.0 or less	0 to 2	0 to 2	-2.0 or less	0 to 2

Source: US Drought Monitor

Pamlico Sound Region faced its most severe drought in the last two decades between March 2007 and May 2008. During this period, all four counties endured 51 consecutive weeks of drought conditions, with Carteret and Pamlico Counties experiencing severe drought and Beaufort and Craven Counties facing extreme drought.

Impact: 1 – Minor

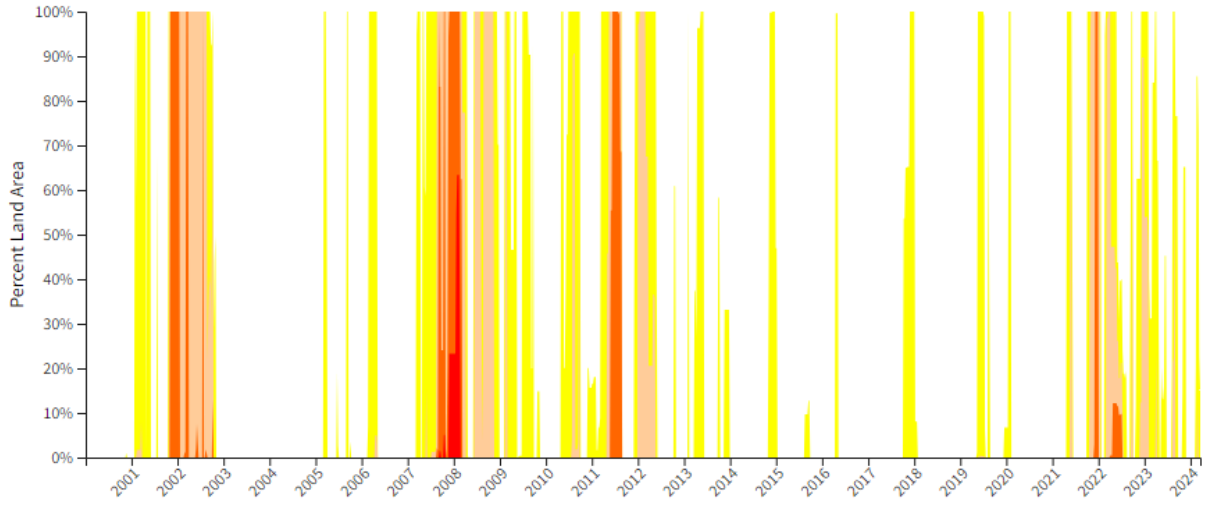
HISTORICAL OCCURRENCES

Figure 4.13 through Figure 4.16 show historical periods where each county was considered in some level of drought condition. The key color in Figure 4.12 indicates the intensity of the drought.

BEAUFORT COUNTY

Between 2000 and 2024, Beaufort County was in some level of drought 37.9% of the time. The County recorded nearly 17 weeks in “extreme drought”.

Figure 4.13 – US Drought Monitor Historical Trends – Beaufort County 2000-2024

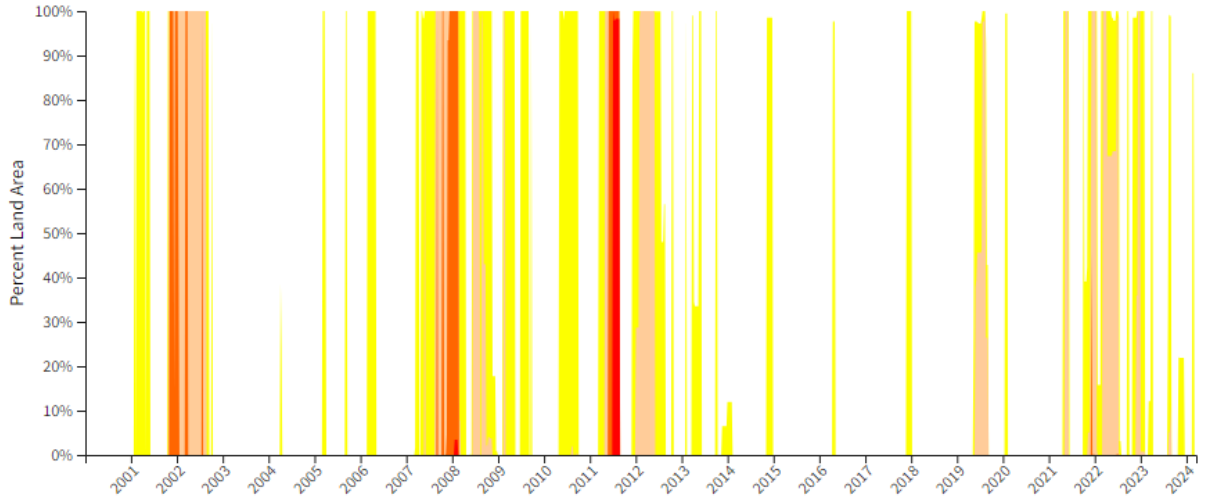


Source: U.S. Drought Monitor

CARTERET COUNTY

Between 2000 and 2024, Carteret County was in some level of drought 33.8% of the time. The County recorded nearly 12 weeks in "extreme drought".

Figure 4.14 – US Drought Monitor Historical Trends – Carteret County 2000-2024

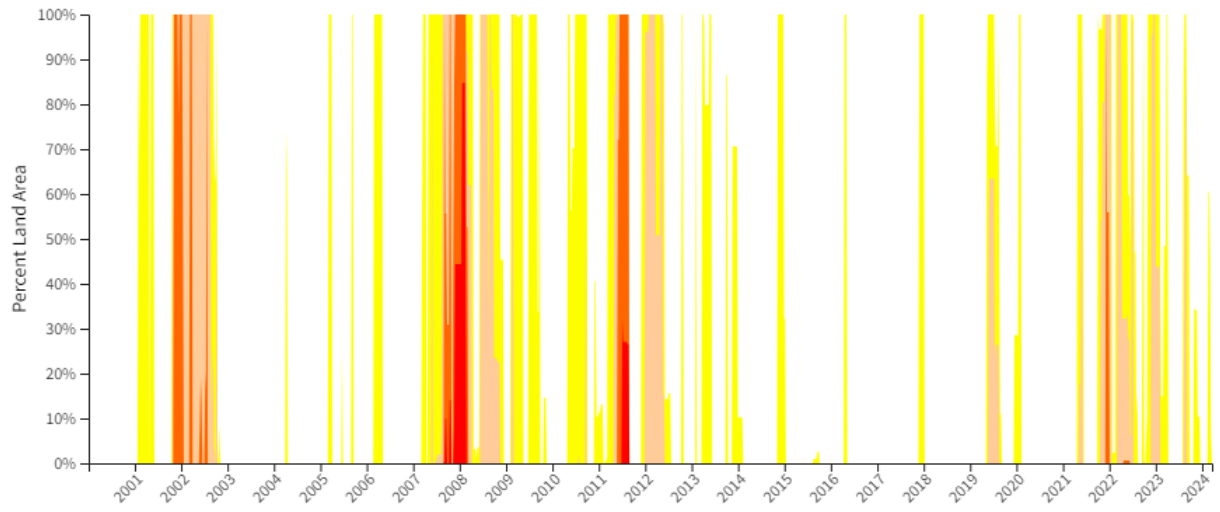


Source: U.S. Drought Monitor

CRAVEN COUNTY

Between 2000 and 2024, Craven County was in some level of drought 38.21% of the time. The County recorded 27 weeks in "extreme" drought during this timeframe.

Figure 4.15 – US Drought Monitor Historical Trends – Craven County 2000-2024

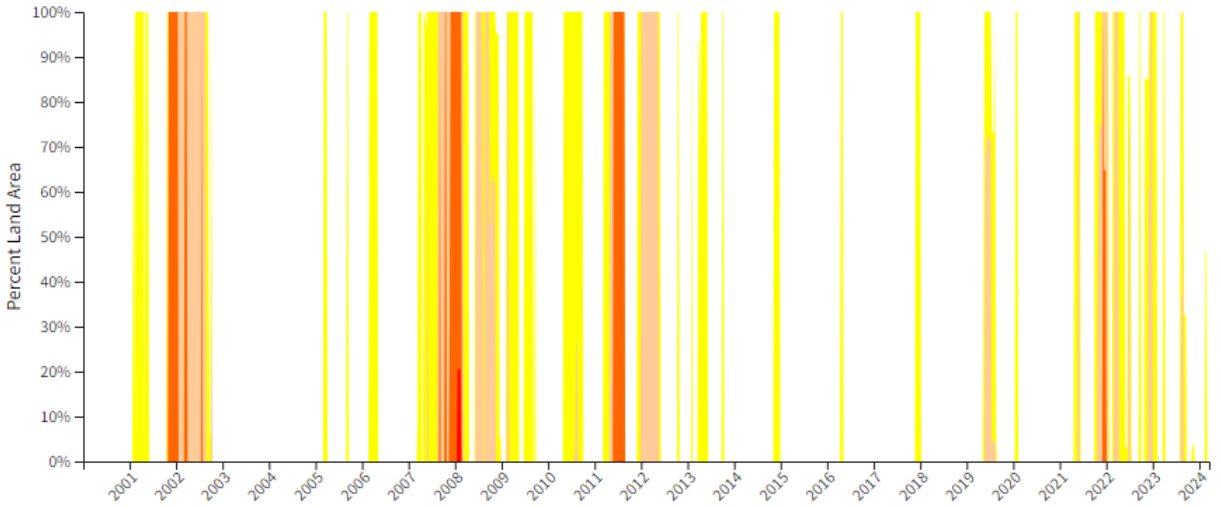


Source: U.S. Drought Monitor

PAMLICO COUNTY

Between 2000 and 2024, Pamlico County was in some level of drought 31.1% of the time. The County recorded 12 weeks in "extreme" drought.

Figure 4.16 – US Drought Monitor Historical Trends – Pamlico County 2000-2024



Source: U.S. Drought Monitor

The National Drought Mitigation Center (NDMC), located at the University of Nebraska in Lincoln, provides a clearinghouse for information on the effects of drought, based on reports from media, observers, impact records, and other sources.

According to the NDMC's Drought Impact Reporter, during the 10-year period from January 2013 through March 2024, there was a total of 33 impacts to the Region. Table 4.20 summarizes the impacts

reported by category and the years impacts were reported for each category. Note that the Drought Impact Reporter assigns multiple categories to each impact.

Table 4.20 – Drought Impacts Reported for Pamlico Sound Region Counties, Jan. 2014 - Mar. 2024

Category	Impacts	Years Reported
Agriculture	18	2019, 2016, 2015, 2014
Business & Industry	1	2018
Fire	10	2021, 2019
Plants & Wildlife	13	2018, 2017, 2016, 2015, 2014
Relief, Response & Restrictions	12	2021, 2020, 2019
Society & Public Health	1	2014
Tourism & Recreation	1	2018
Water Supply & Quality	5	2020, 2018, 2017, 2016, 2015

Source: Drought Impact Reporter, http://droughtreporter.unl.edu

PROBABILITY OF FUTURE OCCURRENCE

U.S. Drought Monitor records drought intensity weekly throughout the country. The North Carolina Department of Environmental Quality (NCDEQ) Division of Water Resources maintains records of Drought Monitor data for the state as far back as January 2000. The Region spent an average of 445 weeks in some level of drought condition. Table 4.21 presents the number of weeks that each county in the Pamlico Sound Region spent in drought conditions ranging from abnormally dry (D0) to extreme drought (D3) from 2000 to 2024.

Table 4.21 – Historical weeks in Drought by County, 2000-2024

County	Weeks in Any Drought	Percent of Time Drought
Beaufort	480	37.9%
Carteret	427	33.8%
Craven	483	38.2%
Pamlico	392	31.0%

Source: US Drought Monitor

Probability: 3 – Likely

CLIMATE CHANGE

The United States Geological Survey (USGS) reports that climate change has already altered the natural pattern of droughts across the country. Climate change has made droughts longer, more frequent, and more severe. With heavy precipitation events becoming more common but total rainfall remaining relatively steady, its anticipated that the average number of dry days will likely rise. As temperatures are projected to continue rising, evaporation rates are expected to increase, resulting in decreased soil moisture levels. These combined factors indicate a probable increase in both intensity and duration of droughts in the Southeast.

The Fifth National Climate Assessment reiterates these projections and presents additional patterns in the Southeast that exacerbate climate risk and impacts, including population growth, high proportion of the population with health issues or underlying health conditions, and a large, climate-dependent agricultural sector.[1]

[1] https://nca2023.globalchange.gov/chapter/22/

VULNERABILITY ASSESSMENT

METHODOLOGIES AND ASSUMPTIONS

Vulnerability to drought in the Pamlico Sound Region is determined by historical drought occurrences within the planning area and broad apprehensions regarding potential drought impacts. Agricultural vulnerability was estimated using data from the US Department of Agriculture Risk Management Agency and a review of past claims related to drought.

PEOPLE

Drought is often accompanied by prolonged periods of extreme heat, negative health impacts such as dehydration can also occur, where children and elderly are most susceptible. Drought can also contribute to health issues by compromising water quality due to decreased water levels. Additionally, when coupled with extreme heat, droughts can lead to an increase in heat-related illnesses such heat-stroke, potentially resulting in loss of life.

The historical and potential impacts of drought on populations include agricultural sector job loss, secondary economic losses to local businesses and public recreational resources, increased cost to local and state government for large-scale water acquisitions and delivery, water rationing, and water wells running dry for individuals and families.

PROPERTY

Droughts can disrupt soil cycles, leading to soil shrinking and swelling, potentially causing cracks in foundations and damaging infrastructure. It can also profoundly impact landscapes, posing financial burdens on property owners. Drought is unlikely to cause damages to the built environment. However, in areas with shrinking and expansive soils, drought may lead to structural damages.

Drought may cause severe property loss for agricultural industry in terms of crop and livestock losses. The USDA's Risk Management Agency (RMA) maintains a database of all paid crop insurance claims. Between 2007-2023, the sum of claims paid for crop damage as a result of drought in the Pamlico Sound Region was $57,600,356 or an average of $3,388,256 in losses per year. Table 4.22 through Table 4.25 summarize the crop losses due to drought reported in the RMA system by county.

Table 4.22 – Crop Losses Resulting from Drought, Beaufort County, 2007-2023

Year	Determined Acres	Indemnity Amount
2007	16,085.08	$2,223,329.00
2008	46,472.70	$8,341,607.00
2009	1,796.05	$180,435.00
2010	19,975.13	$2,455,019.00
2011	60,206.47	$16,639,325.00
2012	928.74	$49,998.00
2014	16.00	$537.00
2015	2,440.90	$366,595.93
2016	186.83	$19,560.80
2017	814.34	$75,883.00
2019	19,292.02	$2,547,700.43
2020	2,681.95	$284,914.50
2022	13,591.45	$2,630,205.12
2023	14,070.41	$2,243,485.00

Year	Determined Acres	Indemnity Amount
Total	**148,922.25**	**$30,352,289.73**

Source: USDA Risk Management Agency

Table 4.23 – Crop Losses Resulting from Drought, Carteret County, 2007-2023

Year	Determined Acres	Indemnity Amount
2007	2,498.90	$105,756.00
2008	6,133.44	$871,361.00
2009	824.97	$97,609.00
2010	5,778.25	$498,181.00
2011	4,081.22	$1,761,233.00
2012	12.77	$2,476.00
2015	844.74	$91,755.50
2017	262.58	$28,110.75
2019	3,705.39	$589,452.05
2020	5,628.95	$621,012.00
2022	2,187.07	$338,743.30
2023	6,932.73	$711,223.75
Total	**38,891.03**	**$5,716,913.35**

Source: USDA Risk Management Agency

Table 4.24 – Crop Losses Resulting from Drought, Craven County, 2007-2023

Year	Determined Acres	Indemnity Amount
2007	12,584.83	$1,355,027.00
2008	14,427.81	$2,735,837.00
2009	2,490.20	$332,621.00
2010	10,704.85	$1,359,443.00
2011	12,185.40	$2,898,439.00
2012	481.27	$54,439.00
2013	138.11	$14,707.00
2014	347.70	$47,402.00
2015	4,759.00	$595,145.64
2016	1,193.44	$395,114.80
2017	1,116.69	$88,045.25
2018	254.8	$35,155.00
2019	14298.17	$2,311,430.17
2020	2051.81	$215,887.30
2022	10674.47	$3,303,715.00
2023	7712.52	$1,984,723.75
Total	**95,421.07**	**$17,727,131.91**

Source: USDA Risk Management Agency

Table 4.25 – Crop Losses Resulting from Drought, Pamlico County, 2007-2023

Year	Determined Acres	Indemnity Amount
2007	1,262.14	$173,240.00
2008	1,803.56	$398,296.00
2009	1,635.05	$283,415.00
2010	1,362.61	$193,177.00
2011	6,914.71	$1,698,610.00
2012	56.70	$10,301.00

Year	Determined Acres	Indemnity Amount
2014	640.40	$72,968.00
2015	794.42	$108,368.00
2017	18.46	$18,094.40
2019	3,210.33	$340,506.85
2020	894	$1,594.50
2022	2,134.45	$295,100.81
2023	1,304.45	$210,350.40
Total	**22,031.28**	**$3,804,021.96**

Source: USDA Risk Management Agency

ENVIRONMENT

Environmental losses from drought are associated with damage to plants, animals, wildfire, and air and water quality, forest and range fires, landscape degradation, biodiversity loss, and soil erosion. While some impacts are transient, resolving once the drought subsides, others endure or may become irreversible. For instance, wildlife habitats may suffer from the loss of wetlands, lakes, and vegetation, yet many species can eventually rebound. Landscape degradation and heightened soil erosion may lead to lasting declines in biological productivity. Despite the challenges in quantifying environmental losses, heightened public awareness and concern for environmental well-being have prompted public officials to allocate greater attention and resources to mitigate these effects. Moreover, if climate change forecasts of prolonged drought followed by intense rainfall events hold true, the risk of flash flooding also escalates under such conditions.

Specific to the Pamlico Sound Region, the National Drought Mitigation Center listed impacts in the Region including water conservation, increased fire risk, and wildlife and agriculture life cycle impacts occurring.

CONSEQUENCE ANALYSIS

Table 4.26 summarizes the potential negative consequences of drought.

Table 4.26 – Consequence Analysis – Drought

Category	Consequences
Public	The public can be impacted through health effects due to economic losses, conflicts arising from water shortages, decreased incomes, limited recreational opportunities, increased occurrences of heat stroke and even fatalities.
Responders	Responders are likely to be significantly impacted from drought. However, the exceptional drought conditions might affect the availability of water for immediate response to wildfires.
Continuity of Operations (including Continued Delivery of Services)	The continuity of operations would experience minimal disruption from drought, given the ample warning time available to implement plans for maintaining operational continuity.
Property, Facilities and Infrastructure	Drought has the capacity to impact water supply across residential, commercial, institutional, industrial, and government-owned areas, potentially leading to reduced levels in wells and reservoirs. As a result, utilities may find it necessary to raise rates to cope with the decreased availability of water.

Category	Consequences
Environment	Environmental impacts include strain on local plant and wildlife; increased probability of erosion and wildfire.
Economic Condition of the Jurisdiction	Farmers could encounter crop losses or heightened expenses related to livestock. Additionally, business reliant on agriculture may suffer secondary effects. The severity of drought could extend its impact to local enterprises in landscaping, recreation, and tourism, as well as public utilities.
Public Confidence in the Jurisdiction's Governance	In cases of prolonged drought without relief, local, or state governments frequently need to implement water restrictions, potentially affecting public confidence.

HAZARD SUMMARY BY JURISDICTION

The following table summarizes drought hazard risk by jurisdiction. Warning time, duration and spatial extent are inherent to the hazard and remain constant across jurisdictions. The majority of damages that result from drought are to crops and other agriculture-related activities as well as water-dependent recreation industries. The magnitude of the impacts is typically greater in unincorporated areas; impacts are likely higher in Beaufort County, which has also experienced the most crop losses due to drought. In developed areas, the magnitude of drought is less severe, with lawns and local gardens affected and potential impacts on local water supplies during severe, prolonged drought.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Beaufort County	3	2	4	1	4	2.8	M
City of Washington	3	1	4	1	4	2.5	M
Town of Aurora	3	1	4	1	4	2.5	M
Town of Bath	3	1	4	1	4	2.5	M
Town of Belhaven	3	1	4	1	4	2.5	M
Town of Chocowinity	3	1	4	1	4	2.5	M
Town of Pantego	3	1	4	1	4	2.5	M
Town of Washington Park	3	1	4	1	4	2.5	M
Carteret County	3	2	4	1	4	2.8	M
Town of Atlantic Beach	3	1	4	1	4	2.5	M
Town of Beaufort	3	1	4	1	4	2.5	M
Town of Bogue	3	1	4	1	4	2.5	M
Town of Cape Carteret	3	1	4	1	4	2.5	M
Town of Cedar Point	3	1	4	1	4	2.5	M
Town of Emerald Isle	3	1	4	1	4	2.5	M
Town of Indian Beach	3	1	4	1	4	2.5	M
Town of Morehead City	3	1	4	1	4	2.5	M
Town of Newport	3	1	4	1	4	2.5	M
Town of Peletier	3	1	4	1	4	2.5	M
Town of Pine Knoll Shores	3	1	4	1	4	2.5	M
Craven County	3	2	4	1	4	2.8	M
City of Havelock	3	1	4	1	4	2.5	M
City of New Bern	3	1	4	1	4	2.5	M
Town of Bridgeton	3	1	4	1	4	2.5	M
Town of Cove City	3	1	4	1	4	2.5	M

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Town of Dover	3	1	4	1	4	2.5	M
Town of River Bend	3	1	4	1	4	2.5	M
Town of Trent Woods	3	1	4	1	4	2.5	M
Town of Vanceboro	3	1	4	1	4	2.5	M
Pamlico County	3	2	4	1	4	2.8	M
Town of Alliance	3	1	4	1	4	2.5	M
Town of Arapahoe	3	1	4	1	4	2.5	M
Town of Bayboro	3	1	4	1	4	2.5	M
Town of Grantsboro	3	1	4	1	4	2.5	M
Town of Mesic	3	1	4	1	4	2.5	M
Town of Minnesott Beach	3	1	4	1	4	2.5	M
Town of Oriental	3	1	4	1	4	2.5	M
Town of Stonewall	3	1	4	1	4	2.5	M
Town of Vandemere	3	1	4	1	4	2.5	M

4.5.3 EARTHQUAKE

HAZARD BACKGROUND

An earthquake is the vibration of the earth's surface following a release of energy in the earth's crust. This energy can be generated by a volcanic eruption or by the sudden dislocation of the crust, which is the cause of most destructive earthquakes. The crust may first bend and then, when the stress exceeds the strength of the rocks, break and snap to a new position. In the process of breaking, vibrations called "seismic waves" are generated. These waves travel outward from the source of the earthquake at varying speeds.

Earthquakes can last from a few seconds to over five minutes; they may also occur as a series of tremors over several days. The actual movement of the ground in an earthquake is seldom the direct cause of injury or death. Casualties generally result from falling objects and debris. Disruption of communications, electrical power supplies and gas, sewer, and water lines should be expected. Earthquakes may trigger fires, dam failures, landslides, uneven ground settling, flooding, and releases of hazardous material, resulting in damage to homes, buildings, power and telephone infrastructure, roads, tunnels, and railways, further compounding their disastrous effects.

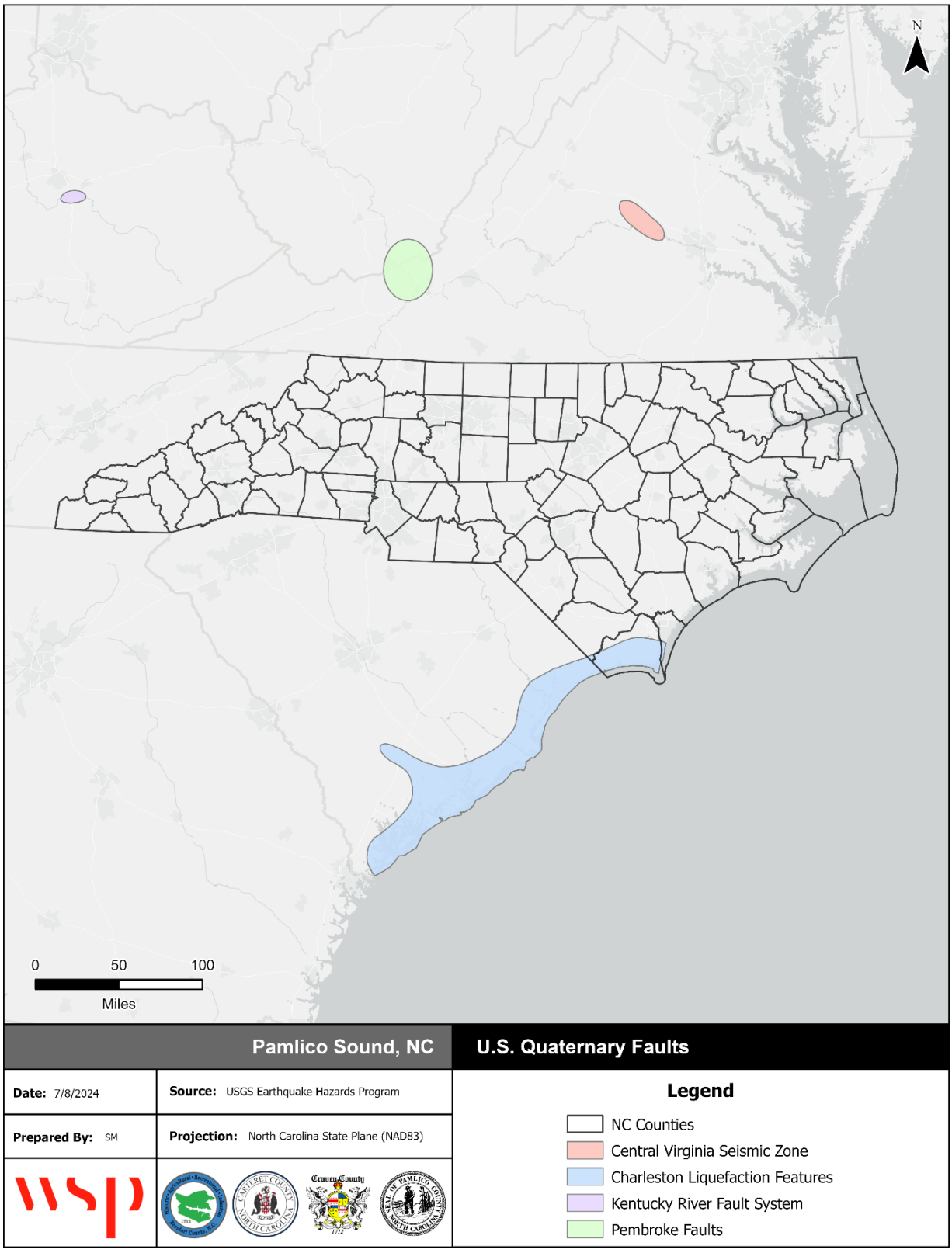
Warning Time: 4 – Less than 6 hours

Duration: 1 – Less than 6 hours

LOCATION

Figure 4.17 reflects the Quaternary faults that present an earthquake hazard for the Pamlico Sound Region based on data from the USGS Earthquake Hazards Program.

Figure 4.17 – U.S. Quaternary Faults



Source: USGS Earthquake Hazards Program

All of North Carolina is subject to earthquakes to varying degrees, with the western and southern region most vulnerable to a damaging earthquake. The state is affected by both the Charleston Fault in South Carolina and New Madrid Fault in Tennessee. Both of these faults have generated earthquakes measuring greater than 8.0 on the Richter Scale during the last 200 years. In addition, there are several smaller fault lines in eastern Tennessee and throughout North Carolina that could produce less severe shaking.

Spatial Extent: 4 – Large

EXTENT

Earthquakes are typically classified in one of two ways: by the amount of energy released, measured as magnitude; or by the impact on people and structures, measure by intensity. Magnitude is measured using the Richter Scale, an open-ended logarithmic scale that describes the energy release of an earthquake through a measure of shock wave amplitude. A detailed description of the Richter Scale is given in Table 4.27. Although the Richter scale is usually used by the news media when reporting the intensity of earthquakes and is the scale most familiar to the public, the scale currently used by the scientific community in the United States is called the Modified Mercalli Intensity (MMI) scale. The MMI scale is an arbitrary ranking based on observed effects.

Table 4.28shows descriptions for levels of earthquake intensity on the MMI scale. Seismic shaking is typically the greatest cause of losses to structures during earthquakes.

Impact: 1 – Minor

Table 4.27 – Richter Scale

Magnitude	Effects
Less than 3.5	Generally not felt, but recorded.
3.5 – 5.4	Often felt, but rarely causes damage.
5.4 – 6.0	At most slight damage to well-designed buildings. Can cause major damage to poorly constructed buildings over small regions.
6.1 – 6.9	Can be destructive in areas up to 100 kilometers across where people live.
7.0 – 7.9	Major earthquake. Can cause serious damage over larger areas.
8.0 or greater	Great earthquake. Can cause serious damage in areas several hundred kilometers across.

Source: 2023 North Carolina State Hazard Mitigation Plan

Table 4.28 – Modified Mercalli Intensity (MMI) Scale

MMI	Shaking	Description/Damage
I	Not felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt by a few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.

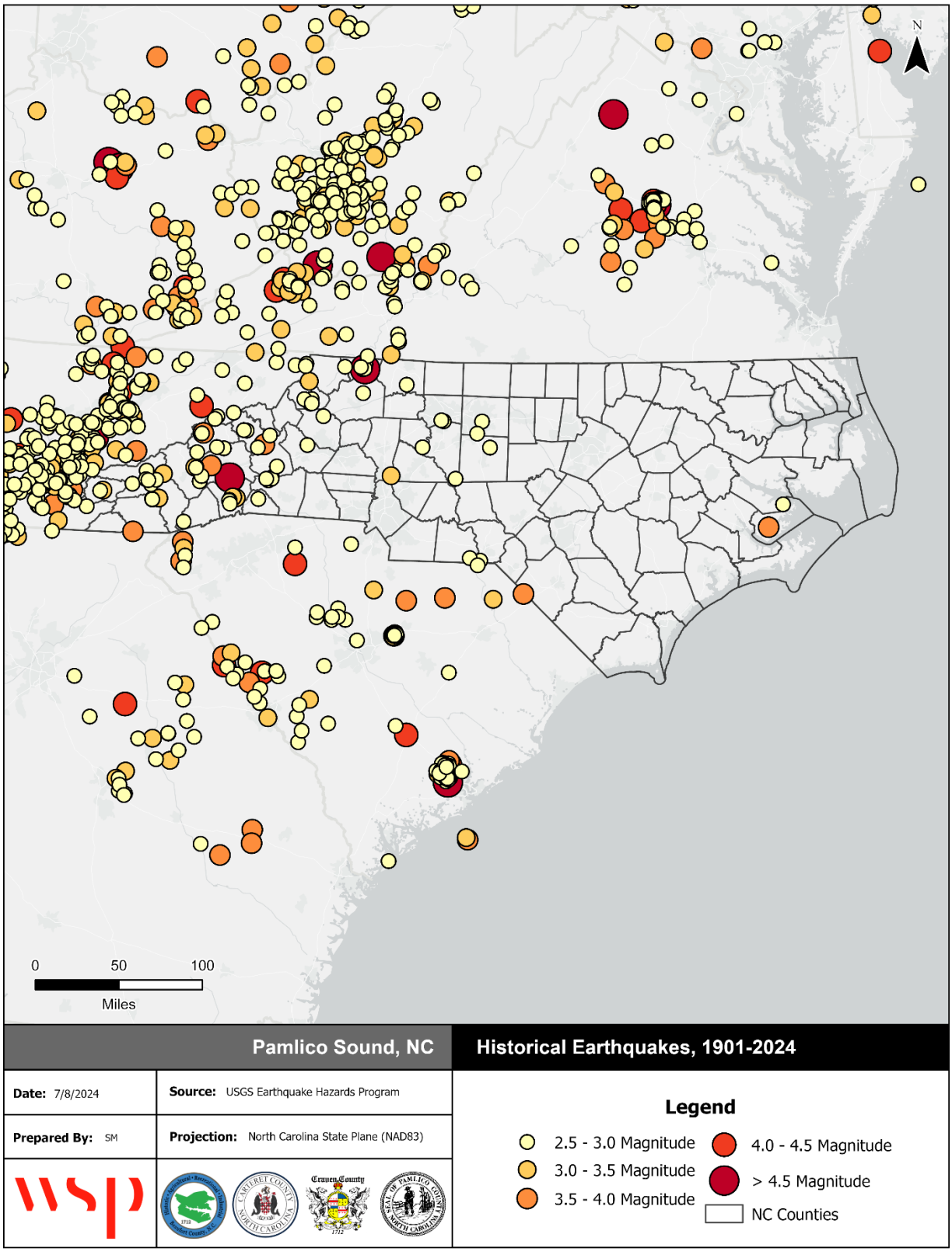
MMI	Shaking	Description/Damage
VII	Very strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some will-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

Source: USGS Earthquake Hazards Program

HISTORICAL OCCURRENCES

The USGS Earthquake Hazards Program maintains a database of all historical earthquakes of a magnitude 2.5 and greater. Figure 4.18 illustrates historical earthquakes by magnitude in relation to North Carolina and the Quaternary Faults identified by USGS. This includes events from 1973 to 2024. Based on USGS records, there have been two earthquakes with epicenters in the Pamlico Sound Region during this period.

Figure 4.18 – Historical Earthquakes by Magnitude, 1973-2024



Source: USGS Earthquakes Hazard Program

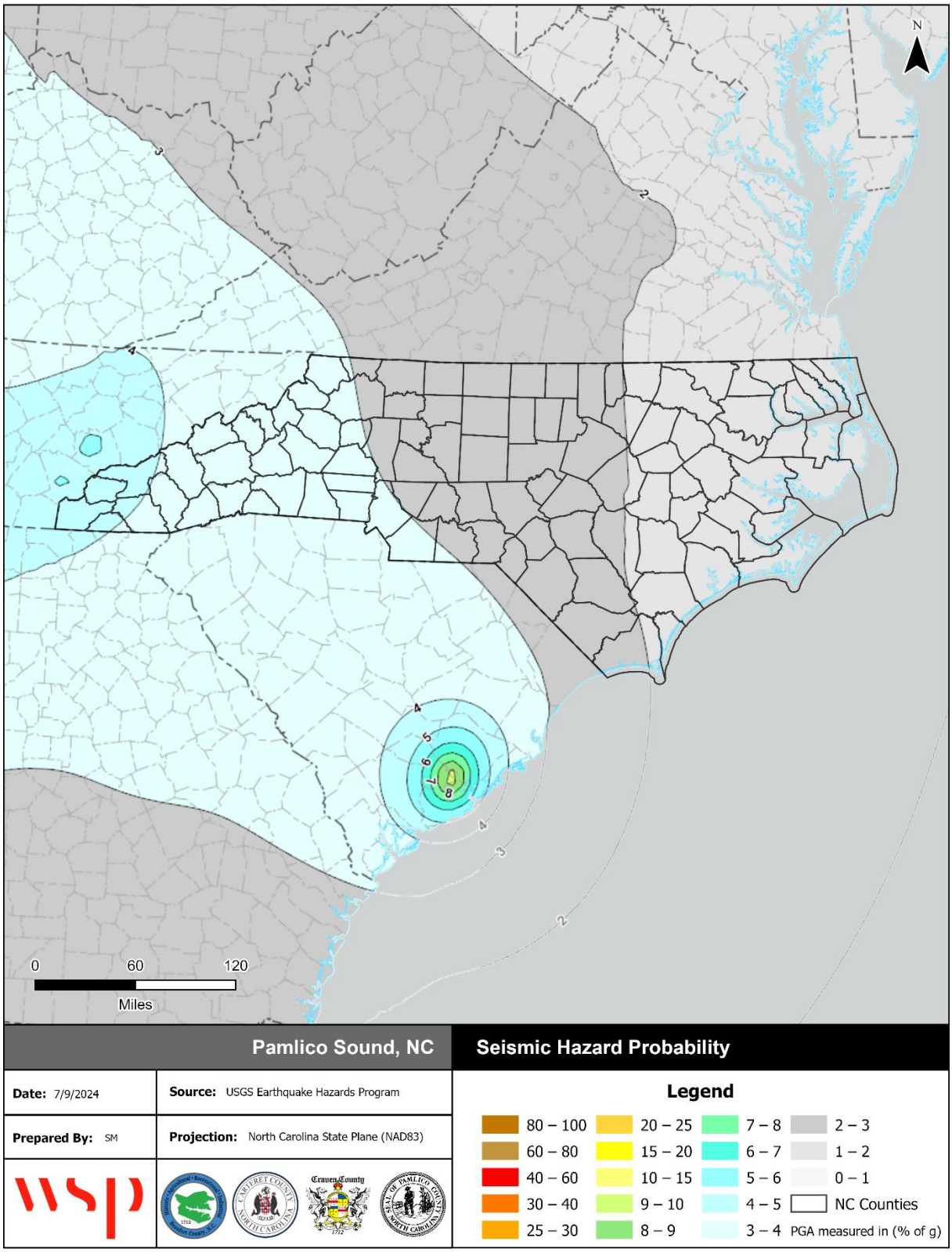
The above map documents all earthquakes that have occurred within North Carolina; however, given the long distances across which earthquake impacts can be felt, these events do not encompass all earthquakes that have affected North Carolina.

PROBABILITY OF FUTURE OCCURRENCE

Based on historical occurrence, the Pamlico Sound Region has low chance of an earthquake occurring in any given year. Future probability for the Region is unlikely.

Figure 4.19 reflects the seismic hazard for Pamlico Sound Region based on the national USGS map of peak acceleration with two percent probability of exceedance in 50 years. Ground motion refers to the displacement of Earth's surface caused by earthquakes or explosions. This movement results from waves generated by abrupt fault slippage or sudden pressure from explosive sources, traveling through the Earth and along its surface. Ground motion can be intensified when surface waves interact with unconsolidated materials, bouncing off or refracting against solid bedrock. In USGS earthquake hazard maps, the likelihood of ground motion is illustrated through contour values, indicating the earthquake ground motions (at specific frequencies) expected to be exceeded within a given probability over a 50-year period.

Figure 4.19 – Seismic Hazard Information for North Carolina



Source: USGS Earthquake Hazards Program

Based on this data, it can be reasonably assumed that an earthquake event affecting the Region is unlikely.

Probability: 1 – Unlikely

CLIMATE CHANGE

Studies have yet to provide quantification of this relationship, so recent earthquakes should not be directly attributed to climate change. Although still inconclusive, preliminary findings suggest that more severe earthquakes and tsunamis could eventually be recognized as additional adverse consequences of climate change.

VULNERABILITY ASSESSMENT

METHODOLOGIES AND ASSUMPTIONS

Population and property at risk to earthquakes was estimated using data from the NCEM IRISK database, which was compiled in NCEM's Risk Management Tool.

PEOPLE

Earthquake occurrences within the counties of the of the Pamlico Sound Region are typically associated with mild ground shaking, minimizing the likelihood of injuries or fatalities. The primary safety concern in such situations typically revolves around objects falling, presenting greatest risk to safety.

Table 4.29 and Table 4.30 detail the population estimated to be at risk from a 250-year earthquake and a 500-year earthquake, respectively, according to the NCEM IRISK database.

Table 4.29 – Estimated Population Impacted by 250-Year Earthquake

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	Percent		Number	Percent		Number	Percent
Beaufort									
Unincorporated Beaufort County	33,905	2	0%	8,207	0	0%	1,523	0	0%
City of Washington	11,124	9	0%	2,514	2	0%	684	1	0%
Town of Aurora	104	0	0%	27	0	0%	4	0	0%
Town of Bath	242	0	0%	69	0	0%	13	0	0%
Town of Belhaven	441	0	0%	129	0	0%	15	0	0%
Town of Chocowinity	116	1	1%	25	0	0%	5	0	0%
Town of Pantego	12	0	0%	2	0	0%	1	0	0%
Town of Washington Park	168	0	0%	41	0	0%	9	0	0%
Subtotal Beaufort	**46,112**	**12**	**0%**	**11014**	**2**	**0%**	**2254**	**1**	**0%**

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	Percent		Number	Percent		Number	Percent
Carteret									
Unincorporated Carteret County	34,687	0	0%	8,258	0	0%	1,409	0	0%
Town of Atlantic Beach	856	0	0%	349	0	0%	6	0	0%
Town of Beaufort	3,815	0	0%	1,094	0	0%	141	0	0%
Town of Bogue	795	0	0%	140	0	0%	42	0	0%
Town of Cape Carteret	1,647	0	0%	385	0	0%	85	0	0%
Town of Cedar Point	2,174	0	0%	516	0	0%	112	0	0%
Town of Emerald Isle	3,275	0	0%	1,005	0	0%	116	0	0%
Town of Indian Beach	340	0	0%	140	0	0%	8	0	0%
Town of Morehead City	19,390	2	0%	4,680	1	0%	979	0	0%
Town of Newport	9,170	0	0%	1,730	0	0%	303	0	0%
Town of Peletier	617	0	0%	113	0	0%	21	0	0%
Town of Pine Knoll Shores	1,373	0	0%	566	0	0%	32	0	0%
Subtotal Carteret	**78,139**	**2**	**0%**	**18976**	**1**	**0%**	**3254**	**0**	**0%**
Craven									
Unincorporated Craven County	64,150	60	0%	12,919	12	0%	3,779	4	0%
City of Havelock	8,226	0	0%	425	0	0%	775	0	0%
City of New Bern	26,554	9	0%	5,735	2	0%	1,705	1	0%
Town of Bridgeton	147	0	0%	28	0	0%	11	0	0%
Town of Cove City	21	0	0%	5	0	0%	3	0	0%
Town of Dover	31	4	13%	8	1	13%	4	0	0%
Town of River Bend	1,852	0	0%	616	0	0%	34	0	0%
Town of Trent Woods	4,633	0	0%	1,425	0	0%	153	0	0%
Town of Vanceboro	78	0	0%	19	0	0%	3	0	0%
Subtotal Craven	**105,692**	**73**	**0%**	**21180**	**15**	**0%**	**6467**	**5**	**0%**

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	Percent		Number	Percent		Number	Percent
Pamlico									
Unincorporated Pamlico County	11,911	0	0%	3,592	0	0%	331	0	0%
Town of Alliance	159	0	0%	37	0	0%	8	0	0%
Town of Arapahoe	118	0	0%	37	0	0%	5	0	0%
Town of Bayboro	144	0	0%	34	0	0%	7	0	0%
Town of Grantsboro	198	0	0%	44	0	0%	7	0	0%
Town of Mesic	17	0	0%	5	0	0%	0	0	0%
Town of Minnesott Beach	128	0	0%	40	0	0%	4	0	0%
Town of Oriental	295	0	0%	116	0	0%	12	0	0%
Town of Stonewall	73	0	0%	32	0	0%	2	0	0%
Town of Vandemere	24	0	0%	8	0	0%	0	0	0%
Subtotal Pamlico	**13,067**	**0**	**0%**	**3945**	**0**	**0%**	**376**	**0**	**0%**
Region Total	**243,010**	**87**	**0%**	**55115**	**18**	**0%**	**12351**	**6**	**0%**

Source: NCEM Risk Management Tool

Table 4.30 – Estimated Population Impacted by 500-Year Earthquake

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	Percent		Number	Percent		Number	Percent
Beaufort									
Unincorporated Beaufort County	33,905	31,960	94%	8,207	7,736	94%	1,523	1,436	94%
City of Washington	11,124	11,056	99%	2,514	2,499	99%	684	680	99%
Town of Aurora	104	100	96%	27	26	96%	4	4	100%
Town of Bath	242	239	99%	69	68	99%	13	13	100%
Town of Belhaven	441	236	54%	129	69	53%	15	8	53%
Town of Chocowinity	116	116	100%	25	25	100%	5	5	100%
Town of Pantego	12	11	92%	2	2	100%	1	1	100%

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	Percent		Number	Percent		Number	Percent
Town of Washington Park	168	166	99%	41	41	100%	9	9	100%
Subtotal Beaufort	**46,112**	**43,884**	**95%**	**11014**	**10466**	**95%**	**2254**	**2156**	**96%**
Carteret									
Unincorporated Carteret County	34,687	14,183	41%	8,258	3,377	41%	1,409	576	41%
Town of Atlantic Beach	856	709	83%	349	289	83%	6	5	83%
Town of Beaufort	3,815	2,689	70%	1,094	771	70%	141	99	70%
Town of Bogue	795	474	60%	140	84	60%	42	25	60%
Town of Cape Carteret	1,647	934	57%	385	218	57%	85	48	56%
Town of Cedar Point	2,174	1,598	74%	516	379	73%	112	82	73%
Town of Emerald Isle	3,275	2,622	80%	1,005	805	80%	116	93	80%
Town of Indian Beach	340	272	80%	140	112	80%	8	6	75%
Town of Morehead City	19,390	14,253	74%	4,680	3,440	74%	979	720	74%
Town of Newport	9,170	6,927	76%	1,730	1,307	76%	303	229	76%
Town of Peletier	617	338	55%	113	62	55%	21	12	57%
Town of Pine Knoll Shores	1,373	1,071	78%	566	442	78%	32	25	78%
Subtotal Carteret	**78,139**	**46,070**	**59%**	**18976**	**11286**	**59%**	**3254**	**1920**	**59%**
Craven									
Unincorporated Craven County	64,150	63,698	99%	12,919	12,828	99%	3,779	3,752	99%
City of Havelock	8,226	8,147	99%	425	421	99%	775	768	99%
City of New Bern	26,554	26,312	99%	5,735	5,683	99%	1,705	1,689	99%
Town of Bridgeton	147	144	98%	28	27	96%	11	11	100%
Town of Cove City	21	21	100%	5	5	100%	3	3	100%
Town of Dover	31	31	100%	8	8	100%	4	4	100%
Town of River Bend	1,852	1,842	99%	616	613	100%	34	34	100%
Town of Trent Woods	4,633	4,616	100%	1,425	1,420	100%	153	152	99%
Town of Vanceboro	78	78	100%	19	19	100%	3	3	100%
Subtotal Craven	**105,692**	**104,889**	**99%**	**21180**	**21024**	**99%**	**6467**	**6416**	**99%**

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	Percent		Number	Percent		Number	Percent
Pamlico									
Unincorporated Pamlico County	11,911	11,311	95%	3,592	3,411	95%	331	314	95%
Town of Alliance	159	159	100%	37	37	100%	8	8	100%
Town of Arapahoe	118	118	100%	37	37	100%	5	5	100%
Town of Bayboro	144	144	100%	34	34	100%	7	7	100%
Town of Grantsboro	198	198	100%	44	44	100%	7	7	100%
Town of Mesic	17	17	100%	5	5	100%	0	0	0%
Town of Minnesott Beach	128	128	100%	40	40	100%	4	4	100%
Town of Oriental	295	295	100%	116	116	100%	12	12	100%
Town of Stonewall	73	73	100%	32	32	100%	2	2	100%
Town of Vandemere	24	24	100%	8	8	100%	0	0	0%
Subtotal Pamlico	**13,067**	**12,467**	**95%**	**3945**	**3764**	**95%**	**376**	**359**	**95%**
Region Total	**243,010**	**207,310**	**85%**	**55115**	**46540**	**84%**	**12351**	**10851**	**88%**

Source: NCEM Risk Management Tool

PROPERTY

During a severe earthquake event, buildings face the risk of damage from both the shaking itself and the ground beneath them, a phenomenon known as subsidence. In extreme cases, structures may even sink into the ground due to soil liquefication. Structures built across fault lines are particularly vulnerable to serious damage caused by ground displacement during earthquakes.

Beyond structural damage, earthquakes can also lead to secondary hazards affecting infrastructure. Damages to dams or levees, for example, could result in failures and subsequent flooding. Additionally, fires may ignite from broken gas or power lines, posing a significant threat, particularly if damages water lines impair firefighting efforts.

There have been no records of the Pamlico Sound Region being impacted by an earthquake with more than a low intensity, so damage to the built environment is unlikely.

Table 4.31 through Table 4.32 detail the estimated buildings impacted from varying magnitudes of earthquake events.

Table 4.31 – Estimated Buildings Impacted by 250-Year Earthquake Event

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	1	0%	$18	163	1%	$2,103	9	0%	$157	173	1%	$2,279
City of Washington	5,790	4	0%	$515	77	1%	$1,833	2	0%	$14	83	1%	$2,362
Town of Aurora	579	0	0%	$0	2	0%	$15	0	0%	$0	2	0%	$15
Town of Bath	561	0	0%	$0	8	1%	$40	0	0%	$0	8	1%	$40
Town of Belhaven	1,087	0	0%	$0	4	0%	$22	0	0%	$0	4	0%	$22
Town of Chocowinity	398	2	1%	$767	5	1%	$148	1	0%	$7	8	2%	$921
Town of Pantego	132	0	0%	$0	1	1%	$0	0	0%	$0	1	1%	$0
Town of Washington Park	232	0	0%	$0	1	0%	$1	0	0%	$0	1	0%	$1
Subtotal Beaufort	**29,356**	**7**	**0%**	**$1,300**	**261**	**1%**	**$4,162**	**12**	**0%**	**$178**	**280**	**1%**	**$5,640**
Carteret													
Unincorporated Carteret County	29,284	0	0%	$0	46	0%	$216	3	0%	$5	49	0%	$220
Town of Atlantic Beach	4,141	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Beaufort	4,605	0	0%	$0	3	0%	$9	0	0%	$0	3	0%	$9
Town of Bogue	642	0	0%	$0	3	0%	$8	4	1%	$31	7	1%	$39
Town of Cape Carteret	1,763	0	0%	$0	11	1%	$22	0	0%	$0	11	1%	$22
Town of Cedar Point	1,915	0	0%	$0	14	1%	$83	0	0%	$0	14	1%	$83
Town of Emerald Isle	7,154	0	0%	$0	27	0%	$72	1	0%	$9	28	0%	$81
Town of Indian Beach	1,138	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Morehead City	10,811	0	0%	$0	24	0%	$150	1	0%	$1	25	0%	$150
Town of Newport	5,441	0	0%	$0	31	1%	$73	0	0%	$0	31	1%	$73
Town of Peletier	943	0	0%	$0	13	1%	$73	0	0%	$0	13	1%	$73
Town of Pine Knoll Shores	2,253	0	0%	$0	1	0%	$6	0	0%	$0	1	0%	$6
Subtotal Carteret	70,090	0	0%	$0	173	0%	$712	9	0%	$46	182	0%	$756

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	21	0%	$2	150	1%	$3,033	28	0%	$555	199	1%	$3,590
City of Havelock	5,417	0	0%	$0	8	0%	$110	0	0%	$0	8	0%	$110
City of New Bern	13,049	2	0%	$39	83	1%	$4,020	31	0%	$781	116	1%	$4,839
Town of Bridgeton	326	0	0%	$0	5	2%	$248	1	0%	$6	6	2%	$254
Town of Cove City	294	0	0%	$0	8	3%	$13	0	0%	$0	8	3%	$13
Town of Dover	299	33	11%	$2	1	0%	$3	3	1%	$86	37	12%	$91
Town of River Bend	1,553	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Trent Woods	1,918	0	0%	$0	2	0%	$28	1	0%	$31	3	0%	$58
Town of Vanceboro	522	0	0%	$0	4	1%	$93	2	0%	$36	6	1%	$130
Subtotal Craven	**48,254**	**56**	**0%**	**$43**	**261**	**1%**	**$7,548**	**66**	**0%**	**$1,495**	**383**	**1%**	**$9,085**
Pamlico													
Unincorporated Pamlico County	6,428	0	0%	$0	15	0%	$55	1	0%	$3	16	0%	$57
Town of Alliance	577	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Arapahoe	430	0	0%	$0	1	0%	$3	0	0%	$0	1	0%	$3
Town of Bayboro	515	0	0%	$0	2	0%	$6	0	0%	$0	2	0%	$6
Town of Grantsboro	584	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Mesic	186	0	0%	$0	1	1%	$5	0	0%	$0	1	1%	$5
Town of Minnesott Beach	403	0	0%	$0	2	0%	$1	0	0%	$0	2	0%	$1
Town of Oriental	1,378	0	0%	$0	1	0%	$2	0	0%	$0	1	0%	$2
Town of Stonewall	227	0	0%	$0	0	0%	$0	0	0%	$0	0	0%	$0
Town of Vandemere	192	0	0%	$0	1	1%	$6	0	0%	$0	1	1%	$6
Subtotal Pamlico	**10,920**	**0**	**0%**	**$0**	**23**	**0%**	**$78**	**1**	**0%**	**$3**	**24**	**0%**	**$80**
Region Total	**158,620**	**63**	**0%**	**$1,343**	**718**	**0%**	**$12,500**	**88**	**0%**	**$1,722**	**869**	**1%**	**$15,561**

Source: NCEM Risk Management Tool

Table 4.32 – Estimated Buildings Impacted by 500-Year Earthquake Event

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,127	83%	$152,617	2,003	10%	$165,213	349	2%	$85,747	19,479	95%	$403,577
City of Washington	5,790	4,833	83%	$89,637	708	12%	$229,632	197	3%	$66,506	5,738	99%	$385,775
Town of Aurora	579	440	76%	$5,547	85	15%	$6,017	33	6%	$3,919	558	96%	$15,483
Town of Bath	561	471	84%	$4,023	51	9%	$5,025	31	6%	$4,033	553	99%	$13,082
Town of Belhaven	1,087	511	47%	$4,228	94	9%	$8,119	16	1%	$2,010	621	57%	$14,357
Town of Chocowinity	398	330	83%	$21,075	36	9%	$9,473	28	7%	$5,622	394	99%	$36,170
Town of Pantego	132	108	82%	$227	11	8%	$1,056	7	5%	$592	126	95%	$1,875
Town of Washington Park	232	216	93%	$3,422	13	6%	$852	0	0%	$0	229	99%	$4,274
Subtotal Beaufort	**29,356**	**24,036**	**82%**	**$280,776**	**3,001**	**10%**	**$425,387**	**661**	**2%**	**$168,429**	**27,698**	**94%**	**$874,593**
Carteret													
Unincorporated Carteret County	29,284	11,036	38%	$93,477	1,026	4%	$67,184	214	1%	$38,539	12,276	42%	$199,200
Town of Atlantic Beach	4,141	3,240	78%	$30,853	153	4%	$12,362	9	0%	$614	3,402	82%	$43,829
Town of Beaufort	4,605	2,909	63%	$24,175	283	6%	$37,552	78	2%	$17,896	3,270	71%	$79,623
Town of Bogue	642	324	50%	$4,494	31	5%	$2,248	8	1%	$2,448	363	57%	$9,190
Town of Cape Carteret	1,763	872	49%	$14,596	91	5%	$12,473	26	1%	$3,619	989	56%	$30,688
Town of Cedar Point	1,915	1,256	66%	$21,877	101	5%	$13,881	10	1%	$3,505	1,367	71%	$39,263
Town of Emerald Isle	7,154	5,524	77%	$134,647	159	2%	$18,524	19	0%	$4,980	5,702	80%	$158,150
Town of Indian Beach	1,138	864	76%	$19,758	24	2%	$2,088	7	1%	$735	895	79%	$22,580
Town of Morehead City	10,811	6,745	62%	$74,545	841	8%	$105,747	214	2%	$66,204	7,800	72%	$246,497
Town of Newport	5,441	3,636	67%	$30,481	347	6%	$28,735	97	2%	$16,081	4,080	75%	$75,297
Town of Peletier	943	469	50%	$6,393	52	6%	$9,256	8	1%	$1,575	529	56%	$17,224
Town of Pine Knoll Shores	2,253	1,644	73%	$37,224	80	4%	$8,249	29	1%	$4,726	1,753	78%	$50,200
Subtotal Carteret	**70,090**	**38,519**	**55%**	**$492,520**	**3,188**	**5%**	**$318,299**	**719**	**1%**	**$160,922**	**42,426**	**61%**	**$971,741**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,277	90%	$234,387	2,040	8%	$276,573	305	1%	$120,320	24,622	99%	$631,280
City of Havelock	5,417	4,844	89%	$43,462	367	7%	$90,385	147	3%	$188,798	5,358	99%	$322,645
City of New Bern	13,049	11,367	87%	$158,019	1,240	10%	$482,903	298	2%	$198,804	12,905	99%	$839,726
Town of Bridgeton	326	235	72%	$1,896	70	21%	$9,902	10	3%	$1,096	315	97%	$12,894
Town of Cove City	294	252	86%	$2,863	29	10%	$2,663	12	4%	$5,763	293	100%	$11,289
Town of Dover	299	276	92%	$3,878	6	2%	$1,091	17	6%	$4,135	299	100%	$9,105
Town of River Bend	1,553	1,516	98%	$19,036	25	2%	$32,311	3	0%	$913	1,544	99%	$52,260
Town of Trent Woods	1,918	1,868	97%	$30,191	20	1%	$6,511	21	1%	$12,473	1,909	100%	$49,175
Town of Vanceboro	522	411	79%	$6,029	76	15%	$11,531	33	6%	$7,768	520	100%	$25,327
Subtotal Craven	**48,254**	**43,046**	**89%**	**$499,761**	**3,873**	**8%**	**$913,870**	**846**	**2%**	**$540,070**	**47,765**	**99%**	**$1,953,701**
Pamlico													
Unincorporated Pamlico County	6,428	5,524	86%	$24,955	503	8%	$22,581	65	1%	$7,252	6,092	95%	$54,787
Town of Alliance	577	484	84%	$2,395	78	14%	$6,357	14	2%	$1,021	576	100%	$9,772
Town of Arapahoe	430	386	90%	$2,074	26	6%	$1,516	16	4%	$3,674	428	100%	$7,264
Town of Bayboro	515	408	79%	$1,994	74	14%	$4,866	31	6%	$18,040	513	100%	$24,900
Town of Grantsboro	584	527	90%	$2,371	36	6%	$3,213	17	3%	$3,114	580	99%	$8,698
Town of Mesic	186	170	91%	$649	10	5%	$207	5	3%	$86	185	99%	$943
Town of Minnesott Beach	403	385	96%	$3,428	14	3%	$6,395	2	0%	$168	401	100%	$9,990
Town of Oriental	1,378	1,255	91%	$5,941	107	8%	$4,730	14	1%	$1,314	1,376	100%	$11,985
Town of Stonewall	227	199	88%	$778	21	9%	$913	6	3%	$794	226	100%	$2,486
Town of Vandemere	192	168	88%	$410	8	4%	$628	14	7%	$630	190	99%	$1,668
Subtotal Pamlico	10,920	9,506	87%	$44,995	877	8%	$51,406	184	2%	$36,093	10,567	97%	$132,493
Region Total	**158,620**	**115,107**	**73%**	**$1,318,052**	**10,939**	**7%**	**$1,708,962**	**2,410**	**2%**	**$905,514**	**128,456**	**81%**	**$3,932,528**

Source: NCEM Risk Management Tool

ENVIRONMENT

An earthquake is unlikely to cause substantial impacts to the natural environment in the Region. While there's a possibility of damage to the built environment, such as ruptured gas lines affecting the surroundings, historical occurrences suggest that this type of damage is unlikely.

CONSEQUENCE ANALYSIS

Table 4.33 summarizes the potential negative consequences of earthquake.

Table 4.33 – Consequence Analysis – Earthquake

Category	Consequences
Public	Severe impacts are anticipated for individuals who lack protection or are unable to seek shelter, while those who are adequately protected can expect moderate to light impacts.
Responders	Responders may be required to enter unstable structures or compromised infrastructure. Unprotected personnel are likely to face severe adverse impacts, while protected personnel can expect impacts ranging from moderate to light.
Continuity of Operations (including Continued Delivery of Services)	Damage to facilities and personnel in the incident area may necessitate the relocation of operations and the execution of alternate lines of succession. Disruptions to communication lines and the destruction of facilities could significantly delay the delivery of services.
Property, Facilities and Infrastructure	Earthquakes may result in significant damages to facilities, infrastructure, people, and hazardous materials within the affected area.
Environment	The event could lead to substantial damage, resulting in the denial or postponement of access to certain areas. Remediation effort may be necessary.
Economic Condition of the Jurisdiction	The local economy and financial stability are anticipated to suffer negative consequences, potentially persisting for an extended duration.
Public Confidence in the Jurisdiction's Governance	Ability to respond and recover may be questioned and challenged if planning, response, and recovery are not timely and effective.

HAZARD SUMMARY BY JURISDICTION

The following table summarizes earthquake hazard risk by jurisdiction. Earthquake risk is uniform across the entire region.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
All jurisdictions	*1*	*1*	*4*	*4*	*1*	*1.9*	*L*

4.5.4 EXCESSIVE HEAT

HAZARD BACKGROUND

Per information provided by Ready.gov, in most of the United States extreme heat is defined as a long period (2 to 3 days) of high heat and humidity with temperatures above 90 degrees. As temperatures rise, our bodies naturally cool down by sweating. In extreme heat, the body must work extra hard to maintain a normal temperature and sweating might not be enough to cool down. When this happens, a person's body temperature rises faster than it can cool itself. Additionally, when the humidity is high, as is common during extreme heat events in North Carolina, evaporative cooling through sweating becomes less effective. Heat-related illnesses occur when the body overheats from exposure to high temperatures and in severe cases can cause damage to the brain and other vital organs[2]. Heat-related illnesses can also arise from moderate to vigorous physical activity in hot situations.

Extreme heat often results in the highest annual number of deaths among all weather-related disasters. On average, the number of extreme heat days has been increasing each year, putting residents at a higher risk of heat-related illnesses. In 2023, more people in the United States died of heat-related illness than any year on record[3]. Per Ready.gov, older adults, children, and people with certain illnesses and chronic conditions are at greater risk from extreme heat; and humidity increases the feeling of heat.

The National Weather Service (NWS) uses the heat index, also known as apparent temperature, to determine when to issue health alerts. The heat index is a measure of how hot it really feels when the relative humidity is considered along with the actual air temperature. In most areas of the country, the NWS generally issues alerts "when the heat index is expected to exceed 105°F -110°F for at least two consecutive days," but they also work with local partners to determine the most appropriate conditions for a specific geography[4,5].

In North Carolina, the Department of Health and Human Services (DHHS) uses regional temperature thresholds to activate its Heat Health Alert System. The regional thresholds recognize that an area's typical climate conditions and relevant local factors, such as the proportion of the population engaged in outdoor work, can impact how heat affects the local population. DHHS sends heat alerts to county health departments and Heat Health Alert System subscribers when the daily maximum heat index is forecasted to meet or exceed the heat index threshold for their region. In the Pamlico Sound Region, that threshold ranges from 101-103°F, as shown in Figure 4.20.

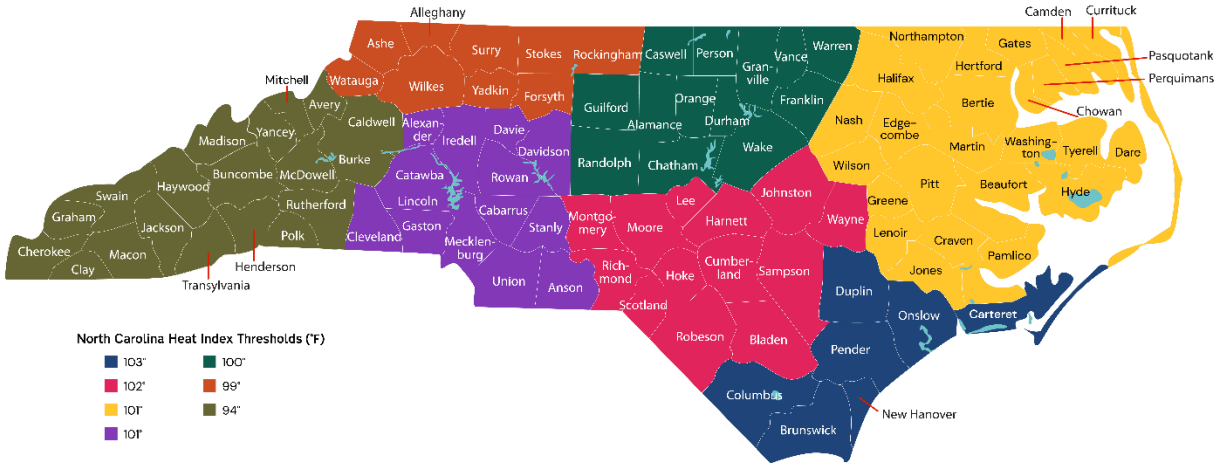
[2] www.cdc.gov/disasters/extremeheat/heat_guide.html.

[3] https://apnews.com/article/record-heat-deadly-climate-change-humidity-south-11de21a526e1cbe7e306c47c2f12438d

[4] https://www.weather.gov/safety/heat-index

[5] https://www.weather.gov/safety/heat-ww

Figure 4.20 – North Carolina Heat Index Thresholds



Source: https://climate.ncsu.edu/heat_toolkit/thresholds/

The most dangerous place to be during an extreme heat incident is in a permanent home, with little or no air conditioning. Those at greatest risk for heat-related illness include people 65 years of age and older, young children, people with chronic health problems such as heart disease or asthma, people who are obese, people who are socially isolated, and people who are on certain medications, such as tranquilizers, antidepressants, sleeping pills, or drugs for Parkinson's disease. However, even young and healthy individuals are susceptible if they participate in strenuous physical activities during hot weather or are not acclimated to hot weather. Table 4.34 lists typical symptoms and health impacts of exposure to extreme heat.

Table 4.34 – Typical Health Impacts of Extreme Heat

Heat Index (HI)	Disorder
80-90˚ F (HI)	Fatigue possible with prolonged exposure and/or physical activity
90-103˚ F (HI)	Heatstroke, heat cramps, or heat exhaustion possible with prolonged exposure and/or physical activity
105-130˚ F (HI)	Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure and/or physical activity

Source: National Weather Service Heat Index Program, www.weather.gov/ama/heatindex

The National Weather Service has a system in place to initiate alert procedures (advisories or warnings) when the Heat Index is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. A common guideline for issuing excessive heat alerts is when the maximum daytime Heat Index is expected to equal or exceed 105 degrees Fahrenheit (°F) and the night time minimum Heat Index is 75°F or above for two or more consecutive days. A heat advisory is issued when temperatures reach 105°F and a warning is issued at 115°F.

Impacts of extreme heat are not only focused on human health, as prolonged heat exposure can have devastating impacts on infrastructure as well. Prolonged high heat exposure increases the risk of pavement deterioration, as well as railroad warping or buckling. High heat also puts a strain on energy systems and consumption, as air conditioners are run at a higher rate and for longer; extreme heat can also reduce transmission capacity over electric systems.

Warning Time: 1 – More than 24 hours

Duration: 3 – Less than 1 week

LOCATION

The entire planning area is susceptible to high temperatures and incidents of extreme heat.

Spatial Extent: 4 – Large

EXTENT

The extent of extreme heat can be defined by the maximum apparent temperature reached. Apparent temperature is a function of ambient air temperature and relative humidity and is reported as the heat index. The National Weather Service Forecast Office in Raleigh sets the following criteria for heat advisory and excessive heat warning:

- **Heat Advisory** – Heat Index of 105°F to 109°F for 3 hours or more. Can also be issued for lower values 100ºF to 104ºF for heat lasting several consecutive days
- **Excessive Heat Watch** – Potential for heat index values of 110°F or hotter within 24 to 48 hours. Also issued during prolonged heat waves when the heat index is near 110°F
- **Excessive Heat Warning** – Heat Index of 110°F or greater for any duration

Impact: 3 – Critical

HISTORICAL OCCURRENCES

According to the National Oceanic and Atmospheric Administration (NOAA), 2019 was North Carolina's hottest year on record; that record stretches back 124 years to 1895.

NCEI does not record any incidents of heat or excessive heat for the Pamlico Sound Region counties. However, heat index records maintained by the North Carolina Climate Office indicate that the Region regularly experiences heat index temperatures above 100°F. Table 4.35 provide counts of heat index values by threshold recorded from 1999-2023 at the Beaufort Smith Field weather station (KMRH), respectively, used as indicators for the Pamlico Region overall as this is the only weather station maintained by the North Carolina Climate Office within the Region. Counts are provided as the number of hours in a given year where the heat index reached or exceeded 100°F.

Table 4.35 – Historical Heat Index Counts, Beaufort Smith Field (KMRH), 1999-2023

Year	Heat Index Value				Total
	100-104˚F	105-109˚F	110-114˚F	≥115˚F	
1999	0	0	0	0	0
2000	0	0	0	0	0
2001	31	0	0	0	31
2002	60	31	4	0	95
2003	10	0	0	0	10
2004	46	8	0	0	54
2005	52	46	3	0	101
2006	49	10	0	0	59

Year	Heat Index Value				Total
	100-104˚F	105-109˚F	110-114˚F	≥115˚F	
2007	37	10	0	0	47
2008	5	0	0	0	5
2009	3	0	0	0	3
2010	45	0	0	0	45
2011	193	98	12	1	304
2012	94	20	1	7	122
2013	2	0	0	0	2
2014	21	0	0	0	21
2015	68	5	0	0	73
2016	113	7	0	0	120
2017	65	10	4	0	79
2018	19	0	0	0	19
2019	78	2	0	0	80
2020	123	19	1	0	143
2021	24	0	0	0	24
2022	65	7	0	0	72
2023	82	11	5	0	98
Sum	**1364**	**298**	**30**	**8**	**1700**
Average	**52**	**11**	**1**	**0**	**65**

Source: North Carolina Climate Office, Heat Index Climatology Tool

According to this data, the Region averages between 65 hours per year with heat index values above 100°F. The frequency and intensity of higher temperatures is greater in inland areas of the region compared to coastal locations.

PROBABILITY OF FUTURE OCCURRENCE

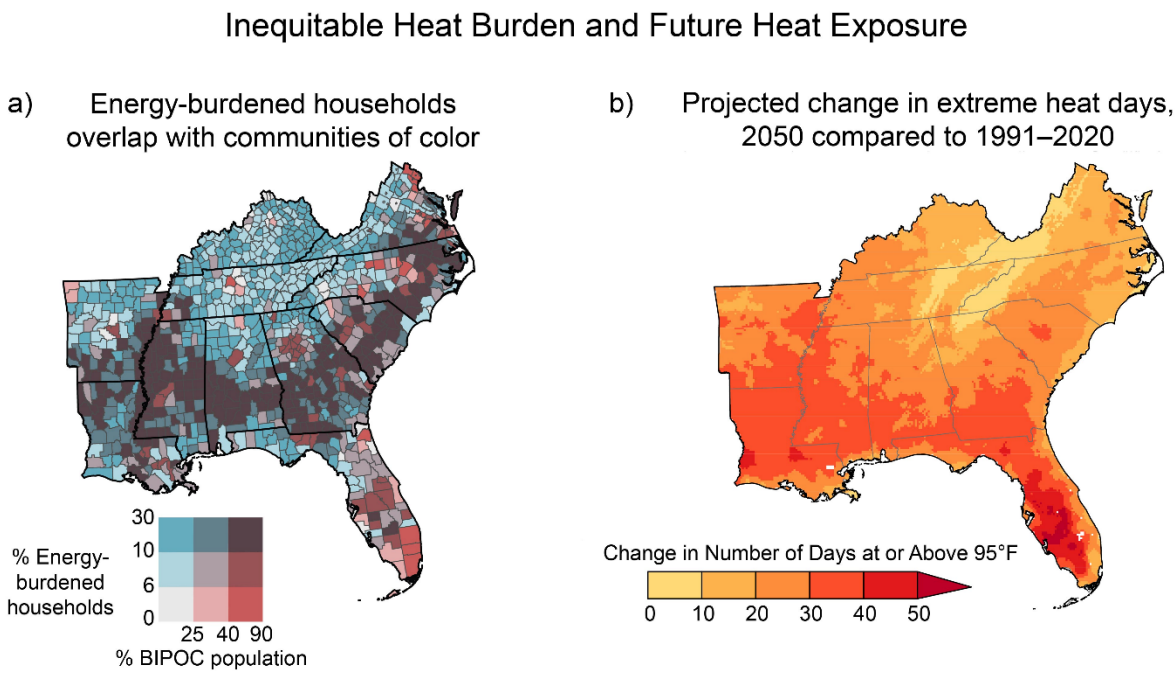
Data was gathered from the North Carolina State Climate Office's Heat Index Climatology Tool using the Beaufort Smith Field weather station as approximations for the Pamlico Sound Region. Based on 25 years of available data, the Region averages 65 hours per year with heat index temperatures above 100°F. Heat index temperatures surpassed 100°F every year since 2001; this occurred for at least 2 hours a year at the Beaufort Smith Field station.

Probability: 4 – Highly Likely

CLIMATE CHANGE

Research shows that average temperatures will continue to rise in the Southeast United States and globally, directly affecting the Pamlico Sound Region in North Carolina. Per the Fifth National Climate Assessment, "The number of extreme warm days (above 95°F) is expected to continue increasing with every increment of global warming" and that "heatwaves in the Southeast are happening more frequently and are occurring during a longer heat season, with some cities also showing increasing trends in their duration and intensity." Additional heat stresses can be attributed to the urban heat island effect which can increase the temperature of those living in urban environments compared to rural areas. The number of days over 95°F in the Pamlico Sound Region is expected to increase by between 10 and 20 days annually, as shown in Figure 4.21.

Figure 4.21 – Projected Change in Number of Days Over 95˚F



Source: USGCRP, 2023: Fifth National Climate Assessment

The Fifth National Climate Assessment also notes that warm nights (minimum temperatures at or above 70°F) in the southeast have increased the most compared to all other continental U.S. regions.

The State Climate Office of North Carolina's County-specific climate projections, which are based on the Fifth National Climate Assessment are summarized in Table 4.36 and Table 4.37 below. This data indicates that extreme heat days in the region could more than quadruple, and days with nighttime temperatures above 70°F are expected to almost double.

Table 4.36 – Extreme Heat Projections, Days per Year with Maximum Temperatures Over 95˚F

County	Historical	Best Case Scenario	Worst Case Scenario
Beaufort	7	23	33
Carteret	3	11	18
Craven	7	25	37
Pamlico	5	19	28

Source: North Carolina Resilience Exchange Climate Projections and Observations

Table 4.37 – Extreme Heat Projections, Nights per Year with Minimum Temperatures Over 70˚F

County	Historical	Best Case Scenario	Worst Case Scenario
Beaufort	50	84	97
Carteret	69	99	110
Craven	53	88	100
Pamlico	57	90	102

Source: North Carolina Resilience Exchange Climate Projections and Observations

VULNERABILITY ASSESSMENT

METHODOLOGIES AND ASSUMPTIONS

No data is available to assess the vulnerability of people or property in the planning area to extreme heat.

PEOPLE

Extreme heat can cause heat stroke and even loss of human life. The elderly and the very young are most at risk to the effects of heat. People who are isolated, people who work outdoors and/or do strenuous labor, people with chronic health problems such as heart disease or asthma, people who are obese, and people who are on certain medications, such as tranquilizers, antidepressants, sleeping pills, or drugs for Parkinson's disease are also more vulnerable to extreme heat.

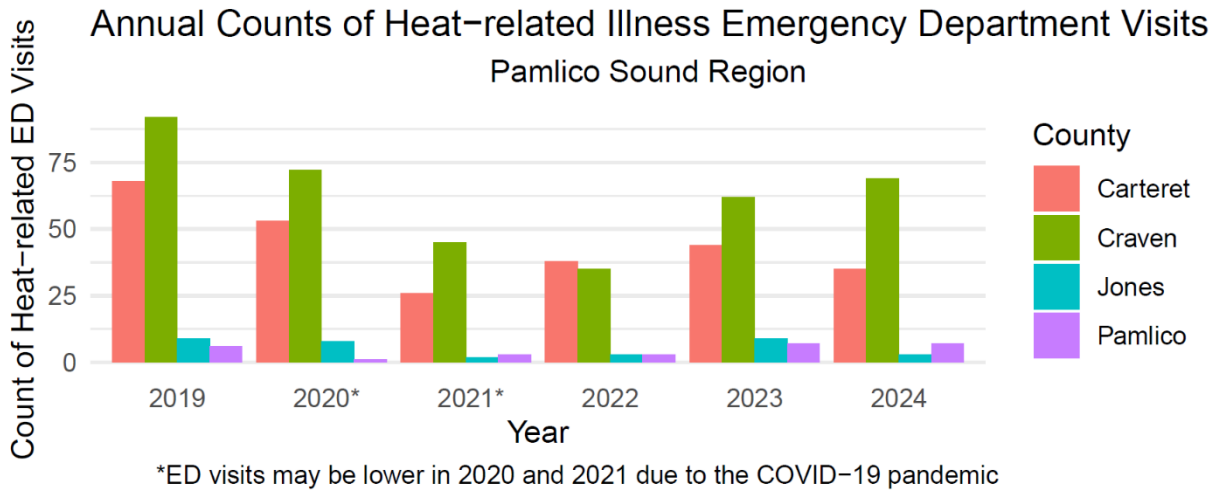
On average, 23 percent of the region's population is age 65 or older. In the following communities, more than a third of the population is age 65 or older:

- Town of Atlantic Beach (41%)
- Town of Indian Beach (41%)
- Town of Pine Knoll Shores (41%)
- Town of River Bend (33%)
- Town of Oriental (39%)
- Town of Stonewall (44%)
- Town of Vandemere (33%)

Vulnerability to heat is particularly high in these communities, and extra efforts may be needed to ensure these local governments have heat wave response protocols, including places for residents to go during heat waves.

Figure 5.6 shows the annual count of emergency department visits for heat-related illness in Carteret, Craven, Jones, and Pamlico counties, using public health syndromic surveillance system data from NC DETECT.

Figure 4.22 – Heat Related Illness Emergency Department Visits



The annual count of emergency department visits for heat-related illness in Carteret County ranged from 26 visits in 2021 to 68 visits in 2019. The annual count of emergency department visits for heat-related

illness in Craven County ranged from 35 in 2021 to 92 in 2019. The annual count of emergency department visits for heat related illness in Jones County ranged from 2 in 2021 to 9 in 2019. The annual count of emergency department visits for heat related illness in Pamlico County ranged from 1 in 2020 to 7 in 2023 and 2024.

PROPERTY

Extreme heat is unlikely to cause significant damages to the built environment. However, road surfaces can be damaged as asphalt softens, and concrete sections may buckle under expansion caused by heat. Train rails may also distort or buckle under the stress of head induced expansion. Power transmission lines may sag from expansion and if contact is made with vegetation the line may short out causing power outages. Additional power demand for cooling also increases power line temperature adding to heat impacts.

Extreme heat can also cause significant agricultural losses. Between 2007-2023, the sum of claims paid for crop damage due to heat in the Pamlico Sound Region was $8,025,021, or an average of $472,060 in losses every year. Losses were greatest in 2010. Table 4.38 through Table 4.41 summarize the crop losses due to drought in reported in the RMA system.

Table 4.38 – Crop Losses Resulting from Heat, Beaufort County, 2007-2023

Year	Determined Acres	Indemnity Amount
2008	867.10	$137,586.00
2009	138.02	$19,485.00
2010	13,960.44	$1,838,235.00
2011	2,065.35	$702,270.00
2012	952.77	$178,685.00
2015	154.85	$25,502.40
2016	485.68	$135,925.30
2017	8.42	$1,946.70
2018	189.86	$26,456.60
2019	5,520.80	$876,833.89
2020	631.61	$93,541.4
2022	558.92	$62,441.75
Total	**25,533.82**	**$4,098,909.04**

Source: USDA Risk Management Agency

Table 4.39 – Crop Losses Resulting from Heat, Carteret County, 2007-2023

Year	Determined Acres	Indemnity Amount
2010	4,739.70	$820,053.00
2011	106.77	$14,302.00
2015	34.64	$2,127.20
2019	154.40	$29,230.20
2020	5,628.95	$621,012.00
2022	82.09	$23,429.50
Total	**10,746.55**	**$1,510,153.90**

Source: USDA Risk Management Agency

Table 4.40 – Crop Losses Resulting from Heat, Craven County, 2007-2023

Year	Determined Acres	Indemnity Amount
2010	266.25	$37,313.00
2011	1,057.53	$226,654.00
2012	221.74	$33,746.00
2015	319.94	$84,964.30
2016	382.96	$58,688.60
2017	482.45	$30,080.50
2018	240.9	$29,188.00
2019	1,893.01	$350,964.50
2020	69.2	$7,346.00
2022	238.62	$56,279.30
2023	102.56	$64,694.40
Total	**5,275.16**	**$979,918.60**

Source: USDA Risk Management Agency

Table 4.41 – Crop Losses Resulting from Heat, Pamlico County, 2007-2023

Year	Determined Acres	Indemnity Amount
2009	20.48	$12,561.00
2010	2,388.76	$961,384.00
2011	640.86	$387,622.00
2015	32.30	$3,324.00
2023	1,046.30	$71,149.20
Total	**4,128.7**	**$1,436,040.20**

Source: USDA Risk Management Agency

ENVIRONMENT

Wild animals are vulnerable to heat disorders similar to humans, including mortality. Vegetation growth can be stunted or plants may be killed if temperatures rise above their tolerance extremes.

CONSEQUENCE ANALYSIS

Table 4.42 summarizes the potential negative consequences of extreme heat.

Table 4.42 – Consequence Analysis – Extreme Heat

Category	Consequences
Public	Extreme heat may cause illness and/or death.
Responders	Consequences may be greater for responders if their work requires exertion and/or wearing heavy protective gear.
Continuity of Operations (including Continued Delivery of Services)	Continuity of operations is not expected to be impacted by extreme heat because warning time for these events is long.
Property, Facilities, and Infrastructure	Minor impacts may occur, including possible damages to road surfaces and power lines.
Environment	Environmental impacts include strain on local plant and wildlife, including potential for illness or death.

Category	Consequences
Economic Condition of the Jurisdiction	Farmers may face crop losses or increased livestock costs.
Public Confidence in the Jurisdiction's Governance	Extreme heat is unlikely to impact public confidence.

HAZARD SUMMARY BY JURISDICTION

The following table summarizes extreme heat hazard risk by jurisdiction. Extreme heat risk does not vary significantly by jurisdiction; however, several communities were assigned higher impact ratings based on their exposure of vulnerable populations and agriculture. Agricultural vulnerability is highest in Beaufort County, and the Towns of Atlantic Beach, Indian Beach, Pine Knoll Shores, River Bend, Oriental, Stonewall, and Vandemere have the highest proportions of older residents who may be more vulnerable to heat.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Beaufort County	4	3	4	1	3	3.3	H
City of Washington	4	2	4	1	3	3.0	H
Town of Aurora	4	2	4	1	3	3.0	H
Town of Bath	4	2	4	1	3	3.0	H
Town of Belhaven	4	2	4	1	3	3.0	H
Town of Chocowinity	4	2	4	1	3	3.0	H
Town of Pantego	4	2	4	1	3	3.0	H
Town of Washington Park	4	2	4	1	3	3.0	H
Carteret County	4	2	4	1	3	3.0	H
Town of Atlantic Beach	4	3	4	1	3	3.3	H
Town of Beaufort	4	2	4	1	3	3.0	H
Town of Bogue	4	2	4	1	3	3.0	H
Town of Cape Carteret	4	2	4	1	3	3.0	H
Town of Cedar Point	4	2	4	1	3	3.0	H
Town of Emerald Isle	4	2	4	1	3	3.0	H
Town of Indian Beach	4	3	4	1	3	3.3	H
Town of Morehead City	4	2	4	1	3	3.0	H
Town of Newport	4	2	4	1	3	3.0	H
Town of Peletier	4	2	4	1	3	3.0	H
Town of Pine Knoll Shores	4	3	4	1	3	3.3	H
Craven County	4	2	4	1	3	3.0	H
City of Havelock	4	2	4	1	3	3.0	H
City of New Bern	4	2	4	1	3	3.0	H
Town of Bridgeton	4	2	4	1	3	3.0	H
Town of Cove City	4	2	4	1	3	3.0	H
Town of Dover	4	2	4	1	3	3.0	H
Town of River Bend	4	3	4	1	3	3.3	H
Town of Trent Woods	4	2	4	1	3	3.0	H
Town of Vanceboro	4	2	4	1	3	3.0	H
Pamlico County	4	2	4	1	3	3.0	H
Town of Alliance	4	2	4	1	3	3.0	H
Town of Arapahoe	4	2	4	1	3	3.0	H

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Town of Bayboro	4	2	4	1	3	3.0	H
Town of Grantsboro	4	2	4	1	3	3.0	H
Town of Mesic	4	2	4	1	3	3.0	H
Town of Minnesott Beach	4	2	4	1	3	3.0	H
Town of Oriental	4	3	4	1	3	3.3	H
Town of Stonewall	4	3	4	1	3	3.3	H
Town of Vandemere	4	3	4	1	3	3.3	H

4.5.5 FLOODING

HAZARD BACKGROUND

Flooding is defined by the rising and overflowing of water onto normally dry land. As defined by FEMA, a flood is a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties. Flooding can result from an overflow of inland waters or an unusual accumulation or runoff of surface waters from any source.

Flooding is the most frequent and costly of all natural hazards in the United States and has caused more than 10,000 death(s) since 1900. Approximately 90 percent of presidentially declared disasters result from flood-related natural hazard events. As a whole, frequent, localized flooding problems that do not meet federal disaster declaration thresholds ultimately cause the majority of damages across the United States.

SOURCES AND TYPES OF FLOODING

The Pamlico Sound Region can experience riverine flooding, coastal flooding and storm surge, sea level rise, and localized stormwater flooding. Each of these types of flooding are described below, based on data from Flood Insurance Study (FIS) reports, Flood Insurance Rate Maps (FIRMs), NOAA, and the HMPC.

Riverine Flooding: During heavy rainfall events, the primary riverine flooding sources in the Pamlico Sound Region are as follows, per each county's effective Flood Insurance Study:

- **Beaufort County**: Acre Swamp, Aggie Run/Old Ford Swamp/Big Swamp, Bailey Creek, Bear Creek, Bounts Creek, Broad Creek/Beaverdam Swamp, Broad Creek Tributaries, Chapel Branch, Cherry Run and Tributaries, Chocowinity Creek and Tributaries, Cindy Edwards Branch, Cypress Run, Durham Creek and Tributary, Fork Swamp, Hall Swamp and its tributaries, Tributary A, Harvey Creek, Herring Run, Horse Branch and Tributary, Joe Branch, Latham Creek/Gum Swamp, Maple Branch and Tributary, Mitchell Branch, Morris Run, Patego Creek, Pineygrove Branch, Poundpole Swamp Branch, Pungo Swamp, Runyon Creek/Herring Run, Tankard Creek, Tranters Creek and White Branch.
- **Carteret County**: Deep Creek and Little Deep Creek.
- **Craven County**: Clubfoot Creek, East Prong Slocum Creek and Tributary, Jimmies Creek, Maple Cypress, Mauls Swamp, Mills Branch, Mills Branch Tributary, Morris Branch, Mosley Creek into Neuse River, Mosley Creek Tributary, Samuels Creek/Rocky Run, Scotts Creek, Snake Branch, Southwest Prong Slocum Creek, Swift Creek, Trent River Tributary, Tucker Creek, Village Creek, and Wilson Creek.
- **Pamlico County**: Greens Creek, Kershaw Creek, Morris Creek, North Prong Bay River, Smith Creek, South Prong Bay River, Thomas Creek, and Trent Creek.

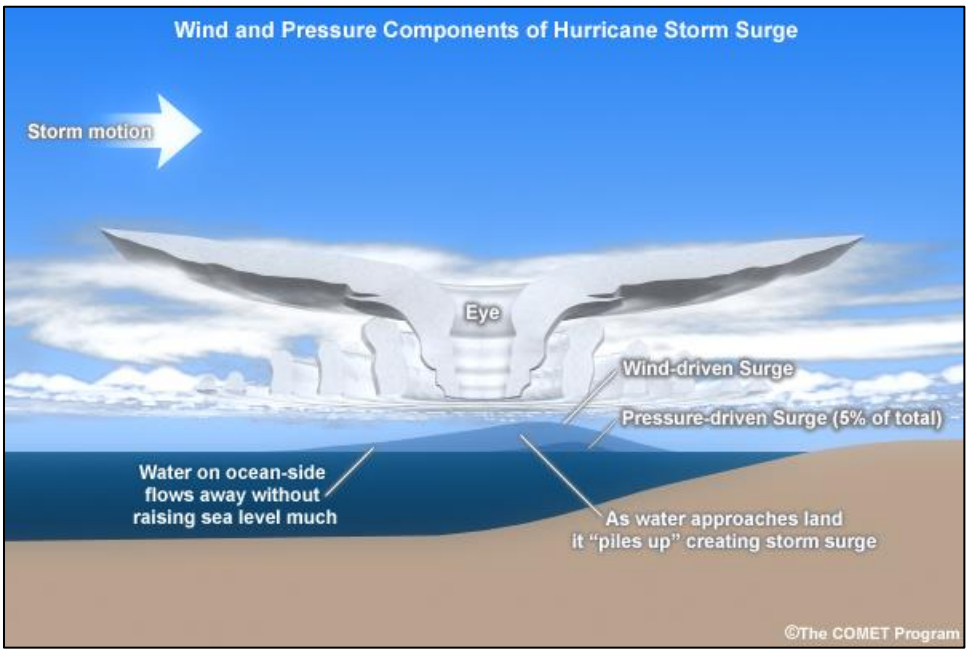
These rivers and their tributaries are susceptible to overflowing their banks during and following excessive precipitation events. Though less common, riverine flood events (such as the "1%-annual-chance flood") will cause significantly more damage and economic disruption for the area than incidences of localized stormwater flooding.

Coastal Flooding: All lands bordering the coast along the Atlantic Ocean and in low-lying coastal plains are susceptible to tidal effects and flooding. Coastal land such as sand bars, barrier islands and deltas provide a buffer zone to help protect human life and real property relative to the sea much as floodplains provide a buffer zone along rivers and other bodies of water. Coastal floods usually occur because of abnormally high tides, storm surge, wind-driven waves, and heavy rains associated with tropical storms and hurricanes.

Storm surge is water that is pushed toward the shore by the force of the winds swirling around the storm as shown in Figure 4.23. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level to heights impacting roads, homes and other critical infrastructure. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides.

The maximum potential storm surge for a location depends on several different factors. Storm surge is a very complex phenomenon because it is sensitive to the slightest changes in storm intensity, forward speed, size (radius of maximum winds-RMW), angle of approach to the coast, central pressure (minimal contribution in comparison to the wind), and the shape and characteristics of coastal features such as bays and estuaries. Other factors which can impact storm surge are the width and slope of the continental shelf and the depth of the ocean bottom. A narrow shelf, or one that drops steeply from the shoreline and subsequently produces deep water close to the shoreline, tends to produce a lower surge but higher and more powerful storm waves. Much of the North Carolina coast has a narrow continental shelf, with mile-deep waters generally only 20-30 miles off the coast.

Figure 4.23 – Components of Hurricane Storm Surge



Source: NOAA/The COMET Program

Wind-driven surge generated in the Atlantic Ocean and pushed into Pamlico Sound and other waters is the primary source of flooding in the Region. The areas susceptible to surge flooding are summarized from each county's FIS as follows:

- **Beaufort County**: Surge moves from Pamlico Sound further into Back Creek, Bailey Creek, Bath Creek, Jacks Creek and its tributaries, Pamlico River, Pantego Creek, Pungo River, Rowland Creek, Snode Creek and South Creek.
- **Carteret County**: Surge propagates into Bogue Inlet, Bogue Sound, Core Sound, Goose Bay, the Intracoastal Waterway, Pamlico Sound, Shackleford Slue, the Straits, and further into Adams Creek, the Neuse River, the Newport River, and the White Oak River.

- **Craven County**: Surge extends from Pamlico Sound into the Neuse River, Hancock Creek, Jack Smith Creek, Lawson Creek, Pamlico River, downstream portions of Rocky Run/Samuels Creek, Slocum Creek, Southwest Prong Slocum Creek, and the Trent River.
- **Pamlico County**: Surge moves from Pamlico Sound further into Bay River, Big Porpoise Bay, Jones Bay, Kershaw Creek, Middle Bay, Morris Creek, Pamlico River, Smith Creek, Thomas Creek, Trent Creek, Whittaker Creek, and Raccoon Creek.

Several of the waterbodies vulnerable to coastal flooding are also susceptible to riverine flooding, indicating the potential for compounding risk when hurricane and tropical storm events bring both coastal surge and heavy rainfall.

The Sea, Lake and Overland Surges from Hurricanes (SLOSH) model is a computerized numerical model developed by the National Weather Service to estimate storm surge heights resulting from historical, hypothetical, or predicted hurricanes by taking into account the atmospheric pressure, size, forward speed, and track data. These parameters are used to create a model of the wind field which drives the storm surge. The SLOSH model consists of a set of physics equations which are applied to a specific locale's shoreline, incorporating the unique bay and river configurations, water depths, bridges, roads, levees and other physical features. The model creates outputs for all different storm simulations from all points of the compass. Each direction has a MEOW (maximum envelope of water) for each category of storm (1-5), and all directions combined result in a MOMs (maximum of maximums) set of data. SLOSH model surge maps are meant to represent a worst case scenario of surge for each storm category.

NOAA SLOSH maps are provided under the Extent section below to illustrate potential storm surge inundation resulting from each category of hurricane.

Localized Flooding: Localized flooding consists of flash flooding and stormwater flooding caused by intense rainfall. All areas of the region are susceptible to localized flooding.

Flash flooding occurs when water levels rise at an extremely fast rate as a result of intense rainfall over a brief period, possibly from slow-moving intense storms and sometimes combined with saturated soil or impermeable surfaces. Flash flooding can happen in floodplains and in areas not associated with floodplains. Flash flood hazards caused by surface water runoff are most common in urbanized areas, where greater population density generally equates to more impervious surface (e.g., pavement and buildings) which increases the amount of surface water generated.

Flash flooding is a dangerous form of flooding which can reach full peak in only a few minutes. Rapid onset allows little or no time for protective measures. Flash flood waters move at very fast speeds and can move boulders, tear out trees, scour channels, destroy buildings, and obliterate bridges. Flash flooding can result in higher loss of life, both human and animal, than slower developing river and stream flooding.

Stormwater flooding is smaller scale flooding, separate from coastal or riverine flooding, that can occur anywhere in a community, including areas outside of the mapped floodplain. It can occur as the result of significant amounts of rainfall over a longer time frame. This flooding, sometimes called “nuisance flooding,” often occurs in low-lying areas after a heavy rain and can occur as a result of excessive runoff from increased impervious surface area, poor drainage, inadequate drainage infrastructure, clogged culverts, or obstructed drainageways, among other causes. Additionally, rain and surface runoff can cause stormwater systems to overflow. As rain falls for extended periods of time, the ground becomes saturated, and rain accumulates faster than the soils can absorb it.

In certain areas, aging storm sewer systems are not designed to carry the capacity currently needed to handle the increased storm runoff. Typically, the result is water backing into basements, which damages mechanical systems and can create serious public health and safety concerns.

Localized flooding may be caused by the following issues:

- **Inadequate Capacity –** An undersized/under capacity pipe system can cause water to back-up behind a structure which can lead to areas of ponded water and/or overtopping of banks.
- **Clogged Inlets** – Debris covering the asphalt apron and the top of grate at catch basin inlets may contribute to an inadequate flow of stormwater into the system. Debris within the basin itself may also reduce the efficiency of the system by reducing the carrying capacity.
- **Blocked Drainage Outfalls** – Debris blockage or structural damage at drainage outfalls may prevent the system from discharging runoff, leading to back-up of stormwater within the system.
- **Improper Grade** – Poorly graded asphalt around catch basin inlets may prevent stormwater from entering the catch basin as designed. Areas of settled asphalt may create low spots within the roadway that allow for areas of ponded water.

FLOODING AND FLOODPLAINS

A floodplain, as shown in Figure 4.24 and Figure 4.25 on the following page, is flat or nearly flat land adjacent to a stream, river, or body of water that experiences occasional or periodic flooding. In the case of riverine flooding, it includes the floodway, which consists of the stream channel and adjacent areas that carry flood flows, and the flood fringe, which are areas covered by the flood, but which do not experience a strong current. Floodplains are made when floodwaters exceed the capacity of the main channel or escape the channel by eroding its banks. When this occurs, sediments (including rocks and debris) are deposited that gradually build up over time to create the floor of the floodplain. Floodplains generally contain unconsolidated sediments, often extending below the bed of the stream. In coastal floodplains, zones are distinguished by wave heights.

In its common usage, the floodplain most often refers to that area that is inundated by the "100-year flood," which is the flood that has a 1% chance in any given year of being equaled or exceeded. The 500-year flood is the flood that has a 0.2 percent chance of being equaled or exceeded in any given year. The potential for flooding can change and increase through various land use changes and changes to land surface, which result in a change to the floodplain. A change in environment can create localized flooding problems inside and outside of natural floodplains by altering or confining natural drainage channels. These changes are most often created by human activity.

Floodplain boundaries are designated and routinely updated through cooperation between local governments, states, and FEMA. Flood Insurance Study (FIS) findings are shown on Flood Insurance Rate Maps (FIRMs) and describe various flood hazard zones based on flood height exceedance return periods. Flood hazard zone designations depend on local conditions and map issue dates, but all will show the 1%-annual-chance flood, or base flood, as well as some areas of the 0.2%-annual-chance flood.

The 1%-annual-chance flood, which is the minimum standard used by most federal and state agencies, is used by the NFIP as the standard for floodplain management and to determine the need for flood insurance. Participation in the NFIP requires adoption and enforcement of a local floodplain management ordinance which is intended to prevent unsafe development in the floodplain, thereby reducing future flood damages. Participation in the NFIP allows for the federal government to make flood insurance available within the community as a financial protection against flood losses. Since floods have an annual probability of occurrence, have a known magnitude, depth and velocity for each event, and in most cases, have a map indicating where they will likely occur, they are in many ways often the most predictable and manageable hazard.

Warning Time: 3 – 6 to 12 hours

Duration: 3 – Less than 1 week

Figure 4.24 – Characteristics of a Floodplain

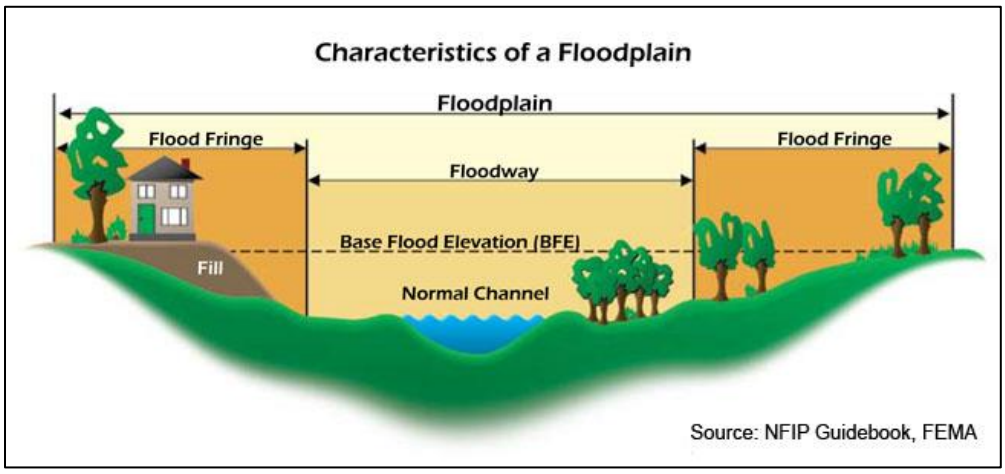
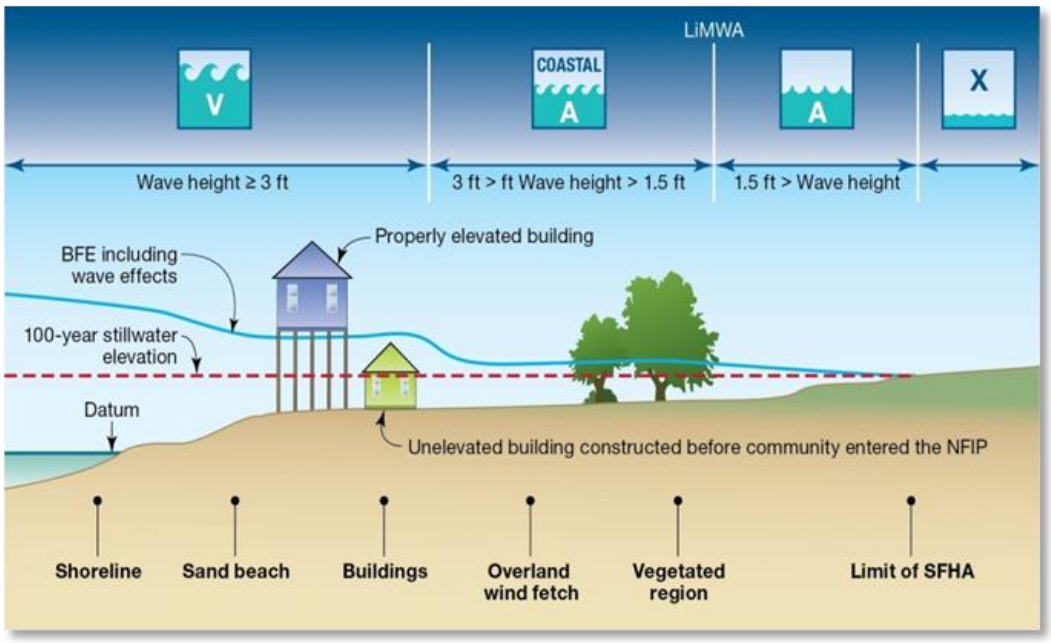


Figure 4.25 – Characteristics of a Coastal Floodplain



Source: FEMA

LOCATION

Regulated floodplains are illustrated on FIRMs, which are the official maps for a community on which FEMA has delineated both the Special Flood Hazard Areas (SFHAs) and the risk premium zones applicable to the community. SFHAs represent the areas subject to inundation by the 1%-annual-chance flood event.

Flood prone areas were identified within the Pamlico Sound Region using the current effective Flood Insurance Studies and associated FIRMs, with the most recent updates and/or revisions dated June 19, 2020 for Beaufort County, Carteret County, and Pamlico County and June 15, 2022 for Craven County.

Note that on January 17, 2025, after the end of the planning process for this plan update, Beaufort County, Carteret County, and Craven County had new FIRMs go effective. These new effective FIRMs will be incorporated into future updates of this plan.

Table 4.43 summarizes the flood insurance zones identified by the Digital FIRMs (DFIRMs) within the Region.

Table 4.43 – Mapped Flood Insurance Zones within the Pamlico Sound Region

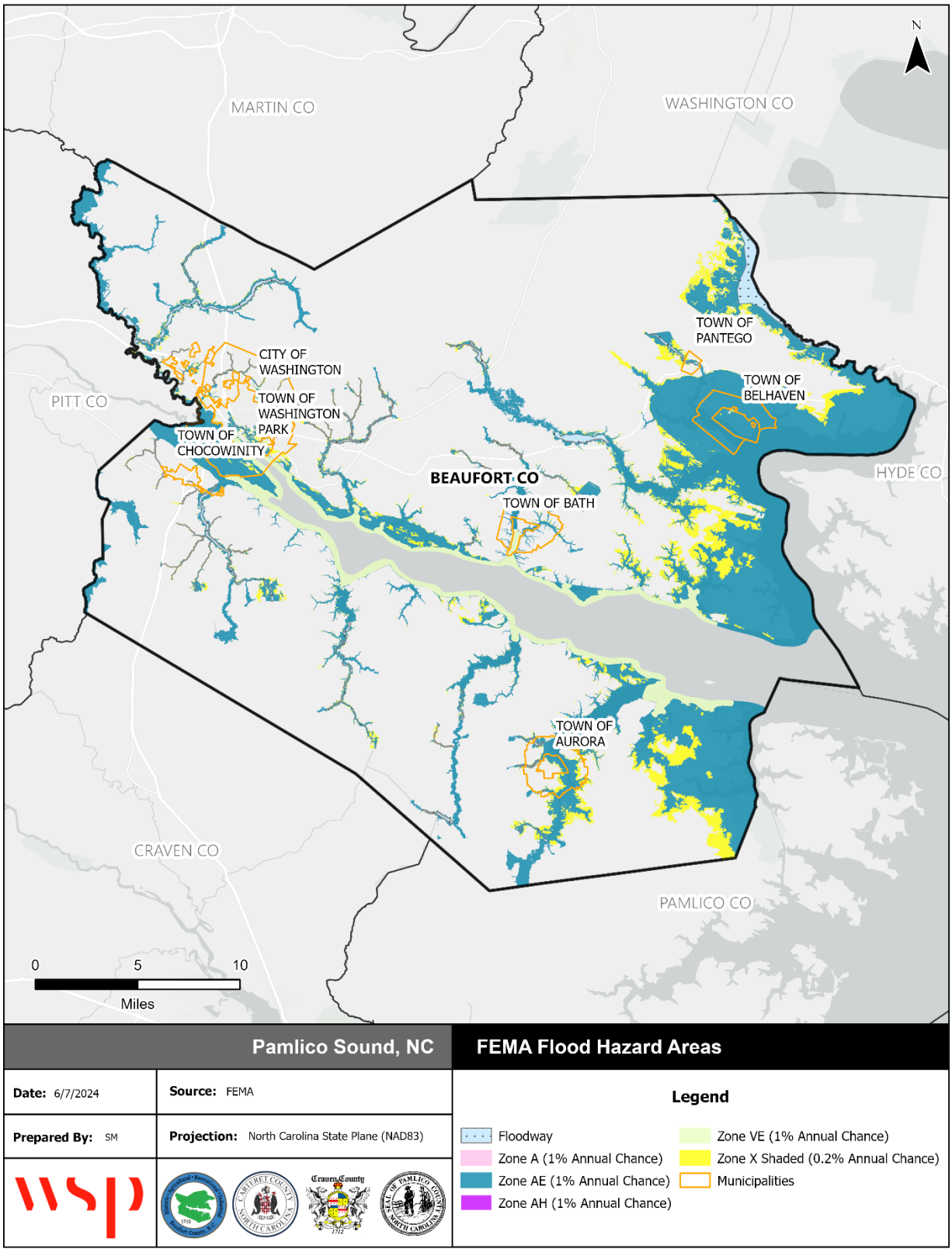
Zone	Description
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas, no depths or base flood elevations are shown within these zones.
AE	AE Zones, also within the 100-year flood limits, are defined with BFEs that reflect the combined influence of stillwater flood elevations and wave effects less than 3 feet. The AE Zone generally extends from the landward VE zone limit to the limits of the 100-year flood from coastal sources, or until it reaches the confluence with riverine flood sources. The AE Zones also depict the SFHA due to riverine flood sources, but instead of being subdivided into separate zones of differing BFEs with possible wave effects added, they represent the flood profile determined by hydrologic and hydraulic investigations and have no wave effects. The Coastal AE Zone is differentiated from the AE Zone by the Limit of Moderate Wave Action (LiMWA) and includes areas susceptible to wave action between 1.5 to 3 feet.
AO	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone. Mandatory flood insurance purchase requirements and floodplain management standards apply.
VE	Zone VE is the flood insurance rate zone that corresponds to the 1% annual chance coastal floodplains that have additional hazards associated with storm waves. Whole-foot Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.
0.2% Annual Chance (Shaded Zone X)	Moderate risk areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 1-percent-annual-chance flood by a levee. No BFEs or base flood depths are shown within these zones. (Zone X (shaded) is used on new and revised maps in place of Zone B.)
Zone X (Unshaded)	Minimal risk areas outside the 1-percent and .2-percent-annual-chance floodplains. No BFEs or base flood depths are shown within these zones. Zone X (unshaded) is used on new and revised maps in place of Zone C.

Source: FEMA

Figure 4.26 through Figure 4.29 reflect the effective mapped flood insurance zones for the Pamlico Sound Region by county.

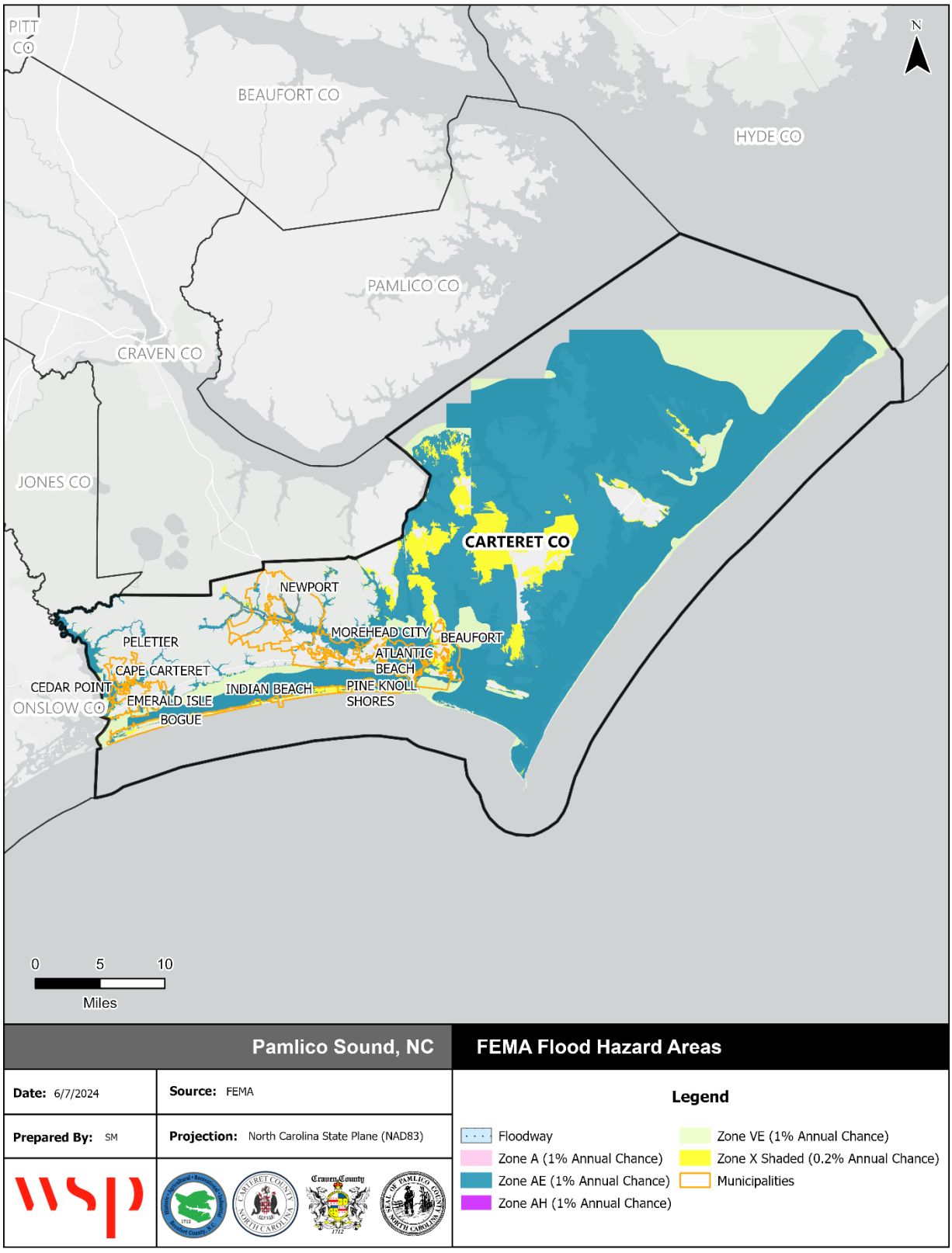
Spatial Extent: 3 – Moderate

Figure 4.26 – FEMA Flood Hazard Areas in Beaufort County



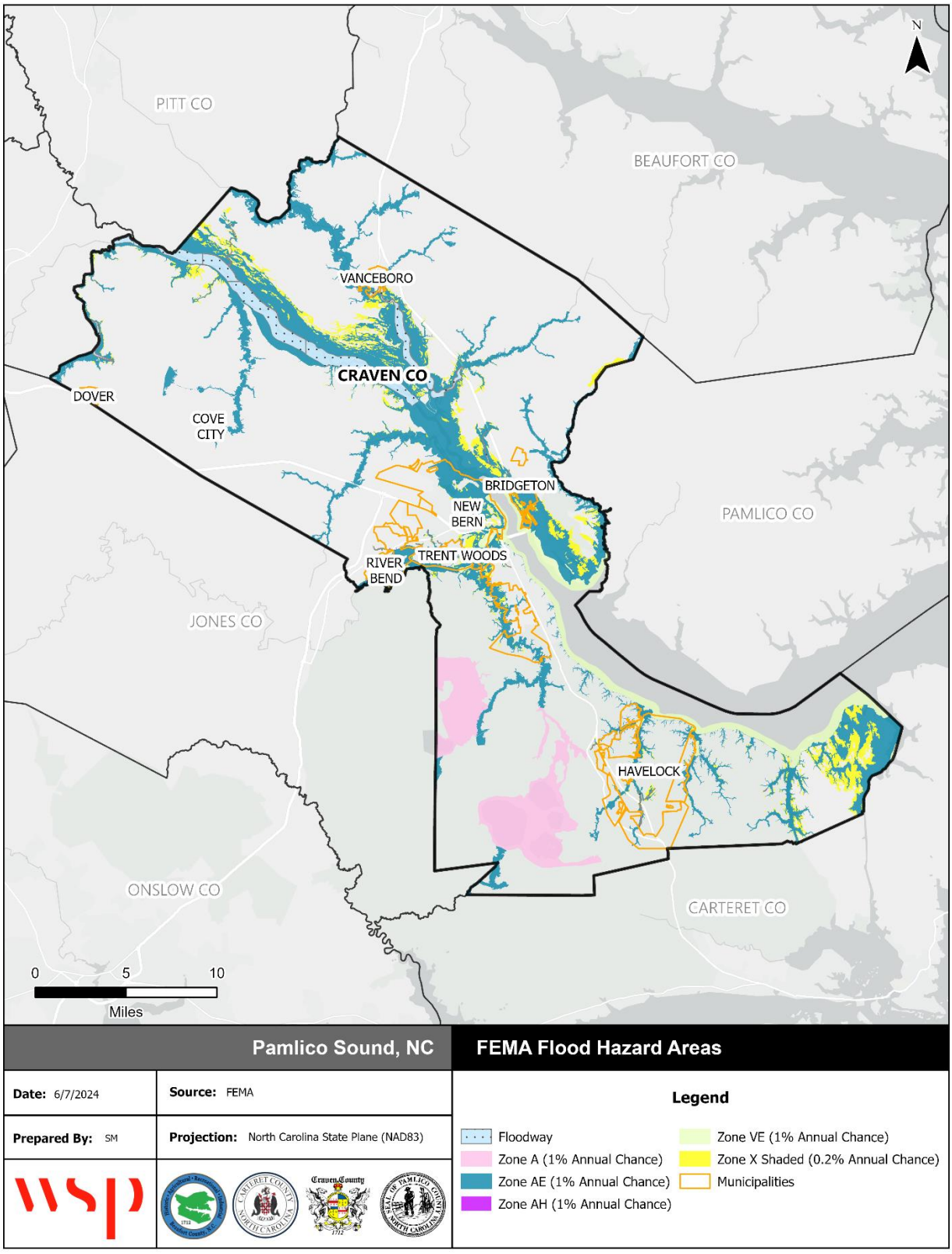
Source: FEMA Effective DFIRM retrieved from North Carolina Flood Risk Information System

Figure 4.27 – FEMA Flood Hazard Areas in Carteret County



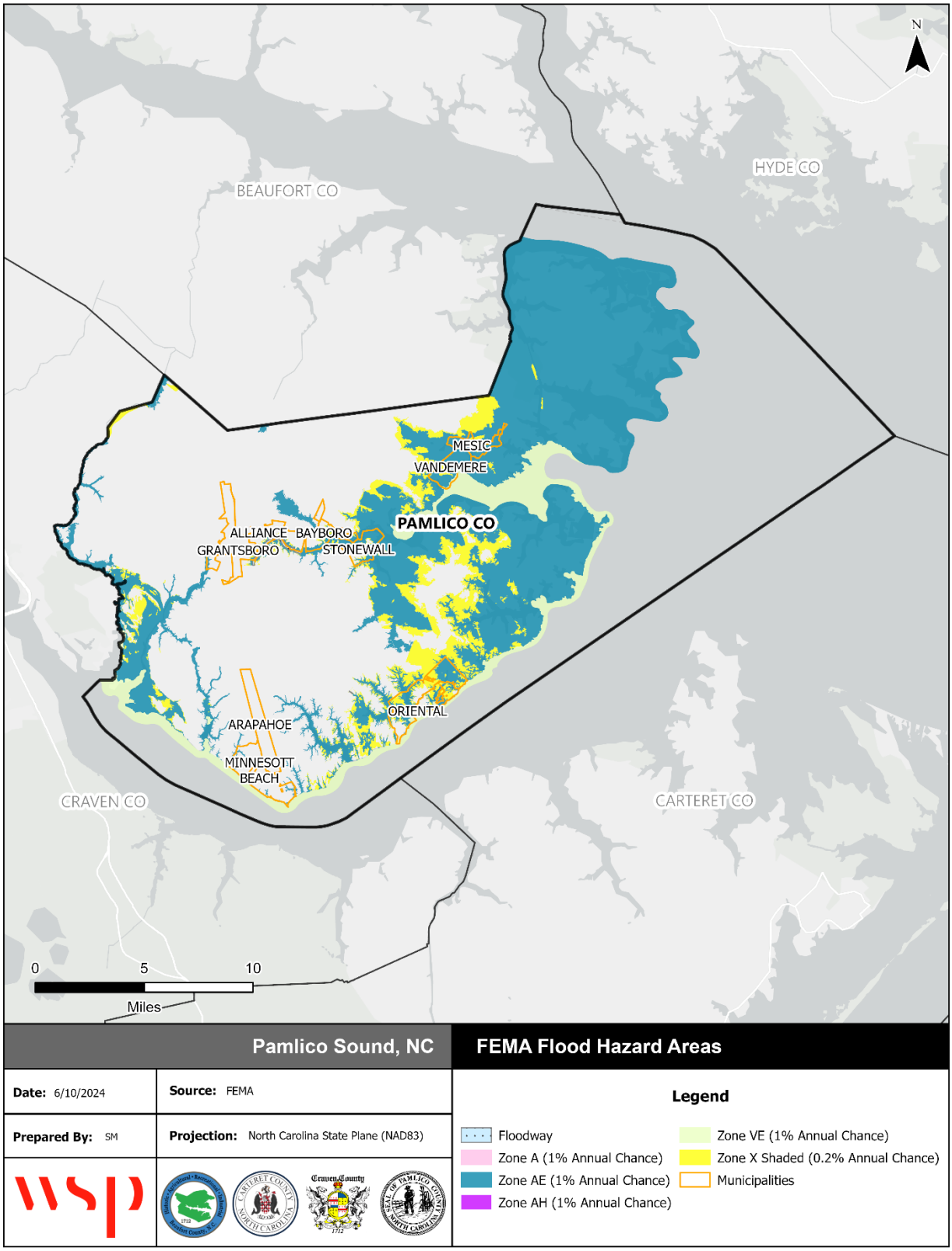
Source: FEMA Effective DFIRM retrieved from North Carolina Flood Risk Information System

Figure 4.28 – FEMA Flood Hazard Areas in Craven County



Source: FEMA Effective DFIRM retrieved from North Carolina Flood Risk Information System

Figure 4.29 – FEMA Flood Hazard Areas in Pamlico County



Source: FEMA Effective DFIRM retrieved from North Carolina Flood Risk Information System

EXTENT

Flood extent can be defined by the amount of land in the floodplain and the potential magnitude of flooding as measured by flood height and velocity. FEMA Flood Insurance Studies define the probability of flooding by flood events of a magnitude which are expected to be equaled or exceeded once on the average during a specific time period, or recurrence interval.

Table 4.44 provides a summary by county of the Region's total area by flood zone on the current effective DFIRMs. Over 36 percent of the Region falls within the SFHA. Carteret County has the greatest proportion of total area in the SFHA, at over 62 percent, while Beaufort County has the smallest relative SFHA at just over 21 percent of the county's total area.

Figure 4.30 through Figure 4.33 show the depth of flooding estimated to occur from a 1% annual chance flood by county.

Table 4.44 – Flood Zone Acreage in the Pamlico Sound Region by County

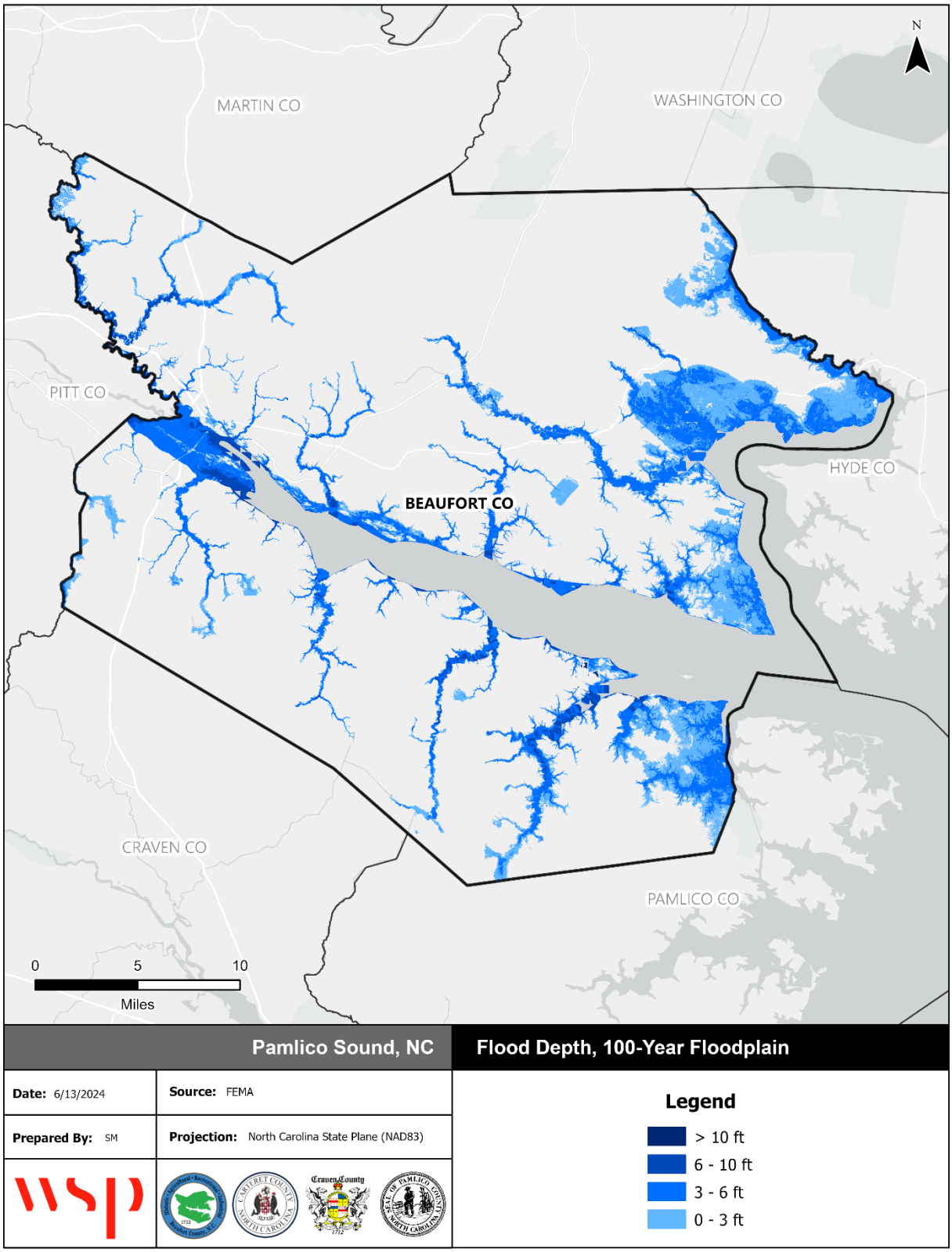
Flood Zone	Acreage	Percent of Total (%)
Beaufort County		
Zone A	0.0	0.0
Zone AE	120,926.5	19.8
Zone AO	16.1	0.0
Zone VE	12,900.5	2.1
Zone X (500-year)	20,591.9	3.4
Zone X Unshaded	415,881.2	67.9
Open Water	41,911.1	6.8
Subtotal	**612,227.3**	**100.0**
Carteret County		
Zone A	0.0	0.0
Zone AE	358,353.0	53.1
Zone AO	1,165.5	0.2
Zone VE	63,537.2	9.4
Zone X (500-year)	37,058.9	5.5
Zone X Unshaded	117,388.5	17.4
Open Water	97,738.6	14.5
Subtotal	**675,241.7**	**100.0**
Craven County		
Zone A	19,340.1	3.9
Zone AE	83,921.0	17.0
Zone AO	1.3	0.0
Zone VE	10,923.6	2.2
Zone X (500-year)	14,699.1	3.0
Zone X Unshaded	345,753.2	69.9
Open Water	19,976.4	4.0
Subtotal	**494,614.8**	**100.0**

Flood Zone	Acreage	Percent of Total (%)
Pamlico County		
Zone A	0.0	0.0
Zone AE	98,916.7	27.6
Zone AO	30.2	0.0
Zone VE	14,187.4	4.0
Zone X (500-year)	16,234.9	4.5
Zone X Unshaded	121,118.0	33.7
Open Water	108,391.8	30.2
Subtotal	**358,879.0**	**100.0**
Pamlico Sound Region		
Zone A	19,340.1	0.9
Zone AE	662,117.2	30.9
Zone AO	1,213.2	0.1
Zone VE	101,548.7	4.7
Zone X (500-year)	88,584.8	4.1
Zone X Unshaded	1,000,140.8	46.7
Open Water	268,017.9	12.5
Total	**2,140,962.8**	**100.0**

Source: FEMA Effective DFIRMs

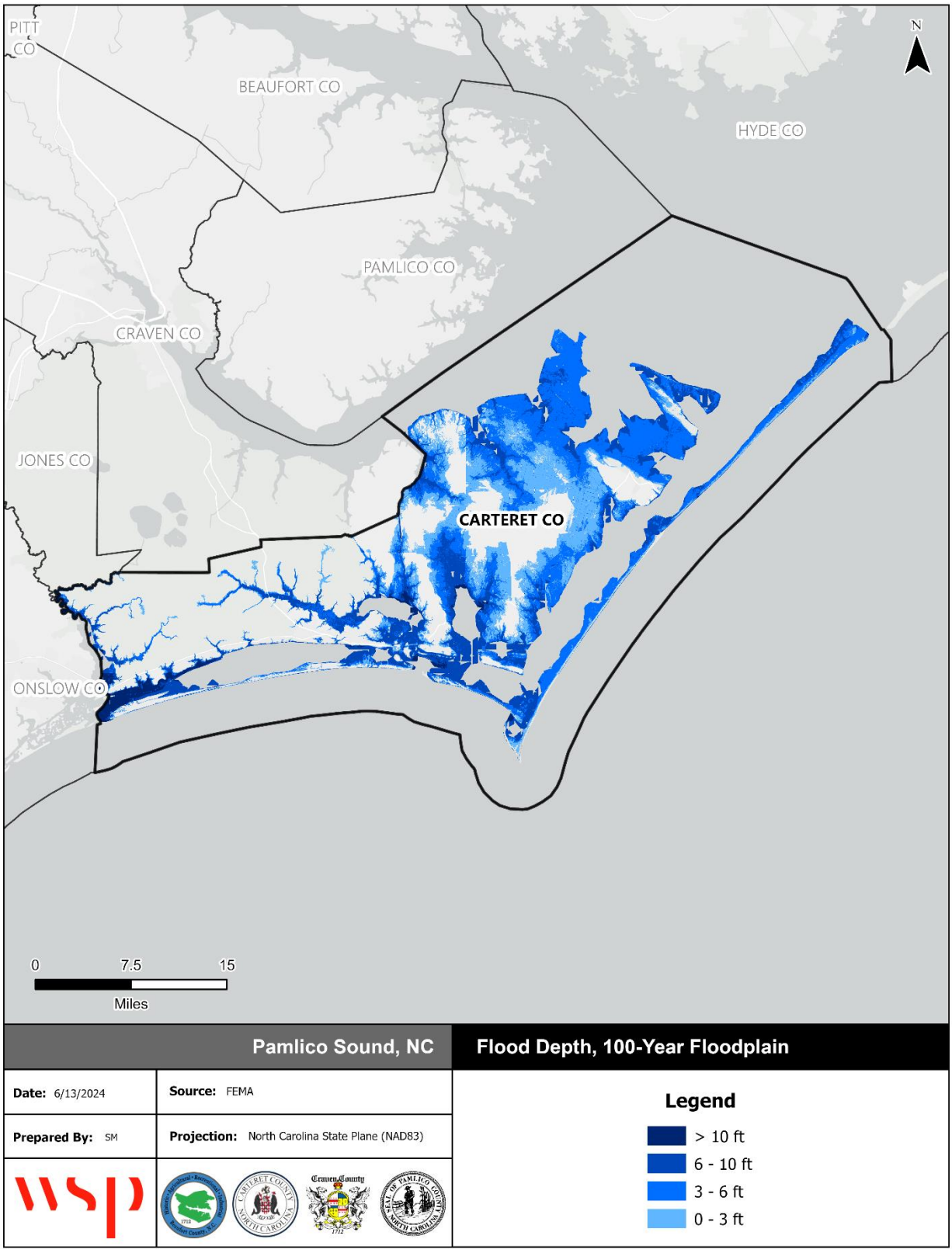
Note that on January 17, 2025, after the end of the planning process for this plan update, Beaufort County, Carteret County, and Craven County had new FIRMs go effective. These new effective FIRMs and the flood zone acreage they present will be incorporated into future updates of this plan.

Figure 4.30 – Flood Depth, 100-Year Floodplain, Beaufort County



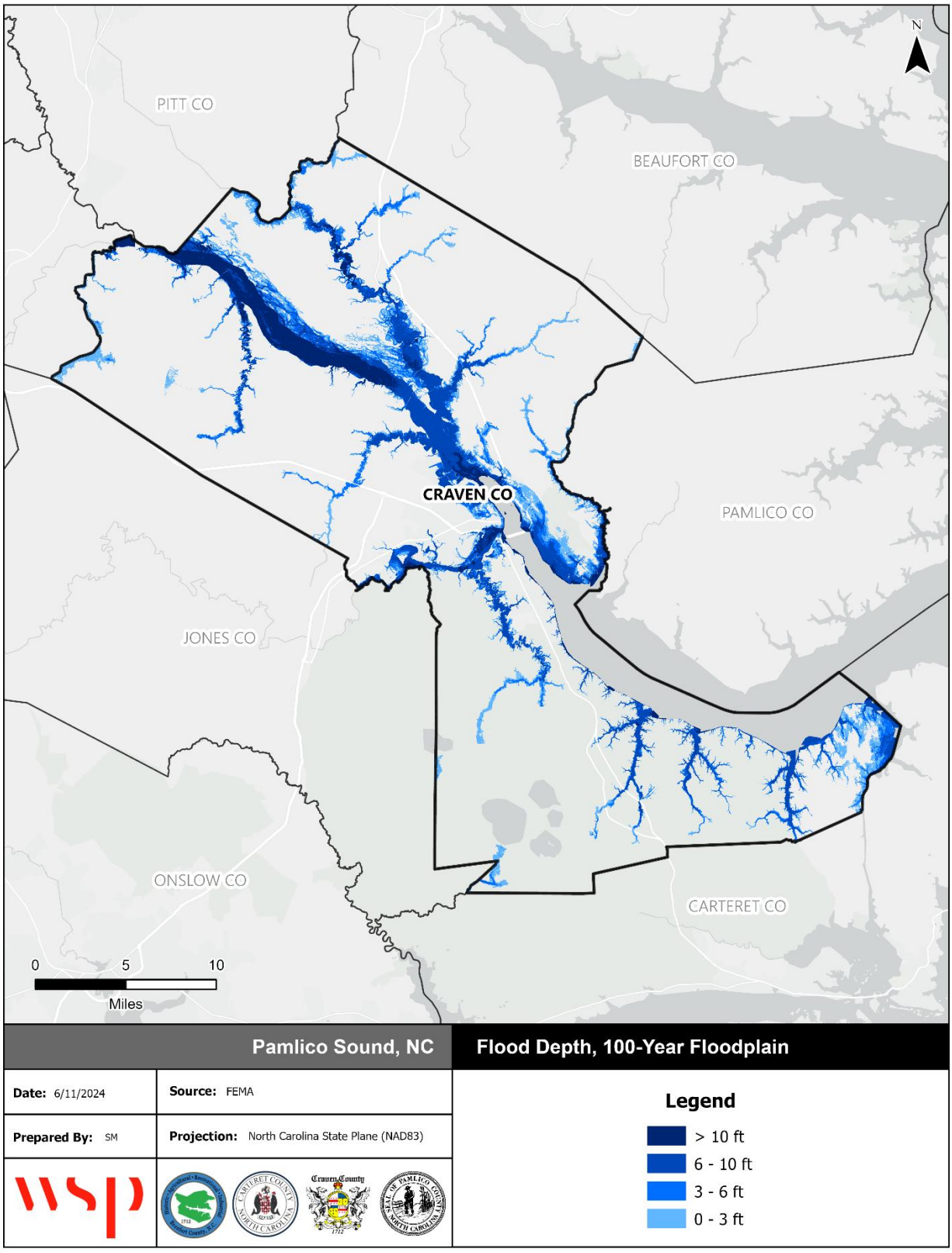
Source: FEMA Effective DFIRM

Figure 4.31 – Flood Depth, 100-Year Floodplain, Carteret County



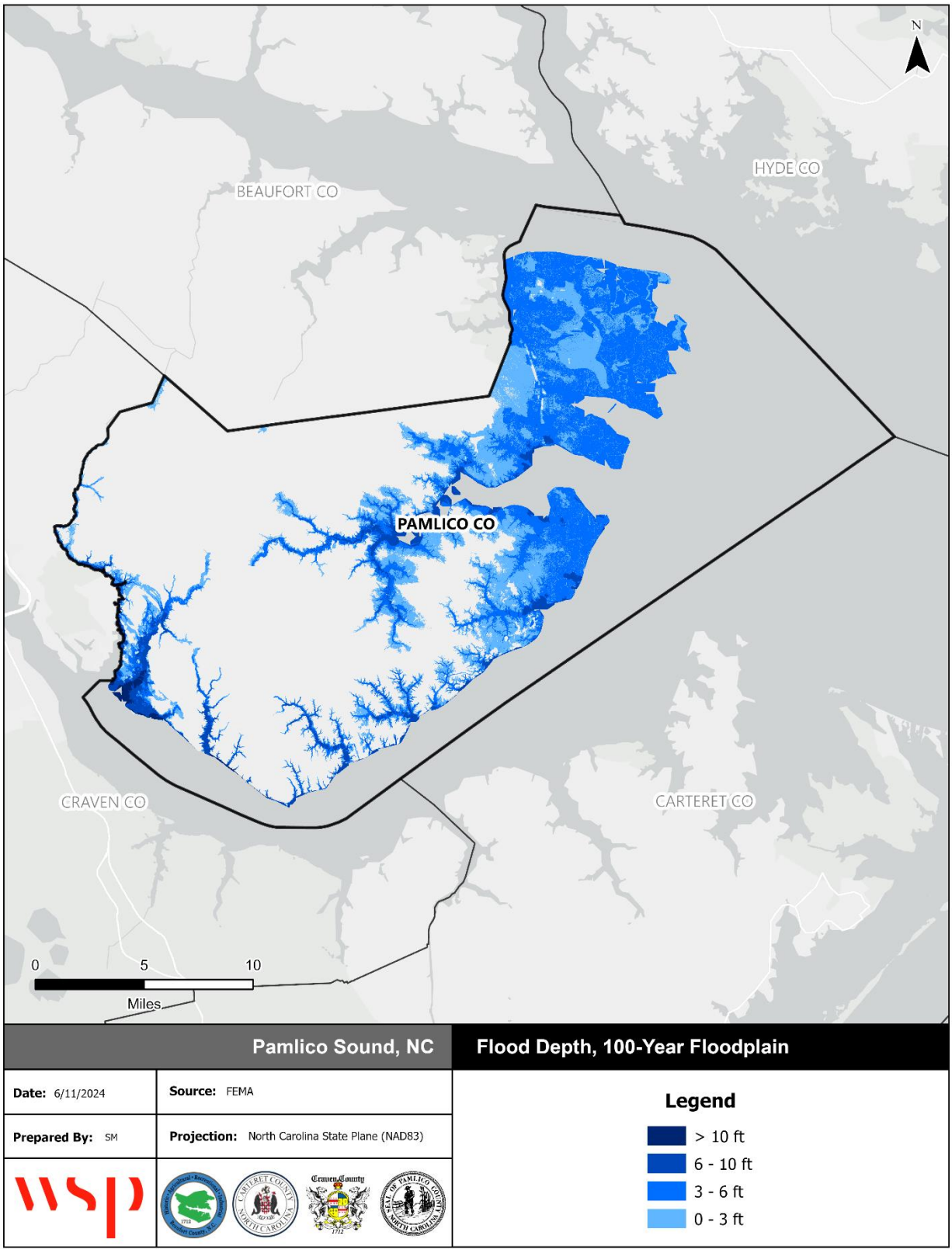
Source: FEMA Effective DFIRM

Figure 4.32 – Flood Depth, 100-Year Floodplain, Craven County



Source: FEMA Effective DFIRM

Figure 4.33 – Flood Depth, 100-Year Floodplain, Pamlico County



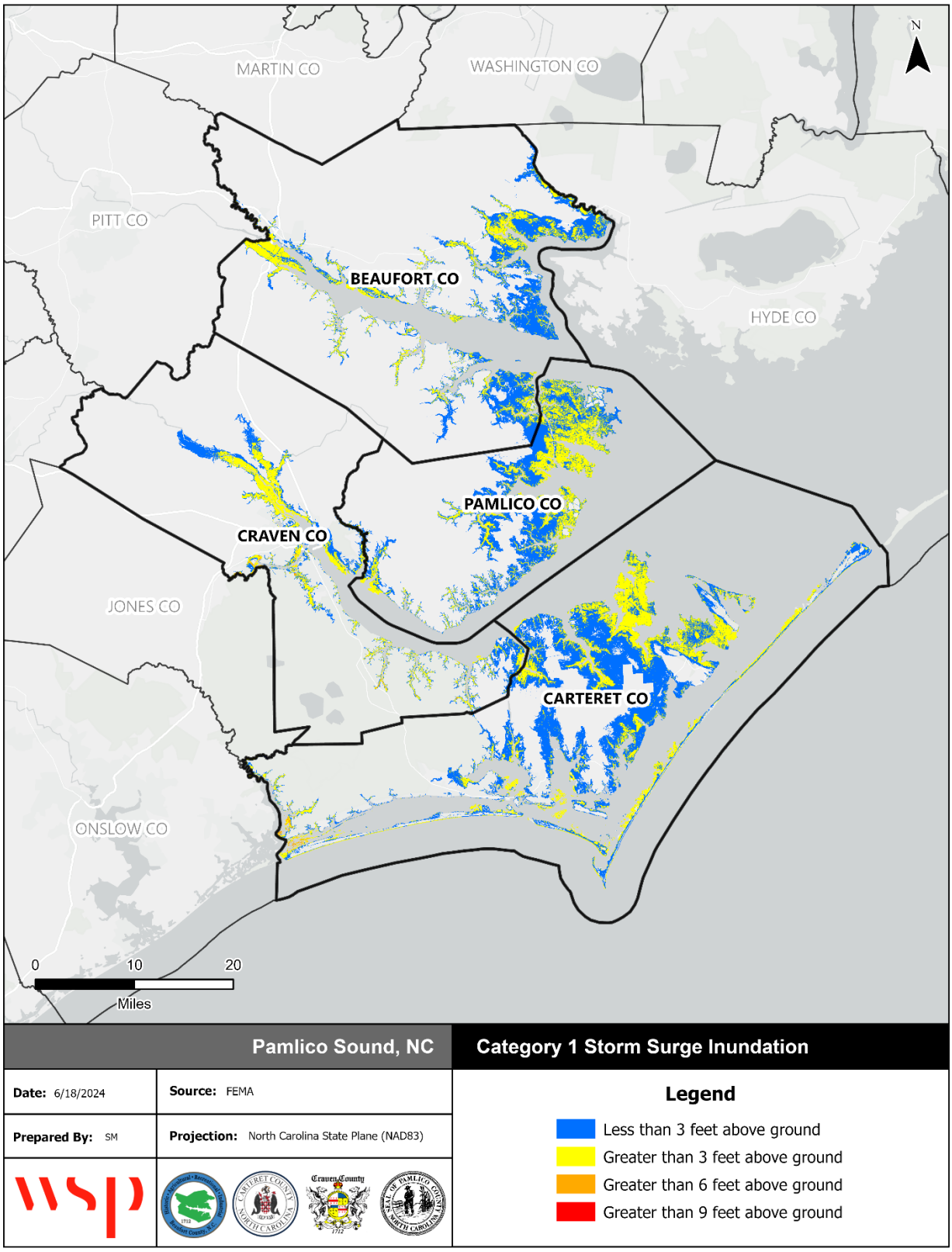
Source: FEMA Effective DFIRM

More than a third of the planning area is within areas of high flood risk, as defined by the SFHA on the current effective DFIRMs. However, while the 1-percent-annual-chance flood is the basis for floodplain management under the NFIP, that does not mean that properties outside the SFHA are not at risk of flooding. Floods of other magnitudes may occur. The remainder of the planning areas is subject to moderate and low flood risk.

Storm surge affects areas along coastal and estuarine shorelines and reaching further inland depending on the height of the surge. Figure 4.34 through Figure 4.38 show the estimated extent of surge by storm category according to NOAA SLOSH data.

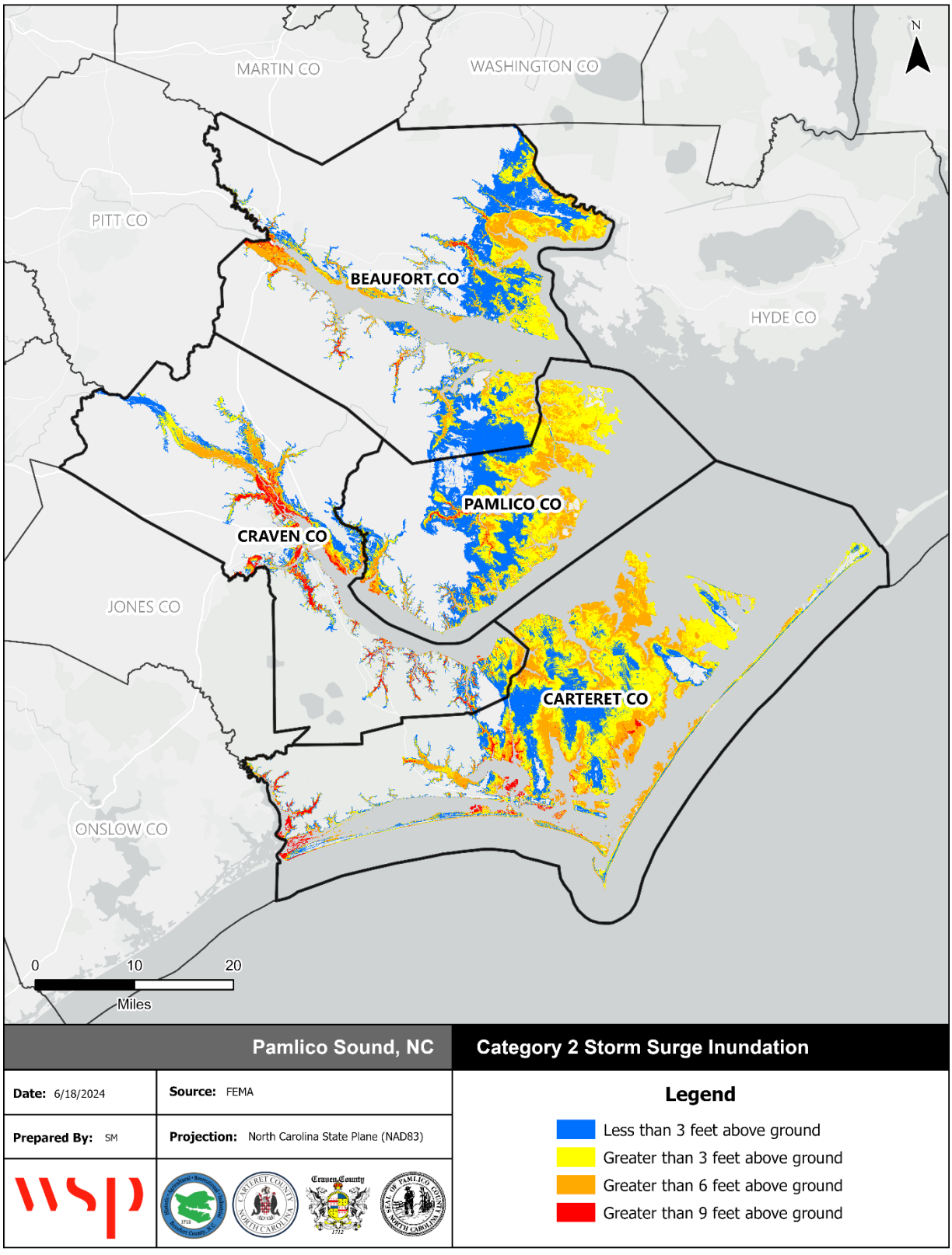
Impact: 3 – Critical

Figure 4.34 – Category 1 Storm Surge Inundation



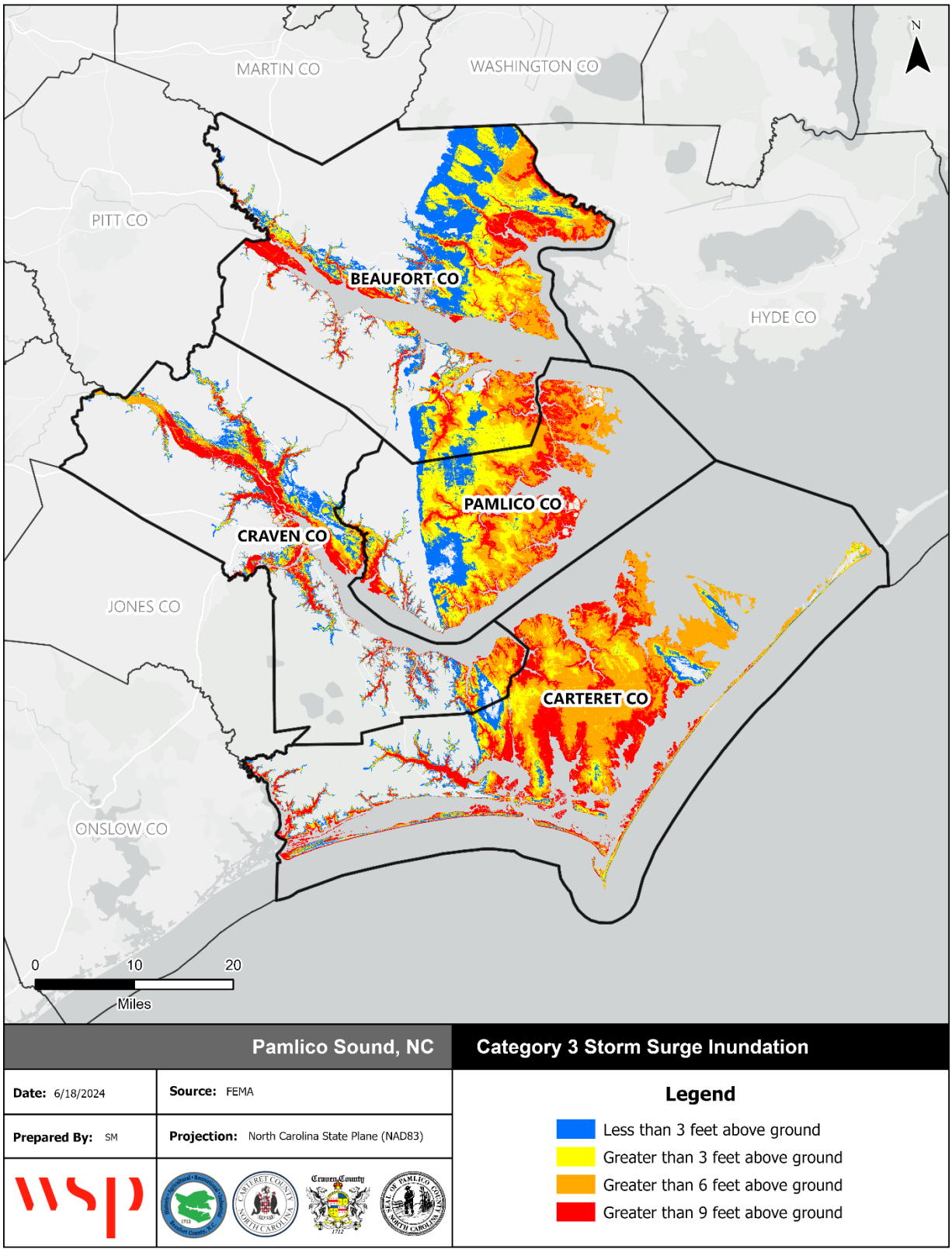
Source: NOAA National Storm Surge Hazard Maps – Version 2

Figure 4.35 – Category 2 Storm Surge Inundation



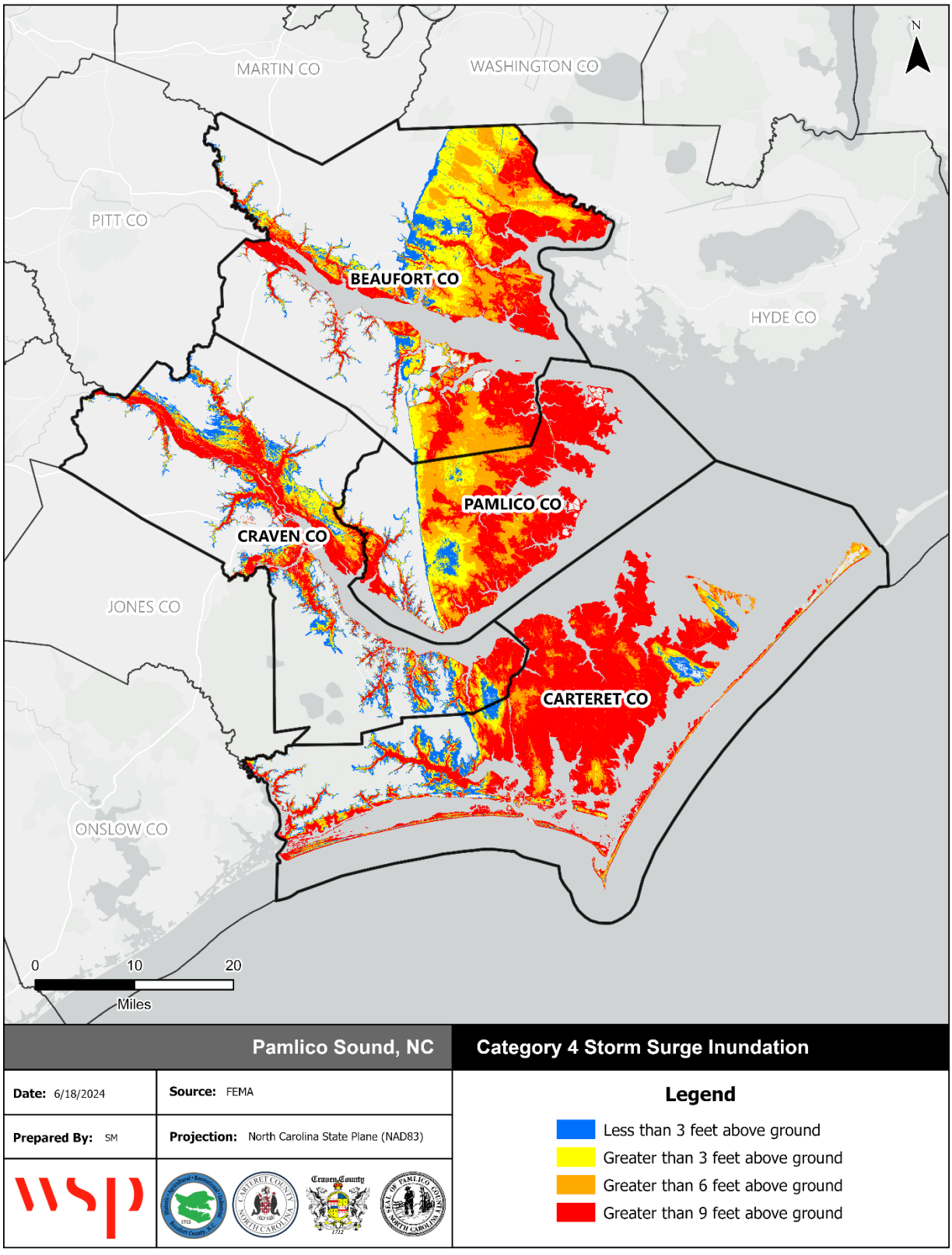
Source: NOAA National Storm Surge Hazard Maps – Version 2

Figure 4.36 – Category 3 Storm Surge Inundation



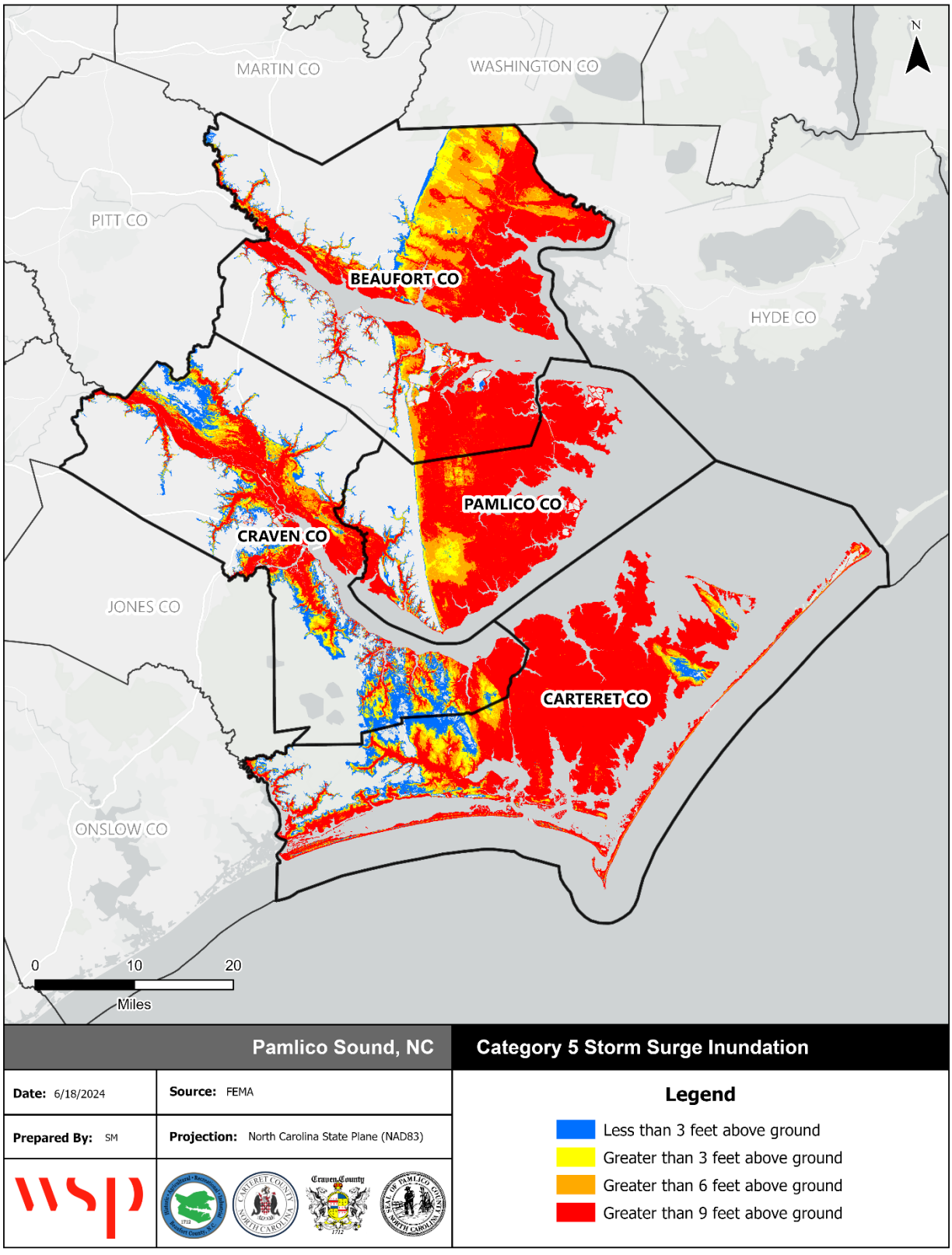
Source: NOAA National Storm Surge Hazard Maps – Version 2

Figure 4.37 – Category 4 Storm Surge Inundation



Source: NOAA National Storm Surge Hazard Maps – Version 2

Figure 4.38 – Category 5 Storm Surge Inundation



Source: NOAA National Storm Surge Hazard Maps – Version 2

HISTORICAL OCCURRENCES

According to NCEI Storm Events Database records, 125 flood-related events were reported during the 25-year period from 1999 through 2023, across 59 separate days. These events caused 1 death, $1,253,000 in property damages, and $55,500,000 in crop damages. Table 4.45 summarizes these historical occurrences of flooding by county and event type. It should be noted that only those historical occurrences listed in the NCEI database are shown here and that other, unrecorded or unreported events may have occurred within the planning area during this timeframe.

Table 4.45 – NCEI Records of Flooding, 1999-2023

Type	Event Count	Deaths/Injuries	Property Damage	Crop Damage
Beaufort				
Coastal Flood	3	0/0	$0	$0
Flash Flood	19	0/0	$625,000	$55,000,000
Flood	7	0/0	$0	$0
Heavy Rain	1	0/0	$0	$0
Carteret				
Coastal Flood	10	0/0	$1,000	$0
Flash Flood	31	0/0	$10,000	$0
Flood	16	0/0	$5,000	$0
Heavy Rain	4	0/0	$0	$0
Craven				
Coastal Flood	5	0/0	$1,000	$0
Flash Flood	17	0/0	$500,000	$0
Flood	9	1/0	$101,000	$0
Heavy Rain	4	0/0	$0	$0
Pamlico				
Coastal Flood	3	0/0	$0	$0
Flash Flood	9	0/0	$10,000	$0
Flood	1	0/0	$0	$0
Heavy Rain	1	0/0	$0	$0
Region Total				
Coastal Flood	19	0/0	$2,000	$0
Flash Flood	63	0/0	$1,145,000	$55,500,000
Flood	33	1/0	$106,000	$0
Heavy Rain	10	0/0	$0	$0
Total	**142**	**1/0**	**$1,253,000**	**$55,500,000**

Source: NCEI

The following event narratives are provided in the NCEI Storm Events Database and illustrate the impacts of flood events on the Region:

September 16, 1999 – Heavy rains continued to fall over eastern North Carolina in association with Hurricane Floyd. Widespread heavy rain fell west of a line from Beaufort to Columbia. Doppler Radar estimated 4 to 8 inches of rain with local amounts of 6 to 10 inches. New River Marine Corp Air Station reported a storm total precipitation amount of 8.26 inches. Tropical Storm Dennis left most rivers and streams in eastern North Carolina swollen and near flood stage. The additional runoff from Hurricane Floyd produced some the worst flooding of the century. Many rivers rose to over 15 feet above flood stage.

September 18, 2000 – Major flooding reported in James City and most of southern Craven county. A section of Old Cherry Point Road washed out. Some townhomes in Havelock also flooded.

July 27, 2002 – Up to 4-5 inches of rain fall over Morehead City in a 3 hour time period. This caused flooding of many major roads in Morehead City and Atlantic Beach. Numerous vehicles were flooded and abandoned.

October 8, 2005 – A combination of weather systems including the remnants of Tropical Storm Tammy and low pressure associated with an approaching cold front linked up to cause flooding rains across the area. During a three day period from October 6th through the 8th portions of eastern North Carolina received up to a foot of rainfall. Six to eight inch rainfall totals were common across much of the area. This resulted in flash flooding and widespread flooding across Beaufort, Carteret, Craven, Duplin, Lenoir, Martin, Onslow, Pamlico, and Pitt counties. Many roads across the area were closed due to flooding, and property damage was reported in several counties.

August 12, 2009 – A nearly stationary line of thunderstorms developed just inland of the coast along the sea breeze during the afternoon of August 12, 2009. Torrential rain occurred for several hours centered near Havelock. Rainfall amounts of 6 to 10 inches were reported in a three to four hour period leading to significant flooding in the Havelock area.

September 30, 2010 – Torrential rain moved across most of Carteret, Pamlico, Craven, and Beaufort Counties during the late afternoon and evening of September 30th as the remnants of Tropical Storm Nicole moved north across the region. This rain fell on saturated ground from very heavy rain the previous few days. Significant flash flooding developed especially for areas from Emerald Isle and Cape Carteret east toward Morehead City. Rapid water rises washed out several roads in the western portion of Carteret County with some subdivisions briefly cutoff form major roads. Minor flooding of a few residences was reported over the western portion of the county. In Pamlico, flooding occurred along Highway 55 from Bayboro west. A few roads were flooded and closed with minor damage to a few homes. Flooding in Craven affected Vanceboro to New Bern. Many roads were flooded and closed with several homes and businesses flooded with some rescues required. Floods occurred around Washington in Beaufort County, with many roads impassable and several homes and businesses flooded. Many acres of crops were destroyed by the flood waters.

August 28, 2011 – Hurricane Irene made landfall as a large category 1 hurricane. Due to the large size of the hurricane, strong damaging winds, major storm surge, and flooding rains were experienced across much of eastern North Carolina. Storm surge damages were estimated at 240 million dollars. The highest storm surges of 8-11 feet occurred along the Pamlico Sound, and the lower reaches of the Neuse and Pamlico Rivers on the 27th. Storm total rainfall ranged from 5.2 to 15.74 inches across area with the heaviest rainfall across Pamlico, Beaufort, and Craven counties. There were two indirect fatalities, including one in Beaufort County. A 9-11 foot sound-side surge occurred across eastern Pamlico County and the Pamlico River resulted in extensive damage to structures. Storm total rainfall of 10 to 16 inches caused extensive freshwater flooding. Significant damage occurred to structures and crops.

October 3-4, 2015 – Low pressure south of eastern North Carolina combined with strong high pressure to the north produced strong onshore flow October 2nd through the 5th. These onshore winds led to locally heavy rain and significant coastal flooding in many areas. Large swells from distant Hurricane Joaquin also enhanced waves along the coast leading to very rough surf. Water levels rose 4.5 to 5.5 feet above normal at times adjacent to the Pamlico Sound flooding many roads and making them impassable. Waterfront roads were also flooded and closed at times in Beaufort and Morehead City, New Bern, and Washington.

September 14-15, 2018 – Hurricane Florence was a long-lived Cape Verde hurricane and the wettest tropical cyclone on record in the Carolinas. Florence was the sixth named storm, third hurricane, and the first major hurricane of the 2018 Atlantic hurricane season. Hurricane Florence made landfall near

Wrightsville Beach early on Saturday September 15, and weakened further as it slowly moved inland. Florence produced extensive wind damage along the North Carolina coast from Cape Lookout, across Carteret, Onslow, Pender and New Hanover counties. Thousands of downed trees caused widespread power outages to nearly all of eastern North Carolina. The historic legacy of Hurricane Florence will be record breaking storm surge of 9 to 13 feet and widespread devastating rainfall of 20 to 30 inches, locally up to 36 inches, which produced catastrophic and life-threatening flooding. The hardest hit areas included New Bern, Newport, Belhaven, Oriental, North Topsail Beach and Jacksonville, along with southeast Carteret County, or basically south of a line from Kinston to Cedar Island. A storm total rainfall of 34.00 inches was reported in Swansboro, while the NWS office in Newport recorded 25.20 inches. Wind gusts of 106 mph were reported at Cape Lookout with 105 mph at Fort Macon.

September 22, 2023 – Ophelia developed into a strong tropical storm and moved north over the next couple of days, making landfall during the early morning hours near Emerald Isle, NC. Ophelia brought widespread heavy rainfall, gusty winds, and significant river and storm surge flooding to portions of Eastern North Carolina. One of the more notable impacts with Ophelia was flooding, both from storm surge and from heavy rain / flash flooding. Significant storm surge flooding occurred along the Neuse, Pamlico, and Pungo Rivers.

The Pamlico Sound region has also experienced extensive flooding from storm surge related to hurricanes, tropical storms, and nor'easters. Table 4.46 summarizes all recorded storm surge events from NCEI between 1999 and 2023, which includes 24 event reports across nine days. These events caused over $127 million in property damage and impacted all counties in the region. Narrative records on storm surge impacts are provided below.

Table 4.46 – Recorded Storm Surge Events in the Pamlico Sound Region, 1999-2023

Date	Locations	Event Reports	Deaths/ Injuries	Reported Property Damage
3/21/2001	Beaufort Co.	1	0/0	$0
2/27/2004	Carteret (Zone), Craven (Zone), Pamlico (Zone)	3	0/0	$0
4/15/2005	Carteret (Zone), Craven (Zone), Pamlico (Zone)	3	0/0	$40,000
5/6/2005	Carteret (Zone), Craven (Zone), Pamlico (Zone)	3	0/0	$0
7/20/2008	Carteret (Zone)	1	0/0	$0
8/26/2011	Beaufort (Zone), Carteret (Zone), Craven (Zone), Pamlico (Zone)	3	0/0	$127,200,000
8/31/2023	East Carteret (Zone)	1	0/0	$0
9/22/2023	Southern Craven (Zone)	1	0/0	$0
9/23/2023	Beaufort (Zone), Pamlico (Zone)	7	0/0	$0
	Total	**24**	0/0	**$127,240,000**

Source: NCEI

March 21, 2001 – Strong east-northeast winds caused minor coastal flooding along the Pamlico River in Washington and Belhaven. Numerous roads were closed in Belhaven and Washington. Water reached a few structures along the river in the vicinity of Whichards Beach. Water damage was minimal.

April 16, 2005 – A Nor'easter affected Eastern North Carolina with persistent strong wind gusts measured from near 40 mph to slightly over 60 mph. This in combination with large ocean swells resulted in sound-side flooding along western portions of the Pamlico sound including the Neuse and Trent Rivers, affecting Craven, Pamlico, and Eastern Carteret counties. Water level rises between 3 to 5 feet resulting in many road closures, and some property damage.

August 28, 2011 – Hurricane Irene made landfall during the morning of the 27th, near Cape Lookout, as a large category 1 hurricane. Due to the large size of the hurricane, strong damaging winds, major storm surge, and flooding rains were experienced across much of eastern North Carolina. Winds gusting to 90 mph resulted in major structural damage, primarily due to a 7 to 11 foot surge along the Pamlico Sound and Pamlico River. Numerous homes sustained major damage and were swept away in the Jarvis landing residential and Aurora Ferry landing areas. A 9 to 11 foot sound-side surge occurred across eastern Pamlico County. In Carteret County, surges of 4 to 7 feet, highest at South River, flooded numerous homes and Businesses with major structural damage. In Craven County, 8 to 10 foot surges occurred across the lower reaches of the Neuse River at Adams, Clubfoot, Hancock, and Slocum Creeks.

September 23, 2023 – Hurricane Ophelia caused significant storm surge flooding along the Neuse, Pamlico, and Pungo Rivers. Inundation began in New Bern as strong persistent northeast winds well ahead of Ophelia pushed water up the Neuse and Trent Rivers during the early evening hours. Water levels peaked around 9pm with values around 4 feet above ground level near the New Bern waterfront. In the Arapahoe area the Neuse River rose to a height of around 4.7 feet above ground level along China Grove Rd. In Bayboro, water levels rose to 3 to 4 feet above ground level, while Hobucken observed water level rises between 2 to 3 feet above ground level. Belhaven experienced 3-4 ft above ground level surge. NWS survey teams found 4-5 ft. above ground level storm surge at Belhaven Beach and in the Town of Bath. In Washington Park and Washington, NWS Storm Survey teams found evidence of 5-6 ft above ground level storm surge.

PROBABILITY OF FUTURE OCCURRENCE

By definition, SFHAs are those areas that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. Properties located in these areas have a 26 percent chance of flooding over the life of a 30-year mortgage. The Shaded X Zone indicates areas that are estimated to be inundated by the flood event having a 0.2-percent chance of being equaled or exceeded in any given year. The SFHA and the Shaded X zone indicate areas of high and moderate risk according to FEMA guidelines; however, this does not mean that flood risk is limited to these areas. The Region is also at risk to other magnitudes of flooding and other types of flooding, such as stormwater floods, storm surge, and other tidal flooding, which have varying probabilities.

According to past records, all counties in the region have between 70% to 100% likelihood of experiencing flooding in any given year. The HMPC felt that based on past events and potential for changes to future flooding, the probability of flooding should be rated as highly likely for the Region as a whole. However, exposure to flood hazards varies across jurisdictions, and probability of flooding is lower in those jurisdictions without any land in the SFHA, which includes Cove City, Dover, and Arapahoe.

Probability: 4 – Highly Likely

CLIMATE CHANGE

Per the Fifth National Climate Assessment, frequency and intensity of heavy precipitation events is expected to increase across the country. Additionally, increased levels of rainfall, temperatures, sea level rise, and land cover change can exacerbate flood risks and are expected to occur throughout the southeast. Therefore, with more rainfall falling in more intense incidents, the region may experience more frequent flash flooding. Increased flooding may also result from more intense tropical cyclone; researchers have noted the occurrence of more intense storms bringing greater rainfall totals, a trend that is expected to continue as ocean and air temperatures rise.

VULNERABILITY ASSESSMENT

METHODOLOGIES AND ASSUMPTIONS

Population and property at risk to flooding were estimated using data from the NCEM's IRISK database, compiled in NCEM's Risk Management Tool. Effective FEMA DFIRM data was used to identify flood hazard areas.

As a subset of the building vulnerability analysis, exposure of pre-FIRM structures was also estimated. Table 4.47 below provides the NFIP entry date for each participating jurisdiction, which was used to determine which buildings were constructed pre-FIRM. Pre-FIRM structures are those built prior to the adoption of flood protection building standards and are therefore assumed to be at greater risk to the flood hazard.

Table 4.47 – NFIP Entry Dates

NFIP Entry Date	Jurisdiction
12/01/72	Town of Beaufort
11/22/76	Town of Washington Park
02/02/77	City of Washington
02/16/77	Town of Morehead City
03/15/77	Town of Atlantic Beach
04/01/77	Town of Cape Carteret, Town of Emerald Isle
05/16/77	Town of Belhaven
05/15/78	Town of Newport
09/28/79	Town of Pine Knoll Shores
05/15/80	Carteret County (Unincorporated Area), Town of Bogue, Town of Cedar Point
03/04/85	Town of Indian Beach
08/05/85	Town of Pantego, Town of Alliance, Town of Minnesott Beach
09/04/85	Pamlico County (Unincorporated Area), Town of Grantsboro
12/04/85	Town of Bayboro, Town of Mesic, Town of Oriental, Town of Stonewall, Town of Vandemere
01/03/86	Town of Aurora
08/19/86	Town of River Bend
02/04/87	Beaufort County (Unincorporated Area), Town of Bath
05/04/87	Town of Vanceboro, Craven County (Unincorporated Area), City of Havelock, City of New Bern, Town of Bridgeton
09/08/99	Town of Trent Woods
05/15/03	Town of Chocowinity
07/16/03	Town of Peletier
07/02/04	Town of Cove City, Town of Dover, Town of Arapahoe

Source: Federal Emergency Management Agency Community Status Book Report: Communities Participating in the National Flood Program, August 2013

Pre-FIRM structures are those built before a community's NFIP entry date, while those built after the entry date are post-FIRM. Only year built data was available for buildings rather than exact construction dates, so the following methodology was used to estimate the number of pre-FIRM buildings: If the NFIP entry date for a given community is between January and June, buildings constructed the same year

as the entry date are considered to be post-FIRM (e.g., if the NFIP entry date is 02/01/1991, buildings constructed in 1990 and before are pre-FIRM. Buildings constructed from 1991 to the present are post-FIRM.). If the NFIP entry date is between July and December, then the following year applies for the year built cut-off (e.g., if the NFIP entry date is 12/18/2007, buildings constructed in the year 2007 and before are pre-FIRM, 2008 and newer are post-FIRM).

PEOPLE

Flood events pose many threats to public health and safety. While such problems are often not reported, three general types of health hazards accompany floods: physical hazards from the water itself, environmental hazards in the aftermath of the flood, and long-term psychological hazards. These common health and safety hazards are detailed below:

- **Contaminated water**: Floodwaters carry anything that was on the ground that the upstream runoff picked up, including dirt, oil, animal waste, and lawn, farm and industrial chemicals. Pastures and areas where farm animals are kept or where their wastes are stored can contribute polluted waters to the receiving streams. Floodwaters also saturate the ground, which leads to infiltration into sanitary sewer lines, or wastewater treatment plants may be flooded or over loaded. When wastewater treatment plants are flooded, there is nowhere for the sewage to flow. Infiltration and lack of treatment can lead to overloaded sewer lines that can back up into low-lying areas and homes. Even when it is diluted by flood waters, raw sewage can be a breeding ground for bacteria such as E.coli and other disease causing agents. Private sewer and septic systems may also introduce pollutants into floodwaters. Private wells may become contaminated through infiltration of polluted water. Given the many potential sources of contamination, direct or indirect contact with floodwaters poses a significant health risk for contraction of infectious disease.
- **Debris**: During a flood, debris carried by floodwaters can cause physical injury from impact. During the recovery process, people may often need to clear debris out of their properties but may encounter dangers such as sharp materials or rusty nails that pose a risk of tetanus.
- **Unsafe food**: If floodwaters come into contact with food items, that food may no longer be safe for consumption due to the potential contaminants in the floodwaters. Foods stored in cardboard, plastic bags, jars, bottles, and paper packaging may all be subject to contamination. Even if foods don't come into direct contact with floodwaters, the introduction of mold and mildew from flooding may cause foods to spoil faster. Additionally, power outages may cause refrigerated and frozen foods to spoil.
- **Mosquitos and animals**: After most of the water has receded, stagnant pools can become breeding grounds for mosquitoes, which may carry infectious diseases such as West Nile virus or St. Louis encephalitis. Wild animals such as snakes or rodents may carried by floodwaters or lose their habitat and seek shelter in buildings. Snakes may also be swimming in floodwaters seeking higher ground. People may be at risk for bites or disease if they come in contact with these animals or animal carcasses.
- **Mold and mildew**: Areas of a building that were exposed to excessive moisture can breed mold and mildew. Molds can start to grow in only 24 to 48 hours and will continue to grow without steps to dry out and disinfect the affected surface. Some molds are allergens, while others can produce harmful mycotoxins. Exposure to mold can cause respiratory problems; nasal and sinus congestion; eye, nose, and throat irritation; aches and pains; and effects on the nervous system. Infants, children, immunocompromised individuals, elderly adults, pregnant women, and individuals with respiratory conditions are all at higher risk.
- **Reentering a flooded building**: Health hazards may occur when heating ducts in a forced air system are not properly cleaned after inundation. When the furnace or air conditioner is turned on, the sediments left in the ducts are circulated throughout the building and breathed in by the occupants. If

the public water systems lose pressure, public water supplies may be contaminated, and a boil order may be issued to protect people and animals from contaminated water.

— **Mental stress**: Long-term psychological impacts can result after having been through a flood and seeing one's home damaged and personal belongings destroyed. The cost and labor needed to repair a flood-damaged home can also put a severe strain on people, especially individuals who were unprepared and uninsured. There is also a long-term problem for those who know that their homes can be flooded again. The resulting stress on floodplain residents takes its toll in the form of aggravated physical and mental health problems.

Floods can also result in fatalities. Individuals face particularly high risk when driving through flooded streets. NCEI reports one death directly caused by flooding in the Region in the last 25 years.

Table 4.48 details the population at risk from various magnitudes of flood events, according to data from the NCEM IRISK database. Populations counts are summarized by county. Table 4.49 details each jurisdiction's vulnerability to the 1%-annual-chance flood event. See the plan annexes for more detailed vulnerability information by jurisdiction.

Table 4.48 – Population Impacted by Flood Event

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	% of Total		Number	% of Total		Number	% of Total
10-Year Event									
Beaufort County	46,112	3,109	6.7%	11,014	743	1.6%	2,254	156	0.3%
Carteret County	78,139	7,125	9.1%	18,976	1,712	2.2%	3,254	306	0.4%
Craven County	105,692	2,815	2.7%	21,180	602	0.6%	6,467	167	0.2%
Pamlico County	13,067	2,007	15.4%	3,945	611	4.7%	376	57	0.4%
Region Total	**243,010**	**15,056**	**6.2%**	**55,115**	**3,668**	**1.5%**	**12,351**	**686**	**0.3%**
25-Year Event									
Beaufort County	46,112	5,361	11.6%	11,014	1,290	2.8%	2,254	261	0.6%
Carteret County	78,139	12,559	16.1%	18,976	3,051	3.9%	3,254	526	0.7%
Craven County	105,692	8,128	7.7%	21,180	1,747	1.7%	6,467	479	0.5%
Pamlico County	13,067	3,256	24.9%	3,945	990	7.6%	376	94	0.7%
Region Total	**243,010**	**29,304**	**12.1 %**	**55,115**	**7,078**	**2.9%**	**12,351**	**1,360**	**0.6%**
50-Year Event									
Beaufort County	46,112	6,850	14.9%	11,014	1,649	3.6%	2,254	334	0.7%
Carteret County	78,139	16,897	21.6%	18,976	4,125	5.3%	3,254	703	0.9%
Craven County	105,692	12,277	11.6%	21,180	2,628	2.5%	6,467	724	0.7%
Pamlico County	13,067	4,083	31.2%	3,945	1,241	9.5%	376	116	0.9%
Region Total	**243,010**	**40,107**	**16.5%**	**55,115**	**9,643**	**4.0%**	**12,351**	**1,877**	**0.8%**
100-Year Event									
Beaufort County	46,112	6,850	14.9%	11,014	1,649	3.6%	2,254	334	0.7%
Carteret County	78,139	16,897	21.6%	18,976	4,125	5.3%	3,254	703	0.9%
Craven County	105,692	12,277	11.6%	21,180	2,628	2.5%	6,467	724	0.7%
Pamlico County	13,067	4,869	37.3%	3,945	1,480	11.3%	376	138	1.1%
Region Total	**243,010**	**51,942**	**21.4%**	**55,115**	**12,465**	**5.1%**	**12,351**	**2,446**	**1.0%**

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	% of Total		Number	% of Total		Number	% of Total
500-Year Event									
Beaufort County	46,112	9,894	21.5%	11,014	2,379	5.2%	2,254	482	1.0%
Carteret County	78,139	25,939	33.2%	18,976	6,391	8.2%	3,254	1,073	1.4%
Craven County	105,692	22,335	21.1%	21,180	4,809	4.6%	6,467	1,301	1.2%
Pamlico County	13,067	5,749	44.0%	3,945	1,746	13.4%	376	162	1.2%
Region Total	**243,010**	**63,917**	**26.3%**	**55,115**	**15,325**	**6.3%**	**12,351**	**3,018**	**1.2%**

Source: NCEM Risk Management Tool

Table 4.49 – Population Impacted by the 100-Year Flood Event

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	% of Total		Number	% of Total		Number	% of Total
Beaufort									
Unincorporated Beaufort County	33,905	5,793	17.1%	8,207	1,402	4.1%	1,523	260	0.8%
City of Washington	11,124	2,167	19.5%	2,514	490	4.4%	684	133	1.2%
Town of Aurora	104	25	24.0%	27	7	6.7%	4	1	1.0%
Town of Bath	242	4	1.7%	69	1	0.4%	13	0	0.0%
Town of Belhaven	441	422	95.7%	129	123	27.9%	15	14	3.2%
Town of Chocowinity	116	0	0.0%	25	0	0.0%	5	0	0.0%
Town of Pantego	12	3	25.0%	2	0	0.0%	1	0	0.0%
Town of Washington Park	168	69	41.1%	41	17	10.1%	9	4	2.4%
Subtotal Beaufort	**46,112**	**8,483**	**18.4%**	**11,014**	**2,040**	**4.4%**	**2,254**	**412**	**0.9%**
Carteret									
Unincorporated Carteret County	34,687	13,531	39.0%	8,258	3,221	9.3%	1,409	550	1.6%
Town of Atlantic Beach	856	301	35.2%	349	123	14.4%	6	2	0.2%
Town of Beaufort	3,815	1,375	36.0%	1,094	394	10.3%	141	51	1.3%
Town of Bogue	795	81	10.2%	140	14	1.8%	42	4	0.5%
Town of Cape Carteret	1,647	248	15.1%	385	58	3.5%	85	13	0.8%
Town of Cedar Point	2,174	288	13.2%	516	68	3.1%	112	15	0.7%
Town of Emerald Isle	3,275	341	10.4%	1,005	105	3.2%	116	12	0.4%
Town of Indian Beach	340	150	44.1%	140	62	18.2%	8	4	1.2%

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	% of Total		Number	% of Total		Number	% of Total
Town of Morehead City	19,390	4,104	21.2%	4,680	991	5.1%	979	207	1.1%
Town of Newport	9,170	869	9.5%	1,730	164	1.8%	303	29	0.3%
Town of Peletier	617	51	8.3%	113	9	1.5%	21	2	0.3%
Town of Pine Knoll Shores	1,373	231	16.8%	566	95	6.9%	32	5	0.4%
Subtotal Carteret	**78,139**	**21,570**	**27.6%**	**18,976**	**5,304**	**6.8%**	**3,254**	**894**	**1.1%**
Craven									
Unincorporated Craven County	64,150	9,558	14.9%	12,919	1,925	3.0%	3,779	563	0.9%
City of Havelock	8,226	42	0.5%	425	2	0.0%	775	4	0.0%
City of New Bern	26,554	6,190	23.3%	5,735	1,337	5.0%	1,705	397	1.5%
Town of Bridgeton	147	118	80.3%	28	23	15.6%	11	9	6.1%
Town of Cove City	21	0	0.0%	5	0	0.0%	3	0	0.0%
Town of Dover	31	0	0.0%	8	0	0.0%	4	0	0.0%
Town of River Bend	1,852	496	26.8%	616	165	8.9%	34	9	0.5%
Town of Trent Woods	4,633	613	13.2%	1,425	188	4.1%	153	20	0.4%
Town of Vanceboro	78	3	3.8%	19	1	1.3%	3	0	0.0%
Subtotal Craven	**105,692**	**17,020**	**16.1%**	**21,180**	**3,641**	**3.4%**	**6,467**	**1,002**	**0.9%**
Pamlico									
Unincorporated Pamlico County	11,911	4,568	38.4%	3,592	1,378	11.6%	331	127	1.1%
Town of Alliance	159	29	18.2%	37	7	4.4%	8	1	0.6%
Town of Arapahoe	118	0	0.0%	37	0	0.0%	5	0	0.0%
Town of Bayboro	144	63	43.8%	34	15	10.4%	7	3	2.1%
Town of Grantsboro	198	2	1.0%	44	0	0.0%	7	0	0.0%
Town of Mesic	17	15	88.2%	5	4	23.5%	0	0	0.0%
Town of Minnesott Beach	128	1	0.8%	40	0	0.0%	4	0	0.0%
Town of Oriental	295	140	47.5%	116	55	18.6%	12	6	2.0%
Town of Stonewall	73	34	46.6%	32	15	20.5%	2	1	1.4%
Town of Vandemere	24	17	70.8%	8	6	25.0%	0	0	0.0%
Subtotal Pamlico	**13,067**	**4,869**	**37.3%**	**3,945**	**1,480**	**11.3%**	**376**	**138**	**1.1%**
Region Total	**243,010**	**51,942**	**21.4%**	**55,115**	**12,465**	**5.1%**	**12,351**	**2,446**	**51,942**

Source: NCEM Risk Management Tool

PROPERTY

Residential, commercial, and public buildings, as well as critical infrastructure such as transportation, water, energy, and communication systems may be damaged or destroyed by flood waters. The increased number of flood days and general encroachment of shoreline associated with sea level rise will likely cause additional flood-related property damage, although it is unclear exactly what this will look like. Homes, businesses, and vehicles will be susceptible to increased water damage. Homes within the areas that may be inundated will potentially be uninhabitable. Additionally, rising seas, and associated increased flood days, can overwhelm and undermine the effectiveness of stormwater drainage system and other infrastructure, such as roads and bridges.

Properties within the SFHA are estimated to have a one percent probability of being exposed to flooding equaling or exceeding the base flood during any given year. Mortgage lenders require that owners of properties with federally backed mortgages located within SFHAs maintain flood insurance policies on their properties. Consequently, newer and recently purchased properties in the community are typically insured against flooding. Regardless of insurance status, pre-FIRM properties, those built before the community's first FIRM, may be more vulnerable to flood damage because they were built prior to the enforcement of flood damage prevention regulations. These properties may be a priority for mitigation. Another mitigation priority is critical facilities located in high risk flood zones.

Table 4.50 provides counts of critical facilities by FEMA lifeline located in the SFHA and the Shaded X Zone. Details on critical facility vulnerability can be found in the community annexes.

Table 4.50 – Critical Facility Exposure to 1%-Annual-Chance Flood by Flood Zone

Facility Type	Critical Facility Count by Flood Zone			Total Facilities at Risk
	AE Zone	VE Zone	Shaded X Zone	
Communications	6	0	2	8
Energy	0	0	1	1
Food, Hydration, Shelter	26	0	24	50
Health and Medical	14	0	4	18
Safety and Security	42	0	21	63
Transportation	1	0	18	19
Water Systems	72	2	40	114
Total	**161**	**2**	**110**	**273**

Table 4.51 summarizes critical facility exposure to storm surge by FEMA lifeline and storm category according to NOAA SLOSH inundation mapping. Facilities are counted according the lowest category storm that could cause impacts based on inundation extent. There are 311 critical facilities that do not fall within any storm surge inundation area. Note that this exposure analysis does not account for facility finished floor elevation. A facility might be located within an estimated storm surge extent without being damaged by flooding.

Table 4.51 – Critical Facility Exposure to Storm Surge by Storm Category

FEMA Lifeline	Storm Intensity				
	Category 1	Category 2	Category 3	Category 4	Category 5
Communications	3	5	5	3	0
Energy	0	2	0	0	0
Food, Hydration, Shelter	4	40	67	22	24
Health and Medical	6	27	20	10	20
Safety and Security	20	53	34	26	14

FEMA Lifeline	Storm Intensity				
	Category 1	Category 2	Category 3	Category 4	Category 5
Transportation	0	19	0	0	0
Water Systems	39	71	48	32	28
Total	**72**	**217**	**174**	**93**	**86**

Table 4.52 lists critical facilities exposed to flooding from one, two, and three feet of sea level rise. Note that this exposure analysis does not account for facility finished floor elevation. A facility might be located within an estimated sea level rise extent without being damaged by flooding.

Table 4.52 – Critical Facility Exposure to Sea Level Rise

FEMA Lifeline	Facility Type/Description	Address
Communications	Carteret County Emergency Communications Tower	120 Rossevelt Blvd
1 Foot Sea Level Rise		
Water Systems	Beaufort County – Well #2A	Edgewood Drive @ the WTP
Water Systems	Beaufort County – Well #3	NC Hwy 33 at Choco Recreation Complex
2 Foot Sea Level Rise		
Water Systems	Beaufort County – Well #1	Behind marina building
Water Systems	Carteret County – Well #1	Back of campground between shed and site 55
Water Systems	Carteret County – Well #1	In wellhouse in front of treatment room
Water Systems	Carteret County – Well #1	In wellhouse behind the generator building
Health & Medical	Nursing Home Facility – Snug Harbor on Nelson Bay	272 Highway 70 East
Communications	Carteret County Emergency Communications Tower	1710 W. Fort Macon Rd
Safety & Security	Belhaven Police Department	215 East Main Street
3 Foot Sea Level Rise		
Water Systems	Carteret County – Well #2	Well farthest from facility-well inside pump house old well#2 abandoned and located 75' south of pump house
Water Systems	Carteret County – Well #2 NORTH	Off pintail ln, dirt access rd on east side
Water Systems	Carteret County – Well #1	Well is about 50' north of the bathhouse
Safety & Security	North River and Laurel Road Volunteer Fire Department	893 Merrimon Road
Water Systems	Stately Pines WWTP	
Water Systems	Town of Atlantic Beach – Well #5	West end elevated storage tank
Water Systems	Town of Beaufort – Sewer Pump Station	
Water Systems	Town of Beaufort – Sewer Pump Station	
Safety & Security	Goose Creek Island Volunteer Fire Department	5212 Lowland Road

FEMA Lifeline	Facility Type/Description	Address
Water Systems	Town of Beaufort – Sewer Pump Station	
Safety & Security	Lynn Eury Park + Police/Fire Dock	
Water Systems	Beaufort County – Well #11	7206 Canal Street
Food, Hydration, Shelter	Hog Lagoon	
Health & Medical	CareFocus Home Care	222 West Stewart Parkway, Suite 100
Health & Medical	Pungo District Hospital Corporation	202 East Water Street
Health & Medical	Pungo District Hospital	202 E. Water Street
Food, Hydration, Shelter	Pungo Christian Academy	983 West Main Street
Health & Medical	Nursing Home Facility – Harborview Health Care Center	812 Shepard Street

Table 4.53 details the property at risk and loss estimates from different magnitudes of flood events, according to data from the NCEM IRISK database. Table 4.54 details the property at risk and loss estimates from the 1%-annual-chance flood event for all jurisdictions. More details on vulnerability by jurisdiction are provided in the jurisdictional annexes.

Damage estimates for the 1% annual chance flood even total $350,569,969 across the region, which equates to a loss ratio of 1.5 percent. The loss ratio is the damage estimate divided by the total potential exposure (i.e., total value of all buildings in the planning area), displayed as a percentage of value at risk. FEMA considers loss ratios greater than 10% to be significant and an indicator a community may have more difficulties recovering from an event. It should be noted that the loss estimates from IRISK only account for damage to buildings and could be underestimated.

Table 4.53 – Buildings Impacted by Flood Event

Jurisdiction	All Buildings	Number of Pre-FIRM Buildings at Risk		Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
10-Year Flood Event															
Beaufort County	29,356	61	0.2%	1,855	6.3%	$3,600,905	0	0.0%	$0	0	0.0%	$0	1,855	6.3%	$3,600,905
Carteret County	70,090	1,735	2.5%	5,290	7.5%	$26,159,881	100	0.1%	$1,530,477	9	0.0%	$175,488	5,399	7.7%	$27,865,846
Craven County	48,254	778	1.6%	1,149	2.4%	$1,882,565	1	0.0%	$91	0	0.0%	$0	1,150	2.4%	$1,882,656
Pamlico County	10,920	1,072	9.8%	1,488	13.6%	$5,452,282	45	0.4%	$346,291	3	0.0%	$81,772	1,536	14.1%	$5,880,344
Region Total	**158,620**	**3,646**	**2.3%**	**9,782**	**6.2%**	**$37,095,633**	**146**	**0.1%**	**$1,876,859**	**12**	**0.0%**	**$257,260**	**9,940**	**6.3%**	**$39,229,751**
25-Year Flood Event															
Beaufort County	29,356	122	0.4%	3,348	11.4%	$7,267,556	3	0.0%	$5,878	0	0.0%	$0	3,351	11.4%	$7,273,434
Carteret County	70,090	3,050	4.4%	10,075	14.4%	$63,705,814	156	0.2%	$2,936,557	14	0.0%	$373,946	10,245	14.6%	$67,016,319
Craven County	48,254	2,219	4.6%	3,356	7.0%	$7,695,538	9	0.0%	$8,483	1	0.0%	$1,278,588	3,366	7.0%	$8,982,609
Pamlico County	10,920	1,590	14.6%	2,344	21.5%	$12,451,773	85	0.8%	$864,966	10	0.1%	$182,068	2,439	22.3%	$13,498,808
Region Total	**158,620**	**6,981**	**4.4%**	**19,123**	**12.1%**	**$91,120,681**	**253**	**0.2%**	**$3,815,884**	**25**	**0.0%**	**$1,834,602**	**19,401**	**12.2%**	**$96,771,170**
50-Year Flood Event															
Beaufort County	29,356	162	0.6%	4,264	14.5%	$10,494,712	24	0.1%	$29,833	2	0.0%	$6,893	4,290	14.6%	$10,531,438
Carteret County	70,090	4,051	5.8%	13,789	19.7%	$107,886,675	254	0.4%	$4,874,516	27	0.0%	$618,127	14,070	20.1%	$113,379,317
Craven County	48,254	3,353	6.9%	5,034	10.4%	$18,486,546	46	0.1%	$209,184	6	0.0%	$3,207,403	5,086	10.5%	$21,903,131
Pamlico County	10,920	1,918	17.6%	2,908	26.6%	$17,824,921	106	1.0%	$1,229,428	16	0.1%	$283,853	3,030	27.7%	$19,338,201
Region Total	**158,620**	**9,484**	**6.0%**	**25,995**	**16.4%**	**$154,692,854**	**430**	**0.3%**	**$6,342,961**	**51**	**0.0%**	**$4,116,276**	**26,476**	**16.7%**	**$165,152,087**
100-Year Flood Event															
Beaufort County	29,356	210	0.7%	5,206	17.7%	$22,498,326	83	0.3%	$329,020	3	0.0%	$34,500	5,292	18.0%	$22,861,847
Carteret County	70,090	5,434	7.8%	17,944	25.6%	$211,457,553	645	0.9%	$13,628,730	109	0.2%	$2,454,216	18,698	26.7%	$227,540,501
Craven County	48,254	4,659	9.7%	6,924	14.3%	$49,022,513	148	0.3%	$2,772,420	28	0.1%	$18,841,174	7,100	14.7%	$70,636,106
Pamlico County	10,920	2,227	20.4%	3,465	31.7%	$27,007,794	149	1.4%	$2,019,058	21	0.2%	$504,663	3,635	33.3%	$29,531,515
Region Total	**158,620**	**12,530**	**7.9%**	**33,539**	**21.1%**	**$309,986,186**	**1,025**	**0.6%**	**$18,749,228**	**161**	**0.1%**	**$21,834,553**	**34,725**	**21.9%**	**$350,569,969**

Jurisdiction	All Buildings	Number of Pre-FIRM Buildings at Risk		Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
500-Year Flood Event															
Beaufort County	29,356	254	0.9%	6,032	20.5%	$70,905,258	245	0.8%	$3,742,792	37	0.1%	$1,024,332	6,314	21.5%	$75,672,381
Carteret County	70,090	6,574	9.4%	21,695	31.0%	$465,823,592	1,109	1.6%	$39,642,692	235	0.3%	$12,942,176	23,039	32.9%	$518,408,462
Craven County	48,254	6,064	12.6%	9,071	18.8%	$123,519,847	371	0.8%	$12,150,937	69	0.1%	$36,597,754	9,511	19.7%	$172,268,537
Pamlico County	10,920	2,629	24.1%	4,149	38.0%	$54,398,590	246	2.3%	$4,576,213	31	0.3%	$1,020,233	4,426	40.5%	$59,995,035
Region Total	**158,620**	**15,521**	**9.8%**	**40,947**	**25.8%**	**$714,647,287**	**1,971**	**1.2%**	**$60,112,634**	**372**	**0.2%**	**$51,584,495**	**43,290**	**27.3%**	**$826,344,415**

Source: NCEM Risk Management Tool

Table 4.54 – Buildings Impacted by the 100-Year Flood Event

Jurisdiction	All Buildings	Number of Pre-FIRM Buildings at Risk		Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort															
Unincorporated Beaufort County	20,577	146	0.7%	3,106	15.1%	$15,432,718	29	0.1%	$120,404	0	0.0%	$0	3,135	15.2%	$15,553,123
City of Washington	5,790	23	0.4%	951	16.4%	$3,498,260	30	0.5%	$167,018	1	0.0%	$13,099	982	17.0%	$3,678,377
Town of Aurora	579	9	1.6%	111	19.2%	$326,305	0	0.0%	$0	1	0.2%	$15,071	112	19.3%	$341,376
Town of Bath	561	0	0.0%	7	1.2%	$14,157	0	0.0%	$0	0	0.0%	$0	7	1.2%	$14,157
Town of Belhaven	1,087	25	2.3%	914	84.1%	$2,960,583	24	2.2%	$41,598	1	0.1%	$6,330	939	86.4%	$3,008,511
Town of Chocowinity	398	0	0.0%	0	0.0%	$0	0	0.0%	$0	0	0.0%	$0	0	0.0%	$0
Town of Pantego	132	4	3.0%	27	20.5%	$53,120	0	0.0%	$0	0	0.0%	$0	27	20.5%	$53,120
Town of Washington Park	232	3	1.3%	90	38.8%	$213,183	0	0.0%	$0	0	0.0%	$0	90	38.8%	$213,183

Jurisdiction	All Buildings	Number of Pre-FIRM Buildings at Risk		Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Subtotal Beaufort	**29,356**	**210**	**0.7%**	**5,206**	**17.7%**	**$22,498,326**	**83**	**0.3%**	**$329,020**	**3**	**0.0%**	**$34,500**	**5,292**	**18.0%**	**$22,861,847**
Carteret															
Unincorporated Carteret County	29,284	2,485	8.5%	10,542	36.0%	$95,101,545	274	0.9%	$4,928,768	48	0.2%	$1,535,350	10,864	37.1%	$101,565,663
Town of Atlantic Beach	4,141	629	15.2%	1,375	33.2%	$21,547,848	66	1.6%	$2,140,865	3	0.1%	$93,698	1,444	34.9%	$23,782,412
Town of Beaufort	4,605	754	16.4%	1,488	32.3%	$11,427,780	56	1.2%	$829,202	6	0.1%	$365,534	1,550	33.7%	$12,622,516
Town of Bogue	642	8	1.2%	55	8.6%	$1,129,102	0	0.0%	$0	0	0.0%	$0	55	8.6%	$1,129,102
Town of Cape Carteret	1,763	57	3.2%	232	13.2%	$4,282,009	0	0.0%	$0	2	0.1%	$30,971	234	13.3%	$4,312,980
Town of Cedar Point	1,915	86	4.5%	227	11.9%	$2,840,103	14	0.7%	$275,804	1	0.1%	$44,950	242	12.6%	$3,160,857
Town of Emerald Isle	7,154	66	0.9%	719	10.1%	$19,753,722	4	0.1%	$66,847	0	0.0%	$0	723	10.1%	$19,820,569
Town of Indian Beach	1,138	384	33.7%	475	41.7%	$1,116,991	7	0.6%	$90,962	0	0.0%	$0	482	42.4%	$1,207,954
Town of Morehead City	10,811	779	7.2%	1,943	18.0%	$42,960,921	212	2.0%	$4,740,210	45	0.4%	$254,706	2,200	20.3%	$47,955,837
Town of Newport	5,441	87	1.6%	458	8.4%	$6,766,087	9	0.2%	$507,363	3	0.1%	$126,506	470	8.6%	$7,399,956
Town of Peletier	943	14	1.5%	71	7.5%	$1,092,946	0	0.0%	$0	0	0.0%	$0	71	7.5%	$1,092,946
Town of Pine Knoll Shores	2,253	85	3.8%	359	15.9%	$3,438,499	3	0.1%	$48,709	1	0.0%	$2,501	363	16.1%	$3,489,709
Subtotal Carteret	**70,090**	**5,434**	**7.8%**	**17,944**	**25.6%**	**$211,457,553**	**645**	**0.9%**	**$13,628,730**	**109**	**0.2%**	**$2,454,216**	**18,698**	**26.7%**	**$227,540,501**
Craven															
Unincorporated Craven County	5,417	17	0.3%	25	0.5%	$75,737	1	0.0%	$938	2	0.0%	$18,203,250	28	0.5%	$18,279,925
City of Havelock	13,049	2,327	17.8%	2,687	20.6%	$23,469,540	75	0.6%	$2,010,332	22	0.2%	$543,405	2,784	21.3%	$26,023,276
City of New Bern	24,876	1,636	6.6%	3,343	13.4%	$16,998,284	62	0.2%	$679,855	3	0.0%	$30,723	3,408	13.7%	$17,708,862
Town of Bridgeton	326	180	55.2%	195	59.8%	$701,690	10	3.1%	$81,295	1	0.3%	$63,796	206	63.2%	$846,781

Jurisdiction	All Buildings	Number of Pre-FIRM Buildings at Risk		Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Town of Cove City	294	0	0.0%	0	0.0%	$0	0	0.0%	$0	0	0.0%	$0	0	0.0%	$0
Town of Dover	299	0	0.0%	0	0.0%	$0	0	0.0%	$0	0	0.0%	$0	0	0.0%	$0
Town of River Bend	1,553	253	16.3%	410	26.4%	$5,739,669	0	0.0%	$0	0	0.0%	$0	410	26.4%	$5,739,669
Town of Trent Woods	1,918	235	12.3%	248	12.9%	$1,991,659	0	0.0%	$0	0	0.0%	$0	248	12.9%	$1,991,659
Town of Vanceboro	522	11	2.1%	16	3.1%	$45,934	0	0.0%	$0	0	0.0%	$0	16	3.1%	$45,934
Subtotal Craven	**48,254**	**4,659**	**9.7%**	**6,924**	**14.3%**	**$49,022,513**	**148**	**0.3%**	**$2,772,420**	**28**	**0.1%**	**$18,841,174**	**7,100**	**14.7%**	**$70,636,106**
Pamlico															
Unincorporated Pamlico County	6,428	1,371	21.3%	2,231	34.7%	$15,778,672	96	1.5%	$982,145	8	0.1%	$211,217	2,335	36.3%	$16,972,033
Town of Alliance	577	75	13.0%	90	15.6%	$140,010	0	0.0%	$0	0	0.0%	$0	90	15.6%	$140,010
Town of Arapahoe	430	0	0.0%	0	0.0%	$0	0	0.0%	$0	0	0.0%	$0	0	0.0%	$0
Town of Bayboro	515	146	28.3%	178	34.6%	$1,865,053	14	2.7%	$399,868	2	0.4%	$95,863	194	37.7%	$2,360,784
Town of Grantsboro	584	0	0.0%	4	0.7%	$3,958	0	0.0%	$0	0	0.0%	$0	4	0.7%	$3,958
Town of Mesic	186	119	64.0%	153	82.3%	$354,828	2	1.1%	$6,373	1	0.5%	$3,424	156	83.9%	$364,625
Town of Minnesott Beach	403	2	0.5%	2	0.5%	$21,525	0	0.0%	$0	0	0.0%	$0	2	0.5%	$21,525
Town of Oriental	1,378	316	22.9%	595	43.2%	$6,629,851	24	1.7%	$459,992	1	0.1%	$25,302	620	45.0%	$7,115,146
Town of Stonewall	227	95	41.9%	92	40.5%	$813,373	9	4.0%	$93,594	1	0.4%	$36,921	102	44.9%	$943,888
Town of Vandemere	192	103	53.6%	120	62.5%	$1,400,524	4	2.1%	$77,086	8	4.2%	$131,936	132	68.8%	$1,609,546
Subtotal Pamlico	**10,920**	**2,227**	**20.4%**	**3,465**	**31.7%**	**$27,007,794**	**149**	**1.4%**	**$2,019,058**	**21**	**0.2%**	**$504,663**	**3,635**	**33.3%**	**$29,531,515**
Region Total	**158,620**	**12,530**	**0**	**33,539**	**21.1%**	**$309,986,186**	**1,025**	**0.6%**	**$18,749,228**	**161**	**0.1%**	**$21,834,553**	**34,725**	**21.9%**	**$350,569,969**

Source: NCEM Risk Management Tool

REPETITIVE LOSS ANALYSIS

A repetitive loss property is a property for which two or more flood insurance claims of more than $1,000 have been paid by the NFIP within any 10-year period since 1978. A severe repetitive loss property is classified as such if it has four or more separate claim payments of more than $5,000 each (including building and contents payments) or two or more separate claim payments (building only) where the total of the payments exceeds the current value of the property. Repetitive loss properties and severe repetitive loss properties are a priority for mitigation because they have a known flood risk and are a drain on the NFIP. An analysis of repetitive loss was completed to examine flood vulnerability within the Region.

According to February 2024 FEMA records, there are a total of 4,650 repetitive loss properties within the Pamlico Sound Region, of which 4,422 are residential and 228 are non-residential. Approximately 64 percent of repetitive loss properties in the region are currently insured. There are 564 properties on the list classified as severe repetitive loss properties.

Table 4.55 summarizes repetitive loss properties by jurisdiction as identified by FEMA through the NFIP. Jurisdictions without any repetitive losses are not listed in the table.

Table 4.55 – Repetitive Loss Properties by Jurisdiction, February 2024

Jurisdiction	Total RL Properties	Total Number of Losses	Percent Insured	Occupancy Type		Count of SRL Properties
				Residential	Non-Residential	
Beaufort						
Unincorporated Beaufort County	942	3,227	57%	925	17	180
City of Washington	235	780	40%	195	40	38
Town of Aurora	2	4	100%	2	0	0
Town of Bath	5	17	60%	4	1	1
Town of Belhaven	366	1,456	56%	307	59	70
Town of Chocowinity	1	3	100%	1	0	0
Town of Pantego	3	6	66%	3	0	0
Town of Washington Park	78	312	74%	78	0	14
Carteret						
Unincorporated Carteret County	632	1,849	56%	604	28	67
Town of Atlantic Beach	116	413	64%	106	10	28
Town of Beaufort	19	56	68%	18	1	1
Town of Bogue	2	9	100%	2	0	0
Town of Cape Carteret	18	60	44%	17	1	3
Town of Cedar Point	25	97	72%	24	1	8
Town of Emerald Isle	125	351	67%	122	3	9
Town of Indian Beach	1	2	100%	1	0	0
Town of Morehead City	40	112	60%	33	7	3
Town of Pine Knoll Shores	21	44	43%	20	1	1
Craven						
Unincorporated Craven County	466	1,264	77%	458	8	37
City of Havelock	22	61	59%	21	1	1
City of New Bern	273	808	75%	263	10	20
Town of Bridgeton	16	48	69%	16	0	2

Jurisdiction	Total RL Properties	Total Number of Losses	Percent Insured	Occupancy Type		Count of SRL Properties
				Residential	Non-Residential	
Town of River Bend	153	453	82%	153	0	8
Town of Trent Woods	44	125	89%	43	1	3
Pamlico						
Unincorporated Pamlico County	568	1,469	69%	558	10	35
Town of Bayboro	13	30	77%	13	0	0
Town of Mesic	16	40	69%	16	0	0
Town of Minnesott Beach	2	5	50%	2	0	0
Town of Oriental	390	1,067	77%	367	23	27
Town of Stonewall	7	19	29%	7	0	2
Town of Vandemere	49	144	55%	43	6	6
Total Region	**4,650**	**14,331**	**64%**	**4,422**	**228**	**564**

Source: FEMA, February 2024
Note: RL = Repetitive Loss; SRL = Severe Repetitive Loss

ENVIRONMENT

During a flood event, chemicals and other hazardous substances may end up contaminating local water bodies. HMPC members from Pamlico County noted that Hurricane Florence caused fuel or some other hazardous substance to wash ashore and affect a large area in Hobucken.

Flooding kills animals and in general disrupts the ecosystem. Snakes and insects may also make their way to the flooded areas.

Floods can also cause significant erosion, which can alter streambanks and deposit sediment, changing the flow of streams and rivers and potentially reducing the drainage capacity of those waterbodies.

CONSEQUENCE ANALYSIS

Table 4.56 summarizes the potential detrimental consequences of flood.

Table 4.56 – Consequence Analysis - Flood

Category	Consequences
Public	Localized impact expected to be severe for incident areas and moderate to light for other adversely affected areas.
Responders	First responders are at risk when attempting to rescue people from their homes. They are subject to the same health hazards as the public. Flood waters may prevent access to areas in need of response or the flood may prevent access to the critical facilities themselves which may prolong response time. Damage to personnel will generally be localized to those in the flood areas at the time of the incident and is expected to be limited.
Continuity of Operations (including Continued Delivery of Services)	Floods can severely disrupt normal operations, especially when there is a loss of power. Damage to facilities in the affected area may require temporary relocation of some operations. Localized disruption of roads, facilities, and/or utilities caused by incident may postpone delivery of some services.

Category	Consequences
Property, Facilities and Infrastructure	Buildings and infrastructure, including transportation and utility infrastructure, may be damaged or destroyed. Impacts are expected to be localized to the area of the incident. Severe damage is possible.
Environment	Chemicals and other hazardous substances may contaminate local water bodies. Wildlife and livestock deaths possible. The localized impact is expected to be severe for incident areas and moderate to light for other areas affected by the flood or HazMat spills. Flood may also adversely affect water quality by increasing nutrient and sediment loads in waterbodies.
Economic Condition of the Jurisdiction	Local economy and finances will be adversely affected, possibly for an extended period of time. During floods (especially flash floods), roads, bridges, farms, houses and automobiles are destroyed. Additionally, the local government must deploy firemen, police and other emergency response personnel and equipment to help the affected area. It may take years for the affected communities to be re-built and business to return to normal.
Public Confidence in the Jurisdiction's Governance	Ability to respond and recover may be questioned and challenged if planning, response, and recovery are not timely and effective.

HAZARD SUMMARY BY JURISDICTION

The following table summarizes flood hazard risk by jurisdiction. Warning time and duration are inherent to the hazard. Spatial extent was assigned according to the amount of area within the SFHA, adjusted in some cases based on the understanding that other sources of flooding and other levels of flooding may occur beyond the SFHA. Due to the coastal geography of the region, flood risk due to storm surge, high tide flooding, flash flooding, and stormwater flooding can impact the region; an impact rating of critical was assigned uniformly across the region. Communities were assigned a probability of likely unless they have no area in the SFHA, in which case probability was lowered to possible.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Beaufort County	4	3	3	3	3	3.3	H
City of Washington	4	3	3	3	3	3.3	H
Town of Aurora	4	3	3	3	3	3.3	H
Town of Bath	4	3	4	3	3	3.5	H
Town of Belhaven	4	3	4	3	3	3.5	H
Town of Chocowinity	4	3	2	3	3	3.1	H
Town of Pantego	4	3	3	3	3	3.3	H
Town of Washington Park	4	3	4	3	3	3.5	H
Carteret County	4	3	4	3	3	3.5	H
Town of Atlantic Beach	4	3	4	3	3	3.5	H
Town of Beaufort	4	3	4	3	3	3.5	H
Town of Bogue	4	3	3	3	3	3.3	H
Town of Cape Carteret	4	3	3	3	3	3.3	H
Town of Cedar Point	4	3	3	3	3	3.3	H
Town of Emerald Isle	4	3	3	3	3	3.3	H
Town of Indian Beach	4	3	4	3	3	3.5	H
Town of Morehead City	4	3	3	3	3	3.3	H
Town of Newport	4	3	3	3	3	3.3	H

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Town of Peletier	4	3	3	3	3	3.3	H
Town of Pine Knoll Shores	4	3	3	3	3	3.3	H
Craven County	4	3	3	3	3	3.3	H
City of Havelock	4	3	3	3	3	3.3	H
City of New Bern	4	3	3	3	3	3.3	H
Town of Bridgeton	4	3	4	3	3	3.5	H
Town of Cove City	2	3	1	3	3	2.3	M
Town of Dover	2	3	1	3	3	2.3	M
Town of River Bend	4	3	3	3	3	3.3	H
Town of Trent Woods	4	3	3	3	3	3.3	H
Town of Vanceboro	4	3	3	3	3	3.3	H
Pamlico County	4	3	3	3	3	3.3	H
Town of Alliance	4	3	3	3	3	3.3	H
Town of Arapahoe	2	3	1	3	3	2.3	M
Town of Bayboro	4	3	3	3	3	3.3	H
Town of Grantsboro	4	3	2	3	3	3.1	H
Town of Mesic	4	3	4	3	3	3.5	H
Town of Minnesott Beach	4	3	2	3	3	3.1	H
Town of Oriental	4	3	3	3	3	3.3	H
Town of Stonewall	4	3	4	3	3	3.5	H
Town of Vandemere	4	3	4	3	3	3.5	H

4.5.6 HURRICANES & COASTAL HAZARDS

HAZARD BACKGROUND

This hazard profile includes hurricanes and nor'easters, coastal erosion, and rip currents.

HURRICANES AND NOR'EASTERS

Hurricanes and tropical storms are classified as cyclones and defined as any closed circulation developing around a low-pressure center in which the winds rotate counter-clockwise in the Northern Hemisphere (or clockwise in the Southern Hemisphere) and whose diameter averages 10 to 30 miles across. A tropical cyclone refers to any such circulation that develops over tropical waters. Tropical cyclones act as a "safety-valve," limiting the continued build-up of heat and energy in tropical regions by maintaining the atmospheric heat and moisture balance between the tropics and the pole-ward latitudes. The primary damaging forces associated with these storms are high-level sustained winds, heavy precipitation, and tornadoes.

The key energy source for a tropical cyclone is the release of latent heat from the condensation of warm water. Their formation requires a low-pressure disturbance, warm sea surface temperature, rotational force from the spinning of the earth, and the absence of wind shear in the lowest 50,000 feet of the atmosphere. The majority of hurricanes and tropical storms form in the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico during the official Atlantic hurricane season, which encompasses the months of June through November. The peak of the Atlantic hurricane season is in early to mid-September and the average number of storms that reach hurricane intensity per year in the Atlantic basin is about six.

The greatest potential for loss of life related to a hurricane is from the storm surge, which is discussed in Section 4.5.5. Damage may also result from spawned tornadoes, which are discussed in Section 4.5.7. Finally, damage during hurricanes often results from inland or riverine flooding from heavy rainfall that usually accompanies these storms. For example, Hurricane Floyd, which made landfall as a Category 2 storm, caused the worst inland flooding disaster in North Carolina's history. Rainfall amounts exceeded 20 inches in certain locales and 67 counties sustained damages. Inland flooding is discussed in section 4.5.5.

Similar to hurricanes, nor'easters are ocean storms capable of causing substantial damage to coastal areas in the Eastern United States due to their strong winds and heavy surf. Nor'easters are named for the winds that blow in from the northeast and drive the storm up the East Coast along the Gulf Stream, a band of warm water that lies off the Atlantic coast. They are caused by the interaction of the jet stream with horizontal temperature gradients and generally occur during the fall and winter months when moisture and cold air are plentiful.

Nor'easters are known for dumping heavy amounts of rain and snow, producing hurricane-force winds, and creating high surf that causes severe beach erosion and coastal flooding. There are two main components to a nor'easter: (1) a Gulf Stream low-pressure system (counter-clockwise winds) generated off the southeastern U.S. coast, gathering warm air and moisture from the Atlantic, and pulled up the East Coast by strong northeasterly winds at the leading edge of the storm; and (2) an Arctic high-pressure system (clockwise winds) which meets the low-pressure system with cold, arctic air blowing down from Canada. When the two systems collide, the moisture and cold air produce a mix of precipitation and can produce dangerously high winds and heavy seas. As the low-pressure system deepens, the intensity of the winds and waves increases and can cause serious damage to coastal areas as the storm moves northeast.

Warning Time: 1 – More than 24 hours

Duration: 3 – Less than 1 week

COASTAL EROSION

Coastal erosion is a process whereby large storms, flooding, strong wave action, sea level rise, and human activities, such as inappropriate land use, alterations, and shore protection structures, wear away the beaches and bluffs along the coast. Erosion undermines and often destroys homes, businesses, and public infrastructure and can have long-term economic and social consequences. According to NOAA, coastal erosion is responsible for approximately $500 million per year in coastal property loss in the United States, including damage to structures and loss of land. To mitigate coastal erosion, the federal government spends an average of $150 million every year on beach nourishment and other shoreline erosion control measures.

Coastal erosion has both natural causes and causes related to human activities. Gradual coastal erosion/replenishment results naturally from the impacts of tidal longshore currents. Severe coastal erosion can occur over a very short period of time when the state is impacted by hurricanes, tropical storms and other weather systems. Sand is continually removed by longshore currents in some areas but it is also continually replaced by sand carried in by the same type of currents. Structures such as piers or sea walls, jetties, and navigational inlets may interrupt the movement of sand. Sand can become "trapped" in one place by these types of structures. The currents will, of course, continue to flow, though depleted of sand trapped elsewhere. With significant amounts of sand trapped in the system, the continuing motion of currents (now deficient in sand) results in erosion. In this way, human construction activities that result in the unnatural trapping of sand have the potential to result in significant coastal erosion.

Erosion rates and potential impacts are highly localized. Severe storms can remove wide beaches, along with substantial dunes, in a single event. In undeveloped areas, high recession rates are not likely to cause significant concern, but in some heavily populated locations, one or two feet of erosion may be considered catastrophic (NOAA, 2014).

Warning Time: 1 – More than 24 hours

Duration: 4 – More than 1 week

RIP CURRENTS

Rip currents are powerful, narrow channels of seaward flowing water along the coast, extending from the shoreline to outside the surf zone. Rip currents form when there are variations in wave breaking along the beach due to the flow of water from areas with more wave breaking and corresponding higher wave setup to areas with less wave breaking and corresponding lower wave setup.

The National Weather Service (NWS) describes three major types of rip currents:

- **Bathymetrically-controlled rip currents** are those that occur at relatively fixed locations due to sandbars, submarine canyons and ridges, reefs, or other offshore features. These rip currents can be referred to as channelized or focused. Channelized currents are the most documented and well understood and occur in deep channels through shallow sandbars. Channelized rip currents are typically between 5 to 100 yards wide, 3 to 10 feet deep, and anywhere from 50 to 500 yards apart. Focused rip currents can occur along flat featureless beaches and appear as offshore directed plumes of turbulent water and sediment. These rip currents may last for days, weeks, or months.
- **Structurally-controlled rip currents** occur adjacent to man-made structures such as groins, jetties, and piers and natural features like rock outcrops.
- **Hydrodynamically-controlled rip currents** occur solely as a result of wave and current interactions, typically from waves originating from two different sources approaching the beach from different directions. These rip currents are transient and may only last for several minutes.

Warning Time: 4 – Less than 6 hours

Duration: 2 – Less than 24 hours

LOCATION

HURRICANES AND NOR'EASTERS

Hurricane and tropical storm winds and nor'easters can impact the entire Pamlico Sound Region.

Spatial Extent: 4 – Large

EROSION

Erosion can occur along any shoreline in the region. While erosion is likely to be more frequent and severe along the Atlantic coast, erosion of estuarine shorelines can also occur. In the Pamlico Sound Region, Carteret County is the location facing the greatest exposure to erosion.

Figure 4.39 on the following page shows the locations where shoreline change data to measure erosion and accretion rates along the North Carolina coast has been compiled by the USGS.

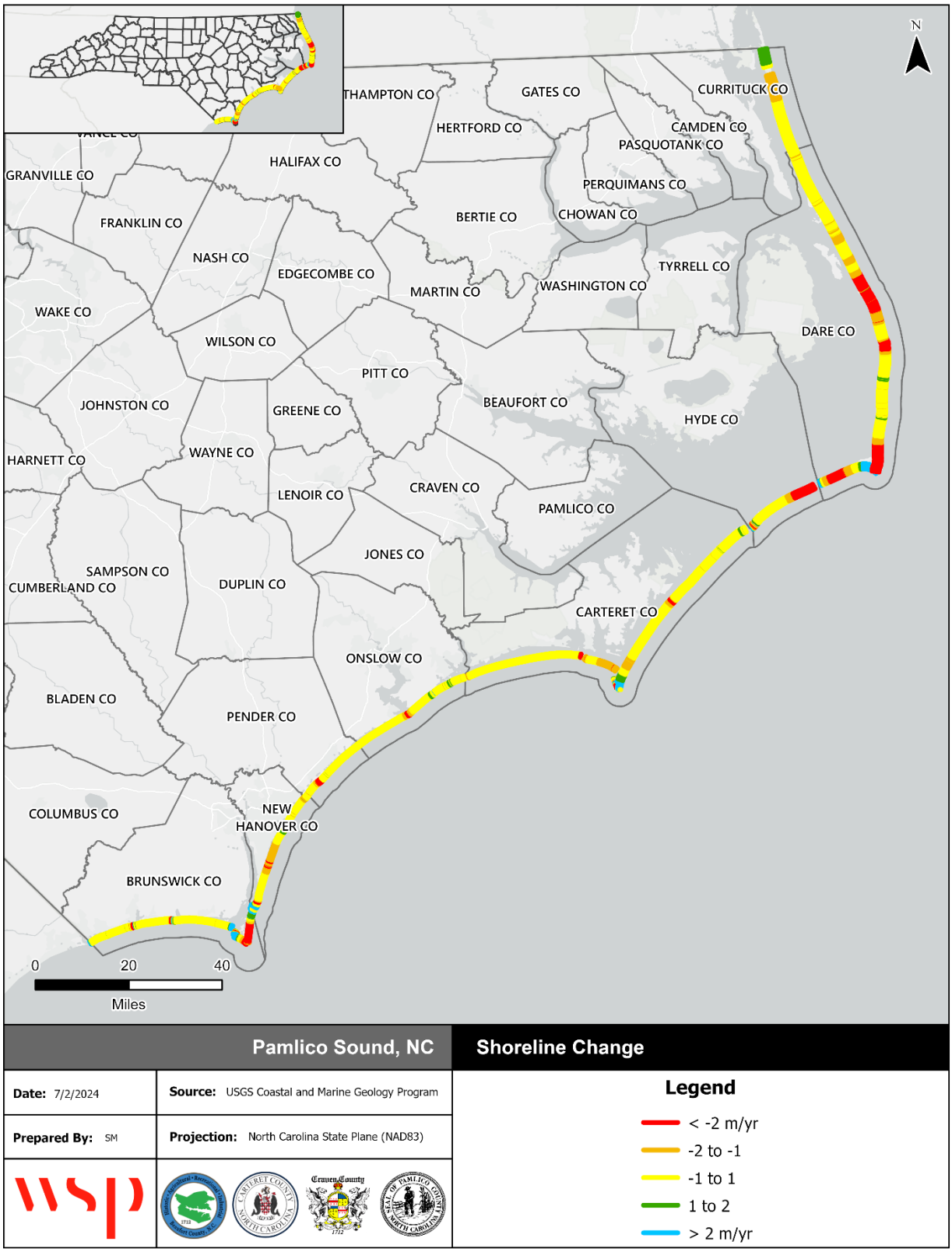
Spatial Extent: 1 – Negligible

RIP CURRENTS

Rip currents can occur along any oceanfront or area that experiences breaking waves. Only Carteret County has oceanfront shoreline areas where rip currents can occur.

Spatial Extent: 1 – Negligible

Figure 4.39 – Shoreline Change Along the North Carolina Coast



Source: USGS Coastal and Marine Geology Program

EXTENT

HURRICANES AND NOR'EASTERS

As an incipient hurricane develops, barometric pressure (measured in millibars or inches) at its center falls and winds increase. If the atmospheric and oceanic conditions are favorable, it can intensify into a tropical depression. When maximum sustained winds reach or exceed 39 miles per hour, the system is designated a tropical storm, given a name, and is closely monitored by the National Hurricane Center in Miami, Florida. When sustained winds reach or exceed 74 miles per hour the storm is deemed a hurricane.

Hurricane force winds can extend outward by about 25 miles from the eye of a small hurricane to more than 150 miles from the center of a large hurricane. Tropical storm force winds may extend even further, up to approximately 300 miles from the eye of a large hurricane. In general, the front right quadrant of a storm, relative to its direction of movement, is the most dangerous part of the storm. Wind speeds are highest in this area due to the additive impact of the atmospheric steering winds and the storm winds.

Hurricane intensity is further classified by the Saffir-Simpson Scale, detailed in Table 4.57, which rates hurricane intensity on a scale of 1 to 5, with 5 being the most intense.

Nor'easters can also be measured by their wind speeds; however, there is no designated scale for classifying the severity of nor'easters.

Located on the coast and along estuarine areas, the Pamlico Sound Region is susceptible to every category of hurricane.

Impact: 4 – Catastrophic

Table 4.57 – Saffir-Simpson Scale

Category	Maximum Sustained Wind Speed (MPH)	Types of Damage
1	74–95	Very dangerous winds will produce some damage; Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96–110	Extremely dangerous winds will cause extensive damage; Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3	111–129	Devastating damage will occur; Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4	130–156	Catastrophic damage will occur; Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5	157 +	Catastrophic damage will occur; A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Source: National Hurricane Center

The Saffir-Simpson Scale categorizes hurricane intensity linearly based upon maximum sustained winds and barometric pressure, which are combined to estimate potential damage. Categories 3, 4, and 5 are classified as “major” hurricanes and, while hurricanes within this range comprise only 20 percent of total tropical cyclone landfalls, they account for over 70 percent of the damage in the United States. Table 4.58 describes the damage that could be expected for each category of hurricane. Damage during hurricanes may also result from spawned tornadoes, storm surge, and inland flooding associated with heavy rainfall that usually accompanies these storms.

Table 4.58 – Hurricane Damage Classifications

Storm Category	Damage Level	Description of Damages	Photo Example
1	MINIMAL	No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Also, some coastal flooding and minor pier damage.	
2	MODERATE	Some roofing material, door, and window damage. Considerable damage to vegetation, mobile homes, etc. Flooding damages piers and small craft in unprotected moorings may break their moorings.	
3	EXTENSIVE	Some structural damage to small residences and utility buildings, with a minor amount of curtainwall failures. Mobile homes are destroyed. Flooding near the coast destroys smaller structures, with larger structures damaged by floating debris. Terrain may be flooded well inland.	
4	EXTREME	More extensive curtainwall failures with some complete roof structure failure on small residences. Major erosion of beach areas. Terrain may be flooded well inland.	
5	CATASTROPHIC	Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. Flooding causes major damage to lower floors of all structures near the shoreline. Massive evacuation of residential areas may be required.	

Source: National Hurricane Center; Federal Emergency Management Agency

EROSION

The magnitude of erosion can be measured as a rate of change from a measured previous condition. As part of their Digital Shoreline Analysis System version 4.3, USGS has developed short and long-term linear regression rate calculations as a metric for shoreline change, measured in meters per year.

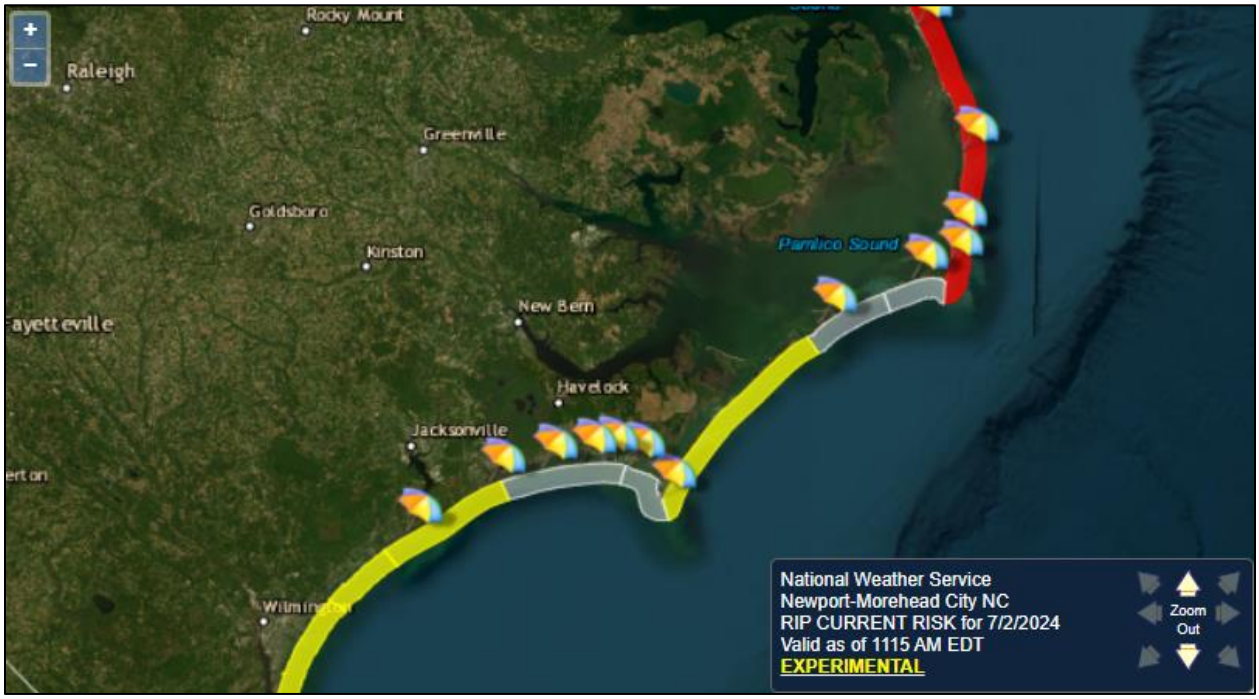
RIP CURRENTS

One measure of rip currents is the flow speed of the current. Per NWS, channelized rip currents typically flow about 1-2 feet per second and can reach up to 8 feet per second. Rip currents do not have a steady flow but can experience rip pulses for short periods of time during which flows can suddenly accelerate to more than double their normal speed. Despite these measurable features, rip currents are not typically measured and recorded in these ways. Another way to consider the magnitude of a rip current is by its impacts. The HMPC is most concerned with rip currents causing deaths, injuries, or property damages.

The National Weather Service Newport-Morehead City, NC Forecast Office provides rip current risk level warnings on an Experimental Beach Forecast Webpage, shown in Figure 4.40. This tool indicates whether a section of the beach has low, moderate, or high rip current risk based on current surf conditions. The rip current risk levels carry the following descriptions, given as warnings to beach-goers:

- **Low**: The risk of rip currents is low, however, life threatening rip currents may still occur especially near groins, jetties, reefs, and piers. Always swim near a lifeguard and remember to heed the advice of the local beach patrol and flag warning systems.
- **Moderate**: Life threatening rip currents are possible. Always swim near a lifeguard and remember to heed the advice of the local beach patrol and flag warning systems.
- **High**: Life threatening rip currents are likely. The surf zone is dangerous for all levels of swimmers. Stay out of the water. Remember to heed the advice of the local beach patrol and flag warning systems.

Figure 4.40 – NWS Rip Current Risk Level Forecast



Source: National Weather Service Experimental Beach Forecast Webpage

Overall, coastal hazards have a limited impact on the Region. Erosion events may cause property damage when severe but are unlikely to cause injury or death. Rip currents may result in injury or death in severe cases but rarely have reported property damages. Both types of events are limited to areas along the coastline and surf zone.

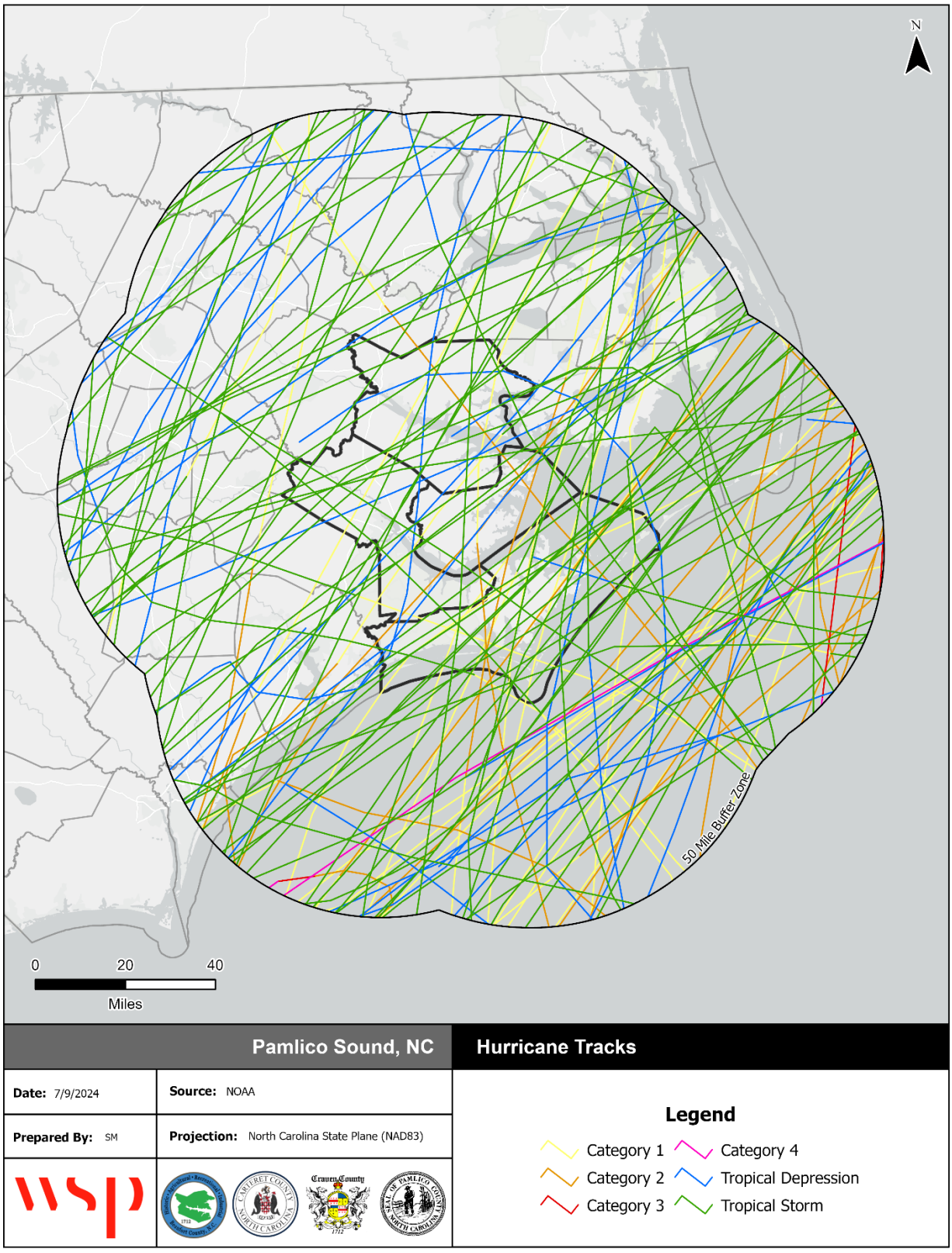
Impact: 2 – Limited

HISTORICAL OCCURRENCES

HURRICANES & NOR'EASTERS

According to the Office of Coastal Management's Tropical Cyclone Storm Segments data, which is a subset of the International Best Track Archive for Climate Stewardship (IBTrACS) dataset, 108 hurricanes and tropical storms have passed within 50 miles of the Pamlico Sound Region since 1900. These storm tracks are shown in Figure 4.41. The date, storm name, storm category, and maximum wind speed of each event are detailed in Table 4.59.

Figure 4.41 – Hurricane/Tropical Storm Tracks within 50 miles of the Pamlico Sound Region, 1900-2024



Source: NOAA Office of Coastal Management

Table 4.59 – Hurricane/Tropical Storm Tracks within 50 Miles of Pamlico Sound Region, 1900-2024

Date	Storm Name	Max Storm Category*	Max Wind Speed (mph)*
10/13/1900	Unnamed	Extratropical Storm	40
7/11/1901	Unnamed	Category 1	81
9/18/1901	Unnamed	Tropical Storm	40
6/29/1907	Unnamed	Extratropical Storm	58
5/29/1908	Unnamed	Category 1	75
7/31/1908	Unnamed	Category 1	81
7/31/1908	Unnamed	Tropical Storm	69
9/1/1908	Unnamed	Tropical Storm	52
8/28/1910	Unnamed	Extratropical Storm	46
10/20/1910	Unnamed	Tropical Storm	69
6/15/1912	Unnamed	Extratropical Storm	46
9/3/1913	Unnamed	Category 1	86
5/16/1916	Unnamed	Tropical Storm	40
9/6/1916	Unnamed	Tropical Storm	52
8/24/1918	Unnamed	Category 1	75
8/26/1924	Unnamed	Category 2	104
9/17/1924	Unnamed	Extratropical Storm	52
9/30/1924	Unnamed	Extratropical Storm	69
12/2/1925	Unnamed	Extratropical Storm	81
9/19/1928	Unnamed	Extratropical Storm	81
9/12/1930	Unnamed	Category 1	92
9/16/1932	Unnamed	Extratropical Storm	58
8/23/1933	Unnamed	Category 2	98
9/16/1933	Unnamed	Category 2	109
9/3/1934	Unnamed	Tropical Storm	46
9/8/1934	Unnamed	Category 1	92
9/6/1935	Unnamed	Tropical Storm	58
7/31/1937	Unnamed	Tropical Storm	63
10/11/1942	Unnamed	Extratropical Storm	52
10/12/1942	Unnamed	Extratropical Storm	52
8/2/1944	Unnamed	Tropical Storm	69
9/14/1944	Unnamed	Category 3	121
6/25/1945	Unnamed	Category 1	75
7/6/1946	Unnamed	Tropical Storm	52
9/25/1947	Unnamed	Extratropical Storm	40
8/24/1949	Unnamed	Category 2	109
9/12/1949	Unnamed	Tropical Storm	52
8/14/1953	Barbara	Category 1	92
5/29/1954	Unnamed	Tropical Storm	46
8/30/1954	Carol	Category 2	109
8/12/1955	Connie	Category 2	98
9/19/1955	Ione	Category 2	109
9/27/1956	Flossy	Extratropical Storm	58
10/17/1956	Unnamed	Extratropical Storm	58

Date	Storm Name	Max Storm Category*	Max Wind Speed (mph)*
9/27/1958	Helene	Category 4	138
7/10/1959	Cindy	Tropical Storm	40
8/2/1959	Unnamed	Tropical Storm	46
7/29/1960	Brenda	Tropical Storm	69
9/12/1960	Donna	Category 2	104
9/14/1961	Unnamed	Tropical Storm	40
8/28/1962	Alma	Category 1	75
9/13/1964	Dora	Tropical Storm	52
10/16/1964	Isbell	Category 1	75
9/17/1967	Doria	Tropical Storm	52
10/20/1968	Gladys	Category 1	86
8/27/1971	Doria	Tropical Storm	63
9/30/1971	Ginger	Category 1	86
6/22/1972	Agnes	Tropical Storm	52
6/29/1975	Amy	Tropical Storm	40
10/27/1975	Hallie	Tropical Storm	52
8/20/1981	Dennis	Tropical Storm	63
6/19/1982	Subtrop:Unnamed	Subtropical Storm	69
9/12/1984	Diana	Category 4	132
9/27/1985	Gloria	Category 2	104
11/22/1985	Kate	Tropical Storm	52
8/17/1986	Charley	Category 1	75
8/19/1991	Bob	Category 2	109
6/6/1995	Allison	Extratropical Storm	46
6/19/1996	Arthur	Tropical Storm	46
7/12/1996	Bertha	Category 2	104
10/8/1996	Josephine	Extratropical Storm	52
7/24/1997	Danny	Tropical Storm	46
8/27/1998	Bonnie	Category 2	109
9/4/1998	Earl	Extratropical Storm	58
9/4/1999	Dennis	Tropical Storm	69
9/16/1999	Floyd	Category 2	104
10/18/1999	Irene	Category 2	109
9/23/2000	Helene	Tropical Storm	40
9/10/2002	Gustav	Tropical Storm	63
10/12/2002	Kyle	Tropical Storm	46
9/18/2003	Isabel	Category 2	104
8/3/2004	Alex	Category 2	98
8/14/2004	Charley	Tropical Storm	69
9/14/2005	Ophelia	Category 1	86
6/14/2006	Alberto	Extratropical Storm	40
9/1/2006	Ernesto	Tropical Storm	58
6/3/2007	Barry	Extratropical Storm	46
9/9/2007	Gabrielle	Tropical Storm	58
7/20/2008	Cristobal	Tropical Storm	52

Date	Storm Name	Max Storm Category*	Max Wind Speed (mph)*
9/6/2008	Hanna	Tropical Storm	69
8/27/2011	Irene	Category 1	86
5/30/2012	Beryl	Tropical Storm	46
6/7/2013	Andrea	Extratropical Storm	46
7/4/2014	Arthur	Category 2	98
6/1/2016	Bonnie	Tropical Depression	25
6/7/2016	Colin	Extratropical Storm	52
9/3/2016	Hermine	Tropical Storm	63
9/20/2016	Julia	Tropical Depression	30
10/9/2016	Matthew	Category 1	81
8/29/2017	Not Named	Tropical Storm	37
9/14/2018	Florence	Category 2	90
9/6/2019	Dorian	Category 2	90
10/20/2019	Nestor	Tropical Storm	40
5/18/2020	Arthur	Tropical Storm	45
7/9/2020	Fay	Tropical Storm	35
8/4/2020	Isaias	Category 1	80
6/21/2021	Claudette	Tropical Storm	40
7/3/2022	Colin	Tropical Depression	29

*Reports the most intense category and wind speed that occurred within 50 miles of the Pamlico Sound Region, not for the storm event overall.
Source: Office of Coastal Management, 2024.

The above list of storms is not an exhaustive list of hurricanes that have affected the Pamlico Sound Region. Several storms, including Hurricane Irene (2011) and Hurricane Sandy, have passed further than 50 miles away from the Pamlico Sound Region yet had strong enough wind or rain impacts to affect the region. NCEI records hurricane and tropical storm events across the region by county and zone; therefore, one event that impacts all four counties in the region is recorded for each county. During the 28-year period from 1996 through 2023, NCEI records 117 hurricane and tropical storm reports across 35 separate days. These events are summarized in Table 4.60 by storm. All death, injury, and damage records were combined from all counties/zones. Where property damage estimates were broken out by type, NCEI reports only the value of wind-related damages. Event narratives following this table provide a fuller scope of the impacts from selected events.

Table 4.60 – Recorded Hurricane/Tropical Storm Winds in Pamlico Sound Region Counties, 1996-2023

Date	Storm	Deaths/ Injuries	Property Damage	Crop Damage
6/18/1996	Tropical Storm Arthur	0/0	$0	$0
7/12/1996	Hurricane Bertha	0/0	$63,250,000	$32,100,000
8/29/1996	Hurricane Eduoard	0/0	$0	$0
9/4/1996	Hurricane Fran	0/0	$223,000,000	$0
10/8/1996	Tropical Storm Josephine	0/0	$0	$0
8/26/1998	Hurricane Bonnie	0/0	$0	$0
8/30 – 9/1/1999	Hurricane Dennis	0/0	$9,100,000	$15,700,000
9/14 – 9/15/1999	Hurricane Floyd	2/0	$29,500,000	$12,200,000
10/16/1999	Hurricane Irene	1/0	$0	$0

Date	Storm	Deaths/ Injuries	Property Damage	Crop Damage
9/10/2002	Tropical Storm Gustav	0/0	$2,000	$0
9/17/2003	Hurricane Isabel	0/0	$72,100,000	$14,200,000
8/3/2004	Hurricane Alex	0/0	$45,000	$0
8/14/2004	Tropical Storm Charley	0/0	$875,000	$450,000
9/13/2005	Hurricane Ophelia	0/5	$28,450,000	$8,000,000
8/31/2006	Tropical Storm Ernesto	0/0	$185,000	$1,200,000
9/5/2008	Tropical Storm Hanna	0/0	$30,000	$0
9/2/2010	Hurricane Earl	0/0	$5,000	$0
8/26/2011	Hurricane Irene	0/0	$55,000,000	$40,000,000
10/28/2012	Hurricane Sandy	0/0	$0	$0
6/6/2013	Tropical Storm Andrea	0/0	$0	$0
7/3/2014	Hurricane Arthur	0/0	$0	$0
5/8/2015	Tropical Storm Ana	0/0	$0	$0
9/2/2016	Hurricane Hermine	0/0	$5,000	$0
10/8/2016	Hurricane Matthew	0/0	$0	$0
9/13/2018	Hurricane Florence	0/0	$34,140,000	$0
10/11/2018	Hurricane Michael	0/0	$0	$0
9/5 – 9/6/2019	Hurricane Dorian	0/0	$0	$0
8/3 – 8/4/2020	Hurricane Isaias	0/0	$0	$0
9/30/2022	Hurricane Ian	0/0	$0	$0
8/31/2023	Hurricane Idalia	0/0	$0	$0
9/22/2023	Tropical Storm Ophelia	0/0	$0	$0
	Total	**3/5**	**$646,487,000**	**$123,850,000**

Source: NCEI Storm Events Database

August 30 – September 1, 1999 – Unfortunately the hurricane approached eastern North Carolina during one of the highest astronomical tides of the month. In the New Bern area near the Trent River...6 feet of water was reported. Oriental in Pamlico County reported tides 6 to 8 feet above normal. Residents of Cedar Island in Carteret County, Ocracoke in Hyde County, and others in Pamlico County reported this was the highest water since 1933. The Cape Lookout C-Man station reported sustained winds of 70 mph with gusts to 91 mph. The greatest rainfall occurred over Carteret, southern Craven, Outer Banks Hyde, and Outer Banks Dare County. Doppler radar estimates were near 6 to 8 inches with isolated areas of 8 to 10. A Cooperative observer in Morehead City reported 7.83 inches. No tornadoes were reported and only minor fresh water flooding was reported. No fatalities were reported in direct relationship to Hurricane Dennis.

October 16, 1999 – One fatality was reported in western Beaufort County. A male was driving an automobile on Highway 264 when the vehicle hydroplaned. Craven and Lenoir Counties were obviously the most affected. River levels remained above flood stage on the Neuse River since before Hurricane Floyd. Additionally, major flooding occurred along the Swift Creek near Vanceboro back to levels similar to but not as bad as Hurricane Floyd.

September 17, 2003 – Eastern Carteret, eastern Pamlico, southern Craven, Beaufort, and Hyde counties experienced significant storm surge damage with hundreds of homes flooded in most of these counties. The highest storm surges were experienced in the lower reaches of the Neuse River where water levels rose to as high as 10.5 feet at the mouth of Adams Creek. Storm surge values ranged from 6 to 10 feet across eastern Pamlico county with the highest water levels recorded near Oriental. A 4 to 7 foot storm surge occurred across Core Sound in eastern Carteret county, except water levels rose between 8 and 10 feet along

the South River and Big Creek. Storm surge values were around 7 feet in portions of Beaufort county in Washington, and Belhaven. Virtually every business on Main Street in Belhaven was flooded with 2 to 3 feet of water. Hurricane force winds were also experienced in parts of the inland counties of Jones, Craven, and Pitt counties during the afternoon of September 18th where inland hurricane wind warnings had been in effect for 11 hours. Other counties west of the center of the storm experienced wind gusts between 60 and 65 mph.

September 13, 2005 – Highest winds and damages occurred across this area where winds gusted to near 100 mph, and storm surges of up to 6 feet resulted in structural damages totaling near 35 million dollars. The highest surge was reported along the lower reaches of the Neuse River in southern Craven County where water levels rose to 8 feet, during the night of the 14th. Minor wind damage occurred across the inland counties of Duplin, Jones, Lenoir, and Craven where tropical storm force wind gusts blew shingles off roofs, and downed trees and power lines. The combination of surge from Pamlico Sound and heavy storm total rainfall, from 4 to 9 inches, resulted in the flooding of streams, roads, and lower elevations in Beaufort, Carteret, Craven, Jones, Onslow, and Pamlico counties.

September 13, 2018 – Florence produced extensive wind damage along the North Carolina coast from Cape Lookout, across Carteret, Onslow, Pender and New Hanover counties. Thousands of downed trees caused widespread power outages to nearly all of eastern North Carolina. The historic legacy of Hurricane Florence will be record breaking storm surge of 9 to 13 feet and widespread devastating rainfall of 20 to 30 inches, locally up to 36 inches, which produced catastrophic and life-threatening flooding. The hardest hit areas included New Bern, Newport, Belhaven, Oriental, North Topsail Beach and Jacksonville, along with southeast Carteret County, or basically south of a line from Kinston to Cedar Island. A storm total rainfall of 34.00 inches was reported in Swansboro, while the NWS office in Newport recorded 25.20 inches. Wind gusts of 106 mph were reported at Cape Lookout with 105 mph at Fort Macon.

September 30, 2022 – Ian initially made landfall on the west coast of Florida as a major category 4 hurricane, and then crossed into the Atlantic and moved northward, making a second landfall on the South Carolina coast near Georgetown as a category 1 hurricane. For Eastern NC, tropical storm force winds, elevated water levels, heavy rainfall of 3 to 6 inches, and a tornado were associated with Ian.

EROSION

The Carteret County Shore Protection Office conducts annual beach monitoring along Bogue Banks, Shackleford Banks, and Bear Island under the Bogue Banks Beach and Nearshore Mapping Program. Per the Program's 2020 Annual Report, the Bogue Banks oceanfront shoreline experienced an overall average background erosion rate of -3.14 ft over the prior year. This result is lower than prior years as recovery of shorelines has taken place following Hurricane Florence. The report also notes that Atlantic Beach, Fort Macon and Emerald Isle – East continue to have the highest erosion rates of this region.

The Program's 2019 Hurricane Florence Post-Storm Impact Evaluation reports that erosion caused by the storm resulted in an average landward recession at MHW of -21.4 ft. Average volumetric losses of up to 27.2 cy/ft were noted above -5 feet, -12 feet, and -20 feet NAVD88. Phase 1 of a planned Post-Florence beach renourishment project estimated base costs at over $20.1 million.

RIP CURRENT

Rip currents are listed in NCEI's storm events database only when they cause a drowning, near-drowning, result in one or more rescues, or damage to watercraft. **Error! Reference source not found.** lists all rip current events recorded by NCEI for the Pamlico Sound Region during the 25-year period from 1999 through 2023. Only Carteret County has oceanfront shoreline where rip currents can occur.

Table 4.61 – NCEI Records of Rip Currents, 1999-2023

Location	Date	Time	Deaths	Injuries	Reported Property Damage
Atlantic	5/31/2002	1400	1	0	$0
Atlantic Beach	7/23/2002	1300	1	0	$0
Atlantic Beach	7/18/2004	800	1	0	$0
Carteret (Zone)	7/24/2006	930	1	0	$0
Carteret (Zone)	5/5/2007	900	1	0	$0
Carteret (Zone)	8/24/2010	1450	1	0	$0
Carteret (Zone)	6/1/2013	1537	1	0	$0
Carteret (Zone)	7/11/2013	800	1	0	$0
Carteret (Zone)	6/10/2017	1730	1	0	$0
Carteret (Zone)	6/10/2017	1730	1	0	$0
Carteret (Zone)	6/17/2017	1000	1	0	$0
Carteret (Zone)	6/18/2017	1000	1	0	$0
Carteret (Zone)	7/11/2017	1404	1	0	$0
Carteret (Zone)	6/15/2018	1813	1	0	$0
Carteret (Zone)	7/25/2018	1330	1	0	$0
Carteret (Zone)	5/4/2019	1523	1	0	$0
Carteret (Zone)	5/14/2019	1245	2	0	$0
Carteret (Zone)	5/21/2019	1200	1	0	$0
Carteret (Zone)	5/26/2019	1400	1	0	$0
Carteret (Zone)	7/12/2020	1500	2	0	$0
		Total	**22**	**0**	**$0**

Source: NCEI Storm Events Database

The following narratives detail selected events reported in the table above:

July 18, 2004 – Rip Currents were prevalent along the south facing beaches in Eastern North Carolina with many rescues on this day. One young woman drowned during the afternoon hours.

May 5, 2007 – A 35-year old male was pulled out to sea in a rip current and drowned near Fort Macon in Atlantic Beach. The man entered the water to try and save two children who were in distress.

June 18, 2017 – A 21-year old gentleman was reportedly attempting to save others caught in a rip current off the Atlantic Beach on Sunday June 18 has died in the hospital on June 19. This gentleman was among five people who were in distress when Atlantic Beach Fire Department responded to the unprotected section of the beach near the Doubletree Inn.

July 25, 2018 – A man was pulled from the ocean in the 9000 block of Emerald Isle. Attempts to revive him were unsuccessful. There were several other water rescues around 2PM. Approximately 10 people were pulled out of the water. Lifeguards said there was a bad rip current and strong undertow that led to the rescues. A high rip current risk was in effect and red flags were flying.

May 19, 2019 – Two swimmers were swept out in a rip current near Oceanana Pier on Atlantic Beach Tuesday afternoon (5/14). Emergency personnel responded and pulled the victims from the water and transported them to the hospital, where they later died.

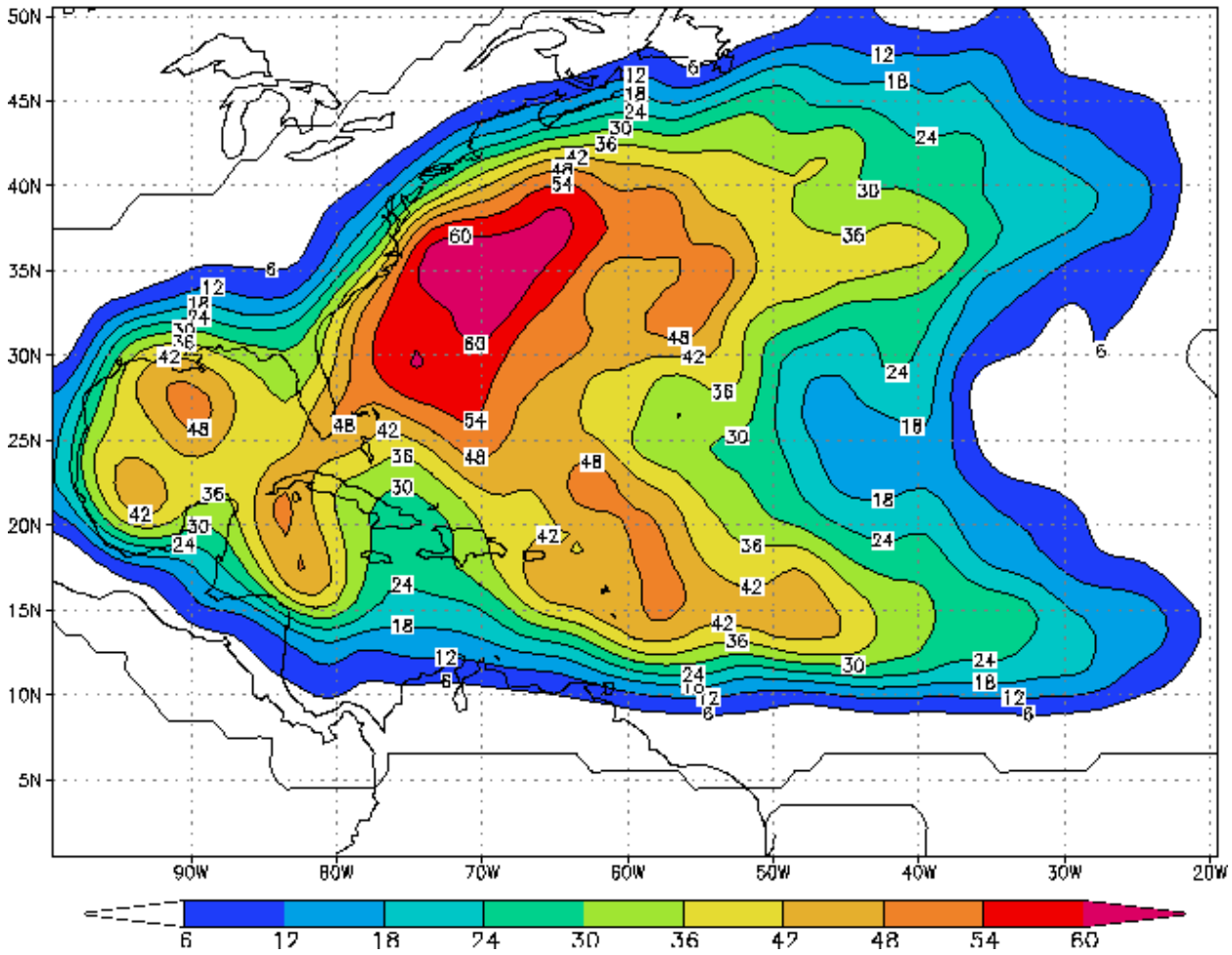
July 12, 2020 – Emerald Isle officials say two men died Sunday afternoon after drowning in the ocean. The victims were two men, from Cornelius, NC, and from Raleigh, NC. The town manager said that a 911 call was made shortly after 4 p.m. for two swimmers in distress in the area of 9901 Coast Guard Road in the beach strand near Shipwreck Lane. Four surfers and a town lifeguard went into the water and pulled

the two men to shore. Emergency personnel attempted life-saving measures but were unable to revive the men.

PROBABILITY OF FUTURE OCCURRENCE

Figure 4.42 shows, for any particular location, the chance of a hurricane or tropical storm affecting the area sometime during the Atlantic hurricane season. The figure was created by NOAA's Hurricane Research Division, using data from 1944 to 1999 and shows the number of times a storm or hurricane was located within approximately 100 miles of a given spot in the Atlantic basin. Per this data, there has been approximately a 36-48% chance of a hurricane impacting the Pamlico Sound Region in any given year.

Figure 4.42 – Empirical Probability of a Named Hurricane or Tropical Storm



Source: National Oceanic and Atmospheric Administration, Hurricane Research Division

On average, North Carolina experiences a hurricane approximately once every two years. Per NCEI records, the Pamlico Sound Region has been impacted by hurricane and tropical storm events over the 25-year period from 1999 through 2023, equating to a 100 percent annual probability of occurrence. Of these events, 14 were Category 1 strength winds or greater. Based on these occurrences, there is a 70 percent annual probability of a severe event impacting the Region. However, the HMPC felt that based on past events and potential for changes to hurricane frequency, probability should be rated as highly likely for the region.

Probability: 4 – Highly Likely

EROSION

Erosion and accretion are natural processes that are likely to continue to occur. Although data on historical erosion rates is only available for ocean shorelines, erosion is expected to continue affecting estuarine shorelines as well. The likelihood of significant instances of erosion will likely be tied to the occurrence of hurricane, tropical storm, and nor'easter events.

Probability: 4 – Highly Likely

RIP CURRENT

Rip currents are ongoing phenomena that are always occurring along ocean surf zones. Rip currents are guaranteed to continue occurring, however, of concern to the HMPC is the probability of rip currents resulting in death, injury, or property damages. NCEI records indicate there have been 22 deaths due to rip currents over a 25-year period from 1999 through 2023. This equates to an 88 percent annual probability of significant rip current impacts. Only Carteret County is exposed to rip currents

Probability: 3 – Likely

CLIMATE CHANGE

North Carolina's coastal location makes it a prime target for hurricane landfalls, and changing climate and weather conditions may increase the number and frequency of future hurricane events. Hurricanes and other coastal storms may result in increased flooding, injuries, deaths, and extreme property loss. According to the US Government Accountability Office, national storm losses from changing frequency and intensity of storms is projected to increase anywhere from $4-6 billion in the near future.

According to NOAA, weather extremes will likely cause more frequent, stronger storms in the future due to rising surface temperatures. NOAA models predict that while there may be less frequent, low-category storm events (Tropical Storms, Category 1 Hurricanes), there will be more, high-category storm events (Category 4 and 5 Hurricanes) in the future. This means that there may be fewer hurricanes overall in any given year, but when hurricanes do form, it is more likely that they will become large storms that can create massive damage.

As a result of changes to the frequency and intensity of tropical storms and heavy rainfall events, erosion typically caused by these storms could be expected to occur more frequently. Coastal erosion is also expected to increase as a result of sea level rise.

Research on the impacts of climate change on rip currents are limited; however, the climate change factors that affect coastal erosion may also impact rip currents. Erosion and accretion result in changes to coastal bathymetry, which affects the location of rip currents. As large-scale erosion events occur more frequently, the location of rip currents may become more unpredictable.

VULNERABILITY ASSESSMENT

METHODOLOGIES AND ASSUMPTIONS

Property at risk to hurricanes was estimated using data from the IRISK database, which was compiled in NCEM's Risk Management Tool. The vulnerability data displayed below is for wind-related damages. Hurricanes may also cause substantial damages from heavy rains and subsequent flooding, which is addressed in Section 4.5.5 Flood.

PEOPLE

Children, elderly people, individuals with disabilities, and others who may have difficulty evacuating are especially vulnerable to harm from hurricanes. For those who are unable to evacuate for medical reasons, there should be provision to take care of special-needs patients and those in hospitals and nursing homes. Many of these patients are either oxygen- dependent, insulin-dependent, or in need of intensive medical care. There is a need to provide ongoing treatment for these vulnerable citizens, either on the coast or by air evacuation to upland hospitals. The stress from disasters such as a hurricane can result in immediate and long-term physical and emotional health problems among victims.

Erosion is unlikely to have any direct impact on the health or safety of individuals. However, it may cause indirect harm by weakening structures and by changing landscapes in ways that increase risk of other hazard impacts. For example, erosion of dune systems causes areas protected by those dunes to face higher levels of risk.

Rip currents pose a direct risk to human health and safety. Individuals who do not know how to recognize and avoid or escape rip currents are at risk of drowning. Since 1999, NCEI records reflect 22 fatalities attributed to rip currents in the Region.

PROPERTY

General damages to property are both direct (what the winds associated with hurricanes physically destroy) and indirect, which focuses on additional costs, damages and losses attributed to secondary hazards spawned by the hurricane, or due to the damages caused by the storm. Depending on the size and strength of the hurricane, associated winds are capable of damaging and eventually destroying almost anything. Construction practices and building codes can help maximize the resistance of structures to damage.

Secondary impacts of damage due to hurricane winds often result from damage to infrastructure. Downed power and communications transmission lines, coupled with disruptions to transportation, create difficulties in reporting and responding to emergencies. These impacts of a hurricane put tremendous strain on a community. In the immediate aftermath of a hurricane, the focus is on emergency services.

Table 4.62 through Table 4.66 detail buildings at risk and provide damage estimates across all jurisdictions for the 25-, 50-, 100-, 300-, and 700-year hurricane wind events. All scenarios impacted the same number of buildings but with varying severity of damage.

Damage estimates for the 100-year hurricane wind event total $1,780,717,854 which equates to a loss ratio of 7.7 percent. The loss ratio is the damage estimate divided by the total potential exposure (i.e., total value of all buildings in the planning area), displayed as a percentage of value at risk. FEMA considers loss ratios greater than 10% to be significant and an indicator a community may have more difficulties recovering from an event. These damage estimates account for only wind impacts and actual damages would likely be higher due to flooding. Therefore, the Region would likely experience a higher overall loss ratio from the 100-year hurricane event and face difficulty recovering from such an event.

Table 4.62 – Buildings at Risk from 25-Year Hurricane Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85%	$12,394,722	2,003	10%	$2,375,675	353	2%	$1,549,954	19,912	97%	$16,320,351
City of Washington	5,790	4,828	83%	$4,654,798	709	12%	$22,493,612	197	3%	$1,310,494	5,734	99%	$28,458,904
Town of Aurora	579	440	76%	$435,012	85	15%	$57,065	33	6%	$107,515	558	96%	$599,591
Town of Bath	561	471	84%	$552,101	51	9%	$41,159	31	6%	$71,885	553	99%	$665,144
Town of Belhaven	1,087	857	79%	$595,820	93	9%	$91,909	24	2%	$49,750	974	90%	$737,480
Town of Chocowinity	398	330	83%	$326,632	36	9%	$100,895	28	7%	$72,274	394	99%	$499,802
Town of Pantego	132	108	82%	$103,261	11	8%	$5,172	7	5%	$19,261	126	95%	$127,694
Town of Washington Park	232	171	74%	$146,954	13	6%	$75,424	0	0%	$0	184	79%	$222,378
Subtotal Beaufort	**29,356**	**24,761**	**84%**	**$19,209,300**	**3,001**	**10%**	**$25,240,911**	**673**	**2%**	**$3,181,133**	**28,435**	**97%**	**$47,631,344**
Carteret													
Unincorporated Carteret County	29,284	13,563	46%	$22,232,540	1,000	3%	$2,203,925	229	1%	$3,710,703	14,792	51%	$28,147,168
Town of Atlantic Beach	4,141	3,220	78%	$12,402,873	153	4%	$2,326,155	9	0%	$29,410	3,382	82%	$14,758,438
Town of Beaufort	4,605	2,878	62%	$6,693,342	280	6%	$1,545,500	78	2%	$949,421	3,236	70%	$9,188,263
Town of Bogue	642	324	50%	$676,974	31	5%	$65,643	8	1%	$36,287	363	57%	$778,905
Town of Cape Carteret	1,763	872	49%	$1,611,680	91	5%	$223,271	26	1%	$77,803	989	56%	$1,912,753
Town of Cedar Point	1,915	1,256	66%	$2,010,300	101	5%	$483,651	10	1%	$97,956	1,367	71%	$2,591,907
Town of Emerald Isle	7,154	5,132	72%	$25,546,696	156	2%	$435,793	19	0%	$348,276	5,307	74%	$26,330,765
Town of Indian Beach	1,138	790	69%	$3,156,347	24	2%	$135,328	6	1%	$40,513	820	72%	$3,332,188
Town of Morehead City	10,811	6,703	62%	$17,351,721	832	8%	$2,438,699	214	2%	$3,352,447	7,749	72%	$23,142,867
Town of Newport	5,441	3,636	67%	$4,544,584	347	6%	$805,529	97	2%	$465,999	4,080	75%	$5,816,112
Town of Peletier	943	469	50%	$632,627	52	6%	$649,828	8	1%	$122,579	529	56%	$1,405,035
Town of Pine Knoll Shores	2,253	1,391	62%	$11,926,408	79	4%	$413,299	29	1%	$406,538	1,499	67%	$12,746,245
Subtotal Carteret	**70,090**	**40,234**	**57%**	**$108,786,092**	**3,146**	**4%**	**$11,726,621**	**733**	**1%**	**$9,637,932**	**44,113**	**63%**	**$130,150,646**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89%	$18,608,505	2,034	8%	$7,044,450	305	1%	$2,162,851	24,458	98%	$27,815,805
City of Havelock	5,417	4,844	89%	$5,647,982	367	7%	$5,045,033	148	3%	$28,012,759	5,359	99%	$38,705,775
City of New Bern	13,049	11,331	87%	$7,890,296	1,239	9%	$12,696,409	298	2%	$6,032,507	12,868	99%	$26,619,212
Town of Bridgeton	326	232	71%	$123,193	70	21%	$41,907	10	3%	$4,848	312	96%	$169,948
Town of Cove City	294	252	86%	$191,442	29	10%	$17,114	12	4%	$109,805	293	100%	$318,361
Town of Dover	299	276	92%	$174,458	6	2%	$4,146	17	6%	$39,232	299	100%	$217,836
Town of River Bend	1,553	1,516	98%	$1,297,608	25	2%	$240,150	3	0%	$9,613	1,544	99%	$1,547,370
Town of Trent Woods	1,918	1,868	97%	$1,847,225	20	1%	$48,268	21	1%	$65,034	1,909	100%	$1,960,527
Town of Vanceboro	522	411	79%	$311,698	76	15%	$241,033	33	6%	$255,417	520	100%	$808,148
Subtotal Craven	**48,254**	**42,849**	**89%**	**$36,092,407**	**3,866**	**8%**	**$25,378,510**	**847**	**2%**	**$36,692,066**	**47,562**	**99%**	**$98,162,982**
Pamlico													
Unincorporated Pamlico County	6,428	5,680	88%	$5,565,598	483	8%	$359,959	70	1%	$63,175	6,233	97%	$5,988,731
Town of Alliance	577	484	84%	$271,487	78	14%	$25,040	14	2%	$5,240	576	100%	$301,767
Town of Arapahoe	430	386	90%	$257,259	26	6%	$35,408	16	4%	$62,799	428	100%	$355,466
Town of Bayboro	515	408	79%	$253,036	74	14%	$41,339	31	6%	$52,349	513	100%	$346,724
Town of Grantsboro	584	527	90%	$201,293	36	6%	$33,791	17	3%	$28,582	580	99%	$263,667
Town of Mesic	186	170	91%	$76,464	10	5%	$1,142	5	3%	$931	185	99%	$78,537
Town of Minnesott Beach	403	385	96%	$978,817	14	3%	$125,388	2	0%	$7,617	401	100%	$1,111,822
Town of Oriental	1,378	1,205	87%	$2,936,783	100	7%	$128,861	13	1%	$32,329	1,318	96%	$3,097,973
Town of Stonewall	227	199	88%	$135,252	21	9%	$9,446	6	3%	$9,601	226	100%	$154,298
Town of Vandemere	192	133	69%	$67,016	1	1%	$60	6	3%	$2,107	140	73%	$69,183
Subtotal Pamlico	**10,920**	**9,577**	**88%**	**$10,743,005**	**843**	**8%**	**$760,434**	**180**	**2%**	**$264,730**	**10,600**	**97%**	**$11,768,168**
Region Total	**158,620**	**117,421**	**74%**	**$174,830,804**	**10,856**	**7%**	**$63,106,476**	**2,433**	**2%**	**$49,775,861**	**130,710**	**82%**	**$287,713,140**

Source: NCEM Risk Management Tool

Table 4.63 – Buildings at Risk from 50-Year Hurricane Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85%	$34,215,311	2,003	10%	$6,566,550	353	2%	$4,524,718	19,912	97%	$45,306,579
City of Washington	5,790	4,828	83%	$12,143,204	709	12%	$37,297,843	197	3%	$3,299,935	5,734	99%	$52,740,981
Town of Aurora	579	440	76%	$1,192,107	85	15%	$194,958	33	6%	$338,887	558	96%	$1,725,951
Town of Bath	561	471	84%	$1,481,558	51	9%	$148,369	31	6%	$220,548	553	99%	$1,850,476
Town of Belhaven	1,087	857	79%	$1,560,724	93	9%	$386,269	24	2%	$147,776	974	90%	$2,094,769
Town of Chocowinity	398	330	83%	$920,495	36	9%	$290,070	28	7%	$252,083	394	99%	$1,462,649
Town of Pantego	132	108	82%	$259,783	11	8%	$20,194	7	5%	$57,509	126	95%	$337,487
Town of Washington Park	232	171	74%	$365,044	13	6%	$151,071	0	0%	$0	184	79%	$516,115
Subtotal Beaufort	**29,356**	**24,761**	**84%**	**$52,138,226**	**3,001**	**10%**	**$45,055,324**	**673**	**2%**	**$8,841,456**	**28,435**	**97%**	**$106,035,007**
Carteret													
Unincorporated Carteret County	29,284	13,563	46%	$56,977,693	1,000	3%	$6,293,936	229	1%	$8,253,465	14,792	51%	$71,525,094
Town of Atlantic Beach	4,141	3,220	78%	$36,958,467	153	4%	$4,379,703	9	0%	$86,815	3,382	82%	$41,424,985
Town of Beaufort	4,605	2,878	62%	$19,725,723	280	6%	$4,083,606	78	2%	$2,476,333	3,236	70%	$26,285,662
Town of Bogue	642	324	50%	$1,678,685	31	5%	$244,024	8	1%	$111,311	363	57%	$2,034,020
Town of Cape Carteret	1,763	872	49%	$4,379,217	91	5%	$774,231	26	1%	$267,859	989	56%	$5,421,307
Town of Cedar Point	1,915	1,256	66%	$5,430,280	101	5%	$1,155,918	10	1%	$292,556	1,367	71%	$6,878,754
Town of Emerald Isle	7,154	5,132	72%	$75,975,631	156	2%	$1,539,300	19	0%	$832,295	5,307	74%	$78,347,226
Town of Indian Beach	1,138	790	69%	$7,935,572	24	2%	$460,264	6	1%	$149,764	820	72%	$8,545,600
Town of Morehead City	10,811	6,703	62%	$43,865,125	832	8%	$8,024,481	214	2%	$10,051,128	7,749	72%	$61,940,734
Town of Newport	5,441	3,636	67%	$11,328,706	347	6%	$1,828,151	97	2%	$1,089,221	4,080	75%	$14,246,078
Town of Peletier	943	469	50%	$1,613,727	52	6%	$1,102,237	8	1%	$287,980	529	56%	$3,003,945
Town of Pine Knoll Shores	2,253	1,391	62%	$29,982,360	79	4%	$1,170,261	29	1%	$1,191,466	1,499	67%	$32,344,088
Subtotal Carteret	**70,090**	**40,234**	**57%**	**$295,851,186**	**3,146**	**4%**	**$31,056,112**	**733**	**1%**	**$25,090,193**	**44,113**	**63%**	**$351,997,493**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89%	$60,733,817	2,034	8%	$21,645,722	305	1%	$7,093,011	24,458	98%	$89,472,551
City of Havelock	5,417	4,844	89%	$12,221,043	367	7%	$11,531,941	148	3%	$54,524,800	5,359	99%	$78,277,784
City of New Bern	13,049	11,331	87%	$21,715,651	1,239	9%	$26,251,994	298	2%	$12,669,822	12,868	99%	$60,637,467
Town of Bridgeton	326	232	71%	$353,340	70	21%	$147,528	10	3%	$17,294	312	96%	$518,161
Town of Cove City	294	252	86%	$401,376	29	10%	$66,422	12	4%	$263,718	293	100%	$731,516
Town of Dover	299	276	92%	$448,451	6	2%	$22,094	17	6%	$160,593	299	100%	$631,139
Town of River Bend	1,553	1,516	98%	$2,507,512	25	2%	$509,951	3	0%	$28,217	1,544	99%	$3,045,681
Town of Trent Woods	1,918	1,868	97%	$3,994,423	20	1%	$129,224	21	1%	$200,909	1,909	100%	$4,324,557
Town of Vanceboro	522	411	79%	$681,639	76	15%	$545,890	33	6%	$755,698	520	100%	$1,983,227
Subtotal Craven	**48,254**	**42,849**	**89%**	**$103,057,252**	**3,866**	**8%**	**$60,850,766**	**847**	**2%**	**$75,714,062**	**47,562**	**99%**	**$239,622,083**
Pamlico													
Unincorporated Pamlico County	6,428	5,680	88%	$18,014,166	483	8%	$1,531,477	70	1%	$493,447	6,233	97%	$20,039,089
Town of Alliance	577	484	84%	$1,508,015	78	14%	$423,757	14	2%	$82,246	576	100%	$2,014,018
Town of Arapahoe	430	386	90%	$604,506	26	6%	$118,070	16	4%	$257,837	428	100%	$980,414
Town of Bayboro	515	408	79%	$1,380,460	74	14%	$520,432	31	6%	$1,064,807	513	100%	$2,965,699
Town of Grantsboro	584	527	90%	$780,996	36	6%	$292,038	17	3%	$272,939	580	99%	$1,345,973
Town of Mesic	186	170	91%	$466,260	10	5%	$27,795	5	3%	$12,949	185	99%	$507,004
Town of Minnesott Beach	403	385	96%	$2,681,419	14	3%	$319,461	2	0%	$27,548	401	100%	$3,028,428
Town of Oriental	1,378	1,205	87%	$8,554,846	100	7%	$452,320	13	1%	$122,412	1,318	96%	$9,129,578
Town of Stonewall	227	199	88%	$1,061,255	21	9%	$175,073	6	3%	$117,836	226	100%	$1,354,164
Town of Vandemere	192	133	69%	$424,253	1	1%	$713	6	3%	$28,683	140	73%	$453,649
Subtotal Pamlico	**10,920**	**9,577**	**88%**	**$35,476,176**	**843**	**8%**	**$3,861,136**	**180**	**2%**	**$2,480,704**	**10,600**	**97%**	**$41,818,016**
Region Total	**158,620**	**117,421**	**74%**	**$486,522,840**	**10,856**	**7%**	**$140,823,338**	**2,433**	**2%**	**$112,126,415**	**130,710**	**82%**	**$739,472,599**

Source: NCEM Risk Management Tool

Table 4.64 – Buildings at Risk from 100-Year Hurricane Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85%	$93,340,728	2,003	10%	$16,121,793	353	2%	$11,260,161	19,912	97%	$120,722,681
City of Washington	5,790	4,828	83%	$31,249,826	709	12%	$56,313,978	197	3%	$7,329,264	5,734	99%	$94,893,067
Town of Aurora	579	440	76%	$3,277,485	85	15%	$596,894	33	6%	$877,127	558	96%	$4,751,506
Town of Bath	561	471	84%	$4,425,410	51	9%	$487,090	31	6%	$623,741	553	99%	$5,536,240
Town of Belhaven	1,087	857	79%	$4,462,411	93	9%	$1,417,190	24	2%	$442,136	974	90%	$6,321,737
Town of Chocowinity	398	330	83%	$2,655,976	36	9%	$782,519	28	7%	$730,101	394	99%	$4,168,595
Town of Pantego	132	108	82%	$726,881	11	8%	$73,370	7	5%	$135,368	126	95%	$935,618
Town of Washington Park	232	171	74%	$1,105,258	13	6%	$253,041	0	0%	$0	184	79%	$1,358,299
Subtotal Beaufort	**29,356**	**24,761**	**84%**	**$141,243,975**	**3,001**	**10%**	**$76,045,875**	**673**	**2%**	**$21,397,898**	**28,435**	**97%**	**$238,687,743**
Carteret													
Unincorporated Carteret County	29,284	13,563	46%	$138,358,169	1,000	3%	$15,890,065	229	1%	$17,443,811	14,792	51%	$171,692,045
Town of Atlantic Beach	4,141	3,220	78%	$89,982,008	153	4%	$7,925,906	9	0%	$225,437	3,382	82%	$98,133,351
Town of Beaufort	4,605	2,878	62%	$49,762,958	280	6%	$10,033,990	78	2%	$5,653,394	3,236	70%	$65,450,342
Town of Bogue	642	324	50%	$3,940,001	31	5%	$689,017	8	1%	$294,116	363	57%	$4,923,134
Town of Cape Carteret	1,763	872	49%	$10,946,092	91	5%	$2,198,222	26	1%	$787,273	989	56%	$13,931,586
Town of Cedar Point	1,915	1,256	66%	$13,205,971	101	5%	$2,581,437	10	1%	$760,436	1,367	71%	$16,547,844
Town of Emerald Isle	7,154	5,132	72%	$186,604,819	156	2%	$4,151,747	19	0%	$1,829,032	5,307	74%	$192,585,599
Town of Indian Beach	1,138	790	69%	$17,316,501	24	2%	$1,106,240	6	1%	$376,273	820	72%	$18,799,014
Town of Morehead City	10,811	6,703	62%	$104,213,103	832	8%	$22,209,317	214	2%	$25,727,286	7,749	72%	$152,149,707
Town of Newport	5,441	3,636	67%	$28,028,111	347	6%	$4,047,500	97	2%	$2,433,916	4,080	75%	$34,509,526
Town of Peletier	943	469	50%	$3,845,420	52	6%	$1,829,251	8	1%	$575,054	529	56%	$6,249,725
Town of Pine Knoll Shores	2,253	1,391	62%	$66,308,974	79	4%	$2,684,385	29	1%	$2,693,860	1,499	67%	$71,687,219
Subtotal Carteret	**70,090**	**40,234**	**57%**	**$712,512,127**	**3,146**	**4%**	**$75,347,077**	**733**	**1%**	**$58,799,888**	**44,113**	**63%**	**$846,659,092**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89%	$157,346,002	2,034	8%	$44,112,480	305	1%	$17,136,500	24,458	98%	$218,594,982
City of Havelock	5,417	4,844	89%	$27,297,993	367	7%	$25,006,868	148	3%	$99,871,792	5,359	99%	$152,176,653
City of New Bern	13,049	11,331	87%	$78,140,193	1,239	9%	$61,667,666	298	2%	$30,217,051	12,868	99%	$170,024,910
Town of Bridgeton	326	232	71%	$2,228,560	70	21%	$767,700	10	3%	$168,154	312	96%	$3,164,414
Town of Cove City	294	252	86%	$1,031,012	29	10%	$215,498	12	4%	$554,599	293	100%	$1,801,108
Town of Dover	299	276	92%	$1,283,558	6	2%	$83,027	17	6%	$499,802	299	100%	$1,866,387
Town of River Bend	1,553	1,516	98%	$10,630,780	25	2%	$1,367,951	3	0%	$86,395	1,544	99%	$12,085,126
Town of Trent Woods	1,918	1,868	97%	$22,338,007	20	1%	$823,788	21	1%	$1,947,166	1,909	100%	$25,108,962
Town of Vanceboro	522	411	79%	$1,739,732	76	15%	$1,184,473	33	6%	$1,776,503	520	100%	$4,700,708
Subtotal Craven	**48,254**	**42,849**	**89%**	**$302,035,837**	**3,866**	**8%**	**$135,229,451**	**847**	**2%**	**$152,257,962**	**47,562**	**99%**	**$589,523,250**
Pamlico													
Unincorporated Pamlico County	6,428	408	79%	$3,398,710	74	14%	$1,378,675	31	6%	$3,280,157	513	100%	$8,057,542
Town of Alliance	577	527	90%	$1,988,550	36	6%	$759,972	17	3%	$742,992	580	99%	$3,491,514
Town of Arapahoe	430	170	91%	$1,217,573	10	5%	$80,138	5	3%	$37,858	185	99%	$1,335,569
Town of Bayboro	515	385	96%	$6,542,217	14	3%	$736,025	2	0%	$65,785	401	100%	$7,344,027
Town of Grantsboro	584	1,205	87%	$21,082,898	100	7%	$1,230,056	13	1%	$343,341	1,318	96%	$22,656,296
Town of Mesic	186	199	88%	$2,568,338	21	9%	$425,651	6	3%	$304,807	226	100%	$3,298,796
Town of Minnesott Beach	403	133	69%	$1,063,095	1	1%	$1,667	6	3%	$82,270	140	73%	$1,147,032
Town of Oriental	1,378	9,577	88%	$87,771,967	843	8%	$10,454,870	180	2%	$7,620,931	10,600	97%	$105,847,769
Town of Stonewall	227	117,421	74%	$1,243,563,906	10,856	7%	$297,077,273	2,433	2%	$240,076,679	130,710	82%	$1,780,717,854
Town of Vandemere	192	408	79%	$3,398,710	74	14%	$1,378,675	31	6%	$3,280,157	513	100%	$8,057,542
Subtotal Pamlico	**10,920**	**527**	**90%**	**$1,988,550**	**36**	**6%**	**$759,972**	**17**	**3%**	**$742,992**	**580**	**99%**	**$3,491,514**
Region Total	**158,620**	**170**	**91%**	**$1,217,573**	**10**	**5%**	**$80,138**	**5**	**3%**	**$37,858**	**185**	**99%**	**$1,335,569**

Source: NCEM Risk Management Tool

Table 4.65 – Buildings at Risk from 300-Year Hurricane Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85%	$279,786,181	2,003	10%	$47,106,040	353	2%	$31,991,136	19,912	97%	$358,883,357
City of Washington	5,790	4,828	83%	$77,237,281	709	12%	$87,324,078	197	3%	$15,648,080	5,734	99%	$180,209,439
Town of Aurora	579	440	76%	$15,788,273	85	15%	$3,382,575	33	6%	$4,044,355	558	96%	$23,215,204
Town of Bath	561	471	84%	$11,252,545	51	9%	$1,326,019	31	6%	$1,589,624	553	99%	$14,168,188
Town of Belhaven	1,087	857	79%	$11,219,607	93	9%	$3,842,655	24	2%	$1,180,235	974	90%	$16,242,497
Town of Chocowinity	398	330	83%	$6,571,326	36	9%	$1,911,120	28	7%	$1,790,108	394	99%	$10,272,554
Town of Pantego	132	108	82%	$1,835,458	11	8%	$212,349	7	5%	$261,814	126	95%	$2,309,620
Town of Washington Park	232	171	74%	$3,101,970	13	6%	$407,466	0	0%	$0	184	79%	$3,509,435
Subtotal Beaufort	**29,356**	**24,761**	**84%**	**$406,792,641**	**3,001**	**10%**	**$145,512,302**	**673**	**2%**	**$56,505,352**	**28,435**	**97%**	**$608,810,294**
Carteret													
Unincorporated Carteret County	29,284	13,563	46%	$498,404,777	1,000	3%	$57,822,476	229	1%	$53,764,695	14,792	51%	$609,991,948
Town of Atlantic Beach	4,141	3,220	78%	$283,322,901	153	4%	$21,983,596	9	0%	$984,529	3,382	82%	$306,291,025
Town of Beaufort	4,605	2,878	62%	$170,151,547	280	6%	$40,523,389	78	2%	$21,507,950	3,236	70%	$232,182,886
Town of Bogue	642	324	50%	$13,872,914	31	5%	$2,448,746	8	1%	$1,088,595	363	57%	$17,410,254
Town of Cape Carteret	1,763	872	49%	$40,058,580	91	5%	$9,203,926	26	1%	$3,507,148	989	56%	$52,769,654
Town of Cedar Point	1,915	1,256	66%	$46,431,348	101	5%	$9,773,868	10	1%	$2,791,538	1,367	71%	$58,996,754
Town of Emerald Isle	7,154	5,132	72%	$585,304,687	156	2%	$14,379,643	19	0%	$5,500,836	5,307	74%	$605,185,166
Town of Indian Beach	1,138	790	69%	$49,848,728	24	2%	$3,126,859	6	1%	$1,056,280	820	72%	$54,031,868
Town of Morehead City	10,811	6,703	62%	$372,319,486	832	8%	$94,532,908	214	2%	$97,496,363	7,749	72%	$564,348,757
Town of Newport	5,441	3,636	67%	$106,131,963	347	6%	$15,942,476	97	2%	$10,532,479	4,080	75%	$132,606,919
Town of Peletier	943	469	50%	$13,700,514	52	6%	$5,052,060	8	1%	$1,801,528	529	56%	$20,554,102
Town of Pine Knoll Shores	2,253	1,391	62%	$196,565,583	79	4%	$8,212,382	29	1%	$7,414,898	1,499	67%	$212,192,864
Subtotal Carteret	**70,090**	**40,234**	**57%**	**$2,376,113,028**	**3,146**	**4%**	**$283,002,329**	**733**	**1%**	**$207,446,839**	**44,113**	**63%**	**$2,866,562,197**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89%	$453,419,833	2,034	8%	$117,438,027	305	1%	$54,901,635	24,458	98%	$625,759,495
City of Havelock	5,417	4,844	89%	$84,764,742	367	7%	$64,801,576	148	3%	$180,256,061	5,359	99%	$329,822,379
City of New Bern	13,049	11,331	87%	$236,958,816	1,239	9%	$187,288,873	298	2%	$91,931,939	12,868	99%	$516,179,629
Town of Bridgeton	326	232	71%	$5,318,017	70	21%	$3,216,650	10	3%	$461,686	312	96%	$8,996,352
Town of Cove City	294	252	86%	$5,312,475	29	10%	$1,201,302	12	4%	$2,147,733	293	100%	$8,661,510
Town of Dover	299	276	92%	$3,309,742	6	2%	$208,361	17	6%	$1,177,123	299	100%	$4,695,227
Town of River Bend	1,553	1,516	98%	$24,858,552	25	2%	$3,305,468	3	0%	$298,096	1,544	99%	$28,462,116
Town of Trent Woods	1,918	1,868	97%	$52,790,372	20	1%	$1,896,534	21	1%	$4,848,303	1,909	100%	$59,535,209
Town of Vanceboro	522	411	79%	$4,330,892	76	15%	$2,443,064	33	6%	$3,314,075	520	100%	$10,088,031
Subtotal Craven	**48,254**	**42,849**	**89%**	**$871,063,441**	**3,866**	**8%**	**$381,799,855**	**847**	**2%**	**$339,336,651**	**47,562**	**99%**	**$1,592,199,948**
Pamlico													
Unincorporated Pamlico County	6,428	5,680	88%	$100,591,455	483	8%	$9,509,029	70	1%	$3,841,078	6,233	97%	$113,941,562
Town of Alliance	577	484	84%	$7,698,597	78	14%	$2,963,275	14	2%	$579,689	576	100%	$11,241,560
Town of Arapahoe	430	386	90%	$3,227,354	26	6%	$826,504	16	4%	$2,031,385	428	100%	$6,085,243
Town of Bayboro	515	408	79%	$7,329,527	74	14%	$3,083,338	31	6%	$7,893,998	513	100%	$18,306,864
Town of Grantsboro	584	527	90%	$4,466,451	36	6%	$1,869,925	17	3%	$1,769,388	580	99%	$8,105,764
Town of Mesic	186	170	91%	$2,741,217	10	5%	$168,074	5	3%	$94,647	185	99%	$3,003,938
Town of Minnesott Beach	403	385	96%	$13,625,435	14	3%	$1,524,316	2	0%	$118,170	401	100%	$15,267,920
Town of Oriental	1,378	1,205	87%	$43,136,258	100	7%	$2,774,952	13	1%	$775,791	1,318	96%	$46,687,000
Town of Stonewall	227	199	88%	$5,061,594	21	9%	$815,438	6	3%	$702,337	226	100%	$6,579,369
Town of Vandemere	192	133	69%	$2,338,039	1	1%	$3,427	6	3%	$196,543	140	73%	$2,538,009
Subtotal Pamlico	**10,920**	**9,577**	**88%**	**$190,215,927**	**843**	**8%**	**$23,538,278**	**180**	**2%**	**$18,003,026**	**10,600**	**97%**	**$231,757,229**
Region Total	**158,620**	**117,421**	**74%**	**$3,844,185,037**	**10,856**	**7%**	**$833,852,764**	**2,433**	**2%**	**$621,291,868**	**130,710**	**82%**	**$5,299,329,668**

Source: NCEM Risk Management Tool

Table 4.66 – Buildings at Risk from 700-Year Hurricane Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85%	$547,978,631	2,003	10%	$84,499,861	353	2%	$55,451,904	19,912	97%	$687,930,396
City of Washington	5,790	4,828	83%	$168,995,068	709	12%	$146,133,961	197	3%	$33,061,571	5,734	99%	$348,190,600
Town of Aurora	579	440	76%	$25,830,799	85	15%	$5,846,858	33	6%	$6,845,734	558	96%	$38,523,391
Town of Bath	561	471	84%	$23,824,806	51	9%	$3,094,729	31	6%	$3,583,182	553	99%	$30,502,717
Town of Belhaven	1,087	857	79%	$23,607,149	93	9%	$8,065,673	24	2%	$2,631,660	974	90%	$34,304,482
Town of Chocowinity	398	330	83%	$13,737,616	36	9%	$4,230,306	28	7%	$3,828,002	394	99%	$21,795,924
Town of Pantego	132	108	82%	$3,864,974	11	8%	$509,735	7	5%	$481,582	126	95%	$4,856,290
Town of Washington Park	232	171	74%	$7,162,324	13	6%	$693,507	0	0%	$0	184	79%	$7,855,832
Subtotal Beaufort	**29,356**	**24,761**	**84%**	**$815,001,367**	**3,001**	**10%**	**$253,074,630**	**673**	**2%**	**$105,883,635**	**28,435**	**97%**	**$1,173,959,632**
Carteret													
Unincorporated Carteret County	29,284	13,563	46%	$717,229,097	1,000	3%	$84,993,177	229	1%	$75,802,444	14,792	51%	$878,024,719
Town of Atlantic Beach	4,141	3,220	78%	$373,312,255	153	4%	$30,678,729	9	0%	$1,589,229	3,382	82%	$405,580,213
Town of Beaufort	4,605	2,878	62%	$235,183,970	280	6%	$64,296,667	78	2%	$33,496,808	3,236	70%	$332,977,445
Town of Bogue	642	324	50%	$19,868,307	31	5%	$3,304,793	8	1%	$1,621,697	363	57%	$24,794,797
Town of Cape Carteret	1,763	872	49%	$57,816,839	91	5%	$14,038,541	26	1%	$5,418,650	989	56%	$77,274,029
Town of Cedar Point	1,915	1,256	66%	$66,468,483	101	5%	$14,878,942	10	1%	$3,989,580	1,367	71%	$85,337,005
Town of Emerald Isle	7,154	5,132	72%	$763,025,706	156	2%	$19,839,301	19	0%	$7,602,992	5,307	74%	$790,468,000
Town of Indian Beach	1,138	790	69%	$66,977,047	24	2%	$4,071,623	6	1%	$1,316,859	820	72%	$72,365,528
Town of Morehead City	10,811	6,703	62%	$535,754,065	832	8%	$146,195,172	214	2%	$141,124,979	7,749	72%	$823,074,216
Town of Newport	5,441	3,636	67%	$158,082,304	347	6%	$25,528,871	97	2%	$17,519,348	4,080	75%	$201,130,522
Town of Peletier	943	469	50%	$20,122,744	52	6%	$7,511,226	8	1%	$2,673,215	529	56%	$30,307,185
Town of Pine Knoll Shores	2,253	1,391	62%	$260,548,329	79	4%	$11,252,149	29	1%	$9,657,591	1,499	67%	$281,458,069
Subtotal Carteret	**70,090**	**40,234**	**57%**	**$3,274,389,146**	**3,146**	**4%**	**$426,589,191**	**733**	**1%**	**$301,813,392**	**44,113**	**63%**	**$4,002,791,728**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89%	$762,870,051	2,034	8%	$186,420,304	305	1%	$89,109,921	24,458	98%	$1,038,400,276
City of Havelock	5,417	4,844	89%	$149,963,669	367	7%	$102,157,887	148	3%	$261,103,383	5,359	99%	$513,224,939
City of New Bern	13,049	11,331	87%	$425,961,451	1,239	9%	$319,903,927	298	2%	$155,316,872	12,868	99%	$901,182,250
Town of Bridgeton	326	232	71%	$8,668,570	70	21%	$5,767,927	10	3%	$826,335	312	96%	$15,262,831
Town of Cove City	294	252	86%	$5,312,475	29	10%	$1,201,302	12	4%	$2,147,733	293	100%	$8,661,510
Town of Dover	299	276	92%	$7,101,454	6	2%	$383,124	17	6%	$2,223,935	299	100%	$9,708,514
Town of River Bend	1,553	1,516	98%	$47,790,485	25	2%	$5,865,469	3	0%	$565,642	1,544	99%	$54,221,595
Town of Trent Woods	1,918	1,868	97%	$99,669,833	20	1%	$3,555,296	21	1%	$8,687,397	1,909	100%	$111,912,526
Town of Vanceboro	522	411	79%	$9,339,296	76	15%	$4,876,547	33	6%	$5,748,893	520	100%	$19,964,736
Subtotal Craven	**48,254**	**42,849**	**89%**	**$1,516,677,284**	**3,866**	**8%**	**$630,131,783**	**847**	**2%**	**$525,730,111**	**47,562**	**99%**	**$2,672,539,177**
Pamlico													
Unincorporated Pamlico County	6,428	5,680	88%	$172,756,064	483	8%	$16,409,906	70	1%	$6,135,077	6,233	97%	$195,301,047
Town of Alliance	577	484	84%	$12,993,215	78	14%	$5,084,591	14	2%	$1,052,023	576	100%	$19,129,829
Town of Arapahoe	430	386	90%	$5,987,102	26	6%	$1,403,265	16	4%	$3,408,106	428	100%	$10,798,474
Town of Bayboro	515	408	79%	$12,403,430	74	14%	$5,325,983	31	6%	$13,595,612	513	100%	$31,325,025
Town of Grantsboro	584	527	90%	$8,254,685	36	6%	$3,636,909	17	3%	$3,180,747	580	99%	$15,072,342
Town of Mesic	186	170	91%	$4,775,687	10	5%	$254,272	5	3%	$179,154	185	99%	$5,209,112
Town of Minnesott Beach	403	385	96%	$22,452,693	14	3%	$2,593,087	2	0%	$167,727	401	100%	$25,213,507
Town of Oriental	1,378	1,205	87%	$69,190,741	100	7%	$4,764,418	13	1%	$1,306,943	1,318	96%	$75,262,102
Town of Stonewall	227	199	88%	$7,746,597	21	9%	$1,232,522	6	3%	$1,281,900	226	100%	$10,261,019
Town of Vandemere	192	133	69%	$4,018,972	1	1%	$5,969	6	3%	$354,072	140	73%	$4,379,013
Subtotal Pamlico	**10,920**	**9,577**	**88%**	**$320,579,186**	**843**	**8%**	**$40,710,922**	**180**	**2%**	**$30,661,361**	**10,600**	**97%**	**$391,951,470**
Region Total	**158,620**	**117,421**	**74%**	**$5,926,646,983**	**10,856**	**7%**	**$1,350,506,526**	**2,433**	**2%**	**$964,088,499**	**130,710**	**82%**	**$8,241,242,007**

Source: NCEM Risk Management Tool

Property damage due to erosion typically only results in conjunction with large storm events which also bring wind and water damages. These events can cause scour and weaken foundations, which may undermine affected buildings' structural integrity.

Rip current is unlikely to result in any property damages, though it may result in indirect damages to watercrafts by pushing them into jetties or sandbars.

ENVIRONMENT

Hurricane winds can cause massive damage to the natural environment, uprooting trees and other debris within the storm's path. Animals can either be killed directly by the storm or impacted indirectly through changes in habitat and food availability caused by high winds and intense rainfall. Endangered species can be dramatically impacted. Forests can be completely defoliated by strong winds.

Erosion can change the shape and characteristics of coastal shorelines and riverine floodplains. Eroded material may clog waterways and decrease drainage capacity. Erosion can also negatively impact water quality by increasing sediment loads in waterways.

CONSEQUENCE ANALYSIS

Table 4.67 summarizes the potential negative consequences of hurricanes and coastal hazards.

Table 4.67 – Consequence Analysis – Hurricane and Tropical Storm

Category	Consequences
Public	Impacts from hurricane winds include injury or death, loss of property, outbreak of diseases, mental trauma and loss of livelihoods. Residential, commercial, and public buildings, as well as critical infrastructure such as transportation, water, energy, and communication systems may be damaged or destroyed, resulting in cascading impacts on the public. Erosion is unlikely to impact public health and safety. Rip currents may cause injuries or fatalities.
Responders	Impacts to responders and response capabilities may occur during severe storms. If properly trained, responders are unlikely to be impacted by rip currents. Erosion is unlikely to require immediate response or rescue operations.
Continuity of Operations (including Continued Delivery of Services)	Damage to facilities/personnel from wind may require temporary relocation of some operations. Operations may be interrupted by power outages. Disruption of roads and/or utilities may postpone delivery of some services. Regulatory waivers may be needed locally. Fulfillment of some contracts may be difficult. Impact may reduce deliveries. Erosion and rip tides would not impact public continuity of operations.
Property, Facilities and Infrastructure	Structural damage to buildings may occur; loss of glass windows and doors by high winds and debris; loss of roof coverings, partial wall collapses, and other damages requiring significant repairs are possible in a major (category 3 to 5) hurricane. Erosion can result in property damage if it is severe enough or if scour occurs that undermines the integrity of structural foundations. Rip current is unlikely to damage property.
Environment	Hurricanes can devastate wooded ecosystems and remove the foliage from tree canopies, and they can drastically change habitats such that the indigenous animal populations suffer. Foods can be taken away as high winds will often strip fruits, seeds and berries from bushes and trees. Secondary impacts may

Category	Consequences
	occur; for example, high winds and debris may damage an above-ground fuel tank, resulting in a chemical spill. Erosion can increase sediment loads in waterbodies and change riverine and coastal topography. Rip current will not have severe environmental consequences.
Economic Condition of the Jurisdiction	Local economy and finances may be adversely affected, possibly for an extended period of time, depending on damages. Intangible impacts, including business interruption and additional living expenses, may also occur. Rip current and severe erosion can negatively impact tourist economies. Beach nourishment projects to counter erosion are extremely costly.
Public Confidence in the Jurisdiction's Governance	Public confidence may be affected by a major storm event requiring substantial response and long-term recovery effort. Erosion and rip current are unlikely to affect public confidence.

HAZARD SUMMARY BY JURISDICTION

The following table summarizes hurricane and tropical storm hazard risk by jurisdiction. Most aspects of hurricane risk do not vary substantially by jurisdiction. While hurricanes have the possibility of being catastrophic across all jurisdictions, certain areas may be even more vulnerable. Mobile home units are more vulnerable to wind damage; therefore, Beaufort and Pamlico Counties, which have higher rates of mobile homes, may experience more severe impacts.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Beaufort County	4	4	4	1	3	3.6	H
City of Washington	4	4	4	1	3	3.6	H
Town of Aurora	4	4	4	1	3	3.6	H
Town of Bath	4	4	4	1	3	3.6	H
Town of Belhaven	4	4	4	1	3	3.6	H
Town of Chocowinity	4	4	4	1	3	3.6	H
Town of Pantego	4	4	4	1	3	3.6	H
Town of Washington Park	4	4	4	1	3	3.6	H
Carteret County	4	4	4	1	3	3.6	H
Town of Atlantic Beach	4	4	4	1	3	3.6	H
Town of Beaufort	4	4	4	1	3	3.6	H
Town of Bogue	4	4	4	1	3	3.6	H
Town of Cape Carteret	4	4	4	1	3	3.6	H
Town of Cedar Point	4	4	4	1	3	3.6	H
Town of Emerald Isle	4	4	4	1	3	3.6	H
Town of Indian Beach	4	4	4	1	3	3.6	H
Town of Morehead City	4	4	4	1	3	3.6	H
Town of Newport	4	4	4	1	3	3.6	H
Town of Peletier	4	4	4	1	3	3.6	H
Town of Pine Knoll Shores	4	4	4	1	3	3.6	H
Craven County	4	4	4	1	3	3.6	H
City of Havelock	4	4	4	1	3	3.6	H
City of New Bern	4	4	4	1	3	3.6	H
Town of Bridgeton	4	4	4	1	3	3.6	H
Town of Cove City	4	4	4	1	3	3.6	H

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Town of Dover	4	4	4	1	3	3.6	H
Town of River Bend	4	4	4	1	3	3.6	H
Town of Trent Woods	4	4	4	1	3	3.6	H
Town of Vanceboro	4	4	4	1	3	3.6	H
Pamlico County	4	4	4	1	3	3.6	H
Town of Alliance	4	4	4	1	3	3.6	H
Town of Arapahoe	4	4	4	1	3	3.6	H
Town of Bayboro	4	4	4	1	3	3.6	H
Town of Grantsboro	4	4	4	1	3	3.6	H
Town of Mesic	4	4	4	1	3	3.6	H
Town of Minnesott Beach	4	4	4	1	3	3.6	H
Town of Oriental	4	4	4	1	3	3.6	H
Town of Stonewall	4	4	4	1	3	3.6	H
Town of Vandemere	4	4	4	1	3	3.6	H

The following table summarizes coastal hazard risk by jurisdiction. Where priority ratings vary between erosion and rip current, these scores represent an average rating. Risk to coastal hazards varies based on the presence and type of coastal areas. For example, jurisdictions without oceanfront do not experience rip currents. Jurisdictions with more frequented beaches are likely to see a higher impact due to rip current or could currently be experiencing a slower rate of erosion due to more regular beach nourishment.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Beaufort County	3	2	1	1	3	2.1	M
City of Washington	3	2	1	1	3	2.1	M
Town of Aurora	3	2	1	1	3	2.1	M
Town of Bath	3	2	1	1	3	2.1	M
Town of Belhaven	3	2	1	1	3	2.1	M
Town of Chocowinity	3	2	1	1	3	2.1	M
Town of Pantego	3	2	1	1	3	2.1	M
Town of Washington Park	3	2	1	1	3	2.1	M
Carteret County	4	2	1	2	3	2.5	M
Town of Atlantic Beach	4	2	1	2	3	2.5	M
Town of Beaufort	3	2	1	1	3	2.1	M
Town of Bogue	3	2	1	1	3	2.1	M
Town of Cape Carteret	3	2	1	1	3	2.1	M
Town of Cedar Point	3	2	1	1	3	2.1	M
Town of Emerald Isle	4	2	1	2	3	2.5	M
Town of Indian Beach	4	2	1	2	3	2.5	M
Town of Morehead City	3	2	1	1	3	2.1	M
Town of Newport	3	2	1	1	3	2.1	M
Town of Peletier	3	2	1	1	3	2.1	M
Town of Pine Knoll Shores	4	2	1	2	3	2.5	M
Craven County	3	2	1	1	3	2.1	M

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
City of Havelock	3	2	1	1	3	2.1	M
City of New Bern	3	2	1	1	3	2.1	M
Town of Bridgeton	3	2	1	1	3	2.1	M
Town of Cove City	1	1	1	1	3	1.5	L
Town of Dover	1	1	1	1	3	1.5	L
Town of River Bend	1	1	1	1	3	1.5	L
Town of Trent Woods	3	2	1	1	3	2.1	M
Town of Vanceboro	1	1	1	1	3	1.5	L
Pamlico County	3	2	1	1	3	2.1	M
Town of Alliance	1	1	1	1	3	1.5	L
Town of Arapahoe	1	1	1	1	3	1.5	L
Town of Bayboro	1	1	1	1	3	1.5	L
Town of Grantsboro	1	1	1	1	3	1.5	L
Town of Mesic	3	2	1	1	3	2.1	M
Town of Minnesott Beach	3	2	1	1	3	2.1	M
Town of Oriental	3	2	1	1	3	2.1	M
Town of Stonewall	3	2	1	1	3	2.1	M
Town of Vandemere	3	2	1	1	3	2.1	M

4.5.7 SEVERE WINTER WEATHER

HAZARD BACKGROUND

Winter weather can range from a moderate snow over a period of a few hours to blizzard conditions with blinding wind-driven snow that lasts for several days. Events may include snow, sleet, freezing rain, or a mix of these wintry forms of precipitation. Some winter storms might be large enough to affect several states, while others might affect only localized areas. Occasionally, heavy snow might also cause significant property damages, such as roof collapses on older buildings.

All winter storm events have the potential to present dangerous conditions to the affected area. Larger snowfalls pose a greater risk, reducing visibility due to blowing snow and making driving conditions treacherous. A heavy snow event is defined by the National Weather Service as an accumulation of 4 or more inches in 12 hours or less. A blizzard is the most severe form of winter storm. It combines low temperatures, heavy snow, and winds of 35 miles per hour or more, which reduces visibility to a quarter mile or less for at least 3 hours. Winter storms are often accompanied by sleet, freezing rain, or an ice storm. Such freeze events are particularly hazardous as they create treacherous surfaces.

Ice storms are defined as storms with significant amounts of freezing rain and are a result of cold air damming (CAD). CAD is a shallow, surface-based layer of relatively cold, stably-stratified air entrenched against the eastern slopes of the Appalachian Mountains. With warmer air above, falling precipitation in the form of snow melts, then becomes either super-cooled (liquid below the melting point of water) or re-freezes. In the former case, super-cooled droplets can freeze on impact (freezing rain), while in the latter case, the re-frozen water particles are ice pellets (or sleet). Sleet is defined as partially frozen raindrops or refrozen snowflakes that form into small ice pellets before reaching the ground. They typically bounce when they hit the ground and do not stick to the surface. However, it does accumulate like snow, posing similar problems and has the potential to accumulate into a layer of ice on surfaces. Freezing rain, conversely, usually sticks to the ground, creating a sheet of ice on the roadways and other surfaces.

All of the winter storm elements – snow, low temperatures, sleet, ice, etcetera – have the potential to cause significant hazard to a community. Even small accumulations can down power lines and trees limbs and create hazardous driving conditions. Furthermore, communication and power may be disrupted for days.

Warning Time: 1 – More than 24 hours

Advancements in meteorology and forecasting usually allow for mostly accurate forecasting a few days in advance of an impending storm.

Duration: 3 – Less than 1 week

Most storms have a duration of a few hours; however, impacts can last a few days after the initial incident until cleanup is completed.

LOCATION

Severe winter storms are usually a regional hazard, impacting the entire planning area at the same time. The risk of a severe winter storm occurring is generally uniform across the Region.

Spatial Extent: 4 – Large

EXTENT

Severe winter storms often involve a mix of hazardous weather conditions. The magnitude of an event can be defined based on the severity of each of the involved factors, including precipitation type, precipitation accumulation amounts, temperature, and wind.

NOAA uses the Regional Snowfall Index (RSI) to assess the societal impact of winter storms in the six easternmost regions in the United States. The index makes use of population and regional differences to assess the impact of snowfall. For example, areas which receive very little snowfall on average may be more adversely affected than other regions, resulting in a higher severity. The Region may experience any level on the RSI scale. During the snowstorm of February 28 to March 3, 1980, which produced the greatest one-day snowfall amounts the region has experienced, the Region was classified as a Category 4 on the RSI scale. It is possible that more severe events and impacts could be felt in the future.

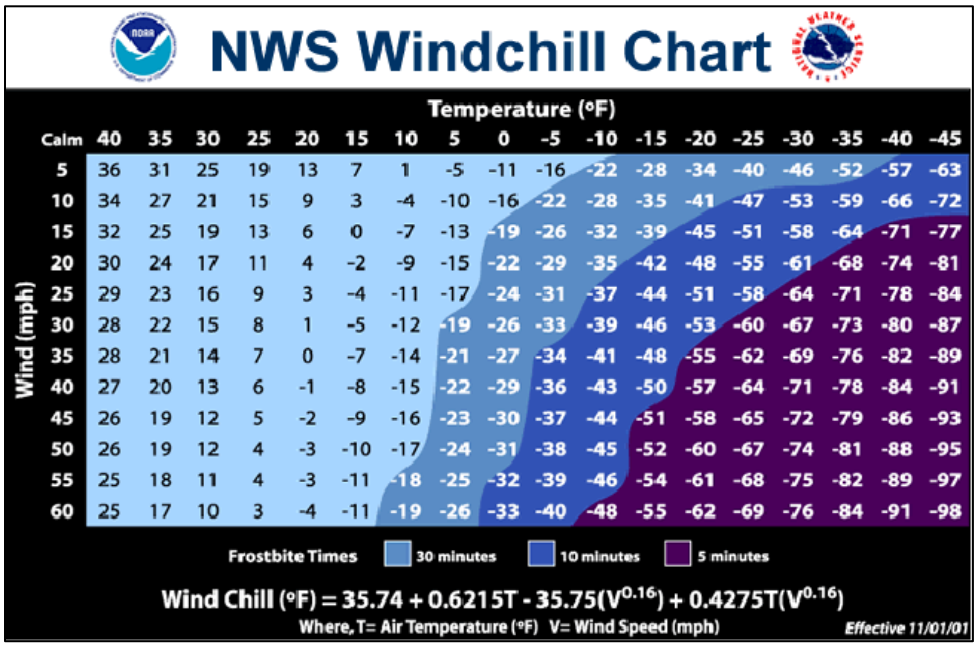
Table 4.68 – Regional Snowfall Index (RSI) Values

Category	RSI Value	Description
1	1-3	Notable
2	3-6	Significant
3	6-10	Major
4	10-18	Crippling
5	18+	Extreme

Source: NOAA

The NWS Wind Chill Temperature Index, shown in Figure 4.43, provides a formula for calculating the dangers of winter winds and freezing temperatures.

Figure 4.43 – NWS Wind Chill Temperature Index



Source: https://www.weather.gov/safety/cold-wind-chill-chart

Table 4.69 notes greatest recorded one-day snowfall totals for each county in the Pamlico Sound Region.

Table 4.69 – Greatest One-Day Snowfall by County

County	Inches	Location	Date
Beaufort	16.4 in.	Belhaven	March 3, 1980
Carteret	22.0 in.	Morehead City	March 3, 1980
Craven	12.5 in.	New Bern	January 30, 1965
Pamlico	18.0 in.	Bayboro	March 3, 1980

Source: NCEI/North Carolina Climate Office

The most significant recorded snow depth over the last 20 years took place in February 2014, with recorded depths averaging 4-8 inches across the four-county area.

Impact: 2 – Limited

The entirety of North Carolina is susceptible to winter storm and freeze events. Some ice and winter storms may be large enough to affect several states, while others might affect limited, localized areas. The degree of exposure typically depends on the normal expected severity of local winter weather. The Pamlico Sound Region is accustomed to moderate winter weather due to nor'easters originating in the Gulf Stream and producing frozen precipitation. Given the atmospheric nature of the hazard, the entire planning area has uniform exposure to a winter storm.

HISTORICAL OCCURRENCES

To get a full picture of the range of impacts of a severe winter storm, data for the following weather types as defined by the National Weather Service (NWS) Raleigh Forecast Office and tracked by NCEI were collected:

- **Blizzard** – A winter storm which produces the following conditions for 3 consecutive hours or longer: (1) sustained winds or frequent gusts 30 knots (35 mph) or greater, and (2) falling and/or blowing snow reducing visibility frequently to less than 1/4 mile.
- **Cold/Wind Chill** – Period of low temperatures or wind chill temperatures reaching or exceeding locally/regionally defined advisory conditions of 0°F to -14°F with wind speeds 10 mph (9 kt) or greater.
- **Extreme Cold/Wind Chill** – A period of extremely low temperatures or wind chill temperatures reaching or exceeding locally/regionally defined warning criteria, defined as wind chill -15°F or lower with wind speeds 10 mph (9 kt) or greater.
- **Frost/Freeze** – A surface air temperature of 32°F or lower, or the formation of ice crystals on the ground or other surfaces, for a period of time long enough to cause human or economic impact, during the locally defined growing season.
- **Heavy Snow** – Snow accumulation meeting or exceeding 12 and/or 24 hour warning criteria of 3 and 4 inches, respectively.
- **Ice Storm** – Ice accretion meeting or exceeding locally/regionally defined warning criteria of ¼ inch or greater resulting in significant, widespread power outages, tree damage and dangerous travel. Issued only in those rare instances where just heavy freezing rain is expected and there will be no "mixed bag" precipitation meaning no snow, sleet or rain.
- **Sleet** – Sleet accumulations meeting or exceeding locally/regionally defined warning criteria of ½ inch or more.
- **Winter Storm** – A winter weather event that has more than one significant hazard and meets or exceeds locally/regionally defined 12 and/or 24 hour warning criteria for at least one of the precipitation elements. Defined by NWS Raleigh Forecast Office as snow accumulations 3 inches or greater in 12 hours (4 inches or more in 24 hours); Freezing rain accumulations ¼ inch (6 mm) or greater; Sleet accumulations ½ inch (13 mm) or more. Issued when there is at least a 60% forecast confidence of any one of the three criteria being met.
- **Winter Weather** – A winter precipitation event that causes a death, injury, or a significant impact to commerce or transportation, but does not meet locally/regionally defined warning criteria.

Table 4.70 summarizes the recorded severe winter storm events that have impacted each county in the Pamlico Sound Region according to NCEI Storm Events data for the 25-year period from 1999 through 2023. Note that many events impacted all or multiple counties. There were 28 unique reported incidents related to severe winter storms in the Pamlico Sound Region during this time. There was no reported property or crop damage resulting from these incidents; however, damages may have occurred that were

not reported, and property and crop damages are possible impacts of future events. Similarly, there were no reported fatalities or injuries directly attributed to these events, but these types of impacts are possible in future events. No blizzard, cold/wind chill, extreme cold/wind chill, or sleet events were recorded.

Table 4.70 – Total Severe Winter Storm Impacts in the Pamlico Sound Region, 1999-2023

Event Type	Count of Recorded Events	Total Fatalities	Total Injuries	Total Property Damage	Total Crop Damage
Beaufort County					
Winter Storm	15	0	0	$0	$0
Winter Weather	4	0	0	$0	$0
Ice Storm	1	0	0	$0	$0
Heavy Snow	4	0	0	$0	$0
Frost/Freeze	1	0	0	$0	$0
Carteret County					
Winter Storm	8	0	0	$0	$0
Winter Weather	2	0	0	$0	$0
Ice Storm	2	0	0	$0	$0
Heavy Snow	3	0	0	$0	$0
Frost/Freeze	1	0	0	$0	$0
Craven County					
Winter Storm	10	0	0	$0	$0
Winter Weather	5	0	0	$0	$0
Ice Storm	3	0	0	$0	$0
Heavy Snow	6	0	0	$0	$0
Frost/Freeze	1	0	0	$0	$0
Pamlico County					
Winter Storm	9	0	0	$0	$0
Winter Weather	2	0	0	$0	$0
Ice Storm	1	0	0	$0	$0
Heavy Snow	4	0	0	$0	$0
Frost/Freeze	1	0	0	$0	$0
Pamlico Sound Region					
Winter Storm	15	0	0	$0	$0
Winter Weather	7	0	0	$0	$0
Ice Storm	4	0	0	$0	$0
Heavy Snow	6	0	0	$0	$0
Frost/Freeze	1	0	0	$0	$0
Total	**28**	**0**	**0**	**$0**	**$0**

Source: NCEI

A list of specific events that have impacted the Pamlico Sound Region are recorded in Table 4.71.

Table 4.71 – Recorded Severe Winter Storm Impacts in the Pamlico Sound Region, 1999-2023

Date	Event Type	Fatalities	Injuries	Property Damage	Crop Damage
12/3/2000	Heavy Snow	0	0	$0	$0
1/3/2002	Winter Storm	0	0	$0	$0
1/23/2003	Winter Storm	0	0	$0	$0
1/9/2004	Winter Weather	0	0	$0	$0

Date	Event Type	Fatalities	Injuries	Property Damage	Crop Damage
1/25/2004	Winter Storm	0	0	$0	$0
1/26/2004	Winter Storm	0	0	$0	$0
2/16/2004	Winter Weather	0	0	$0	$0
2/26/2004	Winter Weather	0	0	$0	$0
3/23/2004	Frost/Freeze	0	0	$0	$0
12/20/2004	Winter Storm	0	0	$0	$0
12/26/2004	Winter Storm	0	0	$0	$0
1/20/2009	Heavy Snow	0	0	$0	$0
1/30/2010	Winter Storm	0	0	$0	$0
2/12/2010	Heavy Snow	0	0	$0	$0
12/26/2010	Heavy Snow	0	0	$0	$0
1/10/2011	Heavy Snow	0	0	$0	$0
1/22/2011	Heavy Snow	0	0	$0	$0
1/28/2014	Winter Storm	0	0	$0	$0
2/11/2014	Winter Storm	0	0	$0	$0
1/9/2015	Winter Weather	0	0	$0	$0
2/16/2015	Ice Storm	0	0	$0	$0
2/24/2015	Ice Storm	0	0	$0	$0
2/12/2016	Winter Storm	0	0	$0	$0
1/3/2018	Winter Storm	0	0	$0	$0
1/17/2018	Winter Storm	0	0	$0	$0
2/20/2020	Winter Storm	0	0	$0	$0
1/28/2021	Winter Weather	0	0	$0	$0
1/21/2022	Winter Storm	0	0	$0	$0

Source: NCEI

Several storm impacts from NCEI are summarized below:

February 12, 2010 – A strong low pressure system moved northeast well offshore of the coast early February 13th. Widespread snow developed over the region during the evening of February 12th and continued into the morning of February 13th. Most of eastern North Carolina received between 4 and 7 inches of snowfall from this system. The Pamlico Sound Region saw 4 to 8 inches of snowfall.

February 11, 2014 – Low pressure developed along a stalled cold front off the NC coast during the day on February 11. All snow was reported on the northern coast, with a mesoscale snow band producing a corridor of 4-8 inches of snow from Jones County to central Outer Banks Dare County. Roads became snow and ice covered, and travel became treacherous through the day Tuesday. Precipitation came to an end Tuesday night, though temperatures remained well below freezing with roadways remaining treacherous. A second wave of wintry weather developed the morning of February 12. Minor accumulations of snow and freezing rain occurred inland, especially across the coastal plain, before changing to all rain during the afternoon.

January 11, 2018 – Low pressure deepening off the North Carolina coast produced significant snowfall over most of eastern North Carolina during the late evening of January 17th through the early morning of January 18th. Across the Pamlico Sound four-county region, snowfall ranged from less than 1 inch to 6 inches or more over the north coast. Roads were snow and ice covered, creating hazardous travel conditions.

February 20, 2020 – Low pressure developed well off the North Carolina coast February 20th and lifted northeast through February 21st. Rain developed during the afternoon of February 20th and gradually

mixed with and changed to snow during the evening over the mainland counties. The snow continues through early morning hours of February 21st before ending.

January 21, 2022 – A cold front moved through the area late in the day of January 20th. As the front moved through rain changed over to a wintry mix of snow, sleet and freezing rain on the evening of January 20th through early morning on the 21st before ending. Significant amounts of ice fell toward the Crystal Coast, with a general 2 to 6 of snow mixed with sleet farther north and west. The icing amounts of a quarter to a half of an inch toward the Crystal Coast were the highest amounts of ice this area has experienced, over the widest area, since the late 1990s.

The Pamlico Sound Region received one emergency declaration and one presidential disaster declaration since 1968 for incidents related to severe winter storms. As a state, North Carolina received eight disaster declarations related to severe winter storms during this timeframe.

Table 4.72 – Emergency & Disaster Declarations in Pamlico Sound Region due to Severe Winter Storms

Disaster Number	Date	Disaster Type	Incident Start	Incident End
234	1968	Severe Ice Storm	2/10/1968	2/10/1968
3110	1993	Snowstorm	3/13/1993	3/17/1993

Source: FEMA, September 25, 2024

PROBABILITY OF FUTURE OCCURRENCE

NCEI records 28 severe winter storm related events during the 25-year period from 1999 through 2023, which equates to an average of 1.12 events per year or more than 100 percent likelihood of an occurrence in any given year.

Probability: 4 – Highly Likely

CLIMATE CHANGE

According to the 2023 North Carolina Hazard Mitigation Plan, there is uncertainty associated with climate change impacts on future severe winter storms. Global temperature rise could cause shorter and warmer winters in many areas; however, the likelihood of dangerously low temperatures may increase due to continuing trends of temperature extremes. Warmer winters, however, mean that precipitation that would normally fall as snow may begin to fall as rain or freezing rain instead.

VULNERABILITY ASSESSMENT

PEOPLE

Winter storms are considered deceptive killers because most deaths are indirectly related to the storm event. The leading cause of death during winter storms is from automobile or other transportation accidents due to poor visibility and/or slippery roads. Additionally, exhaustion and heart attacks caused by overexertion may result from winter storms.

Power outages during very cold winter storm conditions can also create potentially dangerous situations. Elderly people account for the largest percentage of hypothermia victims. In addition, if the power is out for an extended period, residents are forced to find alternative means to heat their homes. The danger arises from carbon monoxide released from improperly ventilated heating sources such as space or kerosene heaters, furnaces, and blocked chimneys. House fires also occur more frequently in the winter due to lack of proper safety precautions when using an alternative heating source.

PROPERTY

According to reported data of storm impacts recorded by the NCEI, between 1999 and 2018, the Pamlico Sound Region experienced no property damage related to the impacts of severe winter storm. Losses due to severe weather may not have been reported but should be expected during severe winter weather incidents.

Potential losses associated with winter storms include the cost of the removal of snow from roadways, debris cleanup, and indirect losses from power outages, lost productivity, and other factors. Additionally, severe ice is often associated with winter storms; and an icy roadway on a bridge or at a busy intersection, for example, threatens the safety of residents and visitors. Ice accumulation can also cause power outages and have a significant impact on public utilities.

ENVIRONMENT

Winter storm events may include ice or snow accumulation on trees which can cause large limbs, or even whole trees, to snap and potentially fall on buildings, cars, or power lines. This potential for winter debris creates a dangerous environment to be outside in; significant injury or fatality may occur if a large limb snaps while a local resident is out driving or walking underneath it.

CONSEQUENCE ANALYSIS

Table 4.73 summarizes the potential negative consequences of severe winter storm.

Table 4.73 – Consequence Analysis – Severe Winter Storm

Category	Consequences
Public	Localized impact expected to be severe for affected areas and moderate to light for other less affected areas.
Responders	Adverse impact expected to be severe for unprotected personnel and moderate to light for trained, equipped, and protected personnel.
Continuity of Operations (including Continued Delivery of Services)	Localized disruption of roads and/or utilities caused by incident may postpone delivery of some services.
Property, Facilities and Infrastructure	Localized impact to facilities and infrastructure in the areas of the incident. Power lines and roads most adversely affected.
Environment	Environmental damage to trees, bushes, etc.
Economic Condition of the Jurisdiction	Local economy and finances may be adversely affected, depending on damage.
Public Confidence in the Jurisdiction's Governance	Ability to respond and recover may be questioned and challenged if planning, response, and recovery not timely and effective.

HAZARD SUMMARY BY JURISDICTION

The following table summarizes severe winter storm hazard risk by jurisdiction. Severe winter storm risk does not vary substantially by jurisdiction because these events are typically regional in nature.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
All jurisdictions	*4*	*2*	*4*	*1*	*3*	*3.0*	*H*

4.5.8 TORNADOES & THUNDERSTORMS

HAZARD BACKGROUND

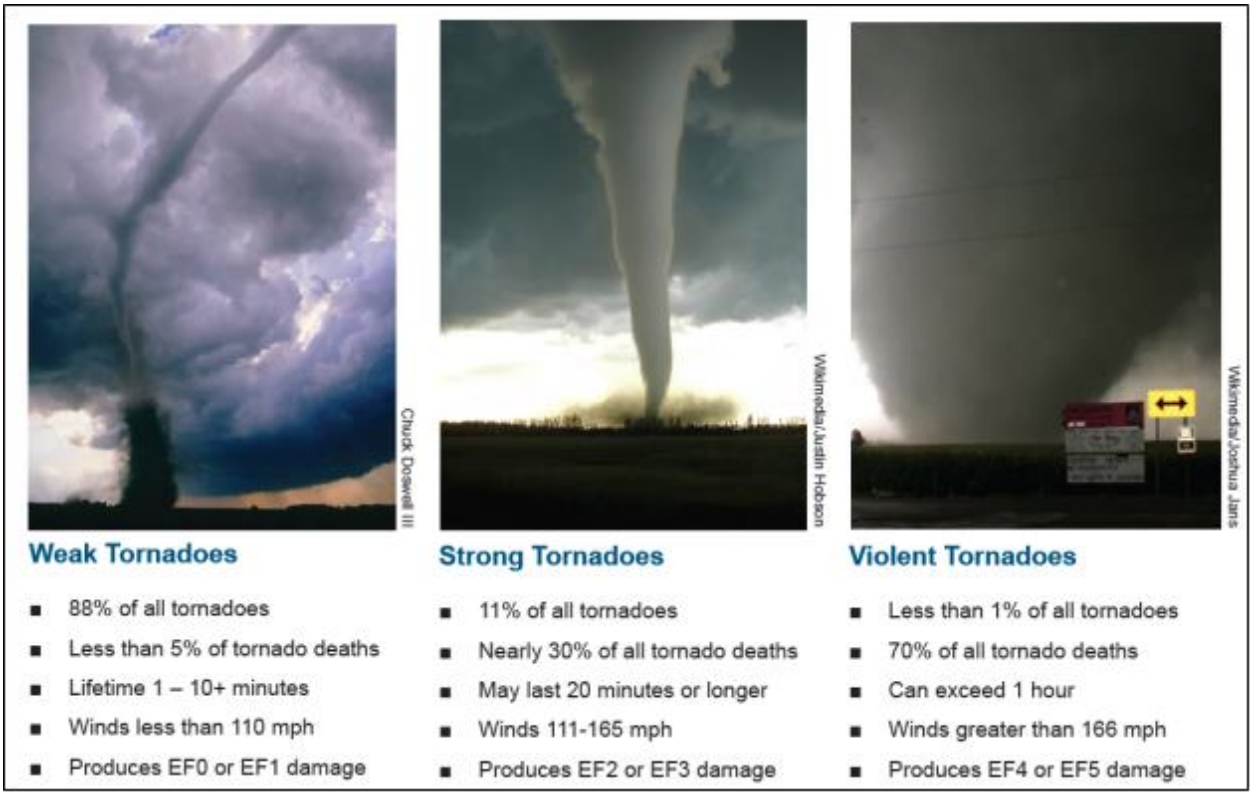
TORNADOES

According to the Glossary of Meteorology (AMS 2000), a tornado is "a violently rotating column of air, pendant from a cumuliform cloud or underneath a cumuliform cloud, and often (but not always) visible as a funnel cloud." Tornadoes can appear from any direction. Most move from southwest to northeast, or west to east. Some tornadoes have changed direction or even backtracked.

Tornadoes are commonly produced by land falling tropical cyclones. Those making landfall along the Gulf coast traditionally produce more tornadoes than those making landfall along the Atlantic coast. Tornadoes that form within hurricanes are more common in the right front quadrant with respect to the forward direction but can occur in other areas as well. According to the NHC, about 10% of the tropical cyclone-related fatalities are caused by tornadoes. Tornadoes are more likely to be spawned within 24 hours of landfall and are usually within 30 miles of the tropical cyclone's center.

Tornadoes have the potential to produce winds in excess of 200 mph (EF5 on the Enhanced Fujita Scale) and can be very expansive – some in the Great Plains have exceeded two miles in width. Tornadoes associated with tropical cyclones, however, tend to be of lower intensity (EF0 to EF2) and much smaller in size than ones that form in the Great Plains. Figure 4.44 provides a description and breakdown of tornadoes by severity. Violent tornadoes, as described below, are unlikely in the Pamlico Sound Region.

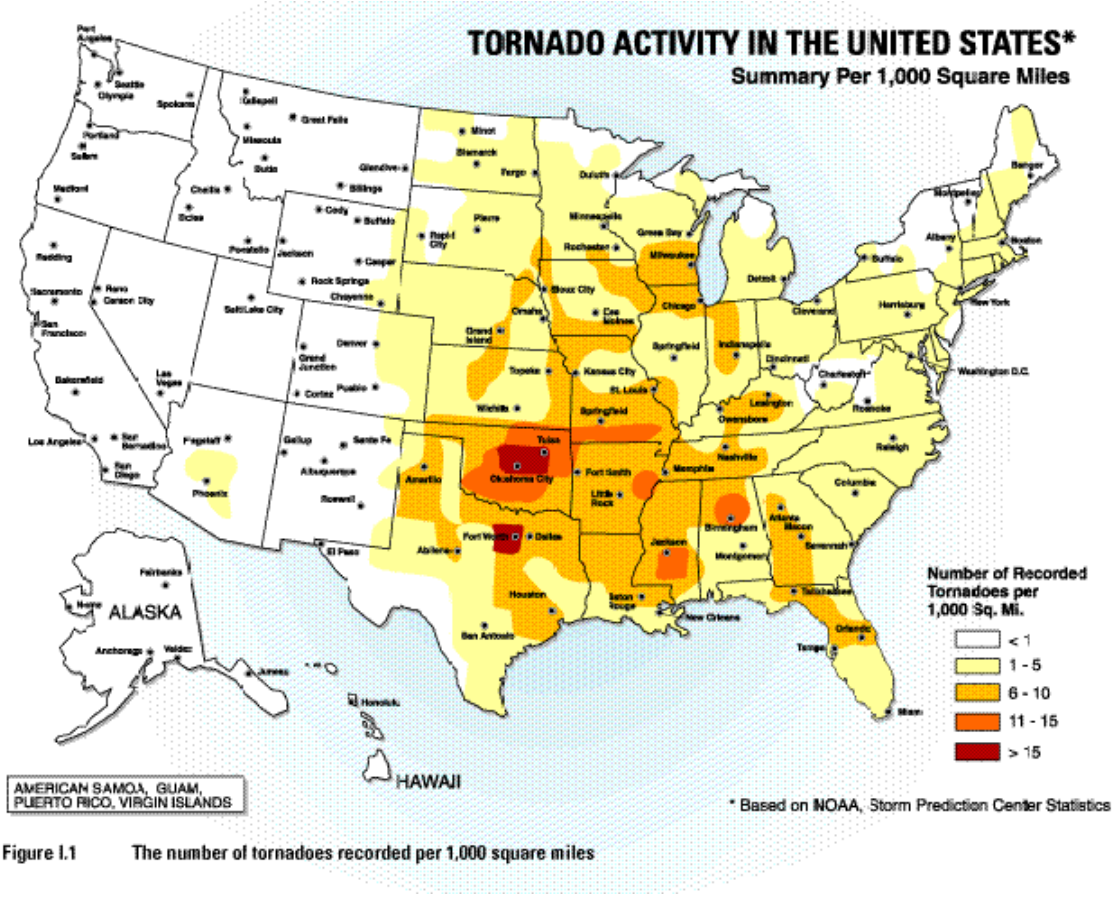
Figure 4.44 – Tornadoes by Severity



Source: NOAA National Weather Service

Figure 4.45 shows tornado activity in the United States based on the number of recorded tornadoes per 1,000 square miles. North Carolina has averaged 1 to 5 tornadoes per 1,000 square miles.

Figure 4.45 – Tornado Activity in the U.S.



Source: American Society of Civil Engineers

THUNDERSTORM WINDS

Thunderstorms result from the rapid upward movement of warm, moist air. They can occur inside warm, moist air masses and at fronts. As the warm, moist air moves upward, it cools, condenses, and forms cumulonimbus clouds that can reach heights of greater than 35,000 ft. As the rising air reaches its dew point, water droplets and ice form and begin falling the long distance through the clouds towards earth‘s surface. As the droplets fall, they collide with other droplets and become larger. The falling droplets create a downdraft of air that spreads out at earth‘s surface and causes strong winds associated with thunderstorms.

There are four ways in which thunderstorms can organize: single cell, multi-cell cluster, multi-cell lines (squall lines), and supercells. Even though supercell thunderstorms are most frequently associated with severe weather phenomena, thunderstorms most frequently organize into clusters or lines. Warm, humid conditions are favorable for the development of thunderstorms. The average single cell thunderstorm is approximately 15 miles in diameter and lasts less than 30 minutes at a single location. However, thunderstorms, especially when organized into clusters or lines, can travel intact for distances exceeding 600 miles.

Thunderstorms are responsible for the development and formation of many severe weather phenomena, posing great hazards to the population and landscape. Damage that results from thunderstorms is mainly

inflicted by downburst winds, large hailstones, and flash flooding caused by heavy precipitation. Stronger thunderstorms are capable of producing tornadoes and waterspouts. While conditions for thunderstorm conditions may be anticipated within a few hours, severe conditions are difficult to predict. Regardless of severity, storms generally pass within a few hours.

Warning Time: 4 – Less than six hours

Duration: 1 – Less than six hours

LIGHTNING

Lightning is a sudden electrical discharge released from the atmosphere that follows a course from cloud to ground, cloud to cloud, or cloud to surrounding air, with light illuminating its path. Lightning's unpredictable nature causes it to be one of the most feared weather elements.

All thunderstorms produce lightning, which often strikes outside of the area where it is raining and is known to fall more than 10 miles away from the rainfall area. When lightning strikes, electricity shoots through the air and causes vibrations creating the sound of thunder. A bolt of lightning can reach temperatures approaching 50,000 degrees Fahrenheit. Nationwide, lightning kills 75 to 100 people each year. Lightning strikes can also start building fires and wildland fires, and damage electrical systems and equipment.

The watch/warning time for a given storm is usually a few hours. There is no warning time for any given lightning strike. Lightning strikes are instantaneous. Storms that cause lightning usually pass within a few hours.

Warning Time: 4 – Less than 6 hours

Duration: 1 – Less than 6 hours

HAIL

According to the National Oceanic and Atmospheric Administration (NOAA), hail is precipitation that is formed when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere causing them to freeze. The raindrops form into small frozen droplets and then continue to grow as they come into contact with super-cooled water which will freeze on contact with the frozen rain droplet. This frozen rain droplet can continue to grow and form hail. As long as the updraft forces can support or suspend the weight of the hailstone, hail can continue to grow.

At the time when the updraft can no longer support the hailstone, it will fall down to the earth. For example, a ¼" diameter or pea sized hail requires updrafts of 24 mph, while a 2 ¾" diameter or baseball sized hail requires an updraft of 81 mph. The largest hailstone recorded in the United States was found in Vivian, South Dakota on July 23, 2010; it measured eight inches in diameter, almost the size of a soccer ball. While soccer-ball-sized hail is the exception, but even small pea sized hail can do damage.

Hailstorms in North Carolina cause damage to property, crops, and the environment, and kill and injure livestock. In the United States, hail causes more than $1 billion in damage to property and crops each year. Much of the damage inflicted by hail is to crops. Even relatively small hail can shred plants to ribbons in a matter of minutes. Vehicles, roofs of buildings and homes, and landscaping are the other things most commonly damaged by hail. Hail has been known to cause injury to humans; occasionally, these injuries can be fatal.

The onset of thunderstorms with hail is generally rapid. However, advancements in meteorological forecasting allow for some warning. Storms usually pass in a few hours.

Warning Time: 4 – Less than 6 hours

Duration: 1 – Less than 6 hours

LOCATION

TORNADOES

Tornadoes and thunderstorms can occur anywhere in the region and do not have a defined vulnerability zone. Tornadoes typically impact a small area, but damage may be extensive. Tornado locations are completely random, meaning risk to tornado isn't increased in one area of the county versus another. Tornadoes can be spawned by tropical cyclones; however, these tornadoes typically occur up to 2 days before and as many as 3 days after landfall of the tropical cyclone.

Spatial Extent: 2 – Small

THUNDERSTORM WINDS

Thunderstorm winds, lightning, and hail events do not have a defined vulnerability zone. The average single cell thunderstorm is approximately 15 miles in diameter and lasts less than 30 minutes at a single location. However, thunderstorms can travel intact for distances exceeding 600 miles, especially when organized into clusters or lines. Any given thunderstorm event may be expected to impact a large portion of the Pamlico Sound Region.

Spatial Extent: 3 – Moderate

LIGHTNING AND HAIL

The scope of lightning and hail is generally defined to the footprint of its associated thunderstorm. However, large-scale hail tends to occur in a more localized area within the storm, and lightning strikes and associated damages are highly localized. It should be noted that while lightning is most often affiliated with severe thunderstorms, it may also strike outside of heavy rain and might occur as far as 10 miles away from any rainfall. The entire Pamlico Sound Region is uniformly exposed to each of these hazards.

Spatial Extent: 1 – Negligible

EXTENT

TORNADOES

Prior to February 1, 2007, tornado intensity was measured by the Fujita (F) scale. This scale was revised and is now the Enhanced Fujita (EF) scale. Both scales are sets of wind estimates (not measurements) based on damage. The EF scale provides more damage indicators (28) and associated degrees of damage, allowing for more detailed analysis with better correlation between damage and wind speed. It is also more precise because it considers the materials affected and the construction of structures damaged by a tornado. Table 4.74 shows the wind speeds associated with the Enhanced Fujita scale ratings and the damage that could result at different levels of intensity.

Table 4.74 – Enhanced Fujita Scale

EF Number	3 Second Gust (mph)	Damage
0	65-85	**Light damage**. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
1	96-110	**Moderate damage**. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.

EF Number	3 Second Gust (mph)	Damage
2	111-135	**Considerable damage**. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
3	136-165	**Severe damage**. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
4	166-200	**Devastating damage**. Well-constructed houses and whole frame houses completely leveled; cars thrown, and small missiles generated.
5	Over 200	**Incredible damage**. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m; high-rise buildings have significant structural deformation; incredible phenomena will occur.

The most intense tornado to pass through the Pamlico Sound Region in the past 25 years was an EF3 in April 2014. This tornado resulted in 16 injuries and $15,000,000 in property damage.

Impact: 3 – Critical

THUNDERSTORM WINDS

The magnitude of a thunderstorm event can be defined by the storm's maximum wind speed and its impacts. NCEI divides wind events into several types including High Wind, Strong Wind, Thunderstorm Wind, Tornado, and Hurricane. For this severe weather risk assessment, High Wind, Strong Wind and Thunderstorm Wind data was collected. Tornado is discussed above, and Hurricane Wind is addressed as a separate hazard. The following definitions come from the NCEI Storm Data Preparation document.

High Wind – Sustained non-convective winds of 40mph or greater lasting for one hour or longer or winds (sustained or gusts) of 58 mph for any duration on a widespread or localized basis.

Strong Wind – Non-convective winds gusting less than 58 mph, or sustained winds less than 40 mph, resulting in a fatality, injury, or damage.

Thunderstorm Wind – Winds, arising from convection (occurring within 30 minutes of lightning being observed or detected), with speeds of at least 58 mph, or winds of any speed (non-severe thunderstorm winds below 58 mph) producing a fatality, injury or damage.

The strongest recorded thunderstorm wind event in the county occurred on June 9, 2007 with a measured gust of 92 mph at Harkers Island and estimated gusts of 70 mph elsewhere across the region. Overall, the event caused $105,000 in property damage, including downed power poles and a structure fire due to lightning.

Impact: 2 – Limited

LIGHTNING

Lightning is measured by the Lightning Activity Level (LAL) scale, created by the National Weather Service to define lightning activity into a specific categorical scale. The LAL is a common parameter that is part of fire weather forecasts nationwide.

Table 4.75 – Lightning Activity Level Scale

Lightning Activity Level Scale	
LAL 1	No thunderstorms
LAL 2	Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent, 1 to 5 cloud to ground lightning strikes in a five-minute period
LAL 3	Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a five-minute period
LAL 4	Scattered thunderstorms. Moderate rain is commonly produced. Lightning is frequent, 11 to 15 cloud to ground strikes in a five-minute period
LAL 5	Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a five-minute period
LAL 6	Dry lightning (same as LAL 3 but without rain). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag warning

Source: National Weather Service

With the right conditions in place, the entire county is susceptible to each lightning activity level as defined by the LAL. Most lightning strikes cause limited damage to specific structures in a limited area, and cause very few injuries or fatalities, and minimal disruption on quality of life.

Impact: 1 – Minor

HAIL

The NWS classifies hail by diameter size, and corresponding everyday objects to help relay scope and severity to the population. Table 4.76 indicates the hailstone measurements utilized by the NWS.

Table 4.76 – Hailstone Measurement Comparison Chart

Average Diameter	Corresponding Household Object
.25 inch	Pea
.5 inch	Marble/Mothball
.75 inch	Dime/Penny
.875 inch	Nickel
1.0 inch	Quarter
1.5 inch	Ping-pong ball
1.75 inch	Golf ball
2.0 inch	Hen egg
2.5 inch	Tennis ball
2.75 inch	Baseball
3.00 inch	Teacup
4.00 inch	Grapefruit
4.5 inch	Softball

The Tornado and Storm Research Organization (TORRO) has further described hail sizes by their typical damage impacts. Table 4.77 describes typical intensity and damage impacts of the various sizes of hail.

Table 4.77 – Tornado and Storm Research Organization Hailstorm Intensity Scale

Intensity Category	Diameter (mm)	Diameter (inches)	Size Description	Typical Damage Impacts
Hard Hail	5-9	0.2-0.4	Pea	No damage

Intensity Category	Diameter (mm)	Diameter (inches)	Size Description	Typical Damage Impacts
Potentially Damaging	10-15	0.4-0.6	Mothball	Slight general damage to plants, crops
Significant	16-20	0.6-0.8	Marble, grape	Significant damage to fruit, crops, vegetation
Severe	21-30	0.8-1.2	Walnut	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
Severe	31-40	1.2-1.6	Pigeon's egg > squash ball	Widespread glass damage, vehicle bodywork damage
Destructive	41-50	1.6-2.0	Golf ball > Pullet's egg	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
Destructive	51-60	2.0-2.4	Hen's egg	Bodywork of grounded aircraft dented, brick walls pitted
Destructive	61-75	2.4-3.0	Tennis ball > cricket ball	Severe roof damage, risk of serious injuries
Destructive	76-90	3.0-3.5	Large orange > softball	Severe damage to aircraft bodywork
Super Hailstorms	91-100	3.6-3.9	Grapefruit	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
Super Hailstorms	>100	4.0+	Melon	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Source: Tornado and Storm Research Organization (TORRO), Department of Geography, Oxford Brookes University

It should be noted that in addition to hail diameter, factors including number and density of hailstones, hail fall speed, and surface wind speeds affect severity.

The average hailstone size recorded between 1999 and 2023 in the Pamlico Sound Region was a little over 1" in diameter. The largest hailstones recorded during this period were 2.75", recorded on four separate dates. The worst instance occurred on July 28, 2014 in Havelock, where many cars suffered damages from cracked or broken windshields and windows and mobile homes sustained broken windows and severe damage to siding.

Impact: 1 – Minor

HISTORICAL OCCURRENCES

TORNADOES

NCEI storm reports were reviewed from 1999 through 2023 to assess whether recent trends varied from the longer historical record. According to NCEI, the Pamlico Sound Region experienced 112 tornado incidents between 1999 and 2023, causing no fatalities, 35 injuries, $34 million in property damage and no reported crop damage. Table 4.78 shows historical tornadoes in the Pamlico Sound Region during this time period while Figure 4.46 reflects the tracks of past tornadoes that passed through the Region.

Table 4.78 – Recorded Tornadoes in Pamlico Sound Region, 1999-2023

Location	Date	Time	Magnitude	Deaths/Injuries	Property Damage
Dover, Tuscarora	4/11/99	15:38	F0	0/0	$0

Location	Date	Time	Magnitude	Deaths/Injuries	Property Damage
Bridgeton	4/15/99	21:45	F0	0/0	$0
Davis	4/15/99	22:05	F1	0/0	$500,000
Region	9/15/99	15:15	F2	0/0	$1,000,000
Tuscarora	3/17/00	00:10	F0	0/0	$50,000
Cape Carteret	4/15/00	11:45	F0	0/0	$20,000
Bridgeton	4/15/00	12:17	F1	0/1	$700,000
Morehead City	4/15/00	12:45	F0	0/0	$0
Stella	9/18/00	15:37	F0	0/0	$0
Cape Carteret	4/1/01	15:30	F0	0/0	$0
Morehead City	4/17/01	15:00	F1	0/0	$100,000
Sealevel	4/17/01	15:16	F0	0/0	$0
Pantego	10/11/02	16:38	F2	0/0	$3,000,000
Belhaven	10/11/02	17:45	F0	0/0	$20,000
Atlantic	10/11/02	18:40	F0	0/0	$0
Washington	5/10/03	20:42	F0	0/0	$0
Newport & Atlantic Beach	7/2/03	09:55	F0	0/0	$2,000
Vanceboro	7/2/03	13:40	F0	0/0	$2,000
Aurora	8/6/03	11:30	F0	0/0	$0
Morehead City	8/6/03	16:45	F0	0/0	$50,000
Cedar Is	8/14/03	11:01	F0	0/0	$0
Morehead City	4/13/04	13:35	F0	0/0	$10,000
Stacy & Williston	6/7/04	10:53	F0	0/0	$0
Dover, New Bern & Bayboro	6/23/04	19:35	F0	0/0	$0
Atlantic Beach	7/17/04	16:19	F1	0/0	$80,000
Stella & Bath	8/13/04	04:53	F1	0/3	$384,000
Harlowe & North Harlowe	8/15/04	13:23	F0	0/0	$0
James City, Grantsboro, & Merritt	10/13/04	12:20	F0	0/0	$2,000
Atlantic Beach	6/25/05	17:40	F0	0/0	$1,000
Broad Creek	7/13/05	12:35	F0	0/0	$500
Salter Path	8/27/05	14:15	F0	0/0	$0
Atlantic Beach	6/14/06	11:40	F0	0/0	$25,000
Sealevel	7/1/06	11:30	F0	0/0	$0
Stacy	8/27/06	14:29	F0	0/0	$5,000
Morehead City & Stacy	8/31/06	17:25	F0	0/0	$10,000
Smyrna	3/2/07	08:40	EF0	0/0	$1,000
Old Ford	7/11/07	18:00	EF1	0/0	$250,000
Old Ford	2/18/08	04:38	EF1	0/0	$50,000
Bunyan & Chocowinity	4/20/08	14:45	EF0	0/0	$0
Leechville	4/28/08	16:25	EF0	0/0	$0
Newport, Crab Pt. Village, Beaufort	5/11/08	19:06	EF1	0/0	$40,000
Alligoods	4/11/09	01:40	EF0	0/0	$100,000
Honolulu	5/5/09	16:25	EF0	0/0	$0
Vanceboro	5/7/09	17:25	EF0	0/0	$10,000
Alligoods & Bunyon	7/17/09	16:23	EF0	0/0	$0

Location	Date	Time	Magnitude	Deaths/Injuries	Property Damage
Vanceboro, Bath, Riverdale, Kennel Beach	4/16/11	18:40	EF2	0/7	$4,004,000
Ft Barnwell, Pungo	4/28/11	15:20	EF0	0/0	$0
Leechville	8/26/11	20:12	EF1	0/0	$200,000
Truttneys Lndg	5/30/12	09:34	EF1	0/0	$600,000
Core Creek	12/26/12	14:58	EF1	0/0	$10,000
Camp Glenn	11/26/13	22:15	EF2	0/2	$6,500,000
Pantego	4/7/14	14:49	EF2	0/5	$1,000,000
Chocowinity	4/25/14	18:35	EF3	0/16	$15,000,000
Cove City	4/29/14	13:25	EF0	0/0	$0
Davis	2/16/16	08:51	EF1	0/0	$100,000
Ocean	6/25/16	12:45	EF0	0/1	$50,000
Straits, Marshallberg	9/2/16	20:20	EF1	0/0	$225,000
Lowland, Cherry Pt. Lndg, Bettie, David, Otway, Kuhns	9/13/18	10:23	EF1	0/0	$0
Atlantic Beach	11/13/18	04:45	EF1	0/0	$0
Cape Carteret, Broad Creek, & Mill Creek	11/24/18	14:06	EF2	0/0	$0
Broad Creek	11/24/18	14:10	EF2	0/0	$0
Mill Creek	11/24/18	14:40	EF0	0/0	$0
Cape Carteret	9/5/19	8:02	EF2	0/0	$0
Vanceboro, James City	9/5/19	13:30	EF0	0/0	$0
Vanceboro	10/22/19	18:43	EF0	0/0	$0
Truttneys Lndg	11/1/19	00:15	EF0	0/0	$0
Bayview	4/13/20	9:15	EF0	0/0	$0
Cherry Pt USNR	4/13/20	9:20	EF0	0/0	$0
Surry, Acre Station, Burbage Xrd	8/3/20	23:18	EF1	0/0	$0
Kennel Beach	8/3/20	22:23	EF1	0/0	$0
Merrimon	9/17/20	20:16	EF1	0/0	$0
Hobucken	9/18/20	00:33	EF0	0/0	$0
Hymans	5/16/22	19:20	EF1	0/0	$0
South Creek	9/30/22	14:22	EFU	0/0	$0
Bayview	1/4/23	14:49	EF1	0/0	$0
Total				**0/35**	**$ 34,101,500**

Source: NCEI

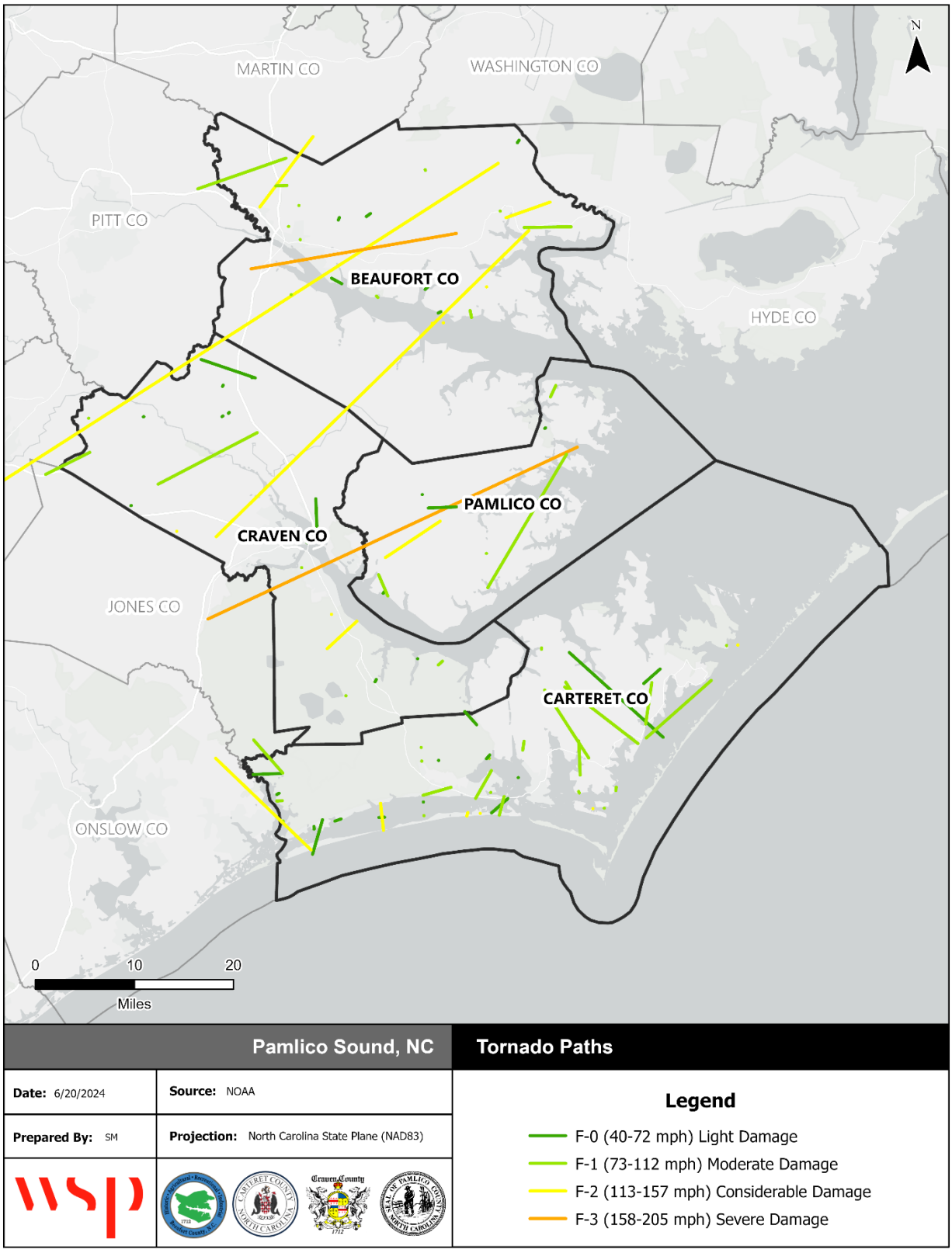
Of the sixteen tornadoes recorded by NCEI between 2019 and 2023, seven were categorized as EF0, and seven tornadoes were categorized as EF1. Table 4.79 summarizes these occurrences by county.

Table 4.79 – Recorded Tornadoes, 2019-2023

County	Total Recorded Occurrences
Beaufort County	6
Carteret County	3
Craven County	5
Pamlico County	2
Total	**16**

Source: NCEI

Figure 4.46 – Tornado Paths Through Pamlico Sound Region, 1950-2023



Source: NOAA/NWS Storm Prediction Center

Specific incidents with some level of impact include:

April 16, 2011 – An EF2 tornado in the Pamlico Sound Region touched down in the Croatan Forest to the west of Highway 70, crossed Highway 70, and damaged numerous trees with winds of 125 mph and a damage width of 200 yards. Numerous homes were severely damaged with several having the second story or roof removed. The tornado continued to track northeast across the Neuse River. The tornado caused an estimated $4 million in damage.

November 26, 2013 – A waterspout moved ashore off Bogue Sound and produced a 200-yard-wide EF1 tornado that tracked across parts of Morehead City. The tornado first impacted the Carteret Community College causing structural damage to several buildings. The tornado then lifted and dropped, causing damage to the Carteret General Hospital and several vehicles in the parking lot. The tornado moved into residential areas where many homes were directly damaged or damaged by uprooted trees. The tornado also damaged Crab Point north of Morehead City Damage was estimated at $4 million.

April 25, 2014 – A tornado in Beaufort touched down west of Chocowinity along Taylor Road causing damage to trees and mobile homes. The tornado then strengthened to an EF2 and impacted homes and businesses from U.S. Highway 17 and North Carolina Highway 33 eastward for about 1 mile. The tornado intensified to an EF3 with winds estimated at 150 mph and damaged homes along this path. Many homes, vehicles, and boats in this area were severely damaged or destroyed. The tornado then moved near Shorewood Drive and Daniels Drive after crossing the Pamlico River. Strong EF2 damage occurred along a path more than an additional 15 miles. Damages were extensive to structures and trees. Overall, the storm caused an estimated $15 million in damage and injured 16 people.

November 13, 2018 – A supercell thunderstorm came ashore across Carteret County and produced a variety of severe weather. A waterspout formed offshore and came on land as a tornado. Severe thunderstorm winds also occurred in association with the same storm. Another severe thunderstorm produced wind damage in Beaufort County.

April 13, 2020 – A line of strong to severe thunderstorms with embedded tornadoes swept through Eastern North Carolina during the morning hours between sunrise and noon. Widespread reports of wind damage, including tornadoes, were observed. Six total tornadoes occurred, 5 EF0's, and 1 EF1.

January 4, 2023 – A very warm and humid air mass combined to produce an unstable atmosphere out ahead of a strong cold front. The front moved through the early evening, while out ahead of it, several lines of severe thunderstorms raced across Eastern North Carolina during the afternoon hours during the peak heating of the day. Multiple reports of damage to homes occurred, along with reports of trees and powerlines blown down with estimated thunderstorm wind gusts of 60 to 70 mph. Within a particular line of thunderstorms, a brief tornado formed and touched down in Bayview before quickly lifting as it exited the community.

THUNDERSTORM WINDS

Between January 1, 1999 and December 31, 2023, the NCEI recorded 532 separate incidents of high winds (41), strong winds (10), and thunderstorm winds (481), occurring on 239 separate days. These events caused $ 698000 in recorded property damage, 41 injuries and 2 fatalities. The recorded gusts averaged 60 mph, with the highest gust recorded at 92 mph. Of these events, 44 caused property damage. Wind gusts with property damage recorded averaged $15,800 in damage, with two gusts causing a reported $100,000 in damage each (in Beaufort County on March 8, 2005 and in Carteret County on June 9, 2007). All incidents causing property damage are recorded below:

Table 4.80 – Recorded Wind Events with Property Damages in the Pamlico Sound Region, 1999-2023

Location	Date	Time	Wind Speed (mph)	Fatalities	Injuries	Property Damage
Grantsboro	5/22/2000	2128	77	0	0	$20,000
Cherry Pt Lndg	5/28/2000	1423	-	0	0	$15,000
Beaufort	5/28/2000	1521	-	0	0	$10,000
Blounts Creek Statio	7/16/2000	1553	75	0	0	$10,000
Florence	8/16/2000	2315	-	0	0	$30,000
Havelock	8/18/2000	1855	-	0	0	$50,000
Cove City	5/28/2001	1030	70	0	0	$1,000
New Bern	5/28/2001	1030	75	0	0	$10,000
Washington Park	5/13/2002	2035	60	0	0	$3,000
Belhaven	7/10/2002	1421	71	0	0	$4,000
Atlantic Beach	12/10/2003	2245	58	0	0	$1,000
New Bern	12/10/2003	2255	72	0	0	$7,000
Beaufort (Zone)	3/7/2004	2215	58	0	0	$5,000
Craven (Zone)	3/7/2004	2215	58	0	0	$4,000
Atlantic Beach	4/13/2004	1325	60	0	0	$10,000
Countywide	3/8/2005	1125	62	0	0	$75,000
Countywide	3/8/2005	1130	85	0	0	$100,000
Countywide	3/8/2005	1138	58	0	0	$10,000
Countywide	3/8/2005	1142	63	0	0	$10,000
Newport	5/20/2005	2015	58	0	0	$5,000
Dover	7/28/2006	1716	63	0	0	$5,000
Washington	7/28/2006	2120	60	0	0	$10,000
Harkers Is	6/9/2007	1530	64	0	0	$100,000
Otway	6/9/2007	1530	69	0	0	$5,000
Trent Woods	1/7/2009	1842	63	0	0	$10,000
Aurora	6/26/2009	1524	69	0	0	$5,000
Beaufort (Zone)	2/10/2010	800	52	0	0	$500
Craven (Zone)	2/10/2010	830	52	0	0	$500
Pamlico (Zone)	2/10/2010	1120	52	0	0	$500
Acre Station	6/29/2010	1441	63	0	0	$500
New Bern	6/29/2010	1731	63	0	0	$5,000
Beaufort	6/20/2011	200	76	0	0	$15,000
Beaufort Moorehd Arp	6/20/2011	203	75	0	0	$50,000
Pinetown	7/23/2012	720	58	0	0	$1,000
Atlantic Beach	12/26/2012	1450	81	0	0	$3,000
Granthams	1/31/2013	237	63	0	0	$25,000
Alliance	1/31/2013	247	58	0	0	$3,000
Carteret (Zone)	3/6/2013	1500	49	0	0	$500
Bayview	6/27/2013	1722	58	0	0	$500
Beaufort Moorehd Arp	2/16/2016	840	69	0	0	$5,000
Lennoxville	2/16/2016	855	63	0	0	$10,000
Bettie	2/16/2016	857	81	0	0	$10,000

Location	Date	Time	Wind Speed (mph)	Fatalities	Injuries	Property Damage
Bettie	2/16/2016	858	85	0	0	$50,000
Granthams	7/5/2016	2014	58	0	0	$3,000
Total				**0**	**0**	**$687,000**

Source: NCEI

Of all 532 wind events during this period, there were 3 incidents that directly caused deaths or injuries. These incidents are recorded below:

Table 4.81 – Recorded Wind Events with Injuries and/or Fatalities, 1999-2018

Location	Event Type	Date	Wind Speed (mph)	Fatalities	Injuries	Property Damage
Mc Connell	Thunderstorm Wind	7/1/2012	69	2	0	$0
Washington Arpt	Thunderstorm Wind	7/1/2012	69	0	40	$0
Blounts Creek Station	Thunderstorm Wind	6/5/2014	58	0	1	$0
			Total	**2**	**41**	**$0**

Source: NCEI

LIGHTNING

According to NCEI data, there were 7 lightning strikes reported between 1999 and 2023. Of these, five events caused recorded property damage totaling over $6.1 million, with one event responsible for the majority of that damage. Two additional events directly caused two fatalities and one injury. No crop damage was recorded by these strikes. It should be noted that lightning events recorded by the NCEI are only those that are reported; it is certain that additional lightning incidents have occurred in the Region. Table 4.82 details NCEI-recorded lightning strikes from 1999 through 2023.

Table 4.82 – Recorded Lightning Strikes in the Pamlico Sound Region, 1999-2023

Location	Date	Time	Fatalities	Injuries	Property Damage
Washington	7/25/2001	1610	0	0	$2,000
Pantego	10/11/2002	1830	0	0	$100,000
North Harlowe	6/19/2003	1915	1	1	$0
Cherry Pt Mcas	6/8/2006	1400	1	0	$0
Newport	6/9/2007	1515	0	0	$5,000
Oriental	7/21/2010	2124	0	0	$6,000,000
Granthams	7/20/2012	1645	0	0	$500
		Total	**2**	**1**	**$6,107,500**

Source: NCEI

The following are a selection of narrative descriptions recorded in NCEI for lightning events that occurred in the Pamlico Sound Region:

July 25, 2001 – Lightning struck a tree which then fell onto a residence late in the afternoon. The residence suffered minor structural damage from the weight of the tree.

October 11, 2002 – Lightning struck a historic church near Pantego causing it to burn completely to the ground.

June 19, 2003 – Craven County Emergency Management reported a lightning fatality which occurred on Adams Creek in the Harlowe area of southeastern Craven County.

June 8, 2006 – Mother and unborn child killed by lightning strike just outside of Marine Squadron 1 Transport Building.

July 21, 2010 – House struck by lightning and burned in the River Dunes community in Oriental.

Most recorded property damage attributed to lightning was due to structure fires ignited by lightning. The highest rate of property damage recorded for a single incident was $6,000,000.

HAIL

NCEI records 351 separate hail incidents across 129 days between January 1, 1999 and December 31, 2023 in the Pamlico Sound Region. Of these, eight events were reported to have directly caused property damage; there were no reported deaths, injuries or crop damage. The largest diameter hail recorded in the Region was 2.75 inches; hail this size fell on four separate occasions, in Beaufort, Craven, and Pamlico Counties. The average hail size in all storms was a little over one inch in diameter. Table 4.83 summarizes hail occurrences by county from 1999 through 2023.

Table 4.83 – Summary of Hail Occurrences by County, 1999-2023

County	Number of Occurrences	Average Hail Diameter	Total Property Damage
Beaufort County	113	1.09”	$150,000
Carteret County	63	0.93”	$0
Craven County	141	1.07”	$745,000
Pamlico County	34	1.07”	$25,000
Total	**351**	**1.04”**	**$920,000**

The following narratives provide detail on select hailstorms from the above list of NCEI recorded events:

May 21, 2000 – Widespread golf ball size hail damaged numerous automobiles in and around New Bern.

June 12, 2006 – Hail up to baseball size broke windows in cars and homes.

March 28, 2007 – A cold front moved slowly south across eastern North Carolina during the late morning and afternoon hours on March 28th. Ahead of the front temperatures warmed into the 80s leading to an unstable atmosphere. Scattered thunderstorms developed over mainly the northern counties during the afternoon and few produce large hail up to 2 inches in diameter. The large hail fell mainly over the cities of Washington and Greenville and resulted in dents on cars and a few reports of cracked windshields.

July 28, 2014 – Numerous showers and thunderstorms developed over during the afternoon and evening of July 28th along the North Carolina coast. Several of the storms became severe producing strong winds and very large hail. Baseball size hail in Havelock damaged many vehicle and structures.

August 10, 2019 – A cold front that was near the Virginia/North Carolina state line early in the morning of the 10th moved into Eastern North Carolina by early afternoon. Between this front and the daily sea breeze, high instability and shear led to the formation of numerous thunderstorms during the afternoon and evening. Some storms produced damaging winds and large hail.

May 9, 2023 – A cold front sagged into Eastern NC during the afternoon hours. An unstable atmosphere with strong shear in place ahead of the front primed the region for severe thunderstorm development. The timing of the front coincided with peak afternoon heating, allowing for multiple rounds of supercells that produced scattered to numerous severe storm reports during the mid-afternoon hours all the way through the mid evening hours. Hail up to two inches in diameter, and wind gusts of 60 to 70 mph occurred with the strongest thunderstorms. The severe hail fell all the way to the coast, which is quite rare.

Most hail damage reported was associated with dents and broken windows on cars; some reports indicated damage to siding and roofs on structures.

PROBABILITY OF FUTURE OCCURRENCE

Based on historical occurrences recorded by NCEI for the 25-year period from 1999 through 2023, the Pamlico Sound Region averages 9.5 days with thunderstorm wind events per year. The region experienced 112 tornadoes during this period, which equates to roughly 4.5 tornadoes per year on average. Over this same period, 7 lightning events were reported as having caused death, injury, or property damage, which equates to a 28 percent annual chance of a damaging lightning strike. Additionally, the region has averaged over 5 days with reported hail incidents per year.

Based on these historical occurrences, there is a 100% chance that the Region will experience tornadoes and/or thunderstorms each year. The probability of a damaging impacts is also highly likely.

Probability: 4 – Highly Likely

CLIMATE CHANGE

According to the National Aeronautics and Space Administration (NASA), thunderstorm events in the future are likely to become more frequent in the southeast as a result of weather extremes. Thunderstorm potential is measured by an index that NASA created called the Convective Available Potential Energy (CAPE) index. This measures how warm and moist the air is, which is a major contributing factor in thunderstorm/tornado formation. NASA projects that by the period of 2072-2099, the CAPE in the southeastern United States will increase dramatically. Parts of North Carolina are in an area that will likely experience the greatest increase in CAPE in the United States and all of the state is likely to experience at least some increase. This indicates that there will potentially be even more frequent thunderstorms in the state going forward.

According to NOAA and NWS, the number of annual tornado days is decreasing, but the number of tornadoes that occur on tornado days is increasing. Research suggests there is a greater risk of more off-season tornadoes in a warmer future climate, which could mean more tornadic activity at a time of year when people are least expecting it. Results are inconclusive for whether tornadoes frequency could change during the traditional severe weather season. Based on studies from NASA's Earth Observatory, meteorologists are unsure why some thunderstorms generate tornadoes and others don't, beyond knowing that they require a certain type of wind shear. Tornadoes spawn from approximately one percent of thunderstorms, usually supercell thunderstorms that are in a wind shear environment that promotes rotation. Some studies show a potential for a decrease in wind shear in mid-latitude areas. Many tornadoes along the coast are spawned by tropical cyclones; therefore, climate change impacts on tropical cyclones may affect tornado activity in the Pamlico Sound Region. The potential influence of climate change on tornadoes will continue to be revisited over time.

VULNERABILITY ASSESSMENT

PEOPLE

People and populations exposed to the elements are most vulnerable to severe weather. A common hazard associated with wind events is falling trees and branches. Risk of being struck by lightning is greater in open areas, at higher elevations, and on the water. Lightning can also cause cascading hazards, including power loss. Loss of power could critically impact those relying on energy to service, including those that need powered medical devices. Additionally, ignition of fires is always a concern with lightning strikes.

The availability of sheltered locations such as basements, buildings constructed using hail-resistant materials and methods, and public storm shelters, all reduce the exposure of the population. Individuals who work outdoors may face increased risk during severe weather events. Residents living in mobile

homes are also more vulnerable to hail events due to the lack of shelter locations and the vulnerability of the housing unit to damages. Table 4.84 summarizes estimates of occupied mobile home units in the Pamlico Sound Region by jurisdiction as of 2022. Vulnerability based on housing type is highest in the following communities, where over 20% of the occupied housing stock is mobile homes: Beaufort County, Belhaven, Bogue, Cedar Point, Indian Beach, Peletier, Bridgeton, Cove City, Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, and Vandemere. Vulnerability based on housing type is lowest in the following communities where less than 5% of the occupied housing stock is in mobile homes: Washington, Bath, Washington Park, Beaufort, Morehead City, Newport, Pine Knoll Shores, River Bend, Trent Woods, and Oriental.

Table 4.84 – Mobile Home Units in the Pamlico Sound Region, 2022

Jurisdiction	Occupied Mobile Home Units	Total Occupied Housing Units	Percent of Occupied Housing
Beaufort County	6,240	24,299	25.7%
City of Washington	173	5,058	3.4%
Town of Aurora	26	287	9.1%
Town of Bath	0	167	0.0%
Town of Belhaven	211	838	25.2%
Town of Chocowinity	54	489	11.0%
Town of Pantego	15	106	14.2%
Town of Washington Park	0	254	0.0%
Carteret County	8,554	51,096	16.7%
Town of Atlantic Beach	954	5,174	18.4%
Town of Beaufort	27	3,042	0.9%
Town of Bogue	83	354	23.4%
Town of Cape Carteret	66	1,267	5.2%
Town of Cedar Point	239	1,158	20.6%
Town of Emerald Isle	888	6,739	13.2%
Town of Indian Beach	781	1,808	43.2%
Town of Morehead City	292	6,320	4.6%
Town of Newport	51	1,849	2.8%
Town of Peletier	241	562	42.9%
Town of Pine Knoll Shores	12	2,167	0.6%
Craven County	6,662	47,051	14.2%
City of Havelock	364	5,855	6.2%
City of New Bern	1,002	16,265	6.2%
Town of Bridgeton	58	245	23.7%
Town of Cove City	101	268	37.7%
Town of Dover	37	204	18.1%
Town of River Bend	7	1,590	0.4%
Town of Trent Woods	43	1,813	2.4%
Town of Vanceboro	32	450	7.1%
Pamlico County	1,652	7,206	22.9%
Town of Alliance	108	394	27.4%
Town of Arapahoe	60	185	32.4%
Town of Bayboro	96	369	26.0%
Town of Grantsboro	69	273	25.3%
Town of Mesic	28	111	25.2%

Jurisdiction	Occupied Mobile Home Units	Total Occupied Housing Units	Percent of Occupied Housing
Town of Minnesott Beach	27	363	7.4%
Town of Oriental	16	811	2.0%
Town of Stonewall	18	171	10.5%
Town of Vandemere	61	146	41.8%

Source: American Community Survey 2018-2022 5-Year Estimates

Since 1999, the NCEI records two fatalities and one injury attributed to lightning in the Pamlico Sound Region. NCEI records 2 fatalities and 41 injuries attributed to wind events in the Region. There are no injuries or fatalities attributed to hail. There have been 35 injuries attributed to tornadoes in the Region during this period, which were attributed to tornadoes rated as low as EF0, illustrating the destructive power of tornadoes and the dangers they pose to exposed populations without proper shelter.

PROPERTY

Property damage caused by lightning usually occurs in one of two ways – either by direct damages through fires ignited by lightning, or by secondary impacts due to power loss. According to data collected on lightning strikes in the Region, most recorded property damage was due to structure fires.

NCEI records $6,107,500 in property damages caused by lightning over the 20-year period from 1999-2023, which equates to an annualized loss of $244,300.

General damages to property from hail are direct, including destroyed windows, dented cars, and building, roof and siding damage in areas exposed to hail. Hail can also cause enough damage to cars to cause them to be totaled. The level of damage is commensurate with both a material's ability to withstand hail impacts, and the size of the hailstones that are falling. Construction practices and building codes can help maximize the resistance of the structures to damage. Large amounts of hail may need to be physically cleared from roadways and sidewalks, depending on accumulation. Hail can cause other cascading impacts, including power loss. During the 25-year span of 1999 through 2023, NCEI reported $920,000 in damages caused by hail in the Pamlico Sound Region, which equates to an annualized loss of $36,800. It should be noted that property damage due to hail is usually insured loss, with damages covered under most major comprehensive insurance plans. Because of this, hail losses are notoriously underreported by the NCEI. It is difficult to find another accurate repository of hail damages, thus the NCEI is still used to form a baseline.

When strong enough, wind events can cause significant direct damage to buildings and infrastructure. NCEM's IRISK database estimates damages from tornadoes and thunderstorms by storm magnitude. Table 4.85 through Table 4.89 detail the estimated buildings impacted from tornado events of magnitudes ranging from EF0 to EF4. Damages from increasing magnitudes of thunderstorm wind events are detailed in Table 4.90 through Table 4.94. Note that all of these tables provide an estimate of building damages should all exposed property be impacted by an event of the stated magnitude. Actual damages resulting from a tornado or thunderstorm event of each magnitude would be lower because any one event would impact only a portion of the region. These tables should only be used to understand the range of damage potential relative to storms of varying degrees of severity.

Table 4.85 – Estimated Buildings Impacted by EF0 Tornado

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,896	87	$149,119,025	2,004	10	$37,641,013	353	2	$11,323,642	20,253	98	$198,083,680
City of Washington	5,790	4,833	83	$46,949,001	709	12	$41,070,344	197	3	$8,483,523	5,739	99	$96,502,868
Town of Aurora	579	440	76	$3,476,743	85	15	$1,665,987	33	6	$833,707	558	96	$5,976,437
Town of Bath	561	471	84	$5,157,198	51	9	$1,137,260	31	6	$663,226	553	99	$6,957,683
Town of Belhaven	1,087	918	84	$6,932,169	94	9	$1,623,756	25	2	$471,113	1,037	95	$9,027,038
Town of Chocowinity	398	330	83	$4,188,263	36	9	$1,971,184	28	7	$759,513	394	99	$6,918,959
Town of Pantego	132	108	82	$868,037	11	8	$286,276	7	5	$162,516	126	95	$1,316,829
Town of Washington Park	232	216	93	$2,468,792	13	6	$190,551	0	0	$0	229	99	$2,659,343
Subtotal Beaufort	**29,356**	**25,212**	**86**	**$219,159,228**	**3,003**	**10**	**$85,586,371**	**674**	**2**	**$22,697,240**	**28,889**	**98**	**$327,442,837**
Carteret													
Unincorporated Carteret County	29,284	14,032	48	$101,850,307	1,028	4	$15,267,853	234	1	$7,303,599	15,294	52	$124,421,758
Town of Atlantic Beach	4,141	3,240	78	$32,361,998	153	4	$2,655,413	9	0	$100,465	3,402	82	$35,117,877
Town of Beaufort	4,605	2,909	63	$23,359,400	283	6	$11,873,311	79	2	$3,157,514	3,271	71	$38,390,225
Town of Bogue	642	324	50	$2,407,180	31	5	$403,122	8	1	$141,297	363	57	$2,951,600
Town of Cape Carteret	1,763	872	49	$7,623,949	91	5	$1,782,501	26	1	$480,916	989	56	$9,887,365
Town of Cedar Point	1,915	1,256	66	$9,516,260	101	5	$2,074,110	10	1	$195,544	1,367	71	$11,785,913
Town of Emerald Isle	7,154	5,524	77	$72,846,062	159	2	$2,721,187	19	0	$350,420	5,702	80	$75,917,669
Town of Indian Beach	1,138	864	76	$7,577,501	24	2	$506,050	7	1	$58,040	895	79	$8,141,591
Town of Morehead City	10,811	6,745	62	$58,810,925	841	8	$23,523,071	214	2	$10,057,201	7,800	72	$92,391,197
Town of Newport	5,441	3,636	67	$22,625,216	347	6	$5,170,611	97	2	$2,284,052	4,080	75	$30,079,879
Town of Peletier	943	469	50	$2,614,948	52	6	$1,293,254	8	1	$133,142	529	56	$4,041,345
Town of Pine Knoll Shores	2,253	1,644	73	$23,986,191	80	4	$1,910,825	29	1	$410,702	1,753	78	$26,307,718
Subtotal Carteret	**70,090**	**41,515**	**59**	**$365,579,937**	**3,190**	**5**	**$69,181,308**	**740**	**1**	**$24,672,892**	**45,445**	**65**	**$459,434,137**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,277	90	$164,264,296	2,040	8	$41,461,519	305	1	$13,955,948	24,622	99	$219,681,764
City of Havelock	5,417	4,844	89	$31,027,060	367	7	$16,017,998	148	3	$21,755,088	5,359	99	$68,800,146
City of New Bern	13,049	11,367	87	$88,998,949	1,240	10	$72,130,762	298	2	$20,540,922	12,905	99	$181,670,632
Town of Bridgeton	326	235	72	$1,310,199	70	21	$1,118,257	10	3	$96,538	315	97	$2,524,995
Town of Cove City	294	252	86	$1,353,614	29	10	$238,837	12	4	$303,591	293	100	$1,896,042
Town of Dover	299	276	92	$1,632,463	6	2	$66,657	17	6	$191,739	299	100	$1,890,859
Town of River Bend	1,553	1,516	98	$11,876,259	25	2	$3,953,857	3	0	$82,529	1,544	99	$15,912,645
Town of Trent Woods	1,918	1,868	97	$21,663,906	20	1	$1,078,002	21	1	$1,049,042	1,909	100	$23,790,949
Town of Vanceboro	522	411	79	$2,659,801	76	15	$1,396,338	33	6	$1,394,882	520	100	$5,451,021
Subtotal Craven	**48,254**	**43,046**	**89**	**$324,786,547**	**3,873**	**8**	**$137,462,227**	**847**	**2**	**$59,370,279**	**47,766**	**99**	**$521,619,053**
Pamlico													
Unincorporated Pamlico County	6,428	5,803	90	$34,411,036	503	8	$4,293,833	70	1	$647,289	6,376	99	$39,352,158
Town of Alliance	577	484	84	$2,545,613	78	14	$1,048,970	14	2	$105,744	576	100	$3,700,328
Town of Arapahoe	430	386	90	$2,008,582	26	6	$263,957	16	4	$353,208	428	100	$2,625,747
Town of Bayboro	515	408	79	$2,119,093	74	14	$923,686	31	6	$1,517,737	513	100	$4,560,517
Town of Grantsboro	584	527	90	$2,401,531	36	6	$840,439	17	3	$363,840	580	99	$3,605,810
Town of Mesic	186	170	91	$932,960	10	5	$41,326	5	3	$27,108	185	99	$1,001,395
Town of Minnesott Beach	403	385	96	$3,286,587	14	3	$951,273	2	0	$20,689	401	100	$4,258,549
Town of Oriental	1,378	1,255	91	$9,530,805	107	8	$1,217,645	14	1	$150,660	1,376	100	$10,899,111
Town of Stonewall	227	199	88	$1,050,094	21	9	$216,652	6	3	$255,795	226	100	$1,522,542
Town of Vandemere	192	168	88	$1,008,581	8	4	$147,292	14	7	$71,152	190	99	$1,227,025
Subtotal Pamlico	**10,920**	**9,785**	**90**	**$59,294,882**	**877**	**8**	**$9,945,073**	**189**	**2**	**$3,513,222**	**10,851**	**99**	**$72,753,182**
Region Total	**158,620**	**119,558**	**75**	**$968,820,594**	**10,943**	**7**	**$302,174,979**	**2,450**	**2**	**$110,253,633**	**132,951**	**84**	**$1,381,249,209**

Source: NCEM Risk Management Tool

Table 4.86 – Estimated Buildings Impacted by EF1 Tornado

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,896	87	$1,063,564,394	2,004	10	$244,972,737	353	2	$73,714,348	20,253	98	$1,382,251,479
City of Washington	5,790	4,833	83	$330,375,770	709	12	$258,857,066	197	3	$53,721,372	5,739	99	$642,954,208
Town of Aurora	579	440	76	$24,179,818	85	15	$9,816,081	33	6	$4,950,598	558	96	$38,946,496
Town of Bath	561	471	84	$36,882,598	51	9	$6,517,855	31	6	$3,621,238	553	99	$47,021,691
Town of Belhaven	1,087	918	84	$48,932,663	94	9	$10,750,235	25	2	$3,149,610	1,037	95	$62,832,508
Town of Chocowinity	398	330	83	$29,017,390	36	9	$11,424,596	28	7	$4,618,740	394	99	$45,060,726
Town of Pantego	132	108	82	$6,143,164	11	8	$1,877,363	7	5	$943,054	126	95	$8,963,581
Town of Washington Park	232	216	93	$18,215,080	13	6	$1,078,727	0	0	$0	229	99	$19,293,807
Subtotal Beaufort	**29,356**	**25,212**	**86**	**$1,557,310,877**	**3,003**	**10**	**$545,294,660**	**674**	**2**	**$144,718,960**	**28,889**	**98**	**$2,247,324,496**
Carteret													
Unincorporated Carteret County	29,284	14,032	48	$722,412,970	1,028	4	$99,037,775	234	1	$39,975,326	15,294	52	$861,426,071
Town of Atlantic Beach	4,141	3,240	78	$225,615,838	153	4	$17,575,193	9	0	$808,807	3,402	82	$243,999,839
Town of Beaufort	4,605	2,909	63	$165,606,758	283	6	$75,519,767	79	2	$17,994,170	3,271	71	$259,120,694
Town of Bogue	642	324	50	$17,180,664	31	5	$2,568,137	8	1	$1,104,496	363	57	$20,853,297
Town of Cape Carteret	1,763	872	49	$54,254,859	91	5	$13,443,900	26	1	$2,632,267	989	56	$70,331,025
Town of Cedar Point	1,915	1,256	66	$65,622,992	101	5	$12,518,724	10	1	$1,574,251	1,367	71	$79,715,968
Town of Emerald Isle	7,154	5,524	77	$515,204,899	159	2	$17,890,268	19	0	$2,821,093	5,702	80	$535,916,260
Town of Indian Beach	1,138	864	76	$51,075,726	24	2	$3,339,729	7	1	$467,258	895	79	$54,882,713
Town of Morehead City	10,811	6,745	62	$412,766,246	841	8	$146,303,948	214	2	$64,075,919	7,800	72	$623,146,113
Town of Newport	5,441	3,636	67	$159,961,449	347	6	$32,682,605	97	2	$12,898,955	4,080	75	$205,543,009
Town of Peletier	943	469	50	$18,113,426	52	6	$10,117,415	8	1	$1,071,875	529	56	$29,302,716
Town of Pine Knoll Shores	2,253	1,644	73	$163,164,052	80	4	$14,477,377	29	1	$3,306,398	1,753	78	$180,947,828
Subtotal Carteret	**70,090**	**41,515**	**59**	**$2,570,979,879**	**3,190**	**5**	**$445,474,838**	**740**	**1**	**$148,730,815**	**45,445**	**65**	**$3,165,185,533**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,277	90	$1,186,662,247	2,040	8	$258,000,535	305	1	$83,974,786	24,622	99	$1,528,637,568
City of Havelock	5,417	4,844	89	$224,759,346	367	7	$89,002,528	148	3	$142,124,983	5,359	99	$455,886,857
City of New Bern	13,049	11,367	87	$645,153,672	1,240	10	$415,070,642	298	2	$127,343,720	12,905	99	$1,187,568,034
Town of Bridgeton	326	235	72	$9,520,717	70	21	$6,868,965	10	3	$706,142	315	97	$17,095,825
Town of Cove City	294	252	86	$9,698,959	29	10	$1,176,683	12	4	$2,444,136	293	100	$13,319,778
Town of Dover	299	276	92	$11,705,745	6	2	$332,248	17	6	$1,543,823	299	100	$13,581,815
Town of River Bend	1,553	1,516	98	$87,326,336	25	2	$21,660,548	3	0	$664,408	1,544	99	$109,651,291
Town of Trent Woods	1,918	1,868	97	$159,870,167	20	1	$6,520,181	21	1	$6,202,212	1,909	100	$172,592,560
Town of Vanceboro	522	411	79	$18,792,206	76	15	$6,913,378	33	6	$6,552,384	520	100	$32,257,967
Subtotal Craven	**48,254**	**43,046**	**89**	**$2,353,489,395**	**3,873**	**8**	**$805,545,708**	**847**	**2**	**$371,556,594**	**47,766**	**99**	**$3,530,591,695**
Pamlico													
Unincorporated Pamlico County	6,428	5,803	90	$248,402,578	503	8	$32,538,234	70	1	$5,211,068	6,376	99	$286,151,880
Town of Alliance	577	484	84	$18,126,994	78	14	$5,642,406	14	2	$775,094	576	100	$24,544,494
Town of Arapahoe	430	386	90	$14,427,287	26	6	$1,710,430	16	4	$2,193,177	428	100	$18,330,894
Town of Bayboro	515	408	79	$15,237,963	74	14	$5,723,805	31	6	$9,133,692	513	100	$30,095,460
Town of Grantsboro	584	527	90	$17,083,916	36	6	$5,159,114	17	3	$2,733,715	580	99	$24,976,746
Town of Mesic	186	170	91	$6,743,403	10	5	$261,378	5	3	$218,239	185	99	$7,223,020
Town of Minnesott Beach	403	385	96	$23,643,771	14	3	$7,655,018	2	0	$166,557	401	100	$31,465,346
Town of Oriental	1,378	1,255	91	$69,353,148	107	8	$7,640,016	14	1	$1,212,903	1,376	100	$78,206,067
Town of Stonewall	227	199	88	$7,556,066	21	9	$1,416,517	6	3	$1,144,199	226	100	$10,116,783
Town of Vandemere	192	168	88	$7,313,319	8	4	$1,023,283	14	7	$572,820	190	99	$8,909,422
Subtotal Pamlico	**10,920**	**9,785**	**90**	**$427,888,445**	**877**	**8**	**$68,770,201**	**189**	**2**	**$23,361,464**	**10,851**	**99**	**$520,020,112**
Region Total	**158,620**	**119,558**	**75**	**$6,909,668,596**	**10,943**	**7**	**$1,865,085,407**	**2,450**	**2**	**$688,367,833**	**132,951**	**84**	**$9,463,121,836**

Source: NCEM Risk Management Tool

Table 4.87 – Estimated Buildings Impacted by EF2 Tornado

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,896	87	$1,927,215,705	2,004	10	$519,453,738	353	2	$228,131,424	20,253	98	$2,674,800,868
City of Washington	5,790	4,833	83	$661,829,371	709	12	$597,995,157	197	3	$165,010,983	5,739	99	$1,424,835,511
Town of Aurora	579	440	76	$49,943,433	85	15	$21,104,046	33	6	$16,091,183	558	96	$87,138,662
Town of Bath	561	471	84	$68,177,418	51	9	$15,413,472	31	6	$11,325,429	553	99	$94,916,320
Town of Belhaven	1,087	918	84	$92,568,954	94	9	$28,307,434	25	2	$10,731,432	1,037	95	$131,607,821
Town of Chocowinity	398	330	83	$60,149,054	36	9	$24,470,223	28	7	$14,914,776	394	99	$99,534,053
Town of Pantego	132	108	82	$12,460,220	11	8	$3,856,371	7	5	$3,034,422	126	95	$19,351,013
Town of Washington Park	232	216	93	$34,640,539	13	6	$2,524,134	0	0	$0	229	99	$37,164,674
Subtotal Beaufort	**29,356**	**25,212**	**86**	**$2,906,984,694**	**3,003**	**10**	**$1,213,124,575**	**674**	**2**	**$449,239,649**	**28,889**	**98**	**$4,569,348,922**
Carteret													
Unincorporated Carteret County	29,284	14,032	48	$1,255,987,524	1,028	4	$227,825,010	234	1	$125,171,564	15,294	52	$1,608,984,099
Town of Atlantic Beach	4,141	3,240	78	$433,015,222	153	4	$43,254,054	9	0	$2,926,723	3,402	82	$479,195,999
Town of Beaufort	4,605	2,909	63	$335,156,814	283	6	$168,315,116	79	2	$57,427,492	3,271	71	$560,899,422
Town of Bogue	642	324	50	$31,341,438	31	5	$5,825,152	8	1	$3,962,504	363	57	$41,129,094
Town of Cape Carteret	1,763	872	49	$97,422,147	91	5	$29,189,432	26	1	$8,242,263	989	56	$134,853,841
Town of Cedar Point	1,915	1,256	66	$111,492,344	101	5	$29,112,339	10	1	$5,696,534	1,367	71	$146,301,216
Town of Emerald Isle	7,154	5,524	77	$968,156,099	159	2	$39,887,960	19	0	$10,208,313	5,702	80	$1,018,252,373
Town of Indian Beach	1,138	864	76	$94,920,072	24	2	$7,230,776	7	1	$1,690,805	895	79	$103,841,653
Town of Morehead City	10,811	6,745	62	$800,313,721	841	8	$334,644,877	214	2	$213,704,374	7,800	72	$1,348,662,973
Town of Newport	5,441	3,636	67	$285,605,244	347	6	$74,081,413	97	2	$40,982,012	4,080	75	$400,668,669
Town of Peletier	943	469	50	$34,393,138	52	6	$20,514,906	8	1	$3,878,653	529	56	$58,786,697
Town of Pine Knoll Shores	2,253	1,644	73	$341,136,519	80	4	$29,116,851	29	1	$11,964,423	1,753	78	$382,217,793
Subtotal Carteret	**70,090**	**41,515**	**59**	**$4,788,940,282**	**3,190**	**5**	**$1,008,997,886**	**740**	**1**	**$485,855,660**	**45,445**	**65**	**$6,283,793,829**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,277	90	$2,152,776,215	2,040	8	$627,866,419	305	1	$273,451,965	24,622	99	$3,054,094,599
City of Havelock	5,417	4,844	89	$431,790,960	367	7	$240,375,352	148	3	$479,714,495	5,359	99	$1,151,880,808
City of New Bern	13,049	11,367	87	$1,242,313,550	1,240	10	$1,049,225,255	298	2	$400,354,473	12,905	99	$2,691,893,278
Town of Bridgeton	326	235	72	$18,036,982	70	21	$17,793,879	10	3	$2,481,684	315	97	$38,312,545
Town of Cove City	294	252	86	$17,275,132	29	10	$3,604,344	12	4	$8,844,280	293	100	$29,723,757
Town of Dover	299	276	92	$20,962,785	6	2	$1,086,071	17	6	$5,586,480	299	100	$27,635,336
Town of River Bend	1,553	1,516	98	$167,417,830	25	2	$51,473,290	3	0	$2,404,204	1,544	99	$221,295,324
Town of Trent Woods	1,918	1,868	97	$302,912,574	20	1	$14,351,303	21	1	$20,121,378	1,909	100	$337,385,255
Town of Vanceboro	522	411	79	$35,481,453	76	15	$20,129,617	33	6	$18,869,183	520	100	$74,480,253
Subtotal Craven	**48,254**	**43,046**	**89**	**$4,388,967,481**	**3,873**	**8**	**$2,025,905,530**	**847**	**2**	**$1,211,828,142**	**47,766**	**99**	**$7,626,701,155**
Pamlico													
Unincorporated Pamlico County	6,428	5,803	90	$448,473,131	503	8	$67,852,149	70	1	$18,856,599	6,376	99	$535,181,879
Town of Alliance	577	484	84	$32,854,047	78	14	$15,390,685	14	2	$2,725,849	576	100	$50,970,580
Town of Arapahoe	430	386	90	$26,005,045	26	6	$4,087,223	16	4	$7,263,039	428	100	$37,355,307
Town of Bayboro	515	408	79	$27,593,351	74	14	$14,669,440	31	6	$29,857,892	513	100	$72,120,683
Town of Grantsboro	584	527	90	$29,742,210	36	6	$13,244,961	17	3	$9,689,875	580	99	$52,677,045
Town of Mesic	186	170	91	$12,393,412	10	5	$597,926	5	3	$789,714	185	99	$13,781,051
Town of Minnesott Beach	403	385	96	$44,894,966	14	3	$14,865,598	2	0	$602,698	401	100	$60,363,262
Town of Oriental	1,378	1,255	91	$132,792,728	107	8	$17,784,626	14	1	$4,388,971	1,376	100	$154,966,325
Town of Stonewall	227	199	88	$13,442,763	21	9	$3,122,180	6	3	$3,193,227	226	100	$19,758,170
Town of Vandemere	192	168	88	$13,252,398	8	4	$2,222,519	14	7	$2,072,788	190	99	$17,547,705
Subtotal Pamlico	**10,920**	**9,785**	**90**	**$781,444,051**	**877**	**8**	**$153,837,307**	**189**	**2**	**$79,440,652**	**10,851**	**99**	**$1,014,722,007**
Region Total	**158,620**	**119,558**	**75**	**$12,866,336,508**	**10,943**	**7**	**$4,401,865,298**	**2,450**	**2**	**$2,226,364,103**	**132,951**	**84**	**$19,494,565,913**

Source: NCEM Risk Management Tool

Table 4.88 – Estimated Buildings Impacted by EF3 Tornado

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,896	87	$2,287,375,440	2,004	10	$621,469,157	353	2	$339,972,627	20,253	98	$3,248,817,224
City of Washington	5,790	4,833	83	$839,343,230	709	12	$742,389,206	197	3	$248,063,814	5,739	99	$1,829,796,250
Town of Aurora	579	440	76	$70,682,904	85	15	$25,904,598	33	6	$25,186,905	558	96	$121,774,407
Town of Bath	561	471	84	$82,065,681	51	9	$20,161,108	31	6	$17,616,429	553	99	$119,843,218
Town of Belhaven	1,087	918	84	$113,203,835	94	9	$39,551,507	25	2	$16,920,584	1,037	95	$169,675,926
Town of Chocowinity	398	330	83	$78,053,101	36	9	$33,159,861	28	7	$23,245,521	394	99	$134,458,483
Town of Pantego	132	108	82	$15,415,140	11	8	$4,476,937	7	5	$4,741,982	126	95	$24,634,058
Town of Washington Park	232	216	93	$40,681,435	13	6	$3,299,154	0	0	$0	229	99	$43,980,589
Subtotal Beaufort	**29,356**	**25,212**	**86**	**$3,526,820,766**	**3,003**	**10**	**$1,490,411,528**	**674**	**2**	**$675,747,862**	**28,889**	**98**	**$5,692,980,155**
Carteret													
Unincorporated Carteret County	29,284	14,032	48	$1,461,205,510	1,028	4	$291,947,695	234	1	$194,739,802	15,294	52	$1,947,893,006
Town of Atlantic Beach	4,141	3,240	78	$570,879,237	153	4	$61,318,697	9	0	$4,655,279	3,402	82	$636,853,214
Town of Beaufort	4,605	2,909	63	$449,319,787	283	6	$215,797,237	79	2	$89,624,986	3,271	71	$754,742,010
Town of Bogue	642	324	50	$37,864,874	31	5	$7,123,771	8	1	$6,295,153	363	57	$51,283,799
Town of Cape Carteret	1,763	872	49	$116,523,776	91	5	$35,808,805	26	1	$12,823,187	989	56	$165,155,768
Town of Cedar Point	1,915	1,256	66	$135,425,775	101	5	$37,254,962	10	1	$9,060,970	1,367	71	$181,741,708
Town of Emerald Isle	7,154	5,524	77	$1,229,081,175	159	2	$51,877,508	19	0	$16,237,457	5,702	80	$1,297,196,140
Town of Indian Beach	1,138	864	76	$132,979,860	24	2	$9,721,850	7	1	$2,689,413	895	79	$145,391,123
Town of Morehead City	10,811	6,745	62	$1,056,563,106	841	8	$435,634,243	214	2	$335,383,391	7,800	72	$1,827,580,740
Town of Newport	5,441	3,636	67	$343,824,190	347	6	$95,444,733	97	2	$63,948,006	4,080	75	$503,216,929
Town of Peletier	943	469	50	$46,005,507	52	6	$24,048,718	8	1	$6,169,429	529	56	$76,223,654
Town of Pine Knoll Shores	2,253	1,644	73	$507,481,993	80	4	$37,839,305	29	1	$19,030,745	1,753	78	$564,352,044
Subtotal Carteret	**70,090**	**41,515**	**59**	**$6,087,154,790**	**3,190**	**5**	**$1,303,817,524**	**740**	**1**	**$760,657,818**	**45,445**	**65**	**$8,151,630,135**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,277	90	$2,509,035,402	2,040	8	$782,590,430	305	1	$427,959,545	24,622	99	$3,719,585,377
City of Havelock	5,417	4,844	89	$533,006,832	367	7	$336,780,374	148	3	$755,330,616	5,359	99	$1,625,117,822
City of New Bern	13,049	11,367	87	$1,533,372,600	1,240	10	$1,380,628,929	298	2	$617,889,816	12,905	99	$3,531,891,344
Town of Bridgeton	326	235	72	$21,796,371	70	21	$22,811,568	10	3	$3,930,939	315	97	$48,538,877
Town of Cove City	294	252	86	$20,072,346	29	10	$5,211,968	12	4	$14,067,821	293	100	$39,352,134
Town of Dover	299	276	92	$24,251,975	6	2	$1,604,501	17	6	$8,885,965	299	100	$34,742,441
Town of River Bend	1,553	1,516	98	$200,792,906	25	2	$75,403,765	3	0	$3,824,154	1,544	99	$280,020,825
Town of Trent Woods	1,918	1,868	97	$354,073,929	20	1	$19,927,096	21	1	$31,485,754	1,909	100	$405,486,780
Town of Vanceboro	522	411	79	$45,175,597	76	15	$28,563,815	33	6	$28,930,259	520	100	$102,669,671
Subtotal Craven	**48,254**	**43,046**	**89**	**$5,241,577,958**	**3,873**	**8**	**$2,653,522,446**	**847**	**2**	**$1,892,304,869**	**47,766**	**99**	**$9,787,405,271**
Pamlico													
Unincorporated Pamlico County	6,428	5,803	90	$521,433,426	503	8	$79,910,928	70	1	$29,993,516	6,376	99	$631,337,870
Town of Alliance	577	484	84	$39,286,076	78	14	$21,635,128	14	2	$4,318,115	576	100	$65,239,319
Town of Arapahoe	430	386	90	$30,563,858	26	6	$5,206,715	16	4	$11,402,046	428	100	$47,172,619
Town of Bayboro	515	408	79	$32,396,626	74	14	$20,149,527	31	6	$46,777,797	513	100	$99,323,950
Town of Grantsboro	584	527	90	$34,336,323	36	6	$18,025,872	17	3	$15,367,563	580	99	$67,729,759
Town of Mesic	186	170	91	$14,668,173	10	5	$712,297	5	3	$1,256,127	185	99	$16,636,598
Town of Minnesott Beach	403	385	96	$55,484,405	14	3	$19,651,072	2	0	$958,658	401	100	$76,094,135
Town of Oriental	1,378	1,255	91	$161,779,484	107	8	$23,367,191	14	1	$6,981,146	1,376	100	$192,127,821
Town of Stonewall	227	199	88	$15,502,428	21	9	$3,608,081	6	3	$4,867,240	226	100	$23,977,749
Town of Vandemere	192	168	88	$15,326,256	8	4	$2,430,462	14	7	$3,297,000	190	99	$21,053,718
Subtotal Pamlico	**10,920**	**9,785**	**90**	**$920,777,055**	**877**	**8**	**$194,697,273**	**189**	**2**	**$125,219,208**	**10,851**	**99**	**$1,240,693,538**
Region Total	**158,620**	**119,558**	**75**	**$15,776,330,569**	**10,943**	**7**	**$5,642,448,771**	**2,450**	**2**	**$3,453,929,757**	**132,951**	**84**	**$24,872,709,099**

Source: NCEM Risk Management Tool

Table 4.89 – Estimated Buildings Impacted by EF4 Tornado

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,896	87	$2,306,529,950	2,004	10	$638,733,475	353	2	$357,298,688	20,253	98	$3,302,562,113
City of Washington	5,790	4,833	83	$859,201,666	709	12	$766,611,665	197	3	$261,777,797	5,739	99	$1,887,591,128
Town of Aurora	579	440	76	$73,639,990	85	15	$26,626,616	33	6	$26,834,322	558	96	$127,100,928
Town of Bath	561	471	84	$82,948,373	51	9	$21,552,227	31	6	$18,973,973	553	99	$123,474,573
Town of Belhaven	1,087	918	84	$114,997,945	94	9	$41,316,107	25	2	$17,799,310	1,037	95	$174,113,362
Town of Chocowinity	398	330	83	$80,593,053	36	9	$34,351,729	28	7	$24,568,923	394	99	$139,513,705
Town of Pantego	132	108	82	$15,672,540	11	8	$4,549,101	7	5	$5,066,373	126	95	$25,288,014
Town of Washington Park	232	216	93	$40,727,088	13	6	$3,463,056	0	0	$0	229	99	$44,190,144
Subtotal Beaufort	**29,356**	**25,212**	**86**	**$3,574,310,605**	**3,003**	**10**	**$1,537,203,976**	**674**	**2**	**$712,319,386**	**28,889**	**98**	**$5,823,833,967**
Carteret													
Unincorporated Carteret County	29,284	14,032	48	$1,468,681,645	1,028	4	$301,880,109	234	1	$209,674,947	15,294	52	$1,980,236,701
Town of Atlantic Beach	4,141	3,240	78	$588,355,297	153	4	$65,315,723	9	0	$4,822,336	3,402	82	$658,493,357
Town of Beaufort	4,605	2,909	63	$463,265,283	283	6	$223,134,866	79	2	$95,976,255	3,271	71	$782,376,403
Town of Bogue	642	324	50	$38,296,466	31	5	$7,347,585	8	1	$6,535,004	363	57	$52,179,055
Town of Cape Carteret	1,763	872	49	$117,681,699	91	5	$36,947,631	26	1	$13,806,607	989	56	$168,435,937
Town of Cedar Point	1,915	1,256	66	$137,872,967	101	5	$38,829,426	10	1	$9,386,128	1,367	71	$186,088,521
Town of Emerald Isle	7,154	5,524	77	$1,255,905,840	159	2	$53,953,366	19	0	$16,820,148	5,702	80	$1,326,679,353
Town of Indian Beach	1,138	864	76	$139,055,356	24	2	$10,110,446	7	1	$2,785,924	895	79	$151,951,727
Town of Morehead City	10,811	6,745	62	$1,087,833,631	841	8	$452,548,916	214	2	$354,475,720	7,800	72	$1,894,858,268
Town of Newport	5,441	3,636	67	$348,034,643	347	6	$98,947,818	97	2	$68,565,624	4,080	75	$515,548,086
Town of Peletier	943	469	50	$47,555,656	52	6	$24,601,569	8	1	$6,390,822	529	56	$78,548,048
Town of Pine Knoll Shores	2,253	1,644	73	$533,917,223	80	4	$38,601,693	29	1	$19,713,674	1,753	78	$592,232,591
Subtotal Carteret	**70,090**	**41,515**	**59**	**$6,226,455,706**	**3,190**	**5**	**$1,352,219,148**	**740**	**1**	**$808,953,189**	**45,445**	**65**	**$8,387,628,047**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,277	90	$2,515,590,487	2,040	8	$817,340,089	305	1	$455,143,805	24,622	99	$3,788,074,382
City of Havelock	5,417	4,844	89	$540,245,427	367	7	$360,262,508	148	3	$796,318,145	5,359	99	$1,696,826,080
City of New Bern	13,049	11,367	87	$1,553,838,564	1,240	10	$1,451,628,611	298	2	$656,324,162	12,905	99	$3,661,791,337
Town of Bridgeton	326	235	72	$21,989,792	70	21	$24,048,251	10	3	$4,102,000	315	97	$50,140,043
Town of Cove City	294	252	86	$20,139,418	29	10	$5,685,777	12	4	$14,572,646	293	100	$40,397,840
Town of Dover	299	276	92	$24,314,583	6	2	$1,747,604	17	6	$9,204,807	299	100	$35,266,994
Town of River Bend	1,553	1,516	98	$202,043,799	25	2	$79,159,197	3	0	$3,961,386	1,544	99	$285,164,381
Town of Trent Woods	1,918	1,868	97	$354,143,023	20	1	$20,802,720	21	1	$33,562,694	1,909	100	$408,508,437
Town of Vanceboro	522	411	79	$46,195,927	76	15	$30,926,317	33	6	$31,943,132	520	100	$109,065,377
Subtotal Craven	**48,254**	**43,046**	**89**	**$5,278,501,020**	**3,873**	**8**	**$2,791,601,074**	**847**	**2**	**$2,005,132,777**	**47,766**	**99**	**$10,075,234,871**
Pamlico													
Unincorporated Pamlico County	6,428	5,803	90	$522,581,793	503	8	$81,528,168	70	1	$31,069,851	6,376	99	$635,179,811
Town of Alliance	577	484	84	$39,653,965	78	14	$23,067,724	14	2	$4,505,248	576	100	$67,226,937
Town of Arapahoe	430	386	90	$30,720,175	26	6	$5,474,051	16	4	$12,085,786	428	100	$48,280,012
Town of Bayboro	515	408	79	$32,551,569	74	14	$21,042,783	31	6	$49,758,889	513	100	$103,353,240
Town of Grantsboro	584	527	90	$34,445,554	36	6	$18,919,601	17	3	$16,001,540	580	99	$69,366,695
Town of Mesic	186	170	91	$14,749,640	10	5	$737,651	5	3	$1,301,204	185	99	$16,788,495
Town of Minnesott Beach	403	385	96	$56,292,160	14	3	$20,039,078	2	0	$993,060	401	100	$77,324,298
Town of Oriental	1,378	1,255	91	$163,439,592	107	8	$24,434,699	14	1	$7,231,668	1,376	100	$195,105,959
Town of Stonewall	227	199	88	$15,518,966	21	9	$3,695,709	6	3	$5,428,248	226	100	$24,642,922
Town of Vandemere	192	168	88	$15,333,295	8	4	$2,446,116	14	7	$3,415,315	190	99	$21,194,727
Subtotal Pamlico	**10,920**	**9,785**	**90**	**$925,286,709**	**877**	**8**	**$201,385,580**	**189**	**2**	**$131,790,809**	**10,851**	**99**	**$1,258,463,096**
Region Total	**158,620**	**119,558**	**75**	**$16,004,554,040**	**10,943**	**7**	**$5,882,409,778**	**2,450**	**2**	**$3,658,196,161**	**132,951**	**84**	**$25,545,159,981**

Source: NCEM Risk Management Tool

Table 4.90 – Estimated Buildings Impacted by 25-Year Thunderstorm Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85	$8,822,968	2,003	10	$1,552,828	353	2	$975,417	19,912	97	$11,351,214
City of Washington	5,790	4,828	83	$3,027,323	709	12	$16,057,757	197	3	$766,881	5,734	99	$19,851,961
Town of Aurora	579	440	76	$257,266	85	15	$29,464	33	6	$54,497	558	96	$341,227
Town of Bath	561	471	84	$351,825	51	9	$21,006	31	6	$38,291	553	99	$411,123
Town of Belhaven	1,087	857	79	$372,602	93	9	$45,097	24	2	$27,898	974	90	$445,597
Town of Chocowinity	398	330	83	$197,900	36	9	$55,524	28	7	$35,279	394	99	$288,703
Town of Pantego	132	108	82	$66,562	11	8	$2,598	7	5	$9,799	126	95	$78,960
Town of Washington Park	232	171	74	$95,536	13	6	$46,429	0	0	$0	184	79	$141,965
Subtotal Beaufort	**29,356**	**24,761**	**84**	**$13,191,982**	**3,001**	**10**	**$17,810,703**	**673**	**2**	**$1,908,062**	**28,435**	**97**	**$32,910,750**
Carteret													
Unincorporated Carteret County	29,284	13,563	46	$5,059,245	1,000	3	$366,366	229	1	$783,503	14,792	51	$6,209,114
Town of Atlantic Beach	4,141	3,220	78	$1,481,308	153	4	$388,558	9	0	$2,108	3,382	82	$1,871,974
Town of Beaufort	4,605	2,878	62	$1,525,099	280	6	$317,863	78	2	$160,823	3,236	70	$2,003,784
Town of Bogue	642	324	50	$99,064	31	5	$4,205	8	1	$3,861	363	57	$107,131
Town of Cape Carteret	1,763	872	49	$256,126	91	5	$18,607	26	1	$5,691	989	56	$280,424
Town of Cedar Point	1,915	1,256	66	$318,399	101	5	$46,923	10	1	$8,115	1,367	71	$373,437
Town of Emerald Isle	7,154	5,132	72	$3,288,236	156	2	$27,158	19	0	$48,108	5,307	74	$3,363,502
Town of Indian Beach	1,138	790	69	$504,492	24	2	$6,183	6	1	$1,738	820	72	$512,413
Town of Morehead City	10,811	6,703	62	$2,847,416	832	8	$183,931	214	2	$278,072	7,749	72	$3,309,420
Town of Newport	5,441	3,636	67	$905,514	347	6	$107,219	97	2	$46,437	4,080	75	$1,059,170
Town of Peletier	943	469	50	$113,802	52	6	$108,352	8	1	$9,957	529	56	$232,111
Town of Pine Knoll Shores	2,253	1,391	62	$1,644,746	79	4	$30,220	29	1	$25,410	1,499	67	$1,700,377
Subtotal Carteret	**70,090**	**40,234**	**57**	**$18,043,447**	**3,146**	**4**	**$1,605,585**	**733**	**1**	**$1,373,823**	**44,113**	**63**	**$21,022,857**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89	$6,826,582	2,034	8	$2,042,811	305	1	$662,011	24,458	98	$9,531,404
City of Havelock	5,417	4,844	89	$1,018,316	367	7	$567,803	148	3	$3,982,661	5,359	99	$5,568,779
City of New Bern	13,049	11,331	87	$3,044,301	1,239	9	$4,599,101	298	2	$2,034,163	12,868	99	$9,677,565
Town of Bridgeton	326	232	71	$43,004	70	21	$10,729	10	3	$1,524	312	96	$55,256
Town of Cove City	294	252	86	$93,912	29	10	$3,620	12	4	$31,951	293	100	$129,483
Town of Dover	299	276	92	$69,465	6	2	$716	17	6	$8,096	299	100	$78,278
Town of River Bend	1,553	1,516	98	$502,093	25	2	$85,523	3	0	$2,238	1,544	99	$589,854
Town of Trent Woods	1,918	1,868	97	$731,758	20	1	$15,133	21	1	$20,074	1,909	100	$766,965
Town of Vanceboro	522	411	79	$139,469	76	15	$95,768	33	6	$66,184	520	100	$301,421
Subtotal Craven	**48,254**	**42,849**	**89**	**$12,468,900**	**3,866**	**8**	**$7,421,204**	**847**	**2**	**$6,808,902**	**47,562**	**99**	**$26,699,005**
Pamlico													
Unincorporated Pamlico County	6,428	5,680	88	$1,940,873	483	8	$80,233	70	1	$13,975	6,233	97	$2,035,081
Town of Alliance	577	484	84	$180,908	78	14	$12,121	14	2	$2,574	576	100	$195,602
Town of Arapahoe	430	386	90	$72,517	26	6	$6,201	16	4	$12,662	428	100	$91,380
Town of Bayboro	515	408	79	$169,265	74	14	$20,116	31	6	$25,135	513	100	$214,516
Town of Grantsboro	584	527	90	$137,982	36	6	$17,898	17	3	$16,369	580	99	$172,250
Town of Mesic	186	170	91	$48,422	10	5	$487	5	3	$473	185	99	$49,382
Town of Minnesott Beach	403	385	96	$250,462	14	3	$29,674	2	0	$623	401	100	$280,759
Town of Oriental	1,378	1,205	87	$690,722	100	7	$14,257	13	1	$3,205	1,318	96	$708,183
Town of Stonewall	227	199	88	$86,906	21	9	$3,734	6	3	$4,252	226	100	$94,891
Town of Vandemere	192	133	69	$43,719	1	1	$25	6	3	$1,030	140	73	$44,774
Subtotal Pamlico	**10,920**	**9,577**	**88**	**$3,621,776**	**843**	**8**	**$184,746**	**180**	**2**	**$80,298**	**10,600**	**97**	**$3,886,818**
Region Total	**158,620**	**117,421**	**74**	**$47,326,105**	**10,856**	**7**	**$27,022,238**	**2,433**	**2**	**$10,171,085**	**130,710**	**82**	**$84,519,430**

Source: NCEM Risk Management Tool

Table 4.91 – Estimated Buildings Impacted by 50-Year Thunderstorm Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85	$14,003,851	2,003	10	$2,725,464	353	2	$1,713,789	19,912	97	$18,443,103
City of Washington	5,790	4,828	83	$4,927,522	709	12	$22,615,112	197	3	$1,339,553	5,734	99	$28,882,188
Town of Aurora	579	440	76	$435,012	85	15	$57,065	33	6	$107,515	558	96	$599,591
Town of Bath	561	471	84	$552,101	51	9	$41,159	31	6	$71,885	553	99	$665,144
Town of Belhaven	1,087	857	79	$595,820	93	9	$91,909	24	2	$49,750	974	90	$737,480
Town of Chocowinity	398	330	83	$326,632	36	9	$100,895	28	7	$72,274	394	99	$499,802
Town of Pantego	132	108	82	$103,261	11	8	$5,172	7	5	$19,261	126	95	$127,694
Town of Washington Park	232	171	74	$146,954	13	6	$75,424	0	0	$0	184	79	$222,378
Subtotal Beaufort	**29,356**	**24,761**	**84**	**$21,091,153**	**3,001**	**10**	**$25,712,200**	**673**	**2**	**$3,374,027**	**28,435**	**97**	**$50,177,380**
Carteret													
Unincorporated Carteret County	29,284	13,563	46	$8,051,606	1,000	3	$661,540	229	1	$1,369,678	14,792	51	$10,082,823
Town of Atlantic Beach	4,141	3,220	78	$3,288,944	153	4	$727,046	9	0	$5,178	3,382	82	$4,021,167
Town of Beaufort	4,605	2,878	62	$2,451,267	280	6	$560,001	78	2	$311,348	3,236	70	$3,322,617
Town of Bogue	642	324	50	$170,328	31	5	$8,261	8	1	$6,887	363	57	$185,475
Town of Cape Carteret	1,763	872	49	$418,482	91	5	$34,150	26	1	$11,262	989	56	$463,894
Town of Cedar Point	1,915	1,256	66	$514,004	101	5	$95,599	10	1	$16,411	1,367	71	$626,015
Town of Emerald Isle	7,154	5,132	72	$5,474,689	156	2	$55,019	19	0	$86,572	5,307	74	$5,616,281
Town of Indian Beach	1,138	790	69	$816,141	24	2	$14,145	6	1	$3,838	820	72	$834,124
Town of Morehead City	10,811	6,703	62	$5,807,669	832	8	$520,830	214	2	$840,960	7,749	72	$7,169,459
Town of Newport	5,441	3,636	67	$1,413,704	347	6	$195,167	97	2	$92,504	4,080	75	$1,701,375
Town of Peletier	943	469	50	$179,935	52	6	$197,655	8	1	$20,668	529	56	$398,258
Town of Pine Knoll Shores	2,253	1,391	62	$2,843,190	79	4	$62,323	29	1	$55,216	1,499	67	$2,960,729
Subtotal Carteret	**70,090**	**40,234**	**57**	**$31,429,959**	**3,146**	**4**	**$3,131,736**	**733**	**1**	**$2,820,522**	**44,113**	**63**	**$37,382,217**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89	$10,970,488	2,034	8	$3,650,682	305	1	$1,190,423	24,458	98	$15,811,592
City of Havelock	5,417	4,844	89	$1,685,986	367	7	$1,090,575	148	3	$7,329,010	5,359	99	$10,105,571
City of New Bern	13,049	11,331	87	$5,063,039	1,239	9	$7,935,709	298	2	$3,668,030	12,868	99	$16,666,778
Town of Bridgeton	326	232	71	$74,204	70	21	$21,377	10	3	$2,682	312	96	$98,262
Town of Cove City	294	252	86	$136,939	29	10	$8,129	12	4	$62,110	293	100	$207,178
Town of Dover	299	276	92	$111,736	6	2	$1,715	17	6	$18,069	299	100	$131,520
Town of River Bend	1,553	1,516	98	$846,945	25	2	$148,059	3	0	$4,810	1,544	99	$999,814
Town of Trent Woods	1,918	1,868	97	$1,212,744	20	1	$27,740	21	1	$36,351	1,909	100	$1,276,835
Town of Vanceboro	522	411	79	$213,167	76	15	$154,427	33	6	$132,001	520	100	$499,595
Subtotal Craven	**48,254**	**42,849**	**89**	**$20,315,248**	**3,866**	**8**	**$13,038,413**	**847**	**2**	**$12,443,486**	**47,562**	**99**	**$45,797,145**
Pamlico													
Unincorporated Pamlico County	6,428	5,680	88	$3,032,070	483	8	$152,918	70	1	$29,217	6,233	97	$3,214,205
Town of Alliance	577	484	84	$271,487	78	14	$25,040	14	2	$5,240	576	100	$301,767
Town of Arapahoe	430	386	90	$113,947	26	6	$11,457	16	4	$20,426	428	100	$145,830
Town of Bayboro	515	408	79	$253,036	74	14	$41,339	31	6	$52,349	513	100	$346,724
Town of Grantsboro	584	527	90	$201,293	36	6	$33,791	17	3	$28,582	580	99	$263,667
Town of Mesic	186	170	91	$76,464	10	5	$1,142	5	3	$931	185	99	$78,537
Town of Minnesott Beach	403	385	96	$391,000	14	3	$49,200	2	0	$1,457	401	100	$441,658
Town of Oriental	1,378	1,205	87	$1,098,440	100	7	$30,834	13	1	$7,134	1,318	96	$1,136,408
Town of Stonewall	227	199	88	$135,252	21	9	$9,446	6	3	$9,601	226	100	$154,298
Town of Vandemere	192	133	69	$67,016	1	1	$60	6	3	$2,107	140	73	$69,183
Subtotal Pamlico	**10,920**	**9,577**	**88**	**$5,640,005**	**843**	**8**	**$355,227**	**180**	**2**	**$157,044**	**10,600**	**97**	**$6,152,277**
Region Total	**158,620**	**117,421**	**74**	**$78,476,365**	**10,856**	**7**	**$42,237,576**	**2,433**	**2**	**$18,795,079**	**130,710**	**82**	**$139,509,019**

Source: NCEM Risk Management Tool

Table 4.92 – Estimated Buildings Impacted by 100-Year Thunderstorm Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85	$22,779,851	2,003	10	$4,566,138	353	2	$2,950,710	19,912	97	$30,296,700
City of Washington	5,790	4,828	83	$7,776,421	709	12	$29,894,639	197	3	$2,171,789	5,734	99	$39,842,849
Town of Aurora	579	440	76	$726,186	85	15	$109,543	33	6	$198,749	558	96	$1,034,477
Town of Bath	561	471	84	$890,513	51	9	$81,290	31	6	$131,153	553	99	$1,102,956
Town of Belhaven	1,087	857	79	$1,560,724	93	9	$386,269	24	2	$147,776	974	90	$2,094,769
Town of Chocowinity	398	330	83	$549,962	36	9	$175,698	28	7	$140,930	394	99	$866,591
Town of Pantego	132	108	82	$259,783	11	8	$20,194	7	5	$57,509	126	95	$337,487
Town of Washington Park	232	171	74	$227,777	13	6	$111,647	0	0	$0	184	79	$339,424
Subtotal Beaufort	**29,356**	**24,761**	**84**	**$34,771,217**	**3,001**	**10**	**$35,345,418**	**673**	**2**	**$5,798,616**	**28,435**	**97**	**$75,915,253**
Carteret													
Unincorporated Carteret County	29,284	13,563	46	$12,562,194	1,000	3	$1,186,933	229	1	$2,210,569	14,792	51	$15,959,696
Town of Atlantic Beach	4,141	3,220	78	$7,220,131	153	4	$1,671,251	9	0	$16,619	3,382	82	$8,908,001
Town of Beaufort	4,605	2,878	62	$4,006,259	280	6	$950,908	78	2	$565,242	3,236	70	$5,522,410
Town of Bogue	642	324	50	$277,299	31	5	$16,532	8	1	$12,032	363	57	$305,863
Town of Cape Carteret	1,763	872	49	$655,815	91	5	$63,607	26	1	$22,127	989	56	$741,549
Town of Cedar Point	1,915	1,256	66	$804,703	101	5	$178,215	10	1	$31,680	1,367	71	$1,014,598
Town of Emerald Isle	7,154	5,132	72	$8,945,842	156	2	$111,125	19	0	$144,618	5,307	74	$9,201,585
Town of Indian Beach	1,138	790	69	$1,279,104	24	2	$31,115	6	1	$8,492	820	72	$1,318,710
Town of Morehead City	10,811	6,703	62	$10,211,871	832	8	$1,217,773	214	2	$1,875,105	7,749	72	$13,304,749
Town of Newport	5,441	3,636	67	$2,105,796	347	6	$334,438	97	2	$171,914	4,080	75	$2,612,149
Town of Peletier	943	469	50	$273,253	52	6	$323,481	8	1	$40,810	529	56	$637,544
Town of Pine Knoll Shores	2,253	1,391	62	$4,776,650	79	4	$135,391	29	1	$113,728	1,499	67	$5,025,769
Subtotal Carteret	**70,090**	**40,234**	**57**	**$53,118,917**	**3,146**	**4**	**$6,220,769**	**733**	**1**	**$5,212,936**	**44,113**	**63**	**$64,552,623**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89	$16,548,189	2,034	8	$6,046,858	305	1	$1,996,117	24,458	98	$24,591,164
City of Havelock	5,417	4,844	89	$2,622,722	367	7	$1,947,422	148	3	$17,387,634	5,359	99	$21,957,779
City of New Bern	13,049	11,331	87	$7,890,296	1,239	9	$12,696,409	298	2	$6,032,507	12,868	99	$26,619,212
Town of Bridgeton	326	232	71	$123,193	70	21	$41,907	10	3	$4,848	312	96	$169,948
Town of Cove City	294	252	86	$191,442	29	10	$17,114	12	4	$109,805	293	100	$318,361
Town of Dover	299	276	92	$174,458	6	2	$4,146	17	6	$39,232	299	100	$217,836
Town of River Bend	1,553	1,516	98	$1,297,608	25	2	$240,150	3	0	$9,613	1,544	99	$1,547,370
Town of Trent Woods	1,918	1,868	97	$1,847,225	20	1	$48,268	21	1	$65,034	1,909	100	$1,960,527
Town of Vanceboro	522	411	79	$311,698	76	15	$241,033	33	6	$255,417	520	100	$808,148
Subtotal Craven	**48,254**	**42,849**	**89**	**$31,006,831**	**3,866**	**8**	**$21,283,307**	**847**	**2**	**$25,900,207**	**47,562**	**99**	**$78,190,345**
Pamlico													
Unincorporated Pamlico County	6,428	5,680	88	$4,662,145	483	8	$289,985	70	1	$64,571	6,233	97	$5,016,701
Town of Alliance	577	484	84	$400,965	78	14	$53,690	14	2	$11,222	576	100	$465,877
Town of Arapahoe	430	386	90	$172,908	26	6	$20,531	16	4	$34,437	428	100	$227,875
Town of Bayboro	515	408	79	$370,535	74	14	$83,949	31	6	$117,566	513	100	$572,050
Town of Grantsboro	584	527	90	$280,278	36	6	$60,753	17	3	$51,059	580	99	$392,090
Town of Mesic	186	170	91	$115,666	10	5	$2,891	5	3	$1,902	185	99	$120,459
Town of Minnesott Beach	403	385	96	$611,800	14	3	$79,793	2	0	$3,664	401	100	$695,257
Town of Oriental	1,378	1,205	87	$1,779,367	100	7	$65,858	13	1	$15,974	1,318	96	$1,861,199
Town of Stonewall	227	199	88	$217,731	21	9	$23,780	6	3	$19,981	226	100	$261,492
Town of Vandemere	192	133	69	$101,878	1	1	$127	6	3	$4,349	140	73	$106,355
Subtotal Pamlico	**10,920**	**9,577**	**88**	**$8,713,273**	**843**	**8**	**$681,357**	**180**	**2**	**$324,725**	**10,600**	**97**	**$9,719,355**
Region Total	**158,620**	**117,421**	**74**	**$127,610,238**	**10,856**	**7**	**$63,530,851**	**2,433**	**2**	**$37,236,484**	**130,710**	**82**	**$228,377,576**

Source: NCEM Risk Management Tool

Table 4.93 – Estimated Buildings Impacted by 300-Year Thunderstorm Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85	$57,018,902	2,003	10	$10,336,837	353	2	$7,322,216	19,912	97	$74,677,956
City of Washington	5,790	4,828	83	$19,739,201	709	12	$46,393,706	197	3	$5,043,856	5,734	99	$71,176,764
Town of Aurora	579	440	76	$2,028,363	85	15	$359,322	33	6	$565,624	558	96	$2,953,308
Town of Bath	561	471	84	$2,606,022	51	9	$287,357	31	6	$388,824	553	99	$3,282,203
Town of Belhaven	1,087	857	79	$2,691,524	93	9	$796,659	24	2	$264,594	974	90	$3,752,776
Town of Chocowinity	398	330	83	$925,695	36	9	$290,070	28	7	$252,083	394	99	$1,467,849
Town of Pantego	132	108	82	$441,120	11	8	$41,280	7	5	$91,790	126	95	$574,190
Town of Washington Park	232	171	74	$643,122	13	6	$200,143	0	0	$0	184	79	$843,266
Subtotal Beaufort	**29,356**	**24,761**	**84**	**$86,093,949**	**3,001**	**10**	**$58,705,374**	**673**	**2**	**$13,928,987**	**28,435**	**97**	**$158,728,312**
Carteret													
Unincorporated Carteret County	29,284	13,563	46	$29,837,874	1,000	3	$3,358,340	229	1	$4,916,404	14,792	51	$38,112,618
Town of Atlantic Beach	4,141	3,220	78	$12,402,873	153	4	$2,326,155	9	0	$29,410	3,382	82	$14,758,438
Town of Beaufort	4,605	2,878	62	$10,249,881	280	6	$2,391,927	78	2	$1,446,256	3,236	70	$14,088,065
Town of Bogue	642	324	50	$676,974	31	5	$65,643	8	1	$36,287	363	57	$778,905
Town of Cape Carteret	1,763	872	49	$1,611,680	91	5	$223,271	26	1	$77,803	989	56	$1,912,753
Town of Cedar Point	1,915	1,256	66	$2,010,300	101	5	$483,651	10	1	$97,956	1,367	71	$2,591,907
Town of Emerald Isle	7,154	5,132	72	$25,546,696	156	2	$435,793	19	0	$348,276	5,307	74	$26,330,765
Town of Indian Beach	1,138	790	69	$3,156,347	24	2	$135,328	6	1	$40,513	820	72	$3,332,188
Town of Morehead City	10,811	6,703	62	$17,351,721	832	8	$2,438,699	214	2	$3,352,447	7,749	72	$23,142,867
Town of Newport	5,441	3,636	67	$4,544,584	347	6	$805,529	97	2	$465,999	4,080	75	$5,816,112
Town of Peletier	943	469	50	$632,627	52	6	$649,828	8	1	$122,579	529	56	$1,405,035
Town of Pine Knoll Shores	2,253	1,391	62	$11,926,408	79	4	$413,299	29	1	$406,538	1,499	67	$12,746,245
Subtotal Carteret	**70,090**	**40,234**	**57**	**$119,947,965**	**3,146**	**4**	**$13,727,463**	**733**	**1**	**$11,340,468**	**44,113**	**63**	**$145,015,898**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89	$36,455,753	2,034	8	$14,155,515	305	1	$4,950,966	24,458	98	$55,562,235
City of Havelock	5,417	4,844	89	$5,647,982	367	7	$5,045,033	148	3	$28,012,759	5,359	99	$38,705,775
City of New Bern	13,049	11,331	87	$18,034,936	1,239	9	$26,243,589	298	2	$12,553,307	12,868	99	$56,831,831
Town of Bridgeton	326	232	71	$353,340	70	21	$147,528	10	3	$17,294	312	96	$518,161
Town of Cove City	294	252	86	$401,376	29	10	$66,422	12	4	$263,718	293	100	$731,516
Town of Dover	299	276	92	$448,451	6	2	$22,094	17	6	$160,593	299	100	$631,139
Town of River Bend	1,553	1,516	98	$2,507,512	25	2	$509,951	3	0	$28,217	1,544	99	$3,045,681
Town of Trent Woods	1,918	1,868	97	$3,834,118	20	1	$129,224	21	1	$200,909	1,909	100	$4,164,252
Town of Vanceboro	522	411	79	$681,639	76	15	$545,890	33	6	$755,698	520	100	$1,983,227
Subtotal Craven	**48,254**	**42,849**	**89**	**$68,365,107**	**3,866**	**8**	**$46,865,246**	**847**	**2**	**$46,943,461**	**47,562**	**99**	**$162,173,817**
Pamlico													
Unincorporated Pamlico County	6,428	5,680	88	$10,543,795	483	8	$740,484	70	1	$224,139	6,233	97	$11,508,418
Town of Alliance	577	484	84	$955,516	78	14	$230,850	14	2	$46,024	576	100	$1,232,390
Town of Arapahoe	430	386	90	$257,259	26	6	$35,408	16	4	$62,799	428	100	$355,466
Town of Bayboro	515	408	79	$873,822	74	14	$303,006	31	6	$564,695	513	100	$1,741,523
Town of Grantsboro	584	527	90	$549,239	36	6	$179,784	17	3	$162,591	580	99	$891,614
Town of Mesic	186	170	91	$286,281	10	5	$14,603	5	3	$7,305	185	99	$308,189
Town of Minnesott Beach	403	385	96	$978,817	14	3	$125,388	2	0	$7,617	401	100	$1,111,822
Town of Oriental	1,378	1,205	87	$5,123,124	100	7	$259,113	13	1	$68,152	1,318	96	$5,450,390
Town of Stonewall	227	199	88	$638,198	21	9	$101,354	6	3	$69,731	226	100	$809,282
Town of Vandemere	192	133	69	$261,441	1	1	$437	6	3	$16,492	140	73	$278,370
Subtotal Pamlico	**10,920**	**9,577**	**88**	**$20,467,492**	**843**	**8**	**$1,990,427**	**180**	**2**	**$1,229,545**	**10,600**	**97**	**$23,687,464**
Region Total	**158,620**	**117,421**	**74**	**$294,874,513**	**10,856**	**7**	**$121,288,510**	**2,433**	**2**	**$73,442,461**	**130,710**	**82**	**$489,605,491**

Source: NCEM Risk Management Tool

Table 4.94 – Estimated Buildings Impacted by 700-Year Thunderstorm Winds

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	17,556	85	$104,135,493	2,003	10	$18,033,540	353	2	$12,382,912	19,912	97	$134,551,945
City of Washington	5,790	4,828	83	$31,249,826	709	12	$56,313,978	197	3	$7,329,264	5,734	99	$94,893,067
Town of Aurora	579	440	76	$3,277,485	85	15	$596,894	33	6	$877,127	558	96	$4,751,506
Town of Bath	561	471	84	$4,425,410	51	9	$487,090	31	6	$623,741	553	99	$5,536,240
Town of Belhaven	1,087	857	79	$7,477,685	93	9	$2,600,002	24	2	$776,106	974	90	$10,853,793
Town of Chocowinity	398	330	83	$2,655,976	36	9	$782,519	28	7	$730,101	394	99	$4,168,595
Town of Pantego	132	108	82	$1,214,006	11	8	$139,164	7	5	$193,928	126	95	$1,547,098
Town of Washington Park	232	171	74	$1,105,258	13	6	$253,041	0	0	$0	184	79	$1,358,299
Subtotal Beaufort	**29,356**	**24,761**	**84**	**$155,541,139**	**3,001**	**10**	**$79,206,228**	**673**	**2**	**$22,913,179**	**28,435**	**97**	**$257,660,543**
Carteret													
Unincorporated Carteret County	29,284	13,563	46	$51,491,293	1,000	3	$6,478,708	229	1	$7,643,974	14,792	51	$65,613,975
Town of Atlantic Beach	4,141	3,220	78	$36,958,467	153	4	$4,379,703	9	0	$86,815	3,382	82	$41,424,985
Town of Beaufort	4,605	2,878	62	$19,725,723	280	6	$4,083,606	78	2	$2,476,333	3,236	70	$26,285,662
Town of Bogue	642	324	50	$1,081,965	31	5	$135,225	8	1	$66,382	363	57	$1,283,573
Town of Cape Carteret	1,763	872	49	$2,691,627	91	5	$442,497	26	1	$151,758	989	56	$3,285,882
Town of Cedar Point	1,915	1,256	66	$3,360,812	101	5	$774,342	10	1	$177,603	1,367	71	$4,312,756
Town of Emerald Isle	7,154	5,132	72	$45,214,199	156	2	$873,808	19	0	$551,643	5,307	74	$46,639,649
Town of Indian Beach	1,138	790	69	$5,116,428	24	2	$266,615	6	1	$84,228	820	72	$5,467,272
Town of Morehead City	10,811	6,703	62	$41,758,020	832	8	$7,724,968	214	2	$10,027,160	7,749	72	$59,510,149
Town of Newport	5,441	3,636	67	$7,215,551	347	6	$1,241,251	97	2	$734,748	4,080	75	$9,191,550
Town of Peletier	943	469	50	$1,020,174	52	6	$863,275	8	1	$195,007	529	56	$2,078,456
Town of Pine Knoll Shores	2,253	1,391	62	$23,252,044	79	4	$1,016,364	29	1	$730,846	1,499	67	$24,999,254
Subtotal Carteret	**70,090**	**40,234**	**57**	**$238,886,303**	**3,146**	**4**	**$28,280,362**	**733**	**1**	**$22,926,497**	**44,113**	**63**	**$290,093,163**

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Craven													
Unincorporated Craven County	24,876	22,119	89	$61,005,965	2,034	8	$21,532,405	305	1	$8,061,902	24,458	98	$90,600,272
City of Havelock	5,417	4,844	89	$8,390,857	367	7	$7,833,599	148	3	$40,030,878	5,359	99	$56,255,334
City of New Bern	13,049	11,331	87	$28,647,423	1,239	9	$36,788,060	298	2	$17,591,437	12,868	99	$83,026,920
Town of Bridgeton	326	232	71	$631,040	70	21	$283,641	10	3	$35,478	312	96	$950,159
Town of Cove City	294	252	86	$651,170	29	10	$127,441	12	4	$394,524	293	100	$1,173,135
Town of Dover	299	276	92	$770,796	6	2	$46,457	17	6	$300,844	299	100	$1,118,097
Town of River Bend	1,553	1,516	98	$3,537,122	25	2	$705,947	3	0	$44,682	1,544	99	$4,287,750
Town of Trent Woods	1,918	1,868	97	$5,840,021	20	1	$214,490	21	1	$378,457	1,909	100	$6,432,968
Town of Vanceboro	522	411	79	$1,096,197	76	15	$820,515	33	6	$1,213,849	520	100	$3,130,561
Subtotal Craven	**48,254**	**42,849**	**89**	**$110,570,591**	**3,866**	**8**	**$68,352,555**	**847**	**2**	**$68,052,051**	**47,562**	**99**	**$246,975,196**
Pamlico													
Unincorporated Pamlico County	6,428	5,680	88	$18,734,592	483	8	$1,653,523	70	1	$572,158	6,233	97	$20,960,274
Town of Alliance	577	484	84	$1,508,015	78	14	$423,757	14	2	$82,246	576	100	$2,014,018
Town of Arapahoe	430	386	90	$604,506	26	6	$118,070	16	4	$257,837	428	100	$980,414
Town of Bayboro	515	408	79	$1,380,460	74	14	$520,432	31	6	$1,064,807	513	100	$2,965,699
Town of Grantsboro	584	527	90	$838,282	36	6	$292,038	17	3	$272,939	580	99	$1,403,259
Town of Mesic	186	170	91	$466,260	10	5	$27,795	5	3	$12,949	185	99	$507,004
Town of Minnesott Beach	403	385	96	$2,681,419	14	3	$319,461	2	0	$27,548	401	100	$3,028,428
Town of Oriental	1,378	1,205	87	$8,554,846	100	7	$452,320	13	1	$122,412	1,318	96	$9,129,578
Town of Stonewall	227	199	88	$1,061,255	21	9	$175,073	6	3	$117,836	226	100	$1,354,164
Town of Vandemere	192	133	69	$424,253	1	1	$713	6	3	$28,683	140	73	$453,649
Subtotal Pamlico	**10,920**	**9,577**	**88**	**$36,253,888**	**843**	**8**	**$3,983,182**	**180**	**2**	**$2,559,415**	**10,600**	**97**	**$42,796,487**
Region Total	**158,620**	**117,421**	**74**	**$541,251,921**	**10,856**	**7**	**$179,822,327**	**2,433**	**2**	**$116,451,142**	**130,710**	**82**	**$837,525,389**

Source: NCEM Risk Management Tool

Thunderstorm winds and tornadoes can also cause secondary impacts, often resulting from damage to infrastructure. Downed power and communications transmission lines, coupled with disruptions to transportation, create difficulties in reporting and responding to emergencies. These indirect impacts of put tremendous strain on a community in the initial and intermediate recovery phases.

Severe weather can also cause significant agricultural losses. Between 2007-2023, the sum of claims paid for crop damage due to hail and wind damages in the Region was $3,494,106.40, or an average of $205,535 in losses annually. Beaufort County was responsible for most of these claims. Table 4.95 through Table 4.98 summarize the crop losses due to severe weather by county, as reported in the RMA system.

Table 4.95 – Crop Losses Resulting from Severe Weather, Beaufort County, 2007-2023

Year	Determined Acres	Indemnity Amount
Hail		
2007	12.00	$27,524.00
2008	88.05	$171,884.00
2009	690.90	$164,871.00
2010	135.20	$13,305.00
2012	383.97	$53,605.00
2014	19.33	$60,329.10
2016	200.68	$36,043.75
2017	812.70	$211,329.00
2018	10.458	1229.7
2019	1248.1624	295922.8
2020	386.585	92886.5
2022	269.18	9939
Wind/Excess Wind		
2007	65.97	$131,518.00
2008	115.73	$208,262.00
2009	719.24	$203,639.00
2010	95.87	$220,950.00
2012	292.23	$257,582.00
2013	6.26	$4,943.00
2014	237.32	$288,503.90
2016	27.10	$22,245.50
2017	1.35	$990.00
2022	33.94	$18,454.00
2023	29.16	$23,668.80
Total	**5,881.39**	**$2,519,625.05**

Source: USDA Risk Management Agency

Table 4.96 – Crop Losses Resulting from Severe Weather, Carteret County, 2007-2023

Year	Determined Acres	Indemnity Amount
Hail		
2008	218.96	$68,510.00
Wind/Excess Wind		
2009	52.65	$3,606.00
Total	**271.61**	**$72,116.00**

Source: USDA Risk Management Agency

Table 4.97 – Crop Losses Resulting from Severe Weather, Craven County, 2007-2023

Year	Determined Acres	Indemnity Amount
Hail		
2007	34.55	$9,012.00
2008	40.27	$80,144.00
2014	17.24	$24,451.50
2015	215.00	$6,237.00
2016	4.66	$9,620.50
2018	48.67	$43,836.75
2020	224.66	$16,698.00
2022	28.41	$39,908.95
2023	633.29	$162,725.20
Wind/Excess Wind		
2008	15.42	$16,751.00
2009	93.56	$159,782.00
2012	22.50	$828.00
2014	29.89	$50,969.00
2015	18.25	$1,219.50
2016	49.94	$109,025.60
2017	19.35	$42,553.10
2019	35.19	$52733.50
Total	**1,530.85**	**$826,495.60**

Source: USDA Risk Management Agency

Table 4.98 – Crop Losses Resulting from Severe Weather, Pamlico County, 2007-2023

Year	Determined Acres	Indemnity Amount
Hail		
2014	13.16	$24,952.25
Wind/Excess Wind		
2014	20.58	$50,447.50
2015	7.00	$470.00
Total	**40.74**	**$75,869.75**

Source: USDA Risk Management Agency

ENVIRONMENT

The main environmental impact from wind is damage to trees or crops. Tornadoes can cause massive damage to the natural environment, uprooting trees, and creating other debris within the tornado's path. Wind events can also bring down power lines, which could cause a fire and result in even greater environmental impacts. Lightning may also result in the ignition of wildfires. This is part of a natural process, however, and the environment will return to its original state in time.

Hail can cause extensive damage to the natural environment, pelting animals, trees and vegetation with hailstones. Melting hail can also increase both river and flash flood risk.

CONSEQUENCE ANALYSIS

Table 4.99 summarizes the potential negative consequences of severe weather.

Table 4.99 – Consequence Analysis – Tornadoes & Thunderstorms

Category	Consequences
Public	Injuries and fatalities possible
Responders	Injuries and fatalities unlikely; potential impacts to response capabilities due to storm impacts and emergency call load
Continuity of Operations (including Continued Delivery of Services)	Potential impacts to continuity of operations due to storm impacts; delays in providing services
Property, Facilities and Infrastructure	Possibility of structure fire ignition; potential for disruptions in power and communications infrastructure; destruction and/or damage to any exposed property, especially windows, cars, and siding. Weak tornadoes can cause minor roof damage, while strong tornadoes can destroy whole structures. Buildings are vulnerable to direct impact from wind borne debris. Mobile homes are particularly susceptible to wind damage.
Environment	Potential fire ignition from lightning; hail damage to wildlife and foliage. Wind can cause significant damage to flora, fauna, and environmental systems.
Economic Condition of the Jurisdiction	Lightning damage contingent on target; can severely impact/destroy critical infrastructure and other economic drivers.
Public Confidence in the Jurisdiction's Governance	Public confidence is not generally affected by severe weather events.

HAZARD SUMMARY BY JURISDICTION

The following tables summarize tornado and thunderstorm hazard risks by jurisdiction. Most aspects of severe weather risk do not vary substantially by jurisdiction; however, the impact of these severe weather hazards may vary based on each community's property exposure. Communities with a higher proportion of mobile homes may be disproportionately impacted by thunderstorm winds. Mobile home units comprise approximately 25% of the housing mix of Beaufort County and Pamlico County; therefore, these areas may face more severe impacts from wind.

TORNADO

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
All jurisdictions	3	3	1	4	1	2.5	M

THUNDERSTORM WIND

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Beaufort County	4	3	3	4	1	3.2	H
City of Washington	4	2	3	4	1	2.9	M
Town of Aurora	4	2	3	4	1	2.9	M
Town of Bath	4	2	3	4	1	2.9	M
Town of Belhaven	4	3	3	4	1	3.2	H
Town of Chocowinity	4	2	3	4	1	2.9	M

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Town of Pantego	4	2	3	4	1	2.9	M
Town of Washington Park	4	2	3	4	1	2.9	M
Carteret County	4	2	3	4	1	2.9	M
Town of Atlantic Beach	4	2	3	4	1	2.9	M
Town of Beaufort	4	2	3	4	1	2.9	M
Town of Bogue	4	3	3	4	1	3.2	H
Town of Cape Carteret	4	2	3	4	1	2.9	M
Town of Cedar Point	4	3	3	4	1	3.2	H
Town of Emerald Isle	4	2	3	4	1	2.9	M
Town of Indian Beach	4	3	3	4	1	3.2	H
Town of Morehead City	4	2	3	4	1	2.9	M
Town of Newport	4	2	3	4	1	2.9	M
Town of Peletier	4	3	3	4	1	3.2	H
Town of Pine Knoll Shores	4	2	3	4	1	2.9	M
Craven County	4	2	3	4	1	2.9	M
City of Havelock	4	2	3	4	1	2.9	M
City of New Bern	4	2	3	4	1	2.9	M
Town of Bridgeton	4	3	3	4	1	3.2	H
Town of Cove City	4	3	3	4	1	3.2	H
Town of Dover	4	2	3	4	1	2.9	M
Town of River Bend	4	2	3	4	1	2.9	M
Town of Trent Woods	4	2	3	4	1	2.9	M
Town of Vanceboro	4	2	3	4	1	2.9	M
Pamlico County	4	3	3	4	1	3.2	H
Town of Alliance	4	3	3	4	1	3.2	H
Town of Arapahoe	4	3	3	4	1	3.2	H
Town of Bayboro	4	3	3	4	1	3.2	H
Town of Grantsboro	4	3	3	4	1	3.2	H
Town of Mesic	4	3	3	4	1	3.2	H
Town of Minnesott Beach	4	2	3	4	1	2.9	M
Town of Oriental	4	2	3	4	1	2.9	M
Town of Stonewall	4	2	3	4	1	2.9	M
Town of Vandemere	4	3	3	4	1	3.2	H

LIGHTNING AND HAIL

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
All jurisdictions	4	1	1	4	1	2.2	M

4.5.9 WILDFIRE

HAZARD BACKGROUND

A wildfire is a highly destructive fire or any instance of uncontrolled burning in the environment. Wildfires can consume large areas, including infrastructure, property, and natural resources. In cases where wildfires grow near populated areas, evacuations may be necessary. Beyond the direct impact on the environment, the significant volumes of smoke generated under certain atmospheric conditions can also pose health risks to nearby populations. Three general types of fire spread are recognized:

- Ground fires: these fires burn organic material in the soil beneath surface litter and are sustained by smoldering combustion.
- Surface fires: these are spread by a flaming front and burn leaf litter, fallen branches, and other ground-level fuels.
- Crown fires: ignite from the to layer of foliage on trees, known as the canopy. Crown fires are the most intense type of wildfire and are often the most challenging to contain. They require strong winds, steep slopes, and a heavy fuel load to sustain their burning.

Fuels for wildfires are subject to a variety of ignition sources. Generally, wildfires are started by humans, either through arson or carelessness. Fire intensity is controlled by both short-term weather conditions and longer-term vegetation conditions. During intense fires, understory vegetation, such as leaves, small branches, and other organic materials that accumulate on the ground, can become additional fuel for the fire. The most explosive conditions occur when dry, gusty winds blow across dry vegetation. Historically, fire starts have been contained quickly with minimal loss to property and structures.

Warning Time: 4 – Less than 6 hours

Duration: 3 – Less than 1 week

Weather plays a major role in the birth, growth and death of a wildfire. Weather conditions favorable to wildfire include drought, which increases flammability of surface fuels, and winds, which aid a wildfire's progress. The combination of wind, temperature, and humidity affects how fast wildland fires can spread. Rapid response can contain wildfires and limit their threat to property. In support of forecasting for fire weather, the National Weather Service Fire Weather Program emerged. This service is provided to federal and state land management agencies for the prevention, suppression, and management of forest and rangeland fires.

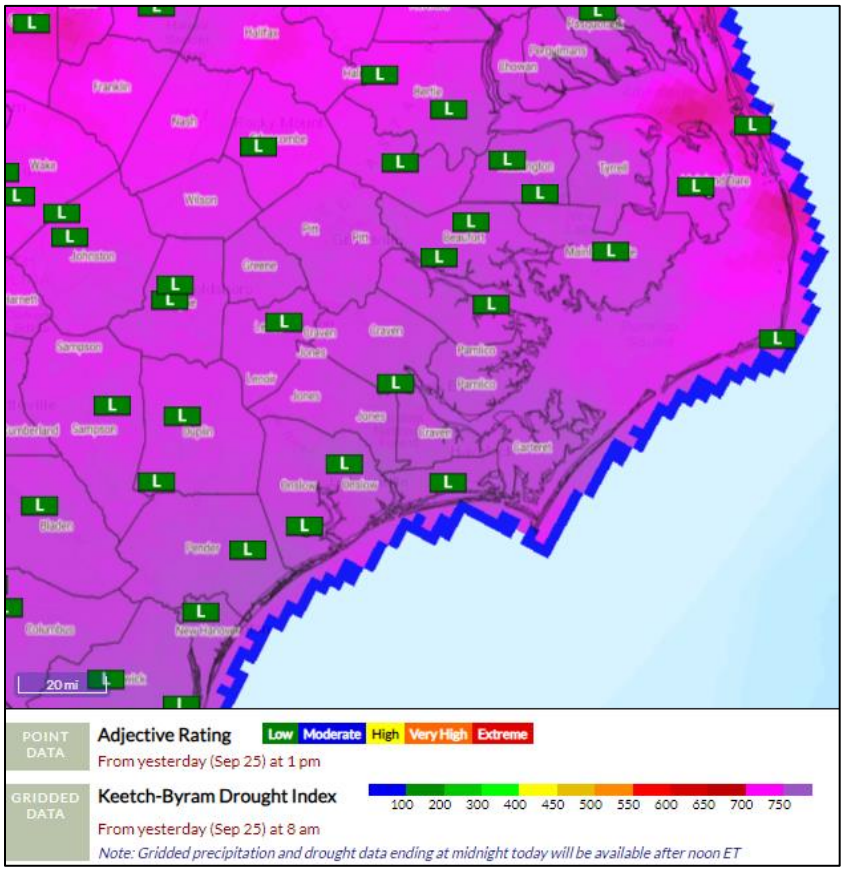
The Pamlico Sound Region experiences a variety of wildfire conditions found in the Keetch-Byram Drought Index, which is described in Table 4.100.

Table 4.100 – Keetch-Byram Drought Index Fire Danger Rating System

KBDI	Description
0-200	Soil and fuel moisture are high. Most fuels will not readily ignite or burn. However, with sufficient sunlight and wind, cured grasses and some light surface fuels will burn in sports and patches.
200-400	Fires more readily burn and will carry across an area with no gaps. Heavier fuels will still not readily ignite and burn. Also, expect smoldering and the resulting smoke to carry into and possibly through the night.
400-600	Fire intensity begins to significantly increase. Fires will readily burn in all directions exposing mineral soils in some locations. Larger fuels may burn or smolder for several days creating possible smoke and control problems.
600-800	Fires will burn to mineral soil. Stumps will burn to the end of underground roots and spotting will be a major problem. Fires will burn through the night and heavier fuels will actively burn and contribute to fire intensity.

The Keetch-Byram Drought Index (KBDI) for September 25, 2024 is shown in **Error! Not a valid bookmark self-reference.** along with a Daily Fire Danger Estimate Adjective Rating for certain points across the east coast of the state. The KBDI for the Pamlico Sound Region at this time was between 700 and 750, and the Fire Danger Estimate for the nearby area was "Low." This data provides a point in time measurement and does not reflect long term risk; it is meant to illustrate the tools available to support identification of wildfire risk. Lower fire potential is expected when the region is typically more humid during and soon after hurricane season. Drier weather through the winter could elevate wildfire risk.

Figure 4.47 – Keetch-Byram Drought Index, September 2024



Source: USFS Wildland Fire Assessment System

LOCATION

The location of wildfire risk can be designated by the size of the Wildland Urban Interface (WUI). This interface represents the zone where human-made structures and developments intersect and blend with natural, undeveloped wildland or vegetation, thereby defining the geographical scope of wildfire vulnerability. The WUI is essentially all the land in each county that is not heavily urbanized. The Southern Wildfire Risk Assessment (SWRA) estimates that 92 percent of the Pamlico Sound Region population lives within the WUI. The expansion of residential development from urban centers out into rural landscapes increases the potential for wildland fire threat to public safety and the potential for damage to forest resources and dependent industries. Population growth within the WUI substantially increases the risk of wildfire. Table 4.101 details the extent of the WUI in the Pamlico Sound Region, and Figure 4.48 maps the WUI.

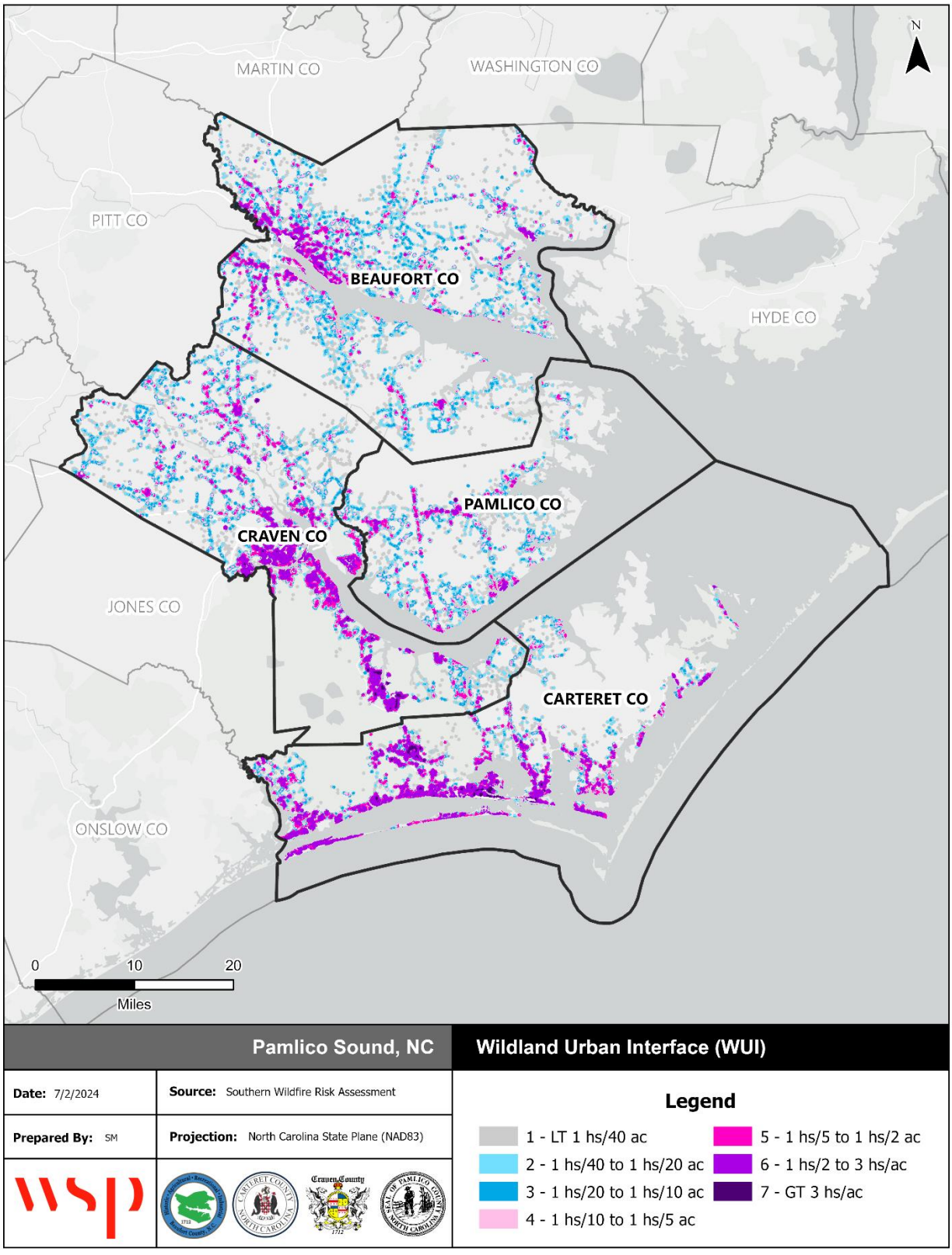
Spatial Extent: 3 – Moderate

Table 4.101 – Wildland Urban Interface, Population and Acres

	Housing Density	WUI Population	Percent of WUI Population	WUI Acres	Percent of WUI Acres
	LT 1hs/40ac	2,726	1.3 %	156,431	31.3 %
	1hs/40ac to 1hs/20ac	4,407	2.1 %	83,868	16.8 %
	1hs/20ac to 1hs/10ac	9,247	4.4 %	78,441	15.7 %
	1hs/10ac to 1hs/5ac	14,415	6.8 %	60,088	12.0 %
	1hs/5ac to 1hs/2ac	30,754	14.5 %	56,879	11.4 %
	1hs/2ac to 3hs/1ac	129,274	61.1 %	61,321	12.3 %
	GT 3hs/1ac	20,772	9.8 %	2,460	0.5 %
	Total	**211,595**	**100.0 %**	**499,488**	**100.0 %**

Source: Southern Wildfire Risk Assessment

Figure 4.48 – Wildland Urban Interface, Pamlico Sound Region



Source: Southern Wildfire Risk Assessment

EXTENT

The scope of a wildfire can be characterized its intensity, assessed using SWRA's Characteristic Fire Intensity Scale. Fire intensity ratings pinpoint areas with notable fuel hazards and the potential for dangerous fire behavior, considering factors such as fuel types, terrain, and a weighted average of weather conditions across four percentile weather categories. The Fire Intensity Scale consists of five classes.

Table 4.102 – Fire Intensity Scale

Class	Description
1, Very Low	Very small, discontinuous flames, usually less than 1 foot in length; very low rate of spread; no spotting. Fires are typically easy to suppress by firefighters with basic training and non-specialized equipment.
2, Low	Small flames, usually less than two feet long; small amount of very short range spotting possible. Fires are easy to suppress by trained firefighters with protective equipment and specialized tools.
3, Moderate	Flames up to 8 feet in length; short-range spotting is possible. Trained firefighters will find these fires difficult to suppress without support from aircraft or engines, but dozer and plows are generally effective. Increasing potential for harm or damage to life and property.
4, High	Large Flames, up to 30 feet in length; short-range spotting common; medium range spotting possible. Direct attack by trained firefighters, engines, and dozers is generally ineffective, indirect attack may be effective. Significant potential for harm or damage to life and property.
5, Very High	Very large flames up to 150 feet in length; profuse short-range spotting, frequent long-range spotting; strong fire-induced winds. Indirect attack marginally effective at the head of the fire. Great potential for harm or damage to life and property.

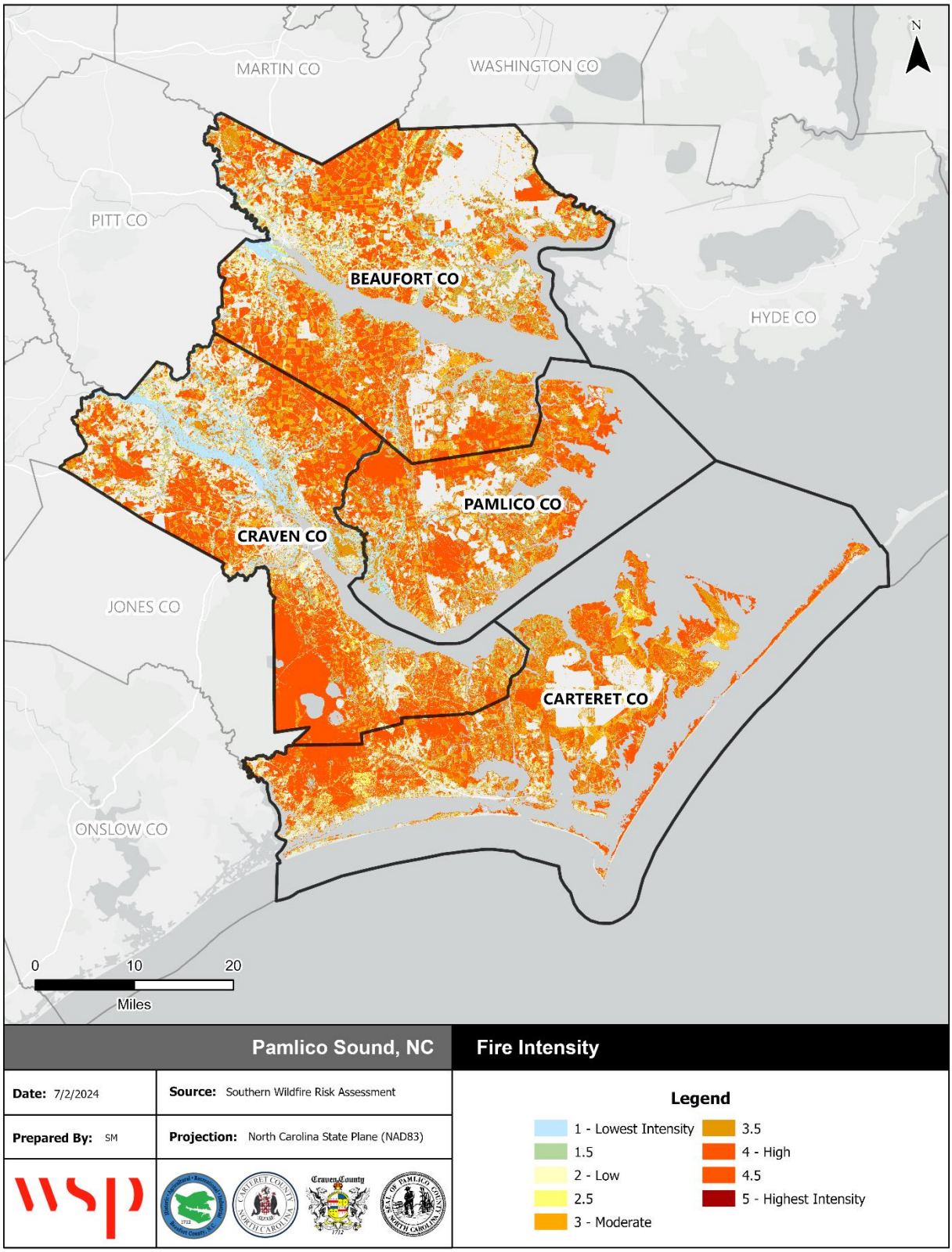
Source: Southern Wildfire Risk Assessment

Approximately 25 percent of the Pamlico Sound Region may experience a Class 4 or Class 4.5 Fire Intensity, which poses significant harm or damage to life and property. Over 14 percent of the Region may experience Class 3 Fire Intensity, which has potential for harm to life and property but is easier to suppress with dozer and plows. The remainder of the Region is either non-burnable (49.1%) or would face a Class 1 or Class 2 Fire Intensity, which are easily suppressed. Figure 4.49 shows the potential fire intensity across the Pamlico Sound Region.

Table 4.103 – Fire Intensity Scale

	Class	Acres	Percent
	Non-Burnable	1,143,600	49.1 %
	1 Lowest Intensity	81,363	3.5 %
	1.5	97,665	4.2 %
	2 Low	40,883	1.8 %
	2.5	61,201	2.6 %
	3 Moderate	150,978	6.5 %
	3.5	180,578	7.8 %
	4 High	359,578	15.4 %
	4.5	213,267	9.2 %
	5 Highest Intensity	0	0.0 %
	Total	**1,192,582**	**100.0 %**

Figure 4.49 – Characteristic Fire Intensity, Pamlico Sound Region



Source: Southern Wildfire Risk Assessment

Impact: 2 – Limited

HISTORICAL OCCURRENCES

The North Carolina Forest Service (NCFS) began keeping records of fire occurrence on private and state-owned lands in 1928. Since this time, there has been an average of approximately 4,063 fires and more than 104,000 acres annually. Recently, within the last 10 years, the State has averaged closer to 4,300 fires per year and 14,000 acres burned annually.

Table 4.104 lists past occurrences of wildfire in the Pamlico Sound Region since 1999 as provided by the North Carolina Forest Service (NCFS). This data only accounts for occurrences within unincorporated areas, which fall under the NCFS jurisdiction, as well as larger events in incorporated areas where local fire departments requested NCFS support for fire suppression. Therefore, actual number of fires and acreage burned is higher than what can be reported here.

Table 4.104 – Records for Wildfire in the Pamlico Sound Region, 1999-2023

Year	Wildfire Count	Acres Burned	Average Acreage Burned
1999	157	573.2	3.65
2000	127	2,473.7	19.48
2001	188	671.0	3.57
2002	123	4,484.8	36.46
2003	19	79.3	4.17
2004	96	1,163.6	12.12
2005	109	597.6	5.48
2006	84	1,673.8	19.93
2007	140	5,668.8	40.49
2008	128	933.5	7.29
2009	75	1,480.5	19.74
2010	88	475.1	5.40
2011	209	702.7	3.36
2012	59	200.5	3.40
2013	64	733.5	11.46
2014	64	219.6	3.43
2015	73	157.6	2.16
2016	71	212.3	2.99
2017	120	622.0	5.18
2018	77	453.4	5.89
2019	71	638.64	8.99
2020	131	539.51	4.12
2021	243	1,267.18	5.21
2022	129	33,150.86	256.9
2023	139	3,003.41	21.6
Total	**2784**	**62,176.1**	**22.3**

Source: NC Forest Service

Note: Records were not available for Pamlico County for 2003, therefore the total event count and acreage burned may be slightly higher than what is reported in this table.

Data is tabulated by NC Forest Service reporting year and may not fully correspond to the year events occurred.

Based on NCFS records, over the 25-year period from 1999 through 2023, the Pamlico Sound Region experienced 2,784 wildfire events that have burned over 62,176 acres of land, or approximately 22.3 acres

per fire on average. Total fire counts and acreage burned by county are reported in the jurisdictional annexes.

A recent fire of note in the region was the Great Lakes Fire, which occurred in April 2023 in the Croatan National Forest in Craven County, one mile south-southeast of New Bern. The fire was suspected to be human caused. It burned in pocosin swamp and mixed fuels within and around the footprint of the 2012 Dad Fire, which burned roughly 21,331 acres. Previous prescribed burning by the U. S. Forest Service helped slow fire spread by reducing the amount of burnable vegetation. No structures were lost, but 32,400 acres burned.

PROBABILITY OF FUTURE OCCURRENCE

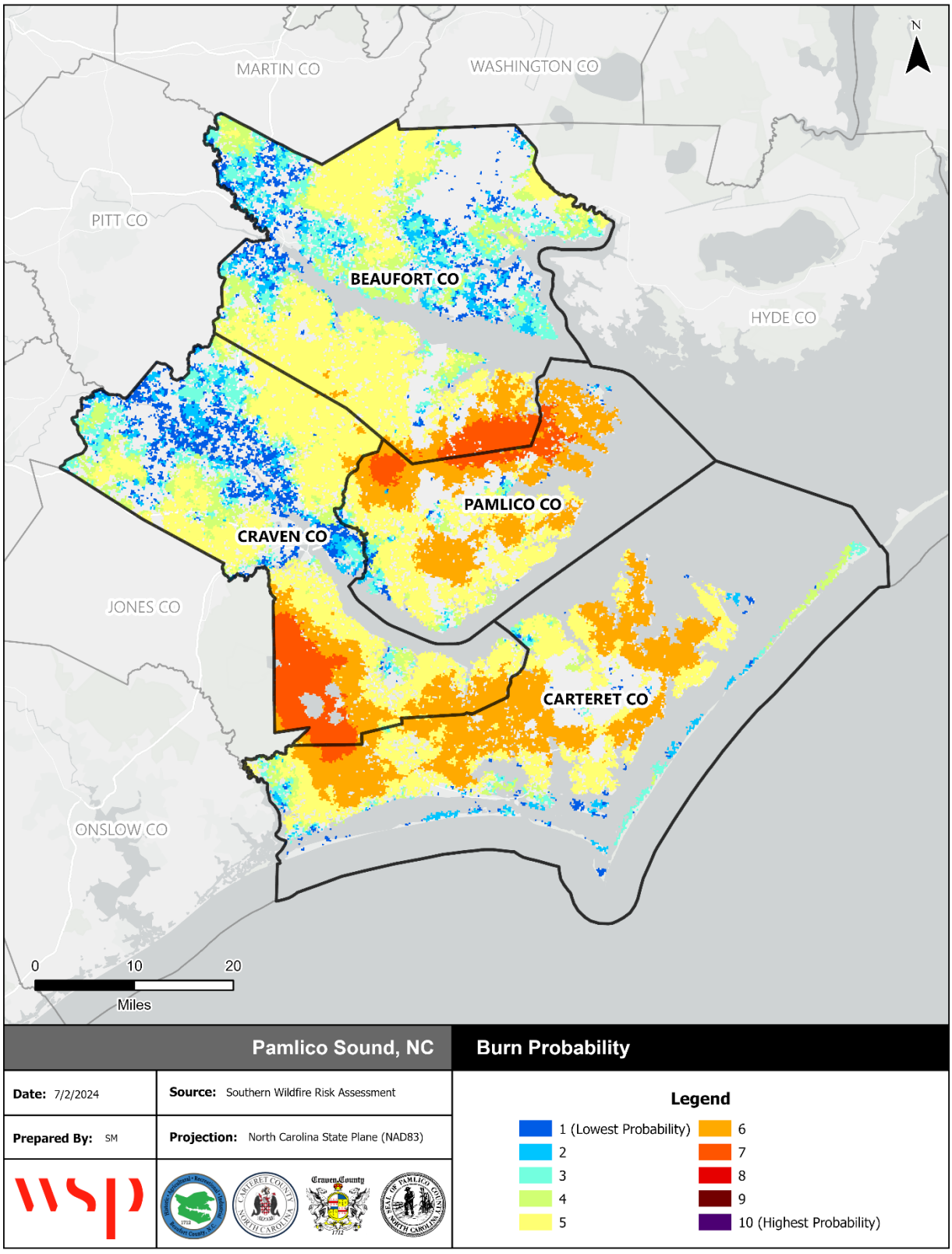
The Southern Wildfire Risk Assessment provides a Burn Probability analysis which predicts the probability of an area burning based on landscape conditions, weather, historical ignition patterns, and historical fire prevention and suppression efforts. Burn Probability data is generated by simulating fires under different weather, fire intensity, and other conditions. Values in the Burn Probability (BP) data layer indicate, for each pixel, the number of times that cell was burned by a modeled fire, divided by the total number of annual weather scenarios simulated. The simulations are calibrated to historical fire size distributions. The Burn Probability for the Pamlico Sound Region is presented in Table 4.105 and illustrated in Figure 4.50

Table 4.105 – Burn Probability, Pamlico Sound Region

	Class	Acres	Percent
	1	69,836	6.2 %
	2	66,248	5.8 %
	3	94,810	8.4 %
	4	113,418	10.0 %
	5	449,562	39.6 %
	6	262,052	23.1 %
	7	79,213	7.0 %
	8	0	0.0 %
	9	0	0.0 %
	10	0	0.0 %
	Total	**1,135,139**	**100.0 %**

Source: Southern Wildfire Risk Assessment

Figure 4.50 – Burn Probability, Pamlico Sound Region



Source: Southern Wildfire Risk Assessment

The entirety of the Pamlico Sound Region has a burn probability of 7 or less, and 70 percent of the region has a burn probability of 5 or less. The areas of highest burn probability are located in southwest Craven County in and around Croatan National Forest as well as along the border of Pamlico County and Beaufort County.

The probability of wildfire across the Region is considered likely, defined as between a 10% and 100% annual chance of occurrence. While all jurisdictions fall within this threshold, the areas containing moderate burn probability, noted above, have a comparatively higher probability of occurrence.

Probability: 3 – Likely

CLIMATE CHANGE

Climate is a major determinant of wildfire through its control of weather, as well as through interaction with fuel availability, fuel distribution and flammability at the global, regional, and local levels. With hotter temperatures, drier soil and worsening drought conditions in the Region, wildfires have the potential to become lightning has been more frequent and more extreme. Climate change has the possibility of lengthening wildfire season throughout the season, as well as throughout the Western United States.

VULNERABILITY ASSESSMENT

METHODOLOGIES AND ASSUMPTIONS

Population and property at risk to wildfire was estimated using data from the NCEM IRISK database, which was compiled in NCEM's Risk Management Tool.

Within IRISK, wildfire hazard areas were determined using the Wildland Fire Susceptibility Index (WFSI). The following parameters were applied:

- Areas with a WFSI value of 0.01 – 0.05 were considered to be at moderate risk.
- Areas with a WFSI value greater than 0.05 were considered to be at high risk.
- Areas with a WFSI value less than 0.01 were considered to not be at risk.

The WFSI integrates the probability of an acre igniting and the expected final fire size based on the rate of spread in four weather percentile categories into a single measure of wildland fire susceptibility. Due to some necessary assumptions, mainly fuel homogeneity, it is not the true probability. But since all areas of the state have this value determined consistently, it allows for comparison and ordination of areas of the state as to the likelihood of an acre burning.

PEOPLE

Wildfire can cause fatalities and human health hazards. Ensuring procedures are in place for rapid warning and evacuation are essential to reducing vulnerability. Table 4.106 details the population estimated to be at risk to wildfire according to the NCEM IRISK database.

Table 4.106 – Estimated Population Impacted by Wildfire

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	Percent		Number	Percent		Number	Percent
Beaufort									
Unincorporated Beaufort County	33,905	22,859	67%	8,207	5,533	67%	1,523	1,027	67%
City of Washington	11,124	6,496	58%	2,514	1,468	58%	684	399	58%
Town of Aurora	104	86	83%	27	22	81%	4	3	75%
Town of Bath	242	150	62%	69	43	62%	13	8	62%
Town of Belhaven	441	35	8%	129	10	8%	15	1	7%
Town of Chocowinity	116	82	71%	25	18	72%	5	4	80%
Town of Pantego	12	4	33%	2	1	50%	1	0	0%
Town of Washington Park	168	161	96%	41	39	95%	9	9	100%
Subtotal Beaufort	**46,112**	**29,873**	**65%**	**11014**	**7134**	**65%**	**2254**	**1451**	**64%**
Carteret									
Unincorporated Carteret County	34,687	15,817	46%	8,258	3,766	46%	1,409	642	46%
Town of Atlantic Beach	856	225	26%	349	92	26%	6	2	33%
Town of Beaufort	3,815	1,344	35%	1,094	386	35%	141	50	35%
Town of Bogue	795	474	60%	140	84	60%	42	25	60%
Town of Cape Carteret	1,647	643	39%	385	150	39%	85	33	39%
Town of Cedar Point	2,174	1,302	60%	516	309	60%	112	67	60%
Town of Emerald Isle	3,275	141	4%	1,005	43	4%	116	5	4%
Town of Indian Beach	340	56	16%	140	23	16%	8	1	13%
Town of Morehead City	19,390	10,885	56%	4,680	2,627	56%	979	550	56%
Town of Newport	9,170	6,821	74%	1,730	1,287	74%	303	225	74%
Town of Peletier	617	338	55%	113	62	55%	21	12	57%
Town of Pine Knoll Shores	1,373	995	72%	566	410	72%	32	23	72%
Subtotal Carteret	**78,139**	**39,041**	**50%**	**18976**	**9239**	**49%**	**3254**	**1635**	**50%**
Craven									
Unincorporated Craven County	64,150	36,641	57%	12,919	7,379	57%	3,779	2,158	57%
City of Havelock	8,226	5,409	66%	425	279	66%	775	510	66%
City of New Bern	26,554	8,500	32%	5,735	1,836	32%	1,705	546	32%
Town of Bridgeton	147	63	43%	28	12	43%	11	5	45%

Jurisdiction	Total Population	Total Population at Risk		All Elderly Population	Elderly Population at Risk		All Children Population	Children at Risk	
		Number	Percent		Number	Percent		Number	Percent
Town of Cove City	21	4	19%	5	1	20%	3	1	33%
Town of Dover	31	0	0%	8	0	0%	4	0	0%
Town of River Bend	1,852	1,297	70%	616	431	70%	34	24	71%
Town of Trent Woods	4,633	1,984	43%	1,425	610	43%	153	66	43%
Town of Vanceboro	78	72	92%	19	17	89%	3	3	100%
Subtotal Craven	**105,692**	**53,970**	**51%**	**21180**	**10565**	**50%**	**6467**	**3313**	**51%**
Pamlico									
Unincorporated Pamlico County	11,911	10,047	84%	3,592	3,030	84%	331	279	84%
Town of Alliance	159	148	93%	37	34	92%	8	7	88%
Town of Arapahoe	118	118	100%	37	37	100%	5	5	100%
Town of Bayboro	144	142	99%	34	34	100%	7	7	100%
Town of Grantsboro	198	194	98%	44	43	98%	7	7	100%
Town of Mesic	17	14	82%	5	4	80%	0	0	0%
Town of Minnesott Beach	128	81	63%	40	25	63%	4	3	75%
Town of Oriental	295	241	82%	116	95	82%	12	10	83%
Town of Stonewall	73	73	100%	32	32	100%	2	2	100%
Town of Vandemere	24	23	96%	8	8	100%	0	0	0%
Subtotal Pamlico	**13,067**	**11,081**	**85%**	**3945**	**3342**	**85%**	**376**	**320**	**85%**
Region Total	**243,010**	**133,965**	**55%**	**55115**	**30280**	**55%**	**12351**	**6719**	**54%**

Source: NCEM Risk Management Tool

PROPERTY

Wildfire can result in direct property damage, encompassing harm to buildings, vehicles, landscaped areas, agricultural lands, and livestock. Employing construction methods and adhering to building codes an enhance the fire resistance and safety of structures. Strategies aimed at mitigating vulnerability to wildfires involve incorporating street design for improved fire truck access, integrating fire-resistant materials in construction, and adopting landscaping techniques to minimize flammability and limit the spread of fire.

Regarding structure vulnerability and wildfire-resistant construction techniques, a report from Headwaters Economics outlines key components of structure vulnerabilities and indicates that a new home can be built to wildfire-resistant construction standards for roughly the same cost as a typical home. The roof is the most vulnerable area of a home because of its large surface area. Embers can ignite vegetative debris that has accumulated on the roof surface or in gutters. Embers also can enter the attic through roof and under-eave vents. Exterior walls are vulnerable from exposure to flames or prolonged exposure to radiant heat, such as from burning vegetation or a neighboring home, which can ignite combustible siding. Decks

and near-home landscaping are also vulnerable to embers and burning vegetation and can expose the rest of a structure if ignited.

Per Headwaters Economics, wildfire-resistant modifications to roofing, vents, fascia, soffits, and gutters add approximately 27% to the cost of the typical roof. Wildfire-resistant fiber-cement siding as compared to cedar plank siding is about 25% less expensive. Mitigation techniques to make a deck wildfire-resistant include using wildfire-resistant materials for walking surface, using foil-faced bitumen tape on the top surface of the support joists, and creating a noncombustible zone underneath the deck.

Table 4.108 on the following page details the buildings at risk to wildfire in the Pamlico Sound Region.

Table 4.107 below summarizes the number of critical facilities and their total value that fall within areas with moderate to high risk for wildfire impacts, defined as ratings of -5 to -9 on the WUIRI.

Table 4.107 – Critical Facility Exposure to Moderate to High Risk of Wildfire Impacts

FEMA Lifeline	Critical Facility Count	Total Structure Value
Communications	16	$78,006,827
Energy	1	$309,205
Food, Hydration, Shelter	80	$220,884,744
Health and Medical	0	$0
Safety and Security	80	$144,590,044
Transportation	136	$105,170,895
Water Systems	13	$30,056,908
Total	**217**	**$57,719,315**

Table 4.108 – Estimated Buildings Impacted by Wildfire

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Beaufort													
Unincorporated Beaufort County	20,577	12,251	60%	$1,589,276,203	1,029	5%	$387,231,716	212	1%	$214,994,359	13,492	66%	$2,191,502,278
City of Washington	5,790	2,841	49%	$550,252,743	303	5%	$334,617,992	68	1%	$108,099,273	3,212	55%	$992,970,009
Town of Aurora	579	379	65%	$60,741,730	77	13%	$25,014,168	30	5%	$25,217,210	486	84%	$110,973,109
Town of Bath	561	295	53%	$48,481,771	29	5%	$7,653,073	17	3%	$11,125,154	341	61%	$67,259,999
Town of Belhaven	1,087	75	7%	$14,640,612	10	1%	$6,760,785	2	0%	$3,740,848	87	8%	$25,142,246
Town of Chocowinity	398	237	60%	$56,304,117	20	5%	$16,483,102	24	6%	$22,250,889	281	71%	$95,038,108
Town of Pantego	132	39	30%	$4,842,764	6	5%	$1,312,561	2	2%	$2,116,790	47	36%	$8,272,114
Town of Washington Park	232	209	90%	$39,112,915	12	5%	$3,445,450	0	0%	$0	221	95%	$42,558,365
Subtotal Beaufort	**29,356**	**16,326**	**56%**	**$2,363,652,855**	**1,486**	**5%**	**$782,518,847**	**355**	**1%**	**$387,544,523**	**18,167**	**62%**	**$3,533,716,228**
Carteret													
Unincorporated Carteret County	29,284	12,328	42%	$1,290,942,586	883	3%	$274,508,065	201	1%	$189,295,747	13,412	46%	$1,754,746,399
Town of Atlantic Beach	4,141	1,029	25%	$199,125,111	36	1%	$28,317,020	4	0%	$2,934,310	1,069	26%	$230,376,441
Town of Beaufort	4,605	1,457	32%	$245,528,613	83	2%	$165,911,115	28	1%	$43,983,758	1,568	34%	$455,423,486
Town of Bogue	642	324	50%	$38,296,466	31	5%	$7,379,760	8	1%	$6,539,915	363	57%	$52,216,142
Town of Cape Carteret	1,763	600	34%	$81,778,835	50	3%	$24,402,201	20	1%	$8,772,398	670	38%	$114,953,434
Town of Cedar Point	1,915	1,022	53%	$114,563,026	96	5%	$38,310,525	10	1%	$9,386,128	1,128	59%	$162,259,680

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Town of Emerald Isle	7,154	297	4%	$60,445,026	8	0%	$1,658,421	2	0%	$495,281	307	4%	$62,598,727
Town of Indian Beach	1,138	173	15%	$45,625,625	19	2%	$9,487,020	5	0%	$2,111,176	197	17%	$57,223,821
Town of Morehead City	10,811	5,161	48%	$836,908,114	542	5%	$308,774,000	89	1%	$113,550,014	5,792	54%	$1,259,232,128
Town of Newport	5,441	3,580	66%	$342,064,002	340	6%	$99,214,138	97	2%	$69,380,374	4,017	74%	$510,658,514
Town of Peletier	943	469	50%	$47,555,656	52	6%	$24,657,282	8	1%	$6,390,822	529	56%	$78,603,760
Town of Pine Knoll Shores	2,253	1,525	68%	$491,414,116	79	4%	$38,326,713	26	1%	$17,724,450	1,630	72%	$547,465,279
Subtotal Carteret	**70,090**	**27,965**	**40%**	**$3,794,247,176**	**2,219**	**3%**	**$1,020,946,260**	**498**	**1%**	**$470,564,373**	**30,682**	**44%**	**$5,285,757,811**
Craven													
Unincorporated Craven County	24,876	12,813	52%	$1,346,616,377	1,059	4%	$432,432,040	158	1%	$237,044,154	14,030	56%	$2,016,092,571
City of Havelock	5,417	3,216	59%	$377,964,596	158	3%	$198,653,426	35	1%	$135,801,925	3,409	63%	$712,419,948
City of New Bern	13,049	3,681	28%	$603,683,860	178	1%	$426,774,016	60	0%	$211,069,615	3,919	30%	$1,241,527,491
Town of Bridgeton	326	101	31%	$8,056,725	47	14%	$18,346,307	7	2%	$2,623,873	155	48%	$29,026,905
Town of Cove City	294	43	15%	$3,438,152	0	0%	$0	0	0%	$0	43	15%	$3,438,152
Town of Dover	299	3	1%	$256,345	1	0%	$218,943	0	0%	$0	4	1%	$475,288
Town of River Bend	1,553	1,066	69%	$144,044,965	22	1%	$75,170,736	2	0%	$2,714,864	1,090	70%	$221,930,565
Town of Trent Woods	1,918	803	42%	$141,310,462	6	0%	$5,057,195	11	1%	$25,378,060	820	43%	$171,745,717
Town of Vanceboro	522	378	72%	$42,872,455	67	13%	$27,944,231	31	6%	$31,124,710	476	91%	$101,941,396

Jurisdiction	All Buildings	Residential Buildings at Risk			Commercial Buildings at Risk			Public Buildings at Risk			Total Buildings at Risk		
	Num	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages	Num	% of Total	Estimated Damages
Subtotal Craven	**48,254**	**22,104**	**46%**	**$2,668,243,937**	**1,538**	**3%**	**$1,184,596,894**	**304**	**1%**	**$645,757,201**	**23,946**	**50%**	**$4,498,598,033**
Pamlico													
Unincorporated Pamlico County	6,428	4,906	76%	$440,675,041	408	6%	$67,774,868	62	1%	$26,500,263	5,376	84%	$534,950,171
Town of Alliance	577	450	78%	$37,197,055	78	14%	$23,155,239	13	2%	$4,270,716	541	94%	$64,623,010
Town of Arapahoe	430	386	90%	$30,720,175	26	6%	$5,490,754	16	4%	$12,182,485	428	100%	$48,393,414
Town of Bayboro	515	403	78%	$32,078,612	73	14%	$21,046,775	27	5%	$26,057,913	503	98%	$79,183,300
Town of Grantsboro	584	515	88%	$33,567,922	32	5%	$15,422,345	17	3%	$16,030,596	564	97%	$65,020,863
Town of Mesic	186	145	78%	$12,950,100	9	5%	$552,737	4	2%	$944,505	158	85%	$14,447,343
Town of Minnesott Beach	403	243	60%	$34,851,747	7	2%	$17,306,755	2	0%	$993,060	252	63%	$53,151,562
Town of Oriental	1,378	1,023	74%	$127,108,484	96	7%	$23,497,988	13	1%	$5,921,274	1,132	82%	$156,527,746
Town of Stonewall	227	199	88%	$15,518,966	20	9%	$3,632,797	6	3%	$5,564,311	225	99%	$24,716,074
Town of Vandemere	192	163	85%	$14,770,356	4	2%	$1,115,718	14	7%	$3,415,315	181	94%	$19,301,389
Subtotal Pamlico	**10,920**	**8,433**	**77%**	**$779,438,458**	**753**	**7%**	**$178,995,976**	**174**	**2%**	**$101,880,438**	**9,360**	**86%**	**$1,060,314,872**
Region Total	**158,620**	**74,828**	**47%**	**$9,605,582,426**	**5,996**	**4%**	**$3,167,057,977**	**1,331**	**1%**	**$1,605,746,535**	**82,155**	**52%**	**$14,378,386,944**

Source: NCEM Risk Management Tool

ENVIRONMENT

Wildfires have the potential to destroy forest and forage resources and damage natural habitats. Wildfire can also result in contamination of drinking water sources, both surface and in-wells, as well as damaging agricultural crops on private land. Wildfires are part of a natural process, however, and the environment will return to its original state in time.

CONSEQUENCE ANALYSIS

Table 4.109 summarizes the potential detrimental consequences of wildfire.

Table 4.109 – Consequence Analysis - Wildfire

Category	Consequences
Public	In addition to the potential for fatalities, the subsequent decline in air quality from wildfires, present health hazards among the region. Community exposure to wildfire smoke can lead to severe health complications. Particularly vulnerable groups comprise of children, the elderly, individuals with respiratory issues, or those with heart disease. Even individuals in good health may encounter minor symptoms like sore throats and itchy eyes.
Responders	Ensuring public and firefighter safety remain the foremost concern in all wildland fire management endeavors. Wildfires pose genuine threats to the well-being and safety of emergency responders. In rural regions many firefighters are "retained", signifying their part-time status and their readiness to be called away from their regular occupations to respond to fires.
Continuity of Operations (including Continued Delivery of Services)	Wildfire incidents can lead to power outages that may disrupt operations. Fallen trees, damaged power lines, and impaired road conditions can hinder access to vital facilities and emergency equipment.
Property, Facilities and Infrastructure	Wildfires can have significant repercussions on community infrastructure, ranging from structural harm or compete destruction to endangering individuals within these facilities, disrupting transportation, shipping, and evacuation operations, and halting facility operations and essential services. Restoring basic services is critical and is costly. Direct impacts to municipal water supply may occur through contamination of ash and debris during the fire, destruction of aboveground distribution lines, and soil erosion or debris deposits into waterways after the fire. Utilities and communications repairs are also necessary for equipment damaged by a fire. This includes power lines, transformers, cell phone towers, and phone lines.
Environment	Wildfires inflict harm on the natural environment by destroying vegetation and animal habitats. Subsequently, the risk of floods and debris flows escalates as wildfires expose bare ground and eliminate vegetation cover. Moreover, the secondary repercussions of wildfires, such as erosion, landslides, the introduction of invasive species, and alterations in water quality, frequently surpass the initial damage cause by fire itself.
Economic Condition of the Jurisdiction	Wildfires can have significant short-term and long-term effects on the local economy. This hazard can potentially diminish recreation and tourism in areas affected by the extreme fire danger. Extensive damage to trees can significantly disrupt the timber supply, resulting in a short-term surplus due

Category	Consequences
	to timber salvage operations and a longer-term decrease as the trees regenerate. However, wildfires can have positive effects on local economies. Economic activity generated during fire suppression and post-fire rebuilding efforts can contribute positively to the community. This may include forestry work, such as constructing fire lines and other defense, as well as providing firefighting teams with essential supplied like food, ice, temporary shelters, and laundry facilities.
Public Confidence in the Jurisdiction's Governance	Wildfire incidents can undermine public confidence due to their highly visible impacts on the community. Public confidence in the jurisdiction's governance may be influenced by actions taken pre-disaster to mitigate and prepare for impacts, including the amount of public education provided; efforts to provide warning to residents; response efforts; and recovery.

HAZARD SUMMARY BY JURISDICTION

The following table summarizes wildfire hazard risk by jurisdiction. Wildfire warning time and duration do not vary by jurisdiction. Spatial extent ratings were based on the proportion of area within the WUI. Impact ratings were based on fire intensity data from SWRA. Jurisdictions with significant clusters of moderate to high fire intensity were assigned a rating of 3; all others were assigned a rating of 2. Probability ratings were determined based on burn probability data from SWRA. Jurisdictions with clusters of moderate burn probability were assigned a rating of 3; all others were assigned a probability of 2.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Beaufort County	3	3	2	4	3	2.9	M
City of Washington	2	2	3	4	3	2.5	M
Town of Aurora	3	3	3	4	3	3.1	H
Town of Bath	2	3	3	4	3	2.8	M
Town of Belhaven	3	2	3	4	3	2.8	M
Town of Chocowinity	2	3	3	4	3	2.8	M
Town of Pantego	2	2	3	4	3	2.5	M
Town of Washington Park	2	2	3	4	3	2.5	M
Carteret County	3	2	3	4	3	2.8	M
Town of Atlantic Beach	2	3	3	4	3	2.8	M
Town of Beaufort	2	2	3	4	3	2.5	M
Town of Bogue	2	2	3	4	3	2.5	M
Town of Cape Carteret	3	3	3	4	3	3.1	H
Town of Cedar Point	2	2	3	4	3	2.5	M
Town of Emerald Isle	2	2	3	4	3	2.5	M
Town of Indian Beach	2	2	3	4	3	2.5	M
Town of Morehead City	2	2	3	4	3	2.5	M
Town of Newport	3	2	3	4	3	2.8	M
Town of Peletier	2	3	3	4	3	2.8	M
Town of Pine Knoll Shores	2	2	3	4	3	2.5	M

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
Craven County	3	2	3	4	3	2.8	M
City of Havelock	3	2	3	4	3	2.8	M
City of New Bern	3	2	3	4	3	2.8	M
Town of Bridgeton	2	2	3	4	3	2.5	M
Town of Cove City	2	2	3	4	3	2.5	M
Town of Dover	3	2	3	4	3	2.8	M
Town of River Bend	2	2	3	4	3	2.5	M
Town of Trent Woods	2	2	3	4	3	2.5	M
Town of Vanceboro	2	2	3	4	3	2.5	M
Pamlico County	3	3	3	4	3	3.1	H
Town of Alliance	2	2	3	4	3	2.5	M
Town of Arapahoe	2	3	3	4	3	2.8	M
Town of Bayboro	2	2	3	4	3	2.5	M
Town of Grantsboro	3	3	3	4	3	3.1	H
Town of Mesic	3	3	3	4	3	3.1	H
Town of Minnesott Beach	3	3	3	4	3	3.1	H
Town of Oriental	3	2	3	4	3	2.8	M
Town of Stonewall	2	2	3	4	3	2.5	M
Town of Vandemere	2	3	3	4	3	2.8	M

4.5.10 INFECTIOUS DISEASE

HAZARD BACKGROUND

Public health emergencies can take many forms—disease epidemics, large-scale incidents of food or water contamination, or extended periods without adequate water and sewer services. There can also be harmful exposure to chemical, radiological, or biological agents, and largescale infestations of disease-carrying insects or rodents. The first part of this section focuses on emerging public health concerns and potential pandemics, while the second part addresses natural and human-caused air and water pollution.

Public health emergencies can occur as primary events by themselves, or they may be secondary to another disaster or emergency, such as tornado, flood, or hazardous material incident. For more information on those particular incidents, see Sections 4.5.8 (Tornado & Thunderstorm) and 4.5.5 (Flood). The common characteristic of most public health emergencies is that they adversely impact, or have the potential to adversely impact, a large number of people. Public health emergencies can be worldwide or localized in scope and magnitude.

The primary communicable, or infectious, disease addressed within this plan is influenza:

Influenza - Whether natural or manmade, health officials say the threat of a dangerous new strain of influenza (flu) virus in pandemic proportions is a very real possibility in the years ahead. Unlike most illnesses, the flu is especially dangerous because it is spread through the air. A classic definition of influenza is a respiratory infection with fever. Each year, flu infects humans and spreads around the globe. There are three types of influenza virus: Types A, B, and C. Type A is the most common, most severe, and the primary cause of flu epidemics. Type B cases occur sporadically and sometimes as regional or widespread epidemics. Type C cases are quite rare and hence sporadic, but localized outbreaks have occurred. Seasonal influenza usually is treatable, and the mortality rate remains low. Each year, scientists estimate which particular strain of flu is likely to spread, and they create a vaccine to combat it. A flu pandemic occurs when the virus suddenly changes or mutates and undergoes an ―antigenic shift, permitting it to attach to a person's respiratory system and leave the body's immune system defenseless against the invader.

Additional diseases of public health concern include tuberculosis, Smallpox, St. Louis Encephalitis, Meningitis, Lyme disease, West Nile, SARS, Zika, and Ebola. These communicable diseases are introduced within this plan, but full vulnerability analyses are not included at this time.

Tuberculosis - Tuberculosis, or TB, is the leading cause of infectious disease worldwide. It is caused by a bacteria called Mycobacterium tuberculosis that most often affects the lungs. TB is an airborne disease spread by coughing or sneezing from one person to another. The World Health Organization (WHO) estimates that one-third of the world's population, approximately two billion people, has latent TB, which means people have been infected by TB bacteria but are not yet ill with the disease and cannot transmit the disease. In 2022, an estimated 10.6 million people fell ill with TB and 1.3 million died from the disease (including 167,000 people with HIV). Over 80% of TB deaths occur in low- and middle- income countries.

Smallpox - Smallpox is a contagious, sometimes fatal, infectious disease. There is no specific treatment for smallpox disease, and the only prevention is vaccination. Smallpox is caused by the variola virus that emerged in human populations thousands of years ago. It is generally spread by face- to-face contact or by direct contact with infected bodily fluids or contaminated objects (such as bedding or clothing). A person with smallpox is sometimes contagious with onset of fever, but the person becomes most contagious with the onset of rash. The rash typically develops into sores that spread over all parts of the body. The infected person remains contagious until the last smallpox scab is gone. Smallpox outbreaks have occurred periodically for thousands of years, but the disease is now largely eradicated after a

worldwide vaccination program was implemented. After the disease was eliminated, routine vaccination among the general public was stopped. The last case of smallpox in the United States was in 1949.

St. Louis Encephalitis - In the United States, the leading type of epidemic flaviviral Encephalitis is St. Louis encephalitis (SLE), which is transmitted by mosquitoes that become infected by feeding on birds infected with the virus. SLE is the most common mosquito-transmitted pathogen in the United States. There is no evidence to suggest that the virus can be spread from person to person.

Meningitis- Meningitis is an infection of fluid that surrounds a person's spinal cord and brain. High fever, headache, and stiff neck are common symptoms of meningitis, which can develop between several hours to one to two days after exposure. Meningitis can be caused by either a viral or bacterial infection; however, a correct diagnosis is critically important, because treatments for the two varieties differ. Meningitis is transmitted through direct contact with respiratory secretions from an infected carrier. Primary risk groups include infants and young children, household contact with patients, and refugees. In the United States, periodic outbreaks continue to occur, particularly among adolescents and young adults. About 2,600 people in the United States get the disease each year. Generally, 10 to 14 percent of cases are fatal, and 11 to 19 percent of those who recover suffer from permanent hearing loss, mental retardation, loss of limbs, or other serious effects. Two vaccines are available in the United States.

Lyme Disease - Lyme disease was named after the town of Lyme, Connecticut, where an unusually large frequency of arthritis-like symptoms was observed in children in 1977. It was later found that the problem was caused by bacteria transmitted to humans by infected deer ticks, causing an average of more than 16,000 reported infections in the United States each year (however, the disease is greatly under-reported). Lyme disease bacteria are not transmitted from person to person. Following a tick bite, 80 percent of patients develop a red ―bullseye rash accompanied by tiredness, fever, headache, stiff neck, muscle aches, and joint pain. If untreated, some patients may develop arthritis, neurological abnormalities, and cardiac problems, weeks to months later. Lyme disease is rarely fatal. During early stages of the disease, oral antibiotic treatment is generally effective, while intravenous treatment may be required in more severe cases.

West Nile Virus - West Nile virus is a flavivirus spread by infected mosquitoes and is commonly found in Africa, West Asia, and the Middle East. It was first documented in the United States in 1999. Although it is not known where the U.S. virus originated, it most closely resembles strains found in the Middle East. It is closely related to St. Louis encephalitis and can infect humans, birds, mosquitoes, horses, and other mammals.

Most people who become infected with West Nile virus will have either no symptoms or only mild effects. However, on rare occasions, the infection can result in severe and sometimes fatal illness. There is no evidence to suggest that the virus can be spread from person to person.

An abundance of dead birds in an area may indicate that West Nile virus is circulating between the birds and mosquitoes in that area. Although birds are particularly susceptible to the virus, most infected birds survive. The continued expansion of West Nile virus in the United States indicates that it is permanently established in the Western Hemisphere.

Coronaviruses – Coronaviruses are a large family of viruses found in both animals and humans and are known to cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS), Severe Acute Respiratory Syndrome (SARS), and Novel Coronavirus (COVID- 19). Coronaviruses can cause respiratory infections and can lead to serious illnesses, like pneumonia, and can be deadly. Typical coronavirus symptoms include fever, cough, headache, runny nose, and sore throat. MERS was first reported in 2012 in Saudi Arabia and spread to more than 25 countries. It produced symptoms that often progressed to pneumonia and 30-40 percent of cases were fatal. SARS emerged in 2002 and spread to more than two dozen countries. It caused acute respiratory distress and had a mortality rate of about 10 percent.

The most significant recent coronavirus, COVID-19, first emerged in Wuhan, China in 2019 and rapidly spread across the world. According to CDC data, as of February 2022, there had been over 78.5 million cases of COVID-19 reported in the United States. COVID-19 spreads when an infected person breathes out droplets and very small particles that contain the virus. These droplets and particles can be breathed in by other people or land on their eyes, noses, or mouth. Symptoms include fever, cough, shortness of breath, fatigue, loss of taste and smell, and more. Symptoms range from mild to severe illness and typically appear between 2-14 days after exposure to the virus.

Severe Acute Respiratory Syndrome - Severe acute respiratory syndrome (SARS) is a respiratory illness that has recently been reported in Asia, North America, and Europe. Although the cause of SARS is currently unknown, scientists have detected in SARS patients a previously unrecognized coronavirus that appears to be a likely source of the illness. In general, humans infected with SARS exhibit fevers greater than 100.4 F, headaches, an overall feeling of discomfort, and body aches. Some people also experience mild respiratory symptoms. After two to seven days, SARS patients may develop a dry cough and have trouble breathing. The primary way that SARS appears to spread is by close person-to-person contact; particularly by an infected person coughing or sneezing contaminated droplets onto another person, with a transfer of those droplets to the victim's eyes, nose, or mouth.

Zika Virus - Discovered in the Zika forest of Uganda in 1947, the Zika virus is a member of the flavivirus family. It is transmitted to humans through the bite of an infected Aedes species mosquito (Ae. aegypti and Ae. albopictus). Zika virus can also be transmitted from an infected pregnant woman to her baby during pregnancy and can result in serious birth defects, including microcephaly. Less commonly, the virus can be spread through intercourse or blood transfusion. However, most people infected with the Zika virus do not become sick.

Ebola - Previously known as Ebola hemorrhagic fever, is a rare and deadly disease caused by infection with one of the Ebola virus species. It was first discovered in 1976 near the Ebola River in what is now the Democratic Republic of the Congo. Since then, outbreaks have appeared sporadically in Africa.

Warning Time: 1 – More than 24 hours

Duration: 4 – More than one week

LOCATION

Infectious disease outbreaks can occur anywhere in the planning area, especially where there are groups of people in close quarters.

Spatial Extent: 4 – Large

EXTENT

When on an epidemic scale, diseases can lead to high infection rates in the population causing isolation, quarantine, and potential mass fatalities. An especially severe influenza pandemic or other major disease outbreak could lead to high levels of illness, death, social disruption, and economic loss. Impacts could range from school and business closings to the interruption of basic services such as public transportation, health care, and the delivery of food and essential medicines.

Impact: 3 – Critical

Table 4.110 describes the World Health Organization's six main phases to a pandemic flu as part of their planning guidance.

Table 4.110 – World Health Organization's Pandemic Flu Phases

Phase	Description
1	No animal influenza virus circulating among animals have been reported to cause infection in humans.
2	An animal influenza virus circulating in domesticated or wild animals is known to have caused infection in humans and is therefore considered a specific potential pandemic threat.
3	An animal or human-animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people, but has not resulted in human-to-human transmission sufficient to sustain community-level breakouts.
4	Human-to-human transmission of an animal or human-animal influenza reassortant virus able to sustain community-level breakouts has been verified.
5	The same identified virus has caused sustained community-level outbreaks in two or more countries in one WHO region.
6	In addition to the criteria defined in Phase 5, the same virus has caused sustained community-level outbreaks in at least one other country in another WHO region.
Post-Peak Period	Levels of pandemic influenza in most countries with adequate surveillance have dropped below peak levels.
Post-Pandemic Period	Levels of influenza activity have returned to levels seen for seasonal influenza in most countries with adequate surveillance.

Source: World Health Organization

HISTORICAL OCCURRENCES

PUBLIC HEALTH EMERGENCIES – INFLUENZA PANDEMICS

Since the early 1900s, four lethal pandemics have swept the globe: Spanish Flu of 1918-1919; Asian Flu of 1957-1958; Hong Kong Flu of 1968-1969; and Swine Flu of 2009-2010. The Spanish Flu was the most severe pandemic in recent history. The number of deaths was estimated to be 50-100 million worldwide and 675,000 in the United States. Its primary victims were mostly young, healthy adults. The 1957 Asian Flu pandemic killed about 70,000 people in the United States, mostly the elderly and chronically ill. The 1968 Hong Kong Flu pandemic killed 34,000 Americans. The 2009 Swine Flu caused 12,469 deaths in the United States. These historic pandemics are further defined in the following paragraphs along with several "pandemic scares".

SPANISH FLU (H1N1 VIRUS) OF 1918-1919

In 1918, when World War I was in its fourth year, another threat began that rivaled the war itself as the greatest killer in human history. The Spanish Flu swept the world in three waves during a two-year period, beginning in March 1918 with a relatively mild assault.

The first reported case occurred at Camp Funston (Fort Riley), Kansas, where 60,000 soldiers trained to be deployed overseas. Within four months, the virus traversed the globe, as American soldiers brought the virus to Europe. The first wave sickened thousands of people and caused many deaths (46 died at Camp Funston), but it was considered mild compared to what was to come. The second and deadliest wave struck in the autumn of 1918 and killed millions. At Camp Funston alone, there were 14,000 cases and 861 deaths reported during the first three weeks of October 1918.

Outbreaks caused by a new variant exploded almost simultaneously in many locations including France, Sierra Leone, Boston, and New York City, where more than 20,000 people died that fall. The flu gained

its name from Spain, which was one of the hardest hit countries. From there, the flu went through the Middle East and around the world, eventually returning to the United States along with the troops.

Of the 57,000 Americans who died in World War I, 43,000 died as a result of the Spanish Flu. At one point, more than 10 percent of the American workforce was bedridden. By a conservative estimate, a fifth of the human race suffered the fever and aches of influenza between 1918 and 1919 and 20 million people died. At the height of the flu outbreak during the winter of 1918-1919, at least 20% of North Carolinians were infected by the disease. Ultimately, 10,000 citizens of the state succumbed to this disease.

ASIAN FLU (H2N2 VIRUS) OF 1957-1958

This influenza pandemic was first identified in February 1957 in the Far East. Unlike the Spanish Flu, the 1957 virus was quickly identified, and vaccine production began in May 1957. A number of small outbreaks occurred in the United States during the summer of 1957, with infection rates highest among school children, young adults, and pregnant women; however, the elderly had the highest rates of death. A second wave of infections occurred early the following year, which is typical of many pandemics.

HONG KONG FLU (H3N2 VIRUS) OF 1968-1969

This influenza pandemic was first detected in early 1968 in Hong Kong. The first cases in the United States were detected in September 1968, although widespread illness did not occur until December. This became the mildest pandemic of the twentieth century, with those over the age of 65 the most likely to die. People infected earlier by the Asian Flu virus may have developed some immunity against the Hong Kong Flu virus. Also, this pandemic peaked during school holidays in December, limiting student-related infections.

PANDEMIC FLU THREATS: SWINE FLU OF 1976, RUSSIAN FLU OF 1977, AND AVIAN FLU OF 1997 AND 1999

Three notable flu scares occurred in the twentieth century. In 1976, a swine-type influenza virus appeared in a U.S. military barracks (Fort Dix, New Jersey). Scientists determined it was an antigenically drifted variant of the feared 1918 virus. Fortunately, a pandemic never materialized, although the news media made a significant argument about the need for a Swine Flu vaccine.

In May 1977, influenza viruses in northern China spread rapidly and caused epidemic disease in children and young adults. By January 1978, the virus, subsequently known as the Russian Flu, had spread around the world, including the United States. A vaccine was developed for the virus for the 1978–1979 flu season. Because illness occurred primarily in children, this was not considered a true pandemic.

In March 1997, scores of chickens in Hong Kong‘s rural New Territories began to die—6,800 on three farms alone. The Avian Flu virus was especially virulent, and made an unusual jump from chickens to humans. At least 18 people were infected, and six died in the outbreak. Chinese authorities acted quickly to exterminate over one million chickens and successfully prevented further spread of the disease. In 1999, a new avian flu virus appeared. The new virus caused illness in two children in Hong Kong. Neither of these avian flu viruses started pandemics.

SWINE FLU (H1N1 VIRUS) OF 2009–2010

This influenza pandemic emerged from Mexico in 2009. The first U.S. case of H1N1, or Swine Flu, was diagnosed on April 15, 2009. The U.S. government declared H1N1 a public health emergency on April 26. By June, approximately 18,000 cases of H1N1 had been reported in the United States. A total of 74 countries were affected by the pandemic.

The CDC estimates that 43 million to 89 million people were infected with H1N1 between April 2009 and April 2010. There were an estimated 8,870 to 18,300 H1N1 related deaths. On August 10, 2010, the World Health Organization (WHO) declared an end to the global H1N1 flu pandemic.

CORONAVIRUS DISEASE (COVID-19), 2019-2024

COVID-19 was caused by severe acute respiratory syndrome coronavirus 2 (SARS-Cov-2). First identified in Wuhan, China in December 2019, the virus quickly spread throughout China and then globally. In the United States, COVID-19 was first identified in late January in Washington State and rapidly spread throughout the Country, with large epicenters on both the east and west coasts. On March 13, 2020 the U.S. enters a nationwide emergency and by March 15, 2020 U.S. states begin to shut down to prevent the spread of COVID-19. Almost a year later the U.S. has administered over 100 million vaccinations. In June 2021 the first major variant, the Delta variant, becomes dominant in the U.S. which kicks off a third wave of infections during the summer of 2021. By December 20, 2021, Omicron, the second and most dominant variant in the U.S., had been detected in most U.S. states and territories. The Omicron variant spread more easily than the original virus that caused COVID-19 and the Delta variant.

According to the Johns Hopkins Coronavirus Resource Center, from the start of the pandemic to March 2023, there were over 103 million confirmed cases of COVID-19 in the U.S. resulting in over 1.1 million deaths. In North Carolina, there were over 3.4 million confirmed cases and 28,432 deaths due to COVID-19. Johns Hopkins stopped collecting data as of March 10, 2023. The COVID-19 virus has transitioned to endemic but maintains dual seasonality, with cases peaking twice a year.

PUBLIC HEALTH EMERGENCIES – OTHER PANDEMICS

ST. LOUIS ENCEPHALITIS, 1964-2005

Between 1964 and 2005, there were 4,651 confirmed cases of SLE in the United States. It should be noted, however, that less than 1 percent of SLE infections are clinically apparent, so the vast majority of infections remain undiagnosed. Illnesses range from mild headaches and fever to convulsions, coma, and paralysis. The last major outbreak of SLE occurred in the Midwest from 1974 to 1977, when over 2,500 cases were reported in 35 states. The most recent outbreak of St. Louis encephalitis was in 1999 in New Orleans, Louisiana, with 20 reported cases. The disease is generally milder in children than in adults, with the elderly at highest risk for severe illness and death. Approximately 3 to 30 percent of cases are fatal; no vaccine against SLE exists. In 2014, two U.S. cases were reported and were the first human cases since 2002.

MENINGITIS, 1996-1997, 2005

During 1996 and 1997, 213,658 cases of meningitis were reported, with 21,830 deaths, in Africa. According to the North Carolina Division of Public Health, an average of 20 reported cases of Meningitis occurred annually between 2005-2013 following the initial outbreak. In 2023, the CDC confirmed 438 cases of meningitis across the U.S. which is the largest number of cases reported since 2013.

LYME DISEASE, 2015

In the United States, Lyme disease is mostly found in the northeastern, mid-Atlantic, and upper north-central regions, and in several counties in northwestern California. In 2019, 93-percent of confirmed Lyme Disease cases were reported from 14 states: Connecticut, Delaware, Maine, Maryland, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, and Wisconsin. Lyme disease is the most commonly reported vector-borne illness in the United States. According to the CDC, recent estimates based on insurance records suggest that approximately 476,000 Americans are diagnosed and treated with Lyme disease each year. This disease does not occur nationwide and is concentrated heavily in the northeast and upper Midwest. Between 2018 to 2022 the average incidence rate of Lyme disease in North Carolina was 2.82 confirmed and probable cases per 100,000 residents, which is significantly lower than the national average. In 2022, Beaufort County had one confirmed case of Lyme Disease within the Pamlico Region while in 2021, Craven County had two confirmed cases. These were the only confirmed cases reported by the CDC in recent years for the Pamlico Region.

SEVERE ACUTE RESPIRATORY SYNDROME, 2003

During November 2002-July 2003, a total of 8,098 probable SARS cases were reported to the World Health Organization (WHO) from 29 countries. In the United States, only 8 cases had laboratory evidence of infection. Since July 2003, when SARS transmission was declared contained, active global surveillance for SARS disease has detected no person-to-person transmission. CDC has therefore archived the case report summaries for the 2003 outbreak. Across North Carolina, there was one confirmed SARS case – a man in Orange County tested positive in June 2003.

ZIKA VIRUS, 2015

In May 2015, the Pan American Health Organization issued an alert noting the first confirmed case of a Zika virus infection in Brazil. Since that time, Brazil and other Central and South America countries and territories, as well as the Caribbean, Puerto Rico, and the U.S. Virgin Islands have experienced ongoing Zika virus transmission. In August 2016, the Centers for Disease Control and Prevention (CDC) issued guidance for people living in or traveling to a 1-square-mile area Miami, Florida, identified by the Florida Department of Health as having mosquito-borne spread of Zika. In October 2016, the transmission area was expanded to include a 4.5-square-mile area of Miami Beach and a 1-squre mile area of Miami-Dade County. In addition, all of Miami-Dade County was identified as a cautionary area with an unspecified level of risk. As of the end of 2018, the CDC reported 74 cases of Zika across the United States. As of November 2024, there are no current local transmission of Zika virus in the continental U.S. or territories. The last cases of local Zika transmission by mosquitos in the continental U.S. were in Florida and Texas in 2016-17 and no reported cases from U.S. territories since 2019.

EBOLA, 2014-2016

Most recently, in March 2014, West Africa experienced the largest outbreak of Ebola in history. Widespread transmission was found in Liberia, Sierra Leone, and Guinea with the number of cases totaling 28,616 and the number of deaths totaling 11,310. In the United States, four cases of Ebola were confirmed in 2014 including a medical aid worker returning to New York from Guinea, two healthcare workers at Texas Presbyterian Hospital who provided care for a diagnosed patient, and the diagnosed patient who traveled to Dallas, Texas from Liberia. All three healthcare workers recovered. The diagnosed patient passed away in October 2014. In March 2016, the WHO terminated the public health emergency for the Ebola outbreak in West Africa.

PROBABILITY OF FUTURE OCCURRENCE

It is impossible to predict when the next pandemic will occur or its impact. The CDC continually monitors and assesses pandemic threats and prepares for an influenza pandemic. Novel influenza A viruses with pandemic potential include Asian lineage avian influenza A (H5N1) and (H7N9) viruses. These viruses have all been evaluated using the Influenza Risk Assessment Tool (IRAT) to assess their potential pandemic risk. Because the CDC cannot predict how severe a future pandemic will be, advance planning is needed at the national, state and local level; this planning is done through public health partnerships at the national, state and local level.

Today, a much larger percentage of the world's population is clustered in cities, making them ideal breeding grounds for epidemics. Additionally, the explosive growth in air travel means the virus could literally be spread around the globe within hours. Under such conditions, there may be very little warning time. Most experts believe we will have just one to six months between the time that a dangerous new influenza strain is identified and the time that outbreaks begin to occur in the United States. Outbreaks are expected to occur simultaneously throughout much of the nation, preventing shifts in human and material resources that normally occur with other natural disasters. These and many other aspects make influenza pandemic unlike any other public health emergency or community disaster.

Probability: 2 – Possible

CLIMATE CHANGE

According to the U.S. Global Change Research Program, the influences of climate change on public health is significant and varied. The influences range from the clear threats of temperature extremes and severe storms to less obvious connections related to insects. Climate and weather can also affect water and food quality in particular areas, with implications for public health.

Hot days can be unhealthy—even dangerous. High air temperatures can cause heat stroke and dehydration, and affect people's cardiovascular and nervous systems. Cities are vulnerable to heat waves, because many houses and apartments lack air conditioning, and urban areas are typically warmer than their rural surroundings. In recent decades, severe heat waves have killed hundreds of people across the State. Heat stress is expected to increase as climate change brings hotter summer temperatures and more humidity. Certain people are especially vulnerable, including children, the elderly, the sick, and the poor.

Higher temperatures and wetter conditions tend to increase mosquito and tick activity, leading to an increased risk of zoonotic diseases. Mosquitos are known to carry diseases such as West Nile virus (WNV), La Crosse/California encephalitis, Jamestown Canyon virus, St. Louis encephalitis, and Eastern equine encephalitis. The two major concerns associated with warmer and wetter conditions are that the mosquito species already found in North Carolina and the diseases that they carry will become more prevalent, and that new species carrying unfamiliar diseases will start to appear for the first time.

Warmer winters with fewer hard freezes in areas that already see WNV-carrying mosquitos are likely to observe both a higher incidence of WNV and a longer WNV season, ultimately leading to an increase in human cases. Non-native mosquito species may move into North Carolina if the climate becomes more suitable for them, bringing with them diseases such as Jamestown Canyon virus, Chikungunya, and Dengue Fever.

Ticks are also well-known disease vectors in North Carolina, carrying pathogens such as Lyme disease, anaplasmosis, Ehrlichiosis, Powassan virus, and Babesiosis. Warmer, wetter weather can lead to an increase in algal blooms and declining beach health. An increase in flood events may also be associated with an increased incidence of mold problems in homes and businesses, as well as contamination of wells and surface waters due to sewer overflows and private septic system failures.

If these predictions come true, communities must contend with the human health impacts related to the increased prevalence of infectious diseases, heat waves, and changes in air and water quality. Public health officials will need to focus on spreading information and enacting pest and disease reduction. Flood prone communities will need to focus on continuously improving flood controls and mitigation strategies, including restricting building and chemical storage in floodplains, upgrading well and septic requirements, and providing water testing kits to residents.

VULNERABILITY ASSESSMENT

METHODOLOGIES AND ASSUMPTIONS

Vulnerability to infectious disease was assessed based on past occurrences nationally and internationally as well as publicly available information on these vulnerabilities, as well as attacks occurring in the region.

PEOPLE

Disease spread and mortality is affected by a variety of factors, including virulence, ease of spread, aggressiveness of the virus and its symptoms, resistance to known antibiotics and environmental factors. While every pathogen is different, diseases normally have the highest mortality rate among the very young, the elderly or those with compromised immune systems. As an example, the unusually deadly

1918 H1N1 influenza pandemic had a mortality rate of 20 percent. If an influenza pandemic does occur, it is likely that many age groups would be seriously affected. The greatest risks of hospitalization and death—as seen during the last two pandemics in 1957 and 1968 as well as during annual outbreaks of influenza—will be to infants, the elderly, and those with underlying health conditions. However, in the 1918 pandemic, most deaths occurred in young adults. Few people, if any, would have immunity to a new virus.

Approximately twenty percent of people exposed to West Nile Virus through a mosquito bite develop symptoms related to the virus; it is not transmissible from one person to another. Preventive steps can be taken to reduce exposure to mosquitos carrying the virus; these include insect repellent, covering exposed skin with clothing and avoiding the outdoors during twilight periods of dawn and dusk, or in the evening when the mosquitos are most active.

PROPERTY

For the most part, property itself would not be impacted by a human disease epidemic or pandemic. However, as concerns about contamination increase, property may be quarantined or destroyed as a precaution against spreading illness. Furthermore, staffing shortages could affect the function of critical facilities.

ENVIRONMENT

A widespread pandemic would not have an impact on the natural environment unless the disease was transmissible between humans and animals. However, affected areas could result in denial or delays in the use of some areas, and may require remediation.

CONSEQUENCE ANALYSIS

Table 4.111 summarizes the potential consequences of infectious disease.

Table 4.111 – Consequence Analysis – Infectious Disease

Category	Consequences
Public	Adverse impact expected to be severe for unprotected personnel and moderate to light for protected personnel.
Responders	Adverse impact expected to be severe for unprotected personnel and uncertain for trained and protected personnel, depending on the nature of the incident.
Continuity of Operations (including Continued Delivery of Services)	Danger to personnel in the area of the incident may require relocation of operations and lines of succession execution. Disruption of lines of communication and destruction of facilities may extensively postpone delivery of services.
Property, Facilities and Infrastructure	Access to facilities and infrastructure in the area of the incident may be denied until decontamination completed.
Environment	Incident may cause denial or delays in the use of some areas. Remediation needed.
Economic Condition of the Jurisdiction	Local economy and finances adversely affected, possibly for an extended period of time.
Public Confidence in the Jurisdiction's Governance	Ability to respond and recover may be questioned and challenged if planning, response, and recovery not timely and effective.

HAZARD SUMMARY BY JURISDICTION

The following table summarizes infectious disease hazard risk by jurisdiction. Infectious disease risk is uniform across the planning area; there is no variation in risk by jurisdiction.

Jurisdiction	Probability	Impact	Spatial Extent	Warning Time	Duration	Score	Priority
All Jurisdictions	2	3	4	1	4	2.8	M

4.5.11 CYBER THREAT

HAZARD BACKGROUND

The State of North Carolina Hazard Mitigation Plan defines cyber attacks as "deliberate attacks on information technology systems in an attempt to gain illegal access to a computer, or purposely cause damage." Cyber-attacks use malicious code to alter computer operations or data. The vulnerability of computer systems to attacks is a growing concern as people and institutions become more dependent upon networked technologies. The Federal Bureau of Investigation (FBI) reports that "cyber intrusions are becoming more commonplace, more dangerous, and more sophisticated," with implications for private- and public-sector networks.

There are many types of cyber-attacks. Among the most common is a direct denial of service, or DDoS attack. This is when a server or website will be queried or pinged rapidly with information requests, overloading the system and causing it to crash.

Malware, or malicious software, can cause numerous problems once on a computer or network, from taking control of users' machines to discreetly sending out confidential information. Ransomware is a specific type of malware that blocks access to digital files and demands a payment to release them. Hospitals, school districts, state and local governments, law enforcement agencies, businesses, and even individuals can be targeted by ransomware.

Cyber spying or espionage is the act of illicitly obtaining intellectual property, government secrets, or other confidential digital information, and often is associated with attacks carried out by professional agents working on behalf of a foreign government or corporation. According to cybersecurity firm Symantec, in 2016 "…the world of cyber espionage experienced a notable shift towards more overt activity, designed to destabilize and disrupt targeted organizations and countries."

Major data breaches - when hackers gain access to large amounts of personal, sensitive, or confidential information - have become increasingly common. The Symantec report says more than seven billion identities have been exposed in data breaches over the last eight years. In addition to networked systems, data breaches can occur due to the mishandling of external drives, as has been the case with losses of some state employee data.

Cyber crime can refer to any of the above incidents when motivated primarily by financial gain or other criminal intent.

The most severe type of attack is cyber terrorism, which aims to disrupt or damage systems in order to cause fear, injury, and loss to advance a political agenda.

The North Carolina State Bureau of investigation' Computer Crime Unit helps law enforcement across North Carolina solve sophisticated crimes involving digital evidence.

Warning Time: 4 – Less than six hours

Duration: 4 – More than one week

LOCATION

Cyber disruption events can occur and/or impact virtually any location in the state where computing devices are used. Incidents may involve a single location or multiple geographic areas. A disruption can have far-reaching effects beyond the location of the targeted system; disruptions that occur far outside the region can still impact people, businesses, and institutions within the region.

Spatial Extent: 2 – Small

EXTENT

The extent or magnitude/severity of a cyber disruption event is variable depending on the nature of the event. A disruption affecting a small, isolated system could impact only a few functions/processes. Disruptions of large, integrated systems could impact many functions/processes, as well as many individuals that rely on those systems.

There is no universally accepted scale to quantify the severity of cyber-attacks. The strength of a DDoS attack is sometimes explained in terms of a data transmission rate. One of the largest DDoS disruptions ever, which brought down some of the internet's most popular sites on October 21, 2016, peaked at 1.2 terabytes per second.

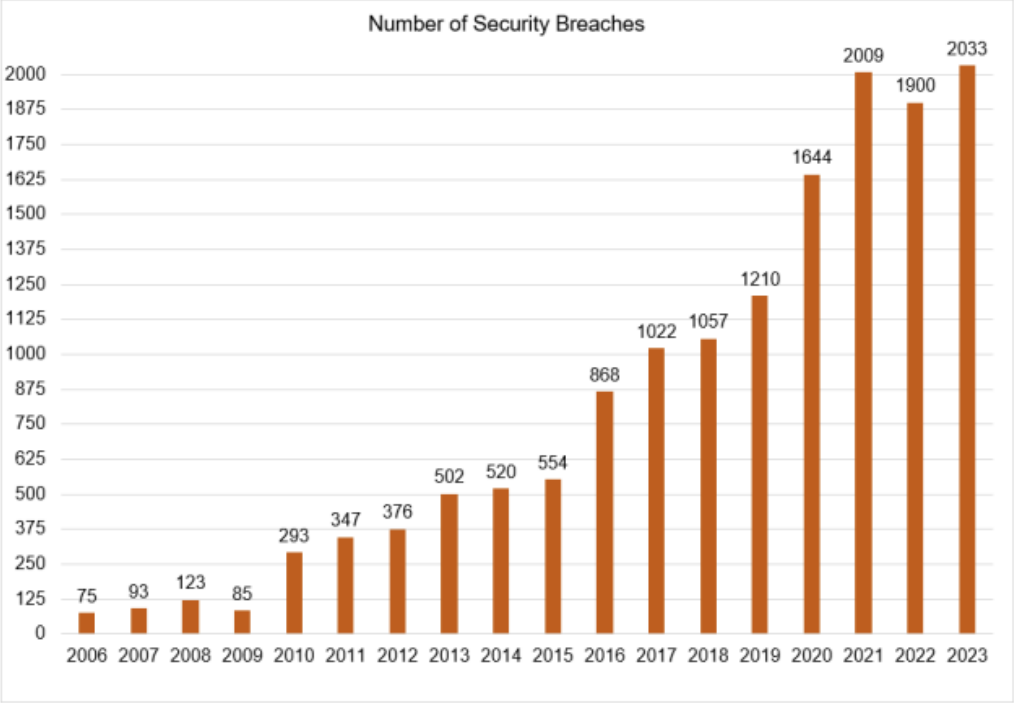
Data breaches are often described in terms of the number of records or identities exposed.

Impact: 2 – Limited

HISTORICAL OCCURRENCES

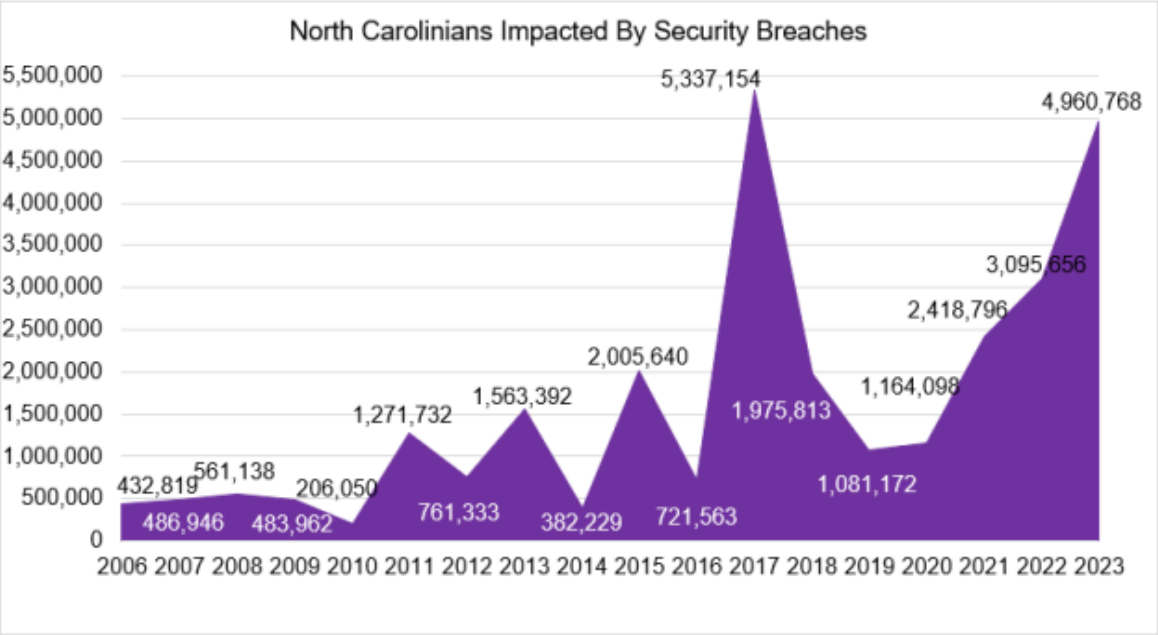
In North Carolina, businesses and organizations that experience data breaches are required to report the breach and the information that was compromised to the NC Department of Justice (DOJ). In 2023, the DOJ received 2,033 data breach notices from organizations according to their annual Data Breach Report. These breaches impacted more than 4.9 million North Carolinians – the second highest number of people impacted in a single year. Additionally, in 2023, hacking-related breaches were at a record high, causing 80 percent of all reported breaches. The report noted that most security breaches impacted general businesses (50%), healthcare industries (14%), and financial services/insurance (23%). It is common for these types of industries to collect many kinds of personal information, making them prime targets for hacking. Figure 4.51 and Figure 4.52 show the findings from the DOJ Annual Data Breach Report.

Figure 4.51 – Number of Security Breaches in North Carolina



Source: North Carolina Department of Justice

Figure 4.52 – North Carolinians Impacted by Security Breaches



Note: In 2017, Equifax experienced the largest-ever data breach in history affecting nearly 5 million North Carolinians, resulting in a high number of people having their information compromised that year.

Source: North Carolina Department of Justice

The Privacy Rights Clearinghouse, a nonprofit organization based in San Diego, maintains a timeline of 17,552 unique data breaches resulting from computer hacking incidents in the United States from 2002-2023. The database lists 359 data breaches on file in North Carolina, totaling 16,588,348 records breached since 2005. Local governments in the Pamlico Region have reported concerning data breaches in recent years and notable incidents. One of the largest breaches occurred in December of 2022 when Cott Systems, a cybersecurity company that works with local offices in the state, was shut down by a cyber attack that exposed important resident records from the county register of deeds office in Pamlico County.

PROBABILITY OF FUTURE OCCURRENCE

Cyber attacks occur daily, but most have negligible impacts at the local or regional level. The possibility of a larger disruption affecting systems within the region is a constant threat, but it is difficult to quantify the exact probability due to such highly variable factors as the type of attack and intent of the attacker. Minor attacks against business and government systems have become a commonplace occurrence but are usually stopped with minimal impact. Similarly, data breaches impacting the information of residents of the Pamlico Region are almost certain to happen in coming years. While attacks targeting local government systems in the Pamlico Region have occurred in the last few years, no significant data breaches happened, and local governments restored their operating systems in a short period of time. Because minor breaches have occurred, major attacks or breaches are possible.

Probability: 2 – Possible

VULNERABILITY ASSESSMENT

As discussed above, the impacts from a cyber attack vary greatly depending on the nature, severity, and success of the attack.

METHODOLOGIES AND ASSUMPTIONS

Vulnerability to cyber attacks was assessed based on past occurrences nationally and internationally as well as publicly available information on these vulnerabilities, as well as attacks occurring in the region.

PEOPLE

Cyber-attacks can have a significant cumulative economic impact. According to the Internet Crime Complaint Center run by the Federal Bureau of Investigation, the U.S. experienced a loss of $27.6 billion between the years 2018 to 2022. A major cyber-attack has the potential to undermine public confidence and build doubt in their government's ability to protect them from harm.

Injuries or fatalities from cyber-attacks would generally only be possible from a major cyber terrorist attack against critical infrastructure.

PROPERTY

Short of a major cyber terrorist attack against critical infrastructure, property damage from cyber attacks is typically limited to computer systems.

ENVIRONMENT

Short of a major cyber terrorist attack against critical infrastructure, property damage from cyber attacks is typically limited to computer systems. A major cyber terrorism attack could potentially impact the environment by triggering a release of a hazardous materials, or by causing an accident involving hazardous materials by disrupting traffic-control devices.

CONSEQUENCE ANALYSIS

Table 4.112 summarizes the potential consequences of a cyber threat.

Table 4.112 – Consequence Analysis – Cyber Threat

Category	Consequences
Public	Cyber attacks can impact personal data and accounts. Injuries or fatalities could potentially result from a major cyber terrorist attacks against critical infrastructure.
Responders	Cyber attacks can impact personal data and accounts. Injuries or fatalities could potentially result from a major cyber terrorist attacks against critical infrastructure.
Continuity of Operations (including Continued Delivery of Services)	Agencies that rely on electronic backup of critical files are vulnerable. The delivery of services can be impacted since governments rely, to a great extent, upon electronic delivery of services.
Property, Facilities and Infrastructure	Rare. Most attacks affect only data and computer systems. Sabotage of utilities and infrastructure from a major cyber terrorist attacks could potentially result in system failures that damage property on a scale equal with natural disasters. Facilities and infrastructure may become unusable as a result of a cyber-attack.
Environment	Rare. A major attack could theoretically result in a hazardous materials release.

Category	Consequences
Economic Condition of the Jurisdiction	Could greatly affect the economy. In an electronic-based commerce society, any disruption to daily activities can have disastrous impacts to the economy. It is difficult to measure the true extent of the impact.
Public Confidence in the Jurisdiction's Governance	The government's inability to protect critical systems or confidential personal data could impact public confidence. An attack could raise questions regarding the security of using electronic systems for government services.

4.6 CONCLUSIONS ON HAZARD RISK

PRIORITY RISK INDEX

As discussed in Section 4.3 Risk Assessment Methodology and Assumptions, the Priority Risk Index was used to rate each hazard on a set of risk criteria and determine an overall standardized score for each hazard. For some hazards, PRI ratings vary by jurisdiction. In these cases, the overall PRI rating reflects the highest risk that applies to the region. The conclusions drawn from this process are summarized below by classifying hazards into three categories—high, moderate, or low risk—based on the assigned risk value. General assumptions for high, moderate, and low risk hazards are described below, and hazard risk ratings are summarized in Table 4.113:

- **High Risk** – Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread.
- **Moderate Risk** – Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **Low Risk** – Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal. This is not a priority hazard.

Table 4.113 – Summary of Hazard Risk Classification

High Risk (≥ 3.0)	Excessive Heat Hurricane & Coastal Hazards Flooding Tornadoes & Thunderstorms Wildfire Severe Winter Weather
Moderate Risk (2.0 – 2.9)	Drought Dam & Levee Failure
Low Risk (< 2.0)	Earthquake

Table 4.114 summarizes the degree of risk assigned to each identified hazard using the PRI method. Where PRI ratings varied by jurisdiction, the range is shown. Additionally, where a hazard encompasses several sub-hazards, the PRI rating for each sub-hazard is provided.

Table 4.114 – Summary of PRI Results

Hazard	Probability	Impact	Spatial Extent	Warning Time	Duration	PRI Score
Dam & Levee Failure[1]	Unlikely-Possible	Limited-Critical	Negligible	Less than 6 hrs	Less than 1 week	1.8-2.4
Drought[1]	Likely	Minor-Limited	Large	More than 24 hrs	More than 1 week	2.5-2.8
Earthquake	Unlikely	Minor	Large	Less than 6 hrs	Less than 6 hrs	1.9
Excessive Heat[1]	Highly Likely	Limited-Critical	Large	More than 24 hrs	Less than 1 week	3.0-3.3
Flooding[1]	Possible-Highly Likely	Critical	Negligible-Large	6 to 12 hours	Less than 1 week	2.3-3.5
Hurricane[2]	Highly Likely	Catastrophic	Large	More than 24 hrs	Less than 1 week	3.6
Coastal Hazards (Erosion & Rip Current)[1, 2]	Unlikely-Highly Likely	Minor-Limited	Negligible	More than 24 hrs – 12-24 hours	Less than 1 week	2.1-2.5
Infectious Disease	Possible	Critical	Large	More than 24 hrs	More than 1 week	2.8
Severe Winter Weather	Highly Likely	Limited	Large	More than 24 hrs	Less than 1 week	3.0
Tornado[3]	Likely	Critical	Negligible	Less than 6 hrs	Less than 6 hrs	2.5
Thunderstorm Wind[1, 3]	Highly Likely	Limited-Critical	Moderate	Less than 6 hrs	Less than 6 hrs	2.9-3.2
Lightning & Hail[3]	Highly Likely	Minor	Negligible	Less than 6 hrs	Less than 6 hrs	2.2
Wildfire[1]	Possible-Likely	Limited-Critical	Small-Moderate	Less than 6 hrs	Less than 1 week	2.5-3.1
Cyber Threat	Possible	Limited	Small	Less than 6 hrs	More than 1 week	2.4

[1]Note: PRI ratings for this hazard vary by jurisdiction. The range of ratings are shown here.

[2]Note: This is a sub-hazard for the Hurricane & Coastal Hazards hazard. The overall hazard rating is an average of these sub-hazards.

[3]Note: This is a sub-hazard of the Tornadoes & Thunderstorms hazard. The overall hazard rating is an average of these sub-hazards.

5 CAPABILITY ASSESSMENT

This section discusses the capability of the Pamlico Sound region to implement hazard mitigation activities. It consists of the following four subsections:

5.1 Overview
5.2 Conducting the Capability Assessment
5.3 Capability Assessment Findings
5.4 Conclusions on Local Capability

5.1 OVERVIEW

The purpose of conducting a capability assessment is to determine the ability of a local jurisdiction to implement a comprehensive mitigation strategy, and to identify potential opportunities for establishing or enhancing specific mitigation policies, programs, or projects. As in any planning process, it is important to try to establish which goals, objectives, and actions are feasible, based on an understanding of the organizational capacity of those agencies or departments tasked with their implementation. A capability assessment helps to determine which mitigation actions are practical and likely to be implemented over time given a local government's planning and regulatory framework, level of administrative and technical support, amount of fiscal resources, and current political climate.

A capability assessment has two primary components: 1) an inventory of a local jurisdiction's relevant plans, ordinances, and programs already in place; and 2) an analysis of its capacity to carry them out. Careful examination of local capabilities will detect any existing gaps, shortfalls, or weaknesses with ongoing government activities that could hinder proposed mitigation activities and possibly exacerbate community hazard vulnerability. The capability assessment also highlights the positive mitigation measures already in place or being implemented at the local government level, which should continue to be supported and enhanced through future mitigation efforts.

The capability assessment completed for the Pamlico Sound region serves as a critical planning step toward developing an effective mitigation strategy. Coupled with the risk assessment, the capability assessment helps identify and target effective goals, objectives, and mitigation actions that are realistically achievable under given local conditions.

5.2 CONDUCTING THE CAPABILITY ASSESSMENT

This capability assessment was originally developed using feedback from the HMPC through a detailed Local Capability Self-Assessment worksheet. The self-assessment requested information on a variety of "capability indicators" such as existing local plans, policies, programs, or ordinances that contribute to and/or hinder the region's ability to implement hazard mitigation actions. Other indicators included information related to the region's fiscal, administrative, and technical capabilities, such as access to local budgetary and personnel resources for mitigation purposes, and existing education and outreach programs that can be used to promote mitigation. Community representatives were also asked to comment on the current political climate with respect to hazard mitigation, an important consideration for any local planning or decision-making process.

The survey results also provided an extensive and consolidated inventory of existing local plans, ordinances, programs, and resources in place or under development. In completing the survey, local officials were also asked to rate their jurisdiction's specific capabilities. The survey instrument thereby

not only helps accurately assess the degree of local capability, but it also serves as a good source of introspection for counties and local jurisdictions that want to improve their capabilities. Identified gaps, weaknesses, or conflicts can be recast as opportunities for specific actions to be proposed as part of the mitigation strategy.

The information provided in response to the survey questionnaire was incorporated into a database for further analysis. A general scoring methodology was then applied to quantify each jurisdiction's overall capability. According to the scoring system, each capability indicator was assigned a point value based on its relevance to hazard mitigation. Additional points were added based on the jurisdiction's self-assessment of their own planning and regulatory capability, administrative and technical capability, fiscal capability, education and outreach capability, and political capability.

Using this scoring methodology, a total score and an overall capability rating of "High," "Moderate," or "Limited" could be determined according to the total number of points received. These classifications are designed to provide nothing more than a general assessment of local government capability. In combination with the narrative responses provided by local officials, the results of this capability assessment provide critical information for developing an effective and meaningful mitigation strategy.

5.3 CAPABILITY ASSESSMENT FINDINGS

The findings of the capability assessment are summarized in this plan to provide insight into the relevant capacity of the Pamlico Sound Planning Area to implement hazard mitigation activities. All information is based upon the input provided by local government officials through the Local Capability Self-Assessment and subsequent updates by the planning team and the HMPC.

5.3.1 PLANNING AND REGULATORY CAPABILITY

Planning and regulatory capability is based on the implementation of plans, ordinances, and programs that demonstrate a local jurisdiction's commitment to guiding and managing growth, development, and redevelopment in a responsible manner, while maintaining the general welfare of the community. It includes emergency response and mitigation planning, comprehensive land use planning, and transportation planning. Regulatory capability also includes the enforcement of zoning or subdivision ordinances and building codes that regulate how land is developed and structures are built, as well as protecting environmental, historic, and cultural resources in the community. Although some conflicts can arise, these planning initiatives generally present significant opportunities to integrate hazard mitigation principles and practices into the local decision-making process.

This assessment is designed to provide a general overview of the key planning and regulatory tools or programs in place or under development for the Pamlico Sound region, along with their potential effect on loss reduction. This information will help identify opportunities to address gaps, weaknesses, or conflicts with other initiatives and integrate the implementation of this plan with existing planning mechanisms where appropriate.

Table 5.1 provides a summary of the relevant local plans, ordinances, and programs already in place or under development for the Pamlico Sound region. A checkmark (✓) indicates that the given item is currently in place and being implemented. An asterisk (*) indicates that the given item is currently being developed for future implementation. A plus sign (+) indicates that a jurisdiction is covered for that item under a county-implemented version. Each of these local plans, ordinances, and programs should be considered available mechanisms for incorporating the requirements of the Hazard Mitigation Plan.

Table 5.1 – Relevant Plans, Ordinances, and Programs

Jurisdiction	Hazard Mitigation Plan	Comprehensive Land Use Plan	Floodplain Management Plan	Open Space Management Plan	Stormwater Management Plan	Emergency Operations Plan	SARA Title III Plan	Radiological Emergency Plan	Continuity of Operations Plan	Evacuation Plan	Disaster Recovery Plan	Capital Improvements Plan	Economic Development Plan	Historic Preservation Plan	Transportation Plan	Flood Damage Prevention Ordinance	Zoning Ordinance	Subdivision Ordinance	Site Plan Review Requirements	Unified Development Ordinance	Post-Disaster Redev. Ordinance	Building Code	Fire Code	Community Wildfire Protection Plan	National Flood Insurance Program	Community Rating System
Beaufort County	✓	✓				✓	✓	✓	✓	✓					✓	✓	✓	✓	✓			✓	✓		✓	
Town of Aurora	✓	✓				+	+	+	+	+					✓	✓	✓	✓	✓			✓	✓		✓	
Town of Bath	✓	✓				+	+	+	+	+					✓	✓	✓	✓	✓			✓	✓		✓	
Town of Belhaven	✓	✓	✓	✓		✓	+	+	+	+		✓	+		✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Town of Chocowinity	✓	✓				+	+	+	+	+					✓	✓	✓	✓	✓			✓	✓		✓	
Town of Pantego	✓	✓				+	+	+	+	+					✓	✓	✓	✓	✓			✓	✓		✓	
City of Washington	✓	✓	✓	✓	✓	+	+	+	+	+		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Town of Washington Park	✓	✓	✓	✓	✓	+	+	+	+	+					✓	✓	✓	✓	✓			✓	✓		✓	✓
Carteret County	✓	✓				✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Town of Atlantic Beach	✓	✓		✓	✓	+	+	+	+	+		✓			✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Town of Beaufort	✓	✓		✓		+	+	+	+	+		✓			✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Town of Bogue	✓	+				+	+	+	+	+					+	✓	✓	✓	✓			+	✓		✓	
Town of Cape Carteret	✓	✓				+	+	+	+	+	✓				✓	✓	✓	✓	✓	✓		✓	✓		✓	✓

Jurisdiction	Hazard Mitigation Plan	Comprehensive Land Use Plan	Floodplain Management Plan	Open Space Management Plan	Stormwater Management Plan	Emergency Operations Plan	SARA Title III Plan	Radiological Emergency Plan	Continuity of Operations Plan	Evacuation Plan	Disaster Recovery Plan	Capital Improvements Plan	Economic Development Plan	Historic Preservation Plan	Transportation Plan	Flood Damage Prevention Ordinance	Zoning Ordinance	Subdivision Ordinance	Site Plan Review Requirements	Unified Development Ordinance	Post-Disaster Redev. Ordinance	Building Code	Fire Code	Community Wildfire Protection Plan	National Flood Insurance Program	Community Rating System
Town of Cedar Point	✓	✓				+	+	+	+	+					✓	✓	✓	✓	✓			✓	✓		✓	✓
Town of Emerald Isle	✓	✓	✓	✓	✓	+	+	+	+	+		✓	+		✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Town of Indian Beach	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	
Town of Morehead City	✓	✓	✓		*	+	+	+	✓	+		✓	+		✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Town of Newport	✓	✓		✓		+	+	+	+	+					✓	✓	✓	✓	✓			✓	✓		✓	✓
Town of Peletier	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	
Town of Pine Knoll Shores	✓	✓		✓		+	+	+	+	+					✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Craven County	✓	✓				✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓			✓	✓		✓	✓
Town of Bridgeton	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	
Town of Cove City	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	
Town of Dover	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	
City of Havelock	✓	✓		✓	✓	+	+	+	+	+		✓			✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
City of New Bern	✓	✓		✓	✓	+	+	+	+	+		✓		✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓
Town of River Bend	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	✓

Jurisdiction	Hazard Mitigation Plan	Comprehensive Land Use Plan	Floodplain Management Plan	Open Space Management Plan	Stormwater Management Plan	Emergency Operations Plan	SARA Title III Plan	Radiological Emergency Plan	Continuity of Operations Plan	Evacuation Plan	Disaster Recovery Plan	Capital Improvements Plan	Economic Development Plan	Historic Preservation Plan	Transportation Plan	Flood Damage Prevention Ordinance	Zoning Ordinance	Subdivision Ordinance	Site Plan Review Requirements	Unified Development Ordinance	Post-Disaster Redev. Ordinance	Building Code	Fire Code	Community Wildfire Protection Plan	National Flood Insurance Program	Community Rating System
Town of Vanceboro	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	
Town of Trent Woods	✓	✓			✓	+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	
Pamlico County	✓	✓				✓	✓	✓	✓	✓					✓	✓		✓	✓			✓	✓		✓	✓
Town of Alliance	✓	✓				+	+	+	+	+						✓		✓	✓			✓	✓		✓	✓
Town of Arapahoe	✓	✓				+	+	+	+	+						✓		✓	✓			✓	✓			
Town of Bayboro	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	✓
Town of Grantsboro	✓	✓				+	+	+	+	+						✓		✓	✓			✓	✓			
Town of Mesic	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	✓
Town of Minnesott Beach	✓	✓				+	+	+	+	+						✓	✓	✓	✓			✓	✓		✓	✓
Town of Oriental	✓	✓		✓		✓	+	+	+	+	✓	✓				✓	✓	✓	✓	✓		✓	✓		✓	✓
Town of Stonewall	✓	✓				+	+	+	+	+						✓		✓	✓			✓	✓		✓	✓
Town of Vandemere	✓	✓		✓		+	+	+	+	+					+	✓	✓	✓	✓			✓	✓		✓	✓

A more detailed discussion on the region's planning and regulatory capability follows, along with the incorporation of additional information based on the narrative comments provided by local officials in response to the survey questionnaire.

5.3.1.1 *EMERGENCY MANAGEMENT*

Hazard mitigation is widely recognized as one of the four primary phases of emergency management, as is shown in Figure 5.1. In reality, mitigation is interconnected with all other phases and is an essential component of effective preparedness, response, and recovery. Opportunities to reduce potential losses through mitigation practices are most often implemented before a disaster event, such as through the elevation of flood-prone structures or by regular enforcement of policies that regulate development. However, mitigation opportunities can also be identified during immediate preparedness or response activities, such as installing storm shutters in advance of a hurricane. Furthermore, incorporating mitigation during the long-term recovery and redevelopment process following a disaster event is what enables a community to become more resilient.

Figure 5.1 – The Four Phases of Emergency Management

Planning for each phase is a critical part of a comprehensive emergency management program and a key to the successful implementation of hazard mitigation actions. As such, the Local Capability Self-Assessment asked several questions across a range of emergency management plans to assess the region's willingness to plan and their level of technical planning proficiency.

HAZARD MITIGATION PLAN

A hazard mitigation plan is a community's blueprint for how it intends to reduce the impact of natural, and in some cases human-caused, hazards on people and the built environment. The essential elements of a hazard mitigation plan include a risk assessment, capability assessment, and mitigation strategy.

- All participating jurisdictions in this regional planning effort have previously been covered by the Pamlico Sound Regional Hazard Mitigation Plan.
- In addition to the official local hazard mitigation plan, several communities have participated in mitigation and resilience planning efforts that involve risk and vulnerability assessment and mitigation or resilience action development. Beaufort County, Aurora, Belhaven, Washington, Washington Park, Beaufort, Cape Carteret, Pine Knoll Shores, Craven County, Pamlico County, and Vandemere have each participated in North Carolina Division of Coastal Management's Resilient Coastal Communities Program and developed Resilience Strategies through that program. Additionally, the Eastern Carolina Council of Governments and the Mid-East Commission worked with NCORR's RISE Program to develop the Eastern Carolina Regional Resilience Portfolio and the

Mid-East Regional Resilience Portfolio, which contain prioritized regional resilience projects relevant to the Pamlico Region.

DISASTER RECOVERY PLAN

A disaster recovery plan serves to guide the physical, social, environmental, and economic recovery and reconstruction process following a disaster event. In many instances, hazard mitigation principles and practices are incorporated into local disaster recovery plans with the intent of capitalizing on opportunities to break the cycle of repetitive disaster losses. Disaster recovery plans can also lead to the preparation of disaster redevelopment policies and ordinances to be enacted following a hazard event.

— 2 of the 39 participating jurisdictions has a disaster recovery plan in place.

EMERGENCY OPERATIONS PLAN

An emergency operations plan outlines responsibilities and how resources will be deployed during and following an emergency or disaster.

— All participating jurisdictions have an emergency operations plan either in place or are covered under a county plan (5 jurisdictions have one in place; 34 jurisdictions covered under a county plan).

CONTINUITY OF OPERATIONS PLAN

A continuity of operations plan establishes a chain of command, line of succession, and plans for backup or alternate emergency facilities in case of an extreme emergency or disaster event.

— All of the participating jurisdictions have a continuity of operations plan either in place or are covered under a county plan (5 jurisdictions have one in place; 34 jurisdictions covered under a county plan.

5.3.1.2 *GENERAL PLANNING*

The implementation of hazard mitigation activities often involves agencies and individuals beyond the emergency management profession. Stakeholders may include local planners, public works officials, economic development specialists, and others. In many instances, concurrent local planning efforts will help to achieve or complement hazard mitigation goals, even though they may not be designed as such. The Local Capability Self-Assessment asked questions regarding general planning capabilities and the degree to which hazard mitigation is integrated into other ongoing planning efforts in the region.

COMPREHENSIVE/GENERAL PLAN

A comprehensive land use plan, or general plan, establishes the overall vision for what a community wants to be and serves as a guide for future governmental decision making. Typically, a comprehensive plan contains sections on demographic conditions, land use, transportation elements, and community facilities. Given the broad nature of the plan and its regulatory standing in many communities, the integration of hazard mitigation measures into the comprehensive plan can enhance the likelihood of achieving risk reduction goals, objectives, and actions.

— All participating jurisdictions have a comprehensive land use plan in place (38 jurisdictions have one in place; 1 jurisdiction covered under a county plan).

CAPITAL IMPROVEMENTS PLAN

A capital improvements plan guides the scheduling of spending on public improvements. A capital improvements plan can serve as an important mechanism for guiding future development away from identified hazard areas. Limiting public spending in hazardous areas is one of the most effective long-term mitigation actions available to local governments.

— 11 of the 39 participating jurisdictions have a capital improvements plan in place or under development.

HISTORIC PRESERVATION PLAN

A historic preservation plan is intended to preserve historic structures or districts within a community. An often-overlooked aspect of the historic preservation plan is the assessment of buildings and sites located in areas subject to natural hazards, and the identification of ways to reduce future damages. This may involve retrofitting or relocation techniques that account for the need to protect buildings that do not meet current building standards or are within a historic district that cannot easily be relocated out of harm's way.

— 2 of the 39 participating jurisdictions have an historic preservation plan in place or under development.

ZONING ORDINANCE

Zoning represents the primary means by which land use is controlled by local governments. As part of a community's police power, zoning is used to protect the public health, safety, and welfare of those in a given jurisdiction that maintains zoning authority. A zoning ordinance is the mechanism through which zoning is typically implemented. Since zoning regulations enable municipal governments to limit the type and density of development, a zoning ordinance can serve as a powerful tool when applied in identified hazard areas.

— 34 of the 39 participating jurisdictions have a zoning ordinance in place or under development.

SUBDIVISION ORDINANCE

A subdivision ordinance is intended to regulate the development of residential, commercial, industrial, or other uses, including associated public infrastructure, as land is subdivided into buildable lots for sale or future development. Subdivision design that accounts for natural hazards can dramatically reduce the exposure of future development.

— All participating jurisdictions have a subdivision ordinance in place or under development.

BUILDING CODES, PERMITTING, AND INSPECTIONS

Building codes regulate construction standards. In many communities, permits and inspections are required for new construction. Decisions regarding the adoption of building codes (that account for hazard risk), the type of permitting process required both before and after a disaster, and the enforcement of inspection protocols all affect the level of hazard risk faced by a community.

— All participating jurisdictions have building codes in place.

The adoption and enforcement of building codes by local jurisdictions is routinely assessed through the Building Code Effectiveness Grading Schedule (BCEGS) program, developed by the Insurance Services Office, Inc. (ISO). In North Carolina, the North Carolina Department of Insurance assesses the building codes in effect in a particular community and how the community enforces its building codes, with special emphasis on mitigation of losses from natural hazards. The results of BCEGS assessments are routinely provided to ISO's member private insurance companies, which in turn may offer ratings credits for new buildings constructed in communities with strong BCEGS classifications. The expectation is that communities with well-enforced, up-to-date codes should experience fewer disaster-related losses, and as a result should have lower insurance rates.

In conducting the assessment, ISO collects information related to personnel qualification and continuing education, as well as number of inspections performed per day. This type of information combined with local building codes is used to determine a grade for that jurisdiction. The grades range from 1 to 10, with a BCEGS grade of 1 representing exemplary commitment to building code enforcement, and a grade of 10 indicating less than minimum recognized protection.

5.3.1.3 *FLOODPLAIN MANAGEMENT*

Flooding represents the greatest natural hazard facing the nation, yet the tools available to reduce the impacts associated with flooding are among the most developed when compared to other hazard-specific mitigation techniques. In addition to approaches that cut across hazards such as education, outreach, and the training of local officials, the National Flood Insurance Program (NFIP) contains specific regulatory measures that enable government officials to determine where and how growth occurs relative to flood hazards. Participation in the NFIP is voluntary for local governments; however, program participation is strongly encouraged by FEMA as a first step for implementing and sustaining an effective hazard mitigation program. It is therefore used as part of this capability assessment as a key indicator for measuring local capability.

In order for a county or municipality to participate in the NFIP, they must adopt a local flood damage prevention ordinance that requires jurisdictions to follow established minimum building standards in the floodplain. These standards require that all new buildings and substantial improvements to existing buildings be protected from damage by a 100-year flood event, and that new development in the floodplain not exacerbate existing flood problems or increase damage to other properties.

A key service provided by the NFIP is the mapping of identified flood hazard areas. Once completed, the Flood Insurance Rate Maps (FIRMs) are used to assess flood hazard risk, regulate construction practices, and set flood insurance rates. FIRMs are an important source of information to educate residents, government officials, and the private sector about the likelihood of flooding in their community.

Table 5.2 provides NFIP and CRS class information (see CRS section below) for each participating jurisdiction in the Pamlico Sound region. Detailed policy and claim information for each participating jurisdiction can be found in Annex A.

All but two jurisdictions in the region participate in the NFIP and will continue to comply with all required provisions of the program. Floodplain management is managed through zoning ordinances, building code restrictions, and the county building inspection program. The jurisdictions will coordinate with NCEM and FEMA to develop maps and regulations related to Special Flood Hazard Areas within their jurisdictional boundaries and, through a consistent monitoring process, will design and improve their floodplain management program in a way that reduces the risk of flooding to people and property.

Arapahoe and Grantsboro in Pamlico County do not currently participate in the NFIP.

COMMUNITY RATING SYSTEM

An additional indicator of floodplain management capability is active participation in the Community Rating System (CRS). The CRS is an incentive-based program that encourages communities to undertake defined flood mitigation activities that go beyond the minimum requirements of the NFIP. Each of the CRS mitigation activities is assigned a point value. As a community earns points and reaches identified thresholds, they can apply for an improved CRS class. Class ratings, which range from 10 to 1 and increase on 500-point increments, are tied to flood insurance premium reductions. Every class improvement earns an additional 5 percent discount for NFIP policyholders, with a starting discount of 5 percent for Class 9 communities and a maximum possible discount of 45 percent for Class 1 communities.

Community participation in the CRS is voluntary. Any community that is in full compliance with the rules and regulations of the NFIP may apply to FEMA for a CRS classification better than class 10. The CRS application process has been greatly simplified over the past several years, based on community comments intended to make the CRS more user friendly, and extensive technical assistance available for communities who request it.

— 24 of the 39 participating jurisdictions participate in the Community Rating System. Each community's CRS Class is shown in the table below.

Table 5.2 – NFIP and CRS Information

Jurisdiction	Date Joined NFIP	Current CRS Class	Current Effective Map Date
Beaufort County	07/22/77	-	01/17/25
City of Washington	02/20/73	7	06/19/20
Town of Aurora	05/03/74	-	06/19/20
Town of Bath	07/08/77	-	06/19/20
Town of Belhaven	04/13/73	8	06/19/20
Town of Chocowinity	05/15/03	-	06/19/20
Town of Pantego	09/06/74	-	06/19/20
Town of Washington Park	02/09/73	8	06/19/20
Carteret County	02/14/75	9	01/17/25
Town of Atlantic Beach	06/28/74	8	01/17/25
Town of Beaufort	12/01/72	7	11/03/05
Town of Bogue	02/14/75	-	01/17/25
Town of Cape Carteret	05/24/74	8	01/17/25
Town of Cedar Point	02/14/75	7	01/17/25
Town of Emerald Isle	06/07/74	7	01/17/25
Town of Indian Beach	03/04/85	-	01/17/25
Town of Morehead City	02/22/74	5	11/03/05
Town of Newport	03/01/74	8	01/17/25
Town of Peletier	07/16/03	-	01/17/25
Town of Pine Knoll Shores	07/11/75	6	01/17/25
Craven County	12/20/74	8	01/17/25
City of Havelock	09/13/74	7	06/19/20
City of New Bern	02/22/74	8	06/15/22
Town of Bridgeton	12/20/74	-	06/19/20
Town of Cove City	07/02/04	-	NSFHA
Town of Dover	07/02/04	-	NSFHA
Town of River Bend	05/14/82	8	06/15/22
Town of Trent Woods	05/04/87	-	06/15/22
Town of Vanceboro	12/20/74	-	06/19/20
Pamlico County	01/31/75	8	06/19/20
Town of Alliance	07/14/78	8	06/19/20
Town of Arapahoe*	07/02/04	-	06/19/20
Town of Bayboro	07/30/76	8	06/19/20
Town of Grantsboro*	06/16/78	-	06/19/20
Town of Mesic	07/30/76	8	06/19/20
Town of Minnesott Beach	03/02/79	8	06/19/20
Town of Oriental	01/31/75	8	06/19/20
Town of Stonewall	01/31/75	8	06/19/20
Town of Vandemere	01/31/75	8	06/19/20

Source: FEMA NFIP Policy Statistics

*Communities not currently participating in the NFIP.

FLOOD DAMAGE PREVENTION ORDINANCE

A flood damage prevention ordinance establishes minimum building standards in the floodplain with the intent to minimize public and private losses due to flood conditions.

— All communities participating in the NFIP are required to adopt a local flood damage prevention ordinance. All counties and all but two municipalities participating in this hazard mitigation plan also participate in the NFIP and they all have adopted flood damage prevention regulations and have appointed floodplain managers to oversee enforcement and implementation of the ordinance.

FLOODPLAIN MANAGEMENT PLAN

A floodplain management plan (or a flood mitigation plan) provides a framework for action regarding corrective and preventative measures to reduce flood-related impacts.

— 5 of the 39 participating jurisdictions have a floodplain management plan in place.

OPEN SPACE MANAGEMENT PLAN

An open space management plan is designed to preserve, protect, and restore largely undeveloped lands in their natural state, and to expand or connect areas in the public domain such as parks, greenways, and other outdoor recreation areas. In many instances open space management practices are consistent with the goals of reducing hazard losses, such as the preservation of wetlands or other flood-prone areas in their natural state in perpetuity.

— 12 of the 39 participating jurisdictions have an open space management plan in place or under development.

STORMWATER MANAGEMENT PLAN

A stormwater management plan is designed to address flooding associated with stormwater runoff. The stormwater management plan is typically focused on design and construction measures that are intended to reduce the impact of more frequently occurring minor urban flooding.

— 8 of the 39 participating jurisdictions have a stormwater management plan in place or under development.

SUBSTANTIAL DAMAGE ESTIMATE PROCEDURES

Properties in communities that participate in the NFIP that are determined to be “substantially damaged” following a flood event must be brought into compliance with the local flood damage prevention ordinance. Determination of substantial damage is a coordinated effort between emergency management, police and fire departments and permitting departments such as planning and building inspections departments. Substantial damage estimating procedures for participating jurisdictions are detailed below in Table 5.3 – Floodplain Management and Substantial Damage/Improvement (SD/SI) Procedures.

Participating jurisdictions that did not provide substantial damage estimating procedures to include in this plan are in the process of developing written protocols for their processes. These will be added to this plan in future updates.

Table 5.3 – Floodplain Management and Substantial Damage/Improvement (SD/SI) Procedures

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Beaufort County	Maintains a countywide flood damage prevention ordinance and participates in the NFIP	Beaufort County Chief Building Inspector designated as the Floodplain Administrator	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
City of Washington	Maintains a citywide flood damage prevention ordinance and participates in the NFIP and is a CRS community (Class 7)	City of Washington Chief Building Officer designated as the Floodplain Administrator • Floodplain Administrator has obtained Certified Floodplain Manager (CFM) designation • Guidance received from the NFIP Eastern Branch • Adequate staff trained, but City faces resource limitations	Does not currently have Standard Operating Procedures (SOPs), but any project within the SFHA must be reviewed: • Projects are reviewed monthly, typically initiated by a building permit, and SI/SD compliance is assessed as part of the FDP process • Floodplain Administrator uses valuation data from the Beaufort GIS/Tax Office • Post-disaster damage assessments are conducted following significant storm events in coordination with the Building Inspector • Projects are monitored using iWorq software, spreadsheets, and paper records	SI/SD information is available through mailings, the City's website, and informational brochures: • Applicants are informed of the 50% threshold on FDPs • Relevant ordinance sections are cited, the percentage applicable to the project is calculated, and the remaining amount is noted before triggering a SI determination • SD determinations are issued via mail, and notices are posted on affected homes
Town of Aurora	Maintains a townwide flood damage prevention ordinance and participates in the NFIP	Beaufort County Chief Building Inspector designated as the Floodplain Administrator	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Bath	Maintains a townwide flood damage prevention ordinance and participates in the NFIP	Town of Bath Town Administrator designated as the Floodplain Administrator	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Belhaven	Maintains a townwide flood damage prevention ordinance and participates in the NFIP and is a CRS community (Class 8)	Town of Belhaven Town Manager designated as the Floodplain Administrator: • Town has one certified floodplain manager (CFM) that receives FEMA training annually	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Staff surveys damage of homes/buildings following a storm event (as soon as its safe) • Use the information from the site surveys to compare building permits issued • Determination of whether work constitutes substantial improvement/repair of damage	NFIP participation requires communication with citizens on relevant topics (including SI/SD): • Provide educational information at Town Hall, public library, and website • If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Chocowinity	Participates in the NFIP	Town of Chocowinity Mayor designated as Floodplain Administrator	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Pantego	Participates in the NFIP	Pantego Town Clerk designated as Floodplain Administrator	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Washington Park	Participates in the NFIP and is a CRS community (Class 8)	City of Washington Chief Building Officer designated as the Floodplain Administrator: • Floodplain Administrator has obtained Certified Floodplain Manager (CFM) designation • Guidance received from the NFIP Eastern Branch • Adequate staff trained, but City faces resource limitations	Does not current have Standard Operating Procedures (SOPs), but any project within the SFHA must be reviewed: • Projects are reviewed monthly, typically initiated by a building permit, and SI/SD compliance is assessed as part of the FDP process • Floodplain Administrator uses valuation data from the Beaufort GIS/Tax Office • Post-disaster damage assessments are conducted following significant storm events in coordination with the Building Inspector and Town Manager • Projects are monitored using iWorq software, spreadsheets, and paper records	SI/SD information is available through mailings, the City's website, and informational brochures: • Applicants are informed of the 50% threshold on FDPs • Relevant ordinance sections are cited, the percentage applicable to the project is calculated, and the remaining amount is noted before triggering a SI determination • SD determinations are issued via mail, and notices are posted on affected homes
Carteret County	Maintains a countywide flood damage prevention ordinance and participates in the NFIP and is a CRS community (Class 9)	Carteret County Director of Planning and Development designated as Floodplain Administrator: • Staff have attended FEMA SDAP workshop(s) and online training(s) • Serves as the Floodplain Administrator for the Towns of Bogue, Indian Beach, and Peletier, handling SI/SD determinations	Substantial damage/improvements determined by Floodplain Administrator with Building Official coordination: • Utilize knowledge gained through FEMA SI/SD Training in combination with County Building Inspector knowledge • Compile information into the FEMA SDE software, including the SDE tool, to determine if a structure has suffered substantial damage post-hazard	If work constitutes substantial improvements or repair of substantial damage: • Substantial Damage Determination Letter is drafted and sent to property owner's mailing address as listed on County's tax parcel card • Indicates property must be brought into full compliance with the local Flood Damage Prevention and Protection Ordinance • If structure is deemed a life/safety issue, it will be posted by the building inspector • Includes supporting documentation pertaining to ICC eligibility and funding to demolish, relocate, or elevate structure

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Atlantic Beach	Maintains a townwide flood damage prevention ordinance and participates in the NFIP and is a CRS community (Class 8)	Town of Atlantic Beach Building Inspector designated as the Floodplain Administrator	Substantial damage/improvements determined by Floodplain Administrator with Carteret County Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Beaufort	Maintains a townwide flood damage prevention ordinance and participates in the NFIP and is a CRS community (Class 7)	Town of Beaufort Building Inspector designated as the Floodplain Administrator: • Staff involved in procedures includes planners, building officials, and certified floodplain managers (CFMs)	Substantial damage/improvements determined by Floodplain Administrator: • Staff deploy to the Town's nine affected divisions to monitor impact areas/determine where to focus efforts • Self-reporting and fly overs with either aircraft or drone are also utilized for reporting purposes • Once impact area is determined, information is provided to staff to guide and inform assessments • Information is tracking using FEMA's SDE tool software and sent to Carteret County for disaster estimations • Work is field verified by inspectors to ensure constructions is up to code and in compliance with applicable ordinances	If/when homeowners submit permit(s) for repair: • The data collected post-disaster is referenced and will notify staff if substantial damage is triggered • If SD is triggered, the building must come into compliance with all Town ordinances If/when homeowners submit permit to improve property without damage: • Substantial improvement protocols are activated • Entails review of project scope, evaluations of structure's depreciated value, and work is adjusted based on determination

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Bogue	Maintains a townwide flood damage prevention ordinance and participates in the NFIP.	Carteret County Director of Planning and Development designated as Floodplain Administrator: • Staff have attended FEMA SDAP workshop(s) and online training(s)	Substantial damage/improvements determined by Floodplain Administrator with Carteret County Building Official coordination: • Utilize knowledge gained through FEMA SI/SD Training in combination with County Building Inspector knowledge • Compile information into the FEMA SDE software, including the SDE tool, to determine if a structure has suffered substantial damage post-hazard	If work constitutes substantial improvements or repair of substantial damage: • Substantial Damage Determination Letter is drafted and sent to property owner's mailing address as listed on County's tax parcel card • Indicates property must be brought into full compliance with the local Flood Damage Prevention and Protection Ordinance • If structure is deemed a life/ safety issue, it will be posted by the building inspector • Includes supporting documentation pertaining to ICC eligibility and funding to demolish, relocate, or elevate structure
Town of Cape Carteret	Maintains a townwide flood damage prevention ordinance and participates in the NFIP and is a CRS community (Class 8)	Town of Cape Carteret Town Planner is designated as the Floodplain Administrator: • Town Manager maintains a roster of staff available to conduct SI/SD activities • Town Panner is the primary person responsible for SI/SD activities	Substantial damage/improvements determined by Floodplain Administrator with Carteret County Building Official coordination: • Use Appendix E of the SDE User Manual and Field Workbook to estimate percentage of damage of residential structures • Use Appendix F of SDE User Manual and Field Workbook to estimate percentage of damage of non-residential structures • Documentation/storing of SI/SD determination data is managed by Carteret County Emergency Services Department	If work constitutes substantial improvements or repair of substantial damage: • Substantial Damage Determination Letter is drafted and sent to property owner's mailing address as listed on County's tax parcel card • Indicates property must be brought into full compliance with the local Flood Damage Prevention and Protection Ordinance • If structure is deemed a life/ safety issue, it will be posted by the building inspector • Includes supporting documentation pertaining to ICC eligibility and funding to demolish, relocate, or elevate structure

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Cedar Point	Maintains a townwide flood damage prevention ordinance and participates in the NFIP and is a CRS community (Class 7)	Cedar Point Town Administrator designated as Floodplain Administrator	Substantial damage/improvements determined by Floodplain Administrator with Carteret County Building Official coordination: • Use WebEOC to complete initial windshield surveys to identify no visible damage, some damage, and substantial damage (following NFIP description) • Investigate structures identified as "some damage" to determine if they exceed initial threshold identified and appropriately fall within "substantial damage" • Use FEMA's SDE tool to confirm SD determination (if contested by property owner or Town) As a secondary measure: • Require cost estimate for repair permit • Compare with the tax value or CRS suitable appraisal • Determine if the substantial damage threshold would be crossed if the project were permitted	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Emerald Isle	Participates in the NFIP and is a CRS community (Class 7)	Town of Emerald Isle Planning Director designated as Floodplain Administrator: • Staff available to conduct SI/SD activities during disaster operations	Substantial damage/improvements determined by Floodplain Administrator with Carteret County Building Official coordination: • Obtain the structure value through tax records available through Carteret County online GIS system • Recommend applicant secure an independent appraisal	The following communication methods are used to communicate the results of SI/SD determinations to structure owners: • Letter or email to structure owners/residents • Paper handed directly to the structure owner/resident • Post the determination at a physical or virtual community site

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Indian Beach	Maintains a townwide flood damage prevention ordinance and participates in the NFIP.	Carteret County Director of Planning and Development designated as Floodplain Administrator: • Staff have attended FEMA SDAP workshop(s) and online training(s)	Substantial damage/improvements determined by Floodplain Administrator with Carteret County Building Official coordination: • Utilize knowledge gained through FEMA SI/SD Training in combination with County Building Inspector knowledge • Compile information into the FEMA SDE software, including the SDE tool, to determine if a structure has suffered substantial damage post-hazard	If work constitutes substantial improvements or repair of substantial damage: • Substantial Damage Determination Letter is drafted and sent to property owner's mailing address as listed on County's tax parcel card • Indicates property must be brought into full compliance with the local Flood Damage Prevention and Protection Ordinance • If structure is deemed a life/safety issue, it will be posted by the building inspector • Includes supporting documentation pertaining to ICC eligibility and funding to demolish, relocate, or elevate structure
Town of Morehead City	Maintains a townwide flood damage prevention ordinance and participates in the NFIP and is a CRS community (Class 5)	Morehead City Building Inspector designated as Floodplain Administrator	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Newport	Maintains a townwide flood damage prevention ordinance and participates in the NFIP.	Town of Newport Ordinance Administrator designated as Floodplain Administrator	Substantial damage/improvements determined by Floodplain Administrator with Building Official coordination: • Estimate the market value of the building or structure before the damage occurred and before any repairs are made • Compare cost to perform improvement, cost to repair damaged building to its pre-damaged condition, or combined costs of improvements and repairs to the market value • Determine/document if proposed work constitutes substantial improvement or repair of substantial damage	If work constitutes substantial improvements or repair of substantial damage: • Notify the applicant of determination and that compliance with flood-resistant construction requirements of NC Building Code and Town Flood Damage Prevention Ordinance is required
Town of Peletier	Maintains a townwide flood damage prevention ordinance and participates in the NFIP.	Carteret County Director of Planning and Development designated as Floodplain Administrator: • Staff have attended FEMA SDAP workshop(s) and online training(s)	Substantial damage/improvements determined by Floodplain Administrator with Carteret County Building Official coordination: • Utilize knowledge gained through FEMA SI/SD Training in combination with County Building Inspector knowledge • Compile information into the FEMA SDE software, including the SDE tool, to determine if a structure has suffered substantial damage post-hazard	If work constitutes substantial improvements or repair of substantial damage: • Substantial Damage Determination Letter is drafted and sent to property owner's mailing address as listed on County's tax parcel card • Indicates property must be brought into full compliance with the local Flood Damage Prevention and Protection Ordinance • If structure is deemed a life/safety issue, it will be posted by the building inspector • Includes supporting documentation pertaining to ICC eligibility and funding to demolish, relocate, or elevate structure

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Pine Knoll Shores	Maintains a townwide flood damage prevention ordinance and participates in the NFIP and is a CRS community (Class 6)	Town of Pine Knoll Shores Building Inspector designated as Floodplain Administrator	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Use assessed value of structure (excluding the land) recorded by the Property Appraiser's Officer or engage a licensed property appraiser • Obtain/submit a detailed and complete cost estimate signed by a licensed general contractor, including all damages or improvements • If structure is deemed substantially damaged, applicant must submit an elevation certificate to determine lowest floor elevation (lowest floor must be elevated to or above the 100-year flood elevation)	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Craven County	Maintains a separate countywide flood damage prevention ordinance and participates in the NFIP • Building inspections done for Cove City, Dover, River Bend, Trent Woods, and Vanceboro	Chief Building Inspector (Planning & Inspections Department) is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required • Encouraged to contact flood insurance provider to inquire about increased cost of compliance (ICC) policy
City of Havelock	Maintains a local flood damage prevention ordinance and participates in the NFIP	Planning Director (Planning & Inspections Department) is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
City of New Bern	Maintains a local flood damage prevention ordinance and participates in the NFIP	Chief Building Inspector (Development Services Department) is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Bridgeton	Maintains a local flood damage prevention ordinance and participates in the NFIP	Floodplain Administrator is designated by the Board of Commissioners and trained to make determinations consistent with building codes and floodplain regulations	Substantial damages/improvements determined by Floodplain Administrator: • Floodplain development permit required prior to commencement of any development activities	If permitted work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Cove City	Community is Non-Special Flood Hazard Area (NSFHA) and participates in the NFIP	Mayor is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Community is Non-Special Flood Hazard Area (NSFHA). If applicable, substantial damages/improvements would be determined by the Floodplain Administrator.	Community is Non-Special Flood Hazard Area (NSFHA). If applicable, and if permitted work constitutes substantial improvement or repair of substantial damage, applicants would be notified and compliance with building codes and ordinances required
Town of Dover	Community is Non-Special Flood Hazard Area (NSFHA) and participates in the NFIP	Mayor is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Community is Non-Special Flood Hazard Area (NSFHA). If applicable, substantial damages/improvements would be determined by the Floodplain Administrator.	Community is Non-Special Flood Hazard Area (NSFHA). If applicable, and if permitted work constitutes substantial improvement or repair of substantial damage, applicants would be notified and compliance with building codes and ordinances required

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of River Bend	Maintains a local flood damage prevention ordinance and participates in the NFIP	Assistant Zoning Administrator (AZA) is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Trent Woods	Maintains a local flood damage prevention ordinance and participates in the NFIP	Town Zoning Administrator is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Vanceboro	Maintains a local flood damage prevention ordinance and participates in the NFIP	Town Clerk is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Pamlico County	Maintains a countywide flood damage prevention ordinance and participates in the NFIP	Pamlico County Emergency Planner (Emergency Management Department) is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations • Pamlico County Building Inspections office is transitioning to floodplain management roles	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Alliance	Participating in the NFIP	Pamlico County Building Inspections office is transitioning to floodplain management roles	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Arapahoe*	Not participating in the NFIP	Pamlico County Building Inspections office is transitioning to floodplain management roles	Community not participating in NFIP. If applicable, substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Bayboro	Participating in the NFIP	Pamlico County Building Inspections office is transitioning to floodplain management roles	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Grantsboro*	Not participating in the NFIP	Pamlico County Building Inspections office is transitioning to floodplain management roles	Community not participating in NFIP. If applicable, substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Mesic	Participating in the NFIP	Pamlico County Building Inspections office is transitioning to floodplain management roles	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Minnesott Beach	Maintains a local flood damage prevention ordinance and participates in the NFIP	Mayor is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Oriental	Maintains a local flood damage prevention ordinance and participates in the NFIP	Town Manager is designated as floodplain administrator and trained to make determinations consistent with building codes and floodplain regulations	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required
Town of Stonewall	Participating in the NFIP	Pamlico County Building Inspections office is transitioning to floodplain management roles	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required

Jurisdiction	Applicable local floodplain management regulations	Designated officials for SD/SI determinations and staff training	Processes used by the community to make SD/SI determinations	Communication procedures of the community for SD/SI requirements
Town of Vandemere	Participating in the NFIP	Pamlico County Building Inspections office is transitioning to floodplain management roles	Substantial damages/improvements determined by Floodplain Administrator with Building Official coordination: • Estimation of market value or obtaining appraisal • Cost comparison to improve, to repair a damaged building to pre-damaged condition, or combined, vs. market value of building/structure • Determination of whether work constitutes substantial improvement/repair of damage	If work constitutes substantial improvement or repair of substantial damage, applicants are notified and compliance with building codes and flood prevention ordinance required

Source: Local governments

*Communities not currently participating in the NFIP

5.3.2 ADMINISTRATIVE AND TECHNICAL CAPABILITY

The ability of a local government to develop and implement mitigation projects, policies, and programs is directly tied to its ability to direct staff time and resources for that purpose. Administrative capability can be evaluated by determining how mitigation-related activities are assigned to local departments and if there are adequate personnel resources to complete these activities. The degree of intergovernmental coordination among departments will also affect administrative capability for the implementation and success of proposed mitigation activities.

Technical capability can generally be evaluated by assessing the level of knowledge and technical expertise of local government employees, such as personnel skilled in using geographic information systems (GIS) to analyze and assess community hazard vulnerability. The Local Capability Self-Assessment was used to capture information on administrative and technical capability through the identification of available staff and personnel resources.

Table 5.4 provides a summary of the Local Capability Self-Assessment results for the region with regard to relevant staff and personnel resources. A checkmark indicates the presence of a staff member(s) in that jurisdiction with the specified knowledge or skill.

Table 5.4 – Relevant Staff/Personnel Resources

Jurisdiction	Planners with knowledge of land development and land management practices	Engineers or professionals trained in construction practices related to buildings and/or infrastructure	Planners or engineers with an understanding of natural and/or human-caused hazards	Building Official	Emergency manager	Floodplain manager	Land surveyors	Scientist familiar with the hazards of the community	Staff with education or expertise to assess the community's vulnerability to hazards	Personnel skilled in Geographic Information Systems (GIS) and/or HAZUS	Resource development staff or grant writers	Maintenance programs to reduce risk	Warning systems/services	Mutual Aid Agreements
Beaufort County	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Town of Aurora									✓				✓	
Town of Bath									✓				✓	
Town of Belhaven	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓
Town of Chocowinity									✓				✓	
Town of Pantego									✓				✓	
City of Washington	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓
Town of Washington Park									✓				✓	
Carteret County	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Town of Atlantic Beach	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Town of Beaufort	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓
Town of Bogue	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓
Town of Cape Carteret	✓	✓	✓	✓		✓			✓		✓	✓	✓	✓
Town of Cedar Point	✓	✓	✓	✓		✓			✓		✓	✓	✓	
Town of Emerald Isle	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓
Town of Indian Beach													✓	
Town of Morehead City	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓
Town of Newport	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓
Town of Peletier													✓	

Jurisdiction	Planners with knowledge of land development and land management practices	Engineers or professionals trained in construction practices related to buildings and/or infrastructure	Planners or engineers with an understanding of natural and/or human-caused hazards	Building Official	Emergency manager	Floodplain manager	Land surveyors	Scientist familiar with the hazards of the community	Staff with education or expertise to assess the community's vulnerability to hazards	Personnel skilled in Geographic Information Systems (GIS) and/or HAZUS	Resource development staff or grant writers	Maintenance programs to reduce risk	Warning systems/services	Mutual Aid Agreements
Town of Pine Knoll Shores	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓
Craven County	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Town of Bridgeton						✓			✓			✓	✓	
Town of Cove City						✓			✓			✓	✓	
Town of Dover						✓			✓			✓	✓	
City of Havelock	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓
City of New Bern	✓	✓	✓	✓		✓			✓	✓	✓	✓	✓	✓
Town of River Bend		✓		✓		✓			✓			✓	✓	✓
Town of Trent Woods		✓		✓		✓			✓		✓	✓	✓	✓
Town of Vanceboro						✓			✓			✓	✓	
Pamlico County	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Town of Alliance													✓	
Town of Arapahoe													✓	
Town of Bayboro									✓				✓	
Town of Grantsboro													✓	
Town of Mesic									✓				✓	
Town of Minnesott Beach									✓				✓	
Town of Oriental	✓		✓				✓	✓	✓		✓	✓	✓	✓
Town of Stonewall													✓	
Town of Vandemere	✓	✓	✓						✓	✓	✓	✓	✓	✓

Source: Local Capability Assessment Survey

5.3.3 FISCAL CAPABILITY

The ability of a local government to implement mitigation actions is often dependent on the amount of money available. This may take the form of outside grant funding awards or locally based revenue and financing. The costs associated with mitigation policy and project implementation vary widely. In some cases, policies are tied primarily to staff time or administrative costs associated with the creation and monitoring of a given program. In other cases, direct expenses are linked to an actual project such as the acquisition of flood-prone houses, which can require a substantial commitment from local, state, and federal funding sources.

The Local Capability Self-Assessment was used to capture information on the region's fiscal capability through the identification of locally available financial resources.

Table 5.5 provides a summary of the results for the region with regard to relevant fiscal resources. A checkmark indicates that the given fiscal resource is locally available for hazard mitigation purposes (including match funds for state and federal mitigation grant funds).

Table 5.5 – Relevant Fiscal Resources

Jurisdiction	Capital Improvement Programming	Community Development Block Grants (CDBG)	Special Purpose Taxes	Gas/Electric Utility Fees	Water/Sewer Fees	Stormwater Utility Fees	Development Impact Fees	General Obligation Bonds	Revenue Bonds	Special Tax Bonds	Other
Beaufort County					✓						
Town of Aurora											
Town of Bath											
Town of Belhaven	✓	✓		✓	✓						
Town of Chocowinity											
Town of Pantego											
City of Washington	✓			✓	✓						
Town of Washington Park											
Carteret County	✓	✓			✓						
Town of Atlantic Beach						✓					
Town of Beaufort	✓										
Town of Bogue											
Town of Cape Carteret											
Town of Cedar Point											
Town of Emerald Isle	✓										
Town of Indian Beach											

Jurisdiction	Capital Improvement Programming	Community Development Block Grants (CDBG)	Special Purpose Taxes	Gas/Electric Utility Fees	Water/Sewer Fees	Stormwater Utility Fees	Development Impact Fees	General Obligation Bonds	Revenue Bonds	Special Tax Bonds	Other
Town of Morehead City	✓				✓						
Town of Newport	✓				✓		✓				
Town of Peletier											
Town of Pine Knoll Shores					✓						
Craven County	✓	✓	✓		✓						
Town of Bridgeton											
Town of Cove City											
Town of Dover											
City of Havelock	✓			✓	✓						
City of New Bern	✓	✓		✓	✓	✓					
Town of River Bend		✓	✓		✓	✓	✓	✓	✓		
Town of Trent Woods											
Town of Vanceboro											
Pamlico County					✓						
Town of Alliance											
Town of Arapahoe											
Town of Bayboro											
Town of Grantsboro											
Town of Mesic											
Town of Minnesott Beach											
Town of Oriental	✓				✓						
Town of Stonewall											
Town of Vandemere	✓	✓	✓				✓				

Source: Local Capability Assessment Survey

5.3.4 EDUCATION AND OUTREACH CAPABILITY

This type of local capability refers to education and outreach programs and methods already in place that could be used to implement mitigation activities and communicate hazard-related information. Examples include natural disaster or safety related school programs; participation in community programs such as Firewise or StormReady; and activities conducted as part of hazard awareness campaigns such as a Tornado Awareness Month.

Table 5.6 provides a summary of the results for the region with regard to relevant education and outreach resources. A checkmark (✓) indicates that the given resource is locally available for hazard mitigation purposes. An asterisk (*) indicates that a given resource is currently in the process of being obtained. A plus sign (+) indicates that a jurisdiction is covered for that item by a county program.

Table 5.6 – Education and Outreach Resources

Jurisdiction	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Natural disaster or safety related school programs	StormReady certification	Firewise Communities certification	Public-private partnership initiatives addressing disaster-related issues	Other
Beaufort County	✓	✓	✓			✓	
Town of Aurora							
Town of Bath							
Town of Belhaven	✓	✓	✓			✓	
Town of Chocowinity							
Town of Pantego							
City of Washington	✓	✓	✓				
Town of Washington Park							
Carteret County	✓	✓	✓	✓		✓	
Town of Atlantic Beach	✓	✓					
Town of Beaufort	✓	✓					
Town of Bogue							
Town of Cape Carteret							
Town of Cedar Point							
Town of Emerald Isle	✓	✓	✓				
Town of Indian Beach							
Town of Morehead City	✓	✓					
Town of Newport	✓	✓					
Town of Peletier							

Jurisdiction	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Natural disaster or safety related school programs	StormReady certification	Firewise Communities certification	Public-private partnership initiatives addressing disaster-related issues	Other
Town of Pine Knoll Shores	✓	✓					
Craven County	✓	✓	✓	✓		✓	
Town of Bridgeton							
Town of Cove City							
Town of Dover							
City of Havelock	✓	✓				✓	
City of New Bern	✓	✓				✓	
Town of River Bend	✓	✓					
Town of Trent Woods		✓					
Town of Vanceboro							
Pamlico County	✓	✓	✓	✓			
Town of Alliance							
Town of Arapahoe							
Town of Bayboro							
Town of Grantsboro							
Town of Mesic							
Town of Minnesott Beach							
Town of Oriental	✓	✓		*		✓	
Town of Stonewall							
Town of Vandemere	✓	✓	+			✓	

Source: Local Capability Assessment Survey

5.3.5 MITIGATION CAPABILITY

This type of local capability refers to the mitigation strategies and actions that are developed by the communities in this plan.

Table 5.7 provides a summary of the results for the planning area with regard to relevant mitigation resources. A checkmark (✓) indicates that the given resource is locally available for hazard mitigation purposes.

Table 5.7 – Mitigation Resources

Jurisdiction	Do you apply for mitigation grant funding?	Do you perform reconstruction projects?	Do you perform building elevations?	Do you perform acquisitions?
Beaufort County	✓	✓	✓	✓
Town of Aurora	✓	✓	✓	✓
Town of Bath	✓	✓	✓	✓
Town of Belhaven	✓	✓	✓	✓
Town of Chocowinity	✓	✓	✓	✓
Town of Pantego	✓	✓	✓	✓
City of Washington	✓	✓	✓	✓
Town of Washington Park	✓	✓	✓	✓
Carteret County	✓	✓	✓	
Town of Atlantic Beach	✓	✓	✓	✓
Town of Beaufort	✓	✓	✓	✓
Town of Bogue	✓	✓	✓	✓
Town of Cape Carteret	✓	✓	✓	✓
Town of Cedar Point	✓	✓	✓	✓
Town of Emerald Isle	✓	✓	✓	✓
Town of Indian Beach	✓	✓	✓	✓
Town of Morehead City	✓	✓	✓	✓
Town of Newport	✓			
Town of Peletier	✓	✓	✓	✓
Town of Pine Knoll Shores	✓	✓	✓	✓
Craven County	✓	✓	✓	✓
Town of Bridgeton	✓	✓	✓	✓
Town of Cove City	✓	✓	✓	✓
Town of Dover	✓	✓	✓	✓
City of Havelock	✓	✓	✓	✓
City of New Bern	✓	✓	✓	✓
Town of River Bend	✓	✓	✓	✓
Town of Trent Woods	✓	✓	✓	✓

Jurisdiction	Do you apply for mitigation grant funding?	Do you perform reconstruction projects?	Do you perform building elevations?	Do you perform acquisitions?
Town of Vanceboro	✓	✓	✓	✓
Pamlico County	✓	✓	✓	✓
Town of Alliance	✓	✓	✓	✓
Town of Arapahoe	✓	✓	✓	✓
Town of Bayboro	✓	✓	✓	✓
Town of Grantsboro	✓	✓	✓	✓
Town of Mesic	✓	✓	✓	✓
Town of Minnesott Beach	✓	✓	✓	✓
Town of Oriental	✓	✓	✓	✓
Town of Stonewall	✓	✓	✓	✓
Town of Vandemere	✓	✓	✓	✓

5.3.6 POLITICAL CAPABILITY

One of the most difficult capabilities to evaluate involves the political will of a jurisdiction to enact meaningful policies and projects designed to reduce the impact of future hazard events. Hazard mitigation may not be a local priority, or it may conflict with or be seen as an impediment to other goals of the community, such as growth and economic development. Therefore, the local political climate must be considered in designing mitigation strategies, as it could be the most difficult hurdle to overcome in accomplishing their adoption and implementation.

The Local Capability Self-Assessment was used to capture information on political capability of the region. Survey respondents were asked to rate political support as they perceive it and identify general examples of local political capability, such as guiding development away from identified hazard areas, restricting public investments or capital improvements within hazard areas, or enforcing local development standards that go beyond minimum state or federal requirements (e.g., building codes, floodplain management, etc.). The comments provided by the participating jurisdictions are listed below:

HMPC representatives from all participating jurisdictions responded that political leaders are at least potentially willing to implement mitigation measures. Additionally, many of the participating jurisdictions have some local standards that exceed state requirements. For example, Washington, Washington Park, Atlantic Beach, Beaufort, Cedar Point, Morehead City, Newport, Pine Knoll Shores, and Havelock have a one-foot freeboard requirement; Craven County, Pamlico County, Cape Carteret, Emerald Isle, New Bern, River Bend, Vanceboro, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, and Vandemere require a two-foot freeboard.

5.3.7 LOCAL SELF-ASSESSMENT RATING

In addition to the inventory and analysis of specific local capabilities, the Local Capability Self-Assessment asked counties and local jurisdictions within the Pamlico Sound region to assign a rating of

their perceived capability across each of the capability categories and overall as either "limited," "moderate," or "high."

Table 5.8 summarizes the results of the self-assessment ratings for each community in the Pamlico Sound Region.

Table 5.8 – Self-Assessment of Capability

Jurisdiction	Plans, Ordinances, Codes and Programs	Administrative and Technical Capability	Fiscal Capability	Education and Outreach Capability	Mitigation Capability	Political Capability	OVERALL CAPABILITY
Beaufort County	High	High	High	High	High	High	High
Town of Aurora	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Town of Bath	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Town of Belhaven	High	High	High	High	High	High	High
Town of Chocowinity	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Town of Pantego	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
City of Washington	High	High	High	High	High	High	High
Town of Washington Park	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Carteret County	High	High	High	High	High	High	High
Town of Atlantic Beach	High	High	High	High	High	High	High
Town of Beaufort	High	High	High	High	High	High	High
Town of Bogue	Moderate	Moderate	Limited	Limited	Moderate	Limited	Moderate
Town of Cape Carteret	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Town of Cedar Point	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Town of Emerald Isle	High	High	High	High	High	High	High
Town of Indian Beach	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Town of Morehead City	High	High	High	High	High	High	High
Town of Newport	High	High	High	High	High	High	High
Town of Peletier	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Pine Knoll Shores	High	High	High	High	High	High	High
Craven County	High	High	High	High	High	High	High
Town of Bridgeton	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Town of Cove City	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Town of Dover	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
City of Havelock	High	High	High	High	High	High	High
City of New Bern	High	High	High	High	High	High	High
Town of River Bend	Moderate	Moderate	Moderate	Limited	Moderate	Moderate	Moderate
Town of Trent Woods	High	High	High	High	High	High	High
Town of Vanceboro	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Pamlico County	High	High	High	High	High	High	High

Jurisdiction	Plans, Ordinances, Codes and Programs	Administrative and Technical Capability	Fiscal Capability	Education and Outreach Capability	Mitigation Capability	Political Capability	OVERALL CAPABILITY
Town of Alliance	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Arapahoe	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Bayboro	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Grantsboro	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Mesic	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Minnesott Beach	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Oriental	High	High	High	High	High	High	High
Town of Stonewall	Limited	Limited	Limited	Limited	Limited	Limited	Limited
Town of Vandemere	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate

Source: Local Capability Assessment Survey

5.4 CONCLUSIONS ON LOCAL CAPABILITY

In order to form meaningful conclusions on the assessment of local capability, a quantitative scoring methodology was designed and applied to results of the Local Capability Assessment Survey. This methodology attempts to assess the overall level of capability of the Pamlico Sound region to implement hazard mitigation actions.

Table 5.9 shows the results of the capability assessment using the designed scoring methodology. The capability score is based solely on the information provided by local officials in response to the Local Capability Self-Assessment. According to the assessment, the average local capability score for all responding jurisdictions is 73, which falls into the Moderate capability ranking.

Table 5.9 – Capability Assessment Results

Jurisdiction	Overall Capability Score	Overall Capability Rating
Beaufort County	87	Moderate
Town of Aurora	60	Low
Town of Bath	60	Low
Town of Belhaven	100	Moderate
Town of Chocowinity	60	Low
Town of Pantego	60	Low
City of Washington	106	High
Town of Washington Park	72	Moderate
Carteret County	102	High
Town of Atlantic Beach	95	Moderate
Town of Beaufort	91	Moderate
Town of Bogue	64	Low

Jurisdiction	Overall Capability Score	Overall Capability Rating
Town of Cape Carteret	70	Low
Town of Cedar Point	70	Low
Town of Emerald Isle	100	Moderate
Town of Indian Beach	56	Low
Town of Morehead City	96	Moderate
Town of Newport	84	Moderate
Town of Peletier	49	Low
Town of Pine Knoll Shores	88	Moderate
Craven County	100	Moderate
Town of Bridgeton	59	Low
Town of Cove City	59	Low
Town of Dover	59	Low
City of Havelock	97	Moderate
City of New Bern	99	Moderate
Town of River Bend	73	Moderate
Town of Trent Woods	74	Moderate
Town of Vanceboro	59	Low
Pamlico County	87	Moderate
Town of Alliance	49	Low
Town of Arapahoe	43	Low
Town of Bayboro	53	Low
Town of Grantsboro	43	Low
Town of Mesic	53	Low
Town of Minnesott Beach	53	Low
Town of Oriental	92	Moderate
Town of Stonewall	49	Low
Town of Vandemere	80	Moderate

Source: Local Capability Assessment Survey, NCEM Risk Management Tool

As previously discussed, one of the reasons for conducting a capability assessment is to examine local capabilities to detect any existing gaps or weaknesses within ongoing government activities that could hinder proposed mitigation activities and possibly exacerbate community hazard vulnerability. These gaps or weaknesses have been identified, for each jurisdiction, in the tables found throughout this section. The participating jurisdictions used the capability assessment as part of the basis for the mitigation actions that are identified in Section 7; therefore, each jurisdiction addresses their ability to expand on and improve their existing capabilities through the identification of their mitigation actions.

6 MITIGATION STRATEGY

Requirement §201.6(c)(3): [The plan shall include] a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

This section describes the process for developing the mitigation strategy for the Pamlico Sound Regional Hazard Mitigation Plan. It describes how the Region met the requirements for Planning Step 6 (Set Goals), Planning Step 7 (Review Possible Activities), and Planning Step 8 (Draft an Action Plan). This section includes the following sub-sections:

- 6.1 Goals and Objectives
- 6.2 Identification & Analysis of Mitigation Activities

6.1 GOALS AND OBJECTIVES

Requirement §201.6(c)(3)(i): [The mitigation strategy section shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Goal setting builds upon the findings of Section 4, which documents the hazards and associated risks that threaten the Pamlico Sound Region, and Section 5, which evaluates the capacity of the Region to reduce the impact of those hazards. The intent of goal setting is to identify areas where feasible actions can be taken or improvements to existing capabilities can be made so that community vulnerability to hazards is reduced. Goals are also necessary to guide the review of possible mitigation measures. This plan needs recommend actions that are appropriate for the Region. Mitigation goals need to reflect community priorities and should be consistent with other local plans.

- **Goals** are general guidelines that explain what is to be achieved. They are usually broad-based policy type statements, long term and represent global visions. Goals help define the benefits that the plan is trying to achieve.
- **Objectives** are short term aims that, when combined, form a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable.

6.1.1 COORDINATION WITH OTHER PLANNING EFFORTS

The goals of this plan need to be consistent with and complement the goals of other local planning efforts. The primary planning documents that the goals of this plan should complement and be consistent with are the participating jurisdictions' comprehensive plans. Comprehensive plans are important because they are developed and designed to guide future growth within their communities so they encompass long-term strategies and can be critical to reducing long term vulnerabilities. Keeping the Hazard Mitigation Plan and Comprehensive Plans consistent ensures that land development is done with awareness and understanding of hazard risk and that mitigation projects complement rather than contradict community development objectives.

6.1.2 GOAL SETTING

At the third planning meeting, the HMPC reviewed and discussed the goals from the 2020 plan. The conversation highlighted the importance of having the goals reflect community input and ensuring that future planning reduces vulnerability in local communities. The existing mitigation goals were found to be aligned with current priorities with very minor revisions needed. The HMPC noted the strong momentum of mitigation and resilience, with significant funding opportunities available.

Specific suggestions for revisions included making Goal 1 more concise and adding language to the goals and objectives to encourage retreat from hazardous areas, limit development in the floodplain, and reinforce infrastructure. These revisions are incorporated into the revised and reaffirmed goals and objectives of this plan update, which are detailed below in Section 6.1.3.

6.1.3 RESULTING GOALS AND OBJECTIVES

The HMPC agreed upon four general goals for this planning effort and included specific objectives in support of each goal. The refined goals and objectives are as follows:

Goal 1 – Reduce the risk to people and property from natural hazards through land development regulations, capital improvements, planning/investment, and proactive long-range planning for land use and post-disaster redevelopment.

Objective 1.1: Reinforce infrastructure and reduce the length of time that local infrastructure systems are inoperable due to hazard impacts.

Objective 1.2: Limit development and preserve open space in floodplain areas.

Objective 1.3: Reduce flooding and erosion vulnerability through land development initiatives, maintenance, and improvement of storm drainage.

Objective 1.4: Encourage retreat from hazardous areas.

Goal 2 – Provide education and notification to citizens that empowers them to protect themselves and their families from natural hazards.

Objective 2.1: Ensure adequate warning and notification relating to hazards including efforts to establish well publicized, accessible shelter facilities that meet national standards for safety and supply.

Objective 2.2: Improve the public awareness and understanding of local vulnerability to hazards and improve disaster warning/post-disaster information efforts.

Goal 3 – Fulfill Federal and State requirements for receipt of future disaster recovery and hazard mitigation assistance.

Objective 3.1: Improve all participating jurisdictions' general hazard mitigation capability.

Objective 3.2: Work toward compliance with all State and Federal planning and regulatory requirements including standards for Local Emergency Operations Plans, Flood Damage Prevention Ordinances, Continuity of Operations Plans, and the Community Rating System.

Goal 4 – Improve interjurisdictional/interagency cooperation and coordination, especially regarding the reduction of natural hazard impacts.

Objective 4.1: Reduce the risk of damage from wildfires to existing and future development.

Objective 4.2: Ensure effective local/interagency communication and response during disaster events.

6.2 IDENTIFICATION AND ANALYSIS OF MITIGATION ACTIVITIES

Requirement §201.6(c)(3)(ii): [The mitigation strategy section shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.

To identify and select mitigation projects that support the mitigation goals and objectives, the risks and vulnerabilities associated with all hazards identified and evaluated in Section 4 Risk Assessment were evaluated for mitigation opportunities. The HMPC analyzed viable mitigation options that supported the identified goals and objectives, addressed key problems, risks, or vulnerabilities, and aligned with other local plans and efforts. The HMPC was provided with the following list of mitigation categories which are utilized as part of the CRS planning process but are also applicable to multi-hazard mitigation:

- Prevention
- Property Protection
- Natural Resource Protection
- Emergency Services
- Structural Projects
- Public Information and Outreach

The HMPC was also provided with examples of potential mitigation actions for each of the above categories. The HMPC was instructed to consider both future and existing buildings in evaluating possible mitigation actions. Facilitated discussions took place to examine and analyze the options. The HMPC also considered which actions from the previous plan that were not already completed should be continued in this action plan.

More details on mitigation alternatives considered by the HMPC are provided in Appendix C.

6.2.1 PRIORITIZATION PROCESS

In the process of identifying continuing and new mitigation actions, the HMPC was provided with a set of prioritization criteria to assist in deciding why one recommended action might be more important, more effective, or more likely to be implemented than another. HMPC members were asked to consider a set of prioritization criteria, which were grouped into three categories: Suitability, Risk Reduction, and Cost. The criteria for the prioritization process included the following:

- **Suitability**
  - Appropriateness of Action
  - Community Acceptance
  - Technical and Administrative Feasibility
  - Environmental Impact
  - Legal Conformance
  - Consistency with Existing Plans and Other Community Goals

- **Risk Reduction**
  - Scope of Benefits
  - Potential to Save Lives
  - Importance of Benefits
  - Level of Inconvenience or Unintended Consequence
  - Losses Avoided
  - Number of People to Benefit
- **Cost**
  - Estimate of Upfront Cost
  - Estimate of Ongoing Cost
  - Benefit to Cost Ratio
  - Financing Availability
  - Affordability
  - Elimination of Repetitive Damages

In accordance with the DMA requirements, an emphasis was placed on the importance of a benefit-cost analysis in determining action priority, as reflected in the prioritization criteria above. For each action, the HMPC considered the benefit-cost analysis in terms of:

- Ability of the action to address the problem
- Contribution of the action to save life or property
- Available technical and administrative resources for implementation
- Availability of funding and perceived cost-effectiveness

The consideration of these criteria helped to prioritize and refine mitigation actions but did not constitute a full benefit-cost analysis. The cost-effectiveness of any mitigation alternative will be considered in greater detail through performing benefit-cost project analyses when seeking FEMA mitigation grant funding for eligible actions associated with this plan.

Using these prioritization criteria, the HMPC assigned each action a ranking of High, Medium, or Low priority. The prioritization ranking for each mitigation action considered by the HMPC is provided in Section 7 Mitigation Action Plans.

7 MITIGATION ACTION PLANS

Requirement §201.6(c)(3)(iii): [The mitigation strategy section shall include an] action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

This section provides the mitigation action plan for each participating jurisdiction, grouped by county. To improve regional coordination and increase capability to implement projects, many actions are multi-jurisdictional but will be led by the respective county.

The following acronyms are used to identify potential funding sources for each action:

- ARC – American Red Cross
- BRIC – Building Resilient Infrastructure and Communities
- FEMA – Federal Emergency Management Agency
- GF – General Fund
- HMGP – Hazard Mitigation Grant Program
- NCDEQ – North Carolina Department of Environmental Quality
- NCDOT – North Carolina Department of Transportation
- NCDPS – North Carolina Department of Public Safety
- UHMA – Unified Hazard Mitigation Assistance
- USDA – United States Department of Agriculture

Table 7.1 – Mitigation Action Plan, Beaufort County

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B1	Continue to coordinate all development/planning decisions with review of appropriate CAMA LUP's including stated redevelopment policies and actions.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	Med	1.3	PP	**Beaufort County Planning,** Municipal Administrations	To Be Determined	GF, NCDEQ	Other – as opportunities arise	Carry Forward	All jurisdictions currently utilize their respective CAMA Land Use Plan when making decisions regarding development proposals.
B2	Maintain reciprocal mutual aid agreements with surrounding communities for fire protection and emergency response.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	4.2	ES	**Beaufort County Emergency Services,** Municipal Administrations, Volunteer Fire Departments	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County Emergency Services maintains mutual aid agreements with neighboring communities and updates them annually. County also participates in statewide mutual aid agreement, updated annually.
B3	Annually evaluate adequacy of existing local early warning and emergency response communications equipment and prepare annual capital improvements plans to improve early warning and communication effectiveness before, during, and following disaster events. Complete needs assessment, purchase and installation of additional stream gages connected to a flood warning system and provision of signage and other means of communicating risk information to the public.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	2.1	ES	**Beaufort County Emergency Services,** Municipal Administrations, Beaufort County Soil & Water, Beaufort County Public Works, Beaufort County Inspections, Committee of 100, Mid-East Commission, North Carolina Department of Transportation, Department of Environmental and Natural Resources, Newport / Morehead City, NC National Weather Service	Staff Time	GF, NCDPS, FEMA, BRIC	Ongoing – next 5 years	Carry Forward	Beaufort County Emergency Services reviews its emergency notification system annually in coordination with tabletop exercises associated with the EOP. County started a new mass notification software in the past two years, and additional updates are anticipated to begin in the summer of 2025. County has applied for BRIC funding for flood gages and flood gage poles.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B4	Develop standard protocols for training/ certification of volunteer staff for shelter management, traffic control, first aid, etc., to improve volunteer response capability during and following disaster events, including coordination with American Red Cross personnel on an annual basis.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	2.1	ES	**Beaufort County Emergency Services,** Beaufort County Social Services	To Be Determined	GF, NCDPS, ARC	2-3 years	Carry Forward	Beaufort County Emergency Services continues to work towards improving emergency shelters and updates to the state CRES plan. A list of shelters is maintained on the County website. In 2024, the County has developed a new Short Term Recovery Plan, Long Term Recovery Plan, Disaster Reunification Plan, and has completed a THIRA. The County established a Long Term Recovery group that meets biannually before and after storm season. SPR is underway. County updated to following CPG version 3. Update to follow FEMA NIMS procedures.
B5	Complete an annual evaluation of each designated emergency shelter, including structural inspection, resource inventory, staffing plan, and vulnerability assessment, including coordination with American Red Cross (ARC) personnel.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	2.1	ES	**Beaufort County Emergency Services,** Beaufort County Social Services	To Be Determined	GF, NCDPS, ARC	2-3 years	Carry Forward	Beaufort County Emergency Services continues to work towards improving emergency shelters and updates to the state CRES plan. A list of shelters is maintained on the County website. Annually update contracts with ARC.
B6	Provide citizens and visitors with maps of evacuation routes which will facilitate the evacuation of the county in case of a hazardous event.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	High	2.2	ES, PIO	**Beaufort County Emergency Services,** Beaufort County Social Services	To Be Determined	GF, NCDPS, ARC	2-3 years	Carry Forward	Evacuation maps are currently available on the County website or through the Emergency Services Department. Action revised as hard copy maps are no longer a priority.
B7	Continue to monitor and establish programs to maintain continuity of government operations through annual review and update of the Continuity of Operations Plan (COOP).	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	Med	4.2	ES	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County COOP is reviewed annually and updated as necessary.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B8	Continue to support and participate in the directives of the County Emergency Operations Plan (EOP). The EOP includes evacuation procedures and response to hazards not addressed in this plan such as hazardous materials, petroleum products, hazardous waste, nuclear threat/attack, and civil disorder. The County will review and update the EOP annually to ensure that it coordinates with the most recent NCEM and NCOEMS directives.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	Med	3.2	ES	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County Emergency Services works closely with all participating municipalities to review and update the Emergency Operations Plan (EOP) on an annual basis. The County completed a full rewrite of the EOP in 2024. The basic EOP is posted on the county's website.
B9	Continue to apply for grant funds, allocate local funding, and work with local electric service providers to procure and maintain back-up generators/transfer switches for all critical public facilities, with an emphasis on emergency services facilities, critical water/sewer facilities, and shelter facilities. Evaluate the equipment on a regular basis to assure it continues to meet the needs of the operations occurring at each facility. Back-up generators are still needed at Southside High School and John Cotten Tayloe Elementary School.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	1.1	PP	**Beaufort County Emergency Services,** Independent Facility Operators, Town Public Utilities	To Be Determined	GF, NCDPS, NCDOT, HMGP	Ongoing – next 5 years	Carry Forward	Beaufort County Emergency Services will continue to work towards establishing permanent pad mount generators at all critical facilities. This effort will initially focus on primary and backup shelter facilities. Recently won LESCGP FY24 grant for transfer switches to improve shelter capacity at S.W. Snowden Elementary School.
B10	Hold an annual public hazard mitigation meeting, attended by the HMPC and participating jurisdictions, to educate the public and elected officials and receive comments about the location of high risk facilities/development, the jurisdictions' overall vulnerability to natural and man-made hazards, and the jurisdictions' hazards mitigation efforts.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	2.2	PIO	**Beaufort County Emergency Services,** Beaufort County Planning, Municipal Administrations	Staff Time	GF	1 Year	Carry Forward	Beaufort County Emergency Services holds a public officials conference at least annually to educate decision makers on the vulnerability to hazards and mitigation efforts.
B11	Maintain the Hazard Mitigation Planning Committee (HMPC) and hold annual HMPC meetings to continue relationship-building and communicate about mitigation measures taking place throughout the community.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	3.1	P	**Pamlico Sound HMPC,** Beaufort County Administration, Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	The HMPC will be maintained to ensure implementation and update the PSRHMP.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B12	Maintain continual contact/working relationship with electric service providers in the county to address the following: 1) Disaster preparedness techniques (e.g., tree trimming, vegetation planting requirements, pole replacement); 2) Identification of critical electrical facilities needing retrofit or upgrade and map with elevation reference marks; 3) Identification of problem areas and potential solutions; and 4) Communication with county officials during and immediately after a natural hazard event that results in loss of electrical power.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Tornado & Thunderstorm, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	1.1	P	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS, Electric Service Providers	Other – meet annually	Carry Forward	Beaufort County Emergency Services continues to meet annually with all electric service providers operating in the county.
B13	Monitor trees and vegetation on publicly owned property to assure that no property or utility damage will occur as a result of diseased or dying trees or other vegetation.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Flooding, Hurricanes & Coastal Hazards, Severe Winter Weather, Tornado & Thunderstorm	Med	1.1	ES	**Beaufort County Public Works,** Municipal Administrations	Staff Time	GF	Ongoing – over the next five years	Carry Forward	Beaufort County, as well as municipal, public works departments will maintain trees on public property and in right of ways to minimize the impact of falling limbs and trees in the event of a natural disaster.
B14	Continue to maintain all property acquired with public mitigation funds within the Special Flood Hazard Area (SFHA) as undisturbed open space in perpetuity. Continue to pro-actively establish open space within the floodplain and floodway as grant funds become available to carry out this initiative.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	1.2	PP	**Beaufort County Administration,** Municipal Administrations	To Be Determined	GF, NCDPS	Ongoing – in process	Carry Forward	All jurisdictions actively maintain these sites and promote reuse that is permitted under FEMA guidelines.
B15	Integrate new greenway and public park improvements into comprehensive planning and capital improvement efforts for land not suitable for development (including coordination with all local certified CAMA Land Use Plans).	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	1.2	P, SP	**Beaufort County Parks and Recreation,** Beaufort County Planning	To Be Determined	GF, NCDEQ	Other – as opportunities arise	Carry Forward	Beaufort County updated its certified CAMA Land Use plan this year and will use the updated LUP to promote these strategies.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B16	Annually review local floodplain ordinances to provide improved flood protection standards and require freeboard for retrofitting and new construction as required by NC State Building Code. The County will consider establishing a freeboard requirement.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	Med	3.2	PP	**Beaufort County Administration,** Municipal NFIP participants	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	All jurisdictions will review and amend their respective Flood Damage Prevention Ordinances. All jurisdictions will consider establishing a freeboard requirement, except for Washington and Washington Park who already have a 2-foot freeboard established.
B17	Maintain current listings of Severe Repetitive Loss properties and conduct annual outreach activities to encourage homeowners to participate in FEMA-sponsored residential acquisition and elevation programs. Continue to apply for HMGP/HMA funding for residential acquisition and elevation of vulnerable structures.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	Med	2.2	PP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS, HMGP, BRIC, UHMA	Ongoing – as needed	Carry Forward	Beaufort County in coordination with all participating municipal jurisdictions will utilize annual as well as post-disaster funding to treat repetitive loss properties through elevation or acquisition/ demolition. The County holds meetings 2-3 times per year as grant funding becomes available to educate property owners about mitigation opportunities.
B18	Encourage County Commissioners and elected officials of non-CRS communities to participate in the Community Rating System.	Beaufort County, Aurora, Bath, Chocowinity, Pantego	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	1.3	PP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	Non-CRS communities will consider joining the program through implementation of this plan. Belhaven, Washington and Washington Park will continue to implement their program annually.
B19	Continue to work with local real estate agencies and manufactured home vendors to ensure that agents are informing clients when property for sale is located within an SFHA. The county will provide these agencies with brochures documenting the concerns relating to development located within the flood prone areas and ways that homeowners may make their home more disaster resistant to strong winds, lightning, and heavy rains.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	2.2	PP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	This activity is carried out by the County for the benefit of all Citizens including all participating municipal jurisdictions.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B20	Make information regarding hazards and development regulations within floodplains available through the following: 1) Ensure that local libraries maintain information relating to flooding and flood protection, 2) Provide a link on the municipal website to FEMA resources addressing flooding and flood protection, evacuation procedures, disaster preparedness, and post-disaster recovery, and 3) Provide website links to relevant hazard mitigation measures.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	Med	2.2	PP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	This activity is carried out by the County for the benefit of all Citizens including all participating municipal jurisdictions.
B21	Promote national "awareness" weeks (i.e., hurricane preparedness, severe weather preparedness, etc.) through local media. ("Awareness" weeks are listed on the National Weather Service website at Preparedness and Weather Safety - NWS Raleigh, NC	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	2.2	PIO	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County will continue to implement this strategy for the benefit of all Citizens, including all participating jurisdictions. The County uses social media and cable channel for outreach.
B22	Educate the general public to the importance of weather alert radios and systems that can operate on alternative power and can provide up-to-the-moment information regarding locations of severe storms and possible tornadoes.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure, Severe Winter Weather, Earthquake, Tornado & Thunderstorm	Med	2.1	ES	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County developed a new outreach program for this activity in 2024.
B23	Maintain a Hazardous Material Action Plan that addresses the proper containment of spills, etc. This effort will be coordinated with the county LEPC.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding	Med	4.2	ES	**Beaufort County Local Emergency Planning Committee,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County will continue to facilitate the meeting of the County LEPC. The LEPC meets quarterly and is growing.
B24	Monitor natural and man-made drainage structures to ensure they are clear and functioning properly; prioritize needed drainage projects and review funding alternatives annually.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	1.3	SP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS, NCDOT, USDA, HMA	Ongoing – next 5 years	Carry Forward	The County will continue to monitor drainage conditions to identify flooding hot spots and system deficiencies. Once identified engineered solutions will be established. Ag Extension Office has been working with USDA to receive and implement grants.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B25	Continue to coordinate annually with the NC Forest Service to address the threat of wildfire throughout the County. These efforts will involve posting of the daily fire risk present within the County on the County website daily. Additionally, the County will distribute and make information available regarding County methods for mitigating fire hazards.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Wildfire	High	4.1	PP	**Beaufort County Emergency Services,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	Other - Annually	Carry Forward	Beaufort County coordinates with NC Forest Service daily on wildfire risk identification and communication.
B26	Maintain Debris Removal and Monitoring Services Contracts for post-disaster response. These services should focus on preparing documentation necessary to ensure full reimbursement of cost associated with community cleanup and immediate infrastructure restoration.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	1.1	ES	**Beaufort County Emergency Services,** Beaufort County Board of Commissioners, Municipal Administrations	To Be Determined	GF, NCDPS, FEMA	Ongoing – As needed	Carry Forward	Post-disaster debris removal contracts are in place with the State. Beaufort County is working on putting pre-disaster contracts in place for debris removal, potable water, emergency power, critical needs, response and recovery, and consultant resources.
B27	Work to implement all strategies outlined within the Hurricane Matthew Resilient Redevelopment Plan.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	Med	3.1	P	**Beaufort County Board of Commissioners,** Municipal Governing Boards	To Be Determined	GF, NCDPS, FEMA, NCDCM, USDA, NCDEQ, NCDOT	Ongoing – next 5 years	Carry Forward	Beaufort County has HMGP projects from Hurricane Matthew in progress.
B28	Installation of automatic bar screen device and other improvements to the Jack's Creek Pump Station to improve function of equipment and safety to operating personnel.	Washington	Hurricanes & Coastal Hazards, Flooding	High	3.1	SP	**Municipal Administration**	To Be Determined	FEMA HHDPR, BRID, Local	2026	New	Applied for funding in 2023. Will continue to pursue funding for implementation.
B29	Create or Update Community Wildfire Protection Plans in each fire district	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Wildfire	Med	4.1	P, PIO	**Beaufort County Staff**, NC Forest Service	To Be Determined	Grant Funds	3-5 years	New	
B30	Solar Resiliency Backup for Critical Facilities and Infrastructure	Beaufort County	All Hazards	High	1.1	PP	**Beaufort County Emergency Services**	$545,000	Grant Funds (BRIC)	3 years	New	LOI submitted to the State and waiting on next stage.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B31	Cyber Continuity of Operations through implementation of resilient communication strategies and system improvements.	Beaufort County	Cyber Threat	High	4.2	P, ES	**Beaufort County Emergency Services**	$50,000	Grant Funds	2 years	New	Submitted for grant funding. Waiting on award status.

Table 7.2 – Mitigation Action Plan, Carteret County

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA3	Annually review and maintain the County's Continuity of Operations Plan (COOP) to ensure ongoing government operations following a disaster event. The County, in conjunction with all participating municipal jurisdictions, will review this plan annually and update as deemed necessary.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	Med	3.2	ES	**Carteret County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	County Risk Management is working with County Departments to complete COOP update. County will review and update this plan annually. Beaufort, Cedar Point, and Pine Knoll Shores cooperate with the County's Continuity of Operations Plan.
CA4	Annually review and update the County's Emergency Operations Plan (EOP) to ensure compliance with all NCEM and NCOEMS procedures and policies. Through these updates, the County will work closely with all participating municipalities to ensure that all jurisdictions continue to be educated and prepared for activation of the EOP in the event of a disaster event.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	Med	3.2	ES	**Carteret County Emergency Services**	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County Emergency Services works closely with all participating municipalities to review and update the Emergency Operations Plan (EOP) annually. Beaufort and Pine Knoll Shores cooperate with the County's Emergency Operations Plan.
CA5	Maintain, and where necessary, install backup generators at all identified critical facilities. Additionally, County Emergency Services will evaluate the equipment on a regular basis to ensure it continues to meet operational demands at county facilities.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	High	1.2	PP	**Carteret County Emergency Services,** Independent Facility Operators Town Public Utilities	To Be Determined	GF, NCDPS, NCDOT, HMGP	Ongoing – next 5 years	Carry Forward	Carteret County Emergency Services evaluates all emergency generators on a regular basis to ensure operability. A new County radio system project is in progress. In Beaufort, permanent backup generators have been installed at the Town's Police Department, Fire Department, Public Works, Public Utilities, and Town Hall buildings, as well on most utility lift stations. Pine Knoll Shores evaluates all emergency generators on a regular basis to ensure operability

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA6	Maintain a contract with a qualified post-disaster recovery service provider. This contract will include the provision of essential services and equipment, including generators, and will include documentation required for reimbursement from FEMA/NCEM.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Severe Winter Weather, Earthquake, Wildfire, Dam & Levee Failure	Med	3.1	PP	**Carteret County Governing Board,** Municipal Governing Boards	To Be Determined	GF, HMGP	Other – Reviewed Annually	Carry Forward	Carteret County and Pine Knoll Shores maintain contractors for generators and storm cleanup. Beaufort maintains a contractor for storm debris removal. Cedar Point maintains contracts with two separate post-disaster recovery service providers. The current contracts were entered into in June 2024.
CA7	Hold a public information meeting (once annually) aimed at educating the public and elected officials about the jurisdictions' overall vulnerability to natural and man-made hazards, and the jurisdictions' hazard mitigation efforts.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	High	2.2	PIO	**Carteret County Emergency Services,** Carteret County Planning, Municipal Administrations	Staff Time	GF	1 Year	Carry Forward	Carteret County Emergency Services holds an annual hurricane expo prior to hurricane season. Beaufort hosts annual information meetings, most recently alongside the National Weather Service: Cedar Point held a public information meeting in August 2024 during a Board of Commissioners Work Session. Pine Knoll Shore Emergency Management holds a hazard mitigation conference at least annually. The Strategic Planning Committee routinely brings in subject matter experts to learn how to be more resilient against man-made and natural hazards.
CA8	Continue to maintain the County's Crisis Management System to efficiently deal with emergency situations. These efforts will involve training for officials and relevant staff regarding use of the program.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	4.2	ES	**Carteret County Emergency Services,** Carteret County Planning	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County Emergency Services provides annual training to officials and all relevant staff on the County's Crisis Management system. Carteret County conducts an annual EOC activation exercise.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA9	Meet annually with all electric service providers operating within the County prior to hurricane season, in preparation for the effects of severe weather, and will provide the preliminary planning steps required for effective post-disaster recovery.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Earthquake, Dam & Levee Failure	Med	4.2	ES	**Carteret County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS, Electric Service Providers	Other – meet annually	Carry Forward	Carteret County Emergency Services meets annually with electric service providers. Pine Knoll Shores continues to meet annually with Carteret Craven Electric Co-Op to address utility concerns and post-disaster recovery. Cedar Point held a telephone conference with electric service providers.
CA10	Maintain all property acquired within the Special Flood Hazard Area (SFHA) as undisturbed open space in perpetuity. Continue to proactively establish open space within the floodplain and floodway as HMGP grant funds become available to carry out this initiative.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricane & Coastal Hazards, Dam & Levee Failure	High	1.2	NRP	**Carteret County Planning,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County and Pine Knoll Shores will maintain property within the SFHA acquired with FMA or HMGP funding as undisturbed open space. Carteret County will continue to seek FMA/HMGP funding for open space preservation. Beaufort has not acquired any property within the SFHA with FMA or HMGP funding. Cedar Point actively protects its 56-acre park and is looking for other parcels to acquire with grant funds.
CA11	Integrate, when feasible, new greenway and public park improvements into comprehensive planning and capital improvement efforts (including coordination with the County's certified CAMA Land Use Plans).	Carteret County, Beaufort, Morehead City	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	1.2	P, SP	**Carteret County Parks and Recreation,** Carteret County Planning, Morehead City Parks and Recreation	To Be Determined	GF, NCDEQ	Other – as opportunities arise	Carry Forward	The County updated and adopted its CAMA LUP in 2021/22 and these items have been incorporated into the updated CAMA LUP. Beaufort's new Parks & Recreation Comprehensive Plan (2024), CAMA and Comprehensive Land Use Plan (2023), the Resilient Beaufort plan (2018) emphasize greenway and park establishment, expansion, and improvement. Pine Knoll Shores is currently updating its certified CAMA Land Use plan and pedestrian master plan this year and will incorporate these items into the updated plan.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA13	Review and update respective Flood Damage Prevention Ordinances as deemed necessary. Once annually, all jurisdictions will conduct a review to ensure that the current FDPO is compliant with all FEMA and NCEM mandates.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	1.2	PP	**Carteret County Planning, Municipal Administrations**	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County amended and updated its FDPO in 2020 and again in 2023 to align with the State's most recent edition of the Coastal Model Ordinance and to incorporate new Coastal A flood zone construction standards. The current adopted FDPO is in compliance with all State and Federal floodplain management requirements. Beaufort is beginning a comprehensive update to land development ordinances to create a new Unified Development Ordinance, which will include the integration and modernization of the Town's Flood Damage Prevention Ordinance in accordance with current best practices and guidance from FEMA and NCEM. Pine Knoll Shores has recently updated its flood protection ordinance. Cedar Point updated its Flood Damage Prevention Ordinance in preparation of new FEMA maps that took effect June 19, 2020. A subsequent review was made to determine compliance with NCGS 160-D.
CA14	Strive to maintain respective CRS ratings through implementation of a comprehensive floodplain management program.	Carteret County, Atlantic Beach, Beaufort, Cape Carteret, Cedar Point, Emerald Isle, Morehead City, Newport, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.2	P, PP	**Carteret County Planning, Municipal Administrations**	$15,000/ Staff Time	GF, NCDPS, HMGP, BRIC, UHMA	Ongoing – next 5 years	Carry Forward	Carteret County is now a CRS Class 9. County staff will continue to provide CRS recertification documentation on an annual basis and conduct credited activities to maintain this rating. Staff will continually look for ways to improve the CRS rating. Beaufort's Class 7 CRS rating is maintained through annual outreach and reporting efforts. Staff will work towards a class reduction at the next cycle visit. Pine Knoll Shores continues to participate in the CRS program will provide documentation to maintain class 6 CRS rating. Cedar Point actively seeks to maintain and improve its CRS rating.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA15	Maintain a map information service involving the following: (1) Provide information relating to Flood Insurance Rate Maps (FIRMs) to all inquirers, including a provision of information on whether a given property is located with a flood hazard area; (2) Provide information regarding the flood insurance purchase requirement; (3) Maintain historical and current FIRMs; (4) Advertise once annually in the local newspaper the availability of FIRMs; and (5) Provide information to inquirers about local floodplain management requirements.	Carteret County, Atlantic Beach, Beaufort, Cape Carteret, Cedar Point, Emerald Isle, Morehead City, Newport, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	2.2	PIO	**Carteret County Planning,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County and Pine Knoll Shores continue to provide a map information service to residents/visitors/ property owners/real estate agents and anyone else inquiring about FIRM information. Beaufort maintains paper FIRMs in Town Hall in the Planning & Inspections Department. The town tracks map changes, annexations, new subdivisions, LOMR/LOMAs, and other FIRM changes in digital and paper format. Digital versions are stored on the server, which is backed up to a cloud system. The town further maintains all paper FIRMs dating prior to 1999. Beaufort conferences with contractors, property owners, real estate agents, developers, and other interested parties regarding the FIRMs, flood insurance purchase requirement, and applicable floodplain management requirements. Cedar Point maintains both paper and digital (GIS and PDF) maps of the most recent FIRM.
CA16	Mail a notice annually to all property owners in an effort to educate citizens about dangers associated with flooding in low-lying coastal areas.	Carteret County, Atlantic Beach, Beaufort, Cape Carteret, Cedar Point, Emerald Isle, Morehead City, Newport, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	2.2	PIO	**Carteret County Planning,** Municipal Administrations	To Be Determined	GF, NCDPS	Other – Once Annually	Carry Forward	Carteret County mails all property owners a flood tips brochure each year with their tax bill regardless of flood zone. 100% of property owners receive this flood tips brochure. Additionally, property owners in Repetitive Loss Areas (RLAs) receive annual notification on their susceptibility to flooding and grant opportunities. Beaufort also provides information throughout the year in the Town's newsletter with the monthly water/sewer bill mailings.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA17	Make information regarding hazards and development regulations within floodplains available through: (1) Ensure that the local library maintains information relating to flooding and flood protection; (2) Provide a link on the county website to FEMA resources addressing flooding and flood protection; (3) Provide a link on all participating municipalities' websites to FEMA resources addressing flooding and flood protection, evacuation procedures, disaster preparedness, and post-disaster recovery; and (4) Provide website links to relevant hazard mitigation websites. (5) Provide information to local real estate agents.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	2.2	PIO	**Carteret County Planning,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County maintains links to numerous FEMA and NFIP resources on its Carteret County Flood Information website and emergency preparedness website. Beaufort staff annually confirms that flood information is maintained at the Beaufort Branch Carteret County Public Library; several links to relevant resources are found in the Hurricane Preparedness/Flood Information website and throughout the Town website; and information is provided to local real estate agents as part of Community Rating System outreach. Cedar Point and Pine Knoll Shores maintain links to FEMA resources on their websites.
CA18	Support the efforts of the Carteret County Local Emergency Planning Committee (LEPC) in their effort to address hazards associated with the storage of chemicals, noxious waste material and bulk fuel.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Hurricanes & Coastal Hazards, Flooding	Low	4.2	ES	**Carteret County LEPC**	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County is working on getting a more active LEPC. Staff from Pine Knoll Shores will continue to participate in the LEPC.
CA19	Continue to monitor water resources to mitigate the impacts of drought conditions. These efforts will include maintaining a local water shortage ordinance. This ordinance will be activated in coordination with all utility providers as the need arises.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Drought	Med	1.5	P, NRP	**Carteret County Planning,** Municipal Administrations	Staff Time	GF, NCDEQ	Other – As necessary	Carry Forward	Carteret County continually monitors water resources and maintains a water shortage ordinance. Beaufort's Public Utilities Department monitors water availability and has a water shortage ordinance for emergencies. Pine Knoll Shores continually monitors water resources. The town does not currently have a water shortage ordinance but will investigate this moving forward. Cedar Point Public Works Department tracks/reviews rainfall data.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA20	Collaborate to provide education and training to local government officials to broaden understanding of public policy relating to hazard mitigation.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	Low	4.2	PIO	**Carteret County Emergency Services,** Carteret County Administration, Municipal Administration	Staff Time	GF	Other - Annually	Carry Forward	County staff attend meetings of the Carteret County Floodplain Administrators group and support efforts to provide training to local government officials. The County employs two CFMs. Beaufort and Pine Knoll Shores staff participate in meetings of Carteret County's Floodplain Administrators group. Beaufort employs one CFM with another staff member training to become CFM by the end of 2025. Pine Knoll Shores employs two CFMs. Cedar Point seeks opportunities for education of officials.
CA21	Continue to proactively seek out grant funding through NCEM and FEMA for mitigation of repetitive loss properties (RLPs) and other high risk properties from future flooding events. The County will maintain a list of RLPs, and on an annual basis, will apply for funding for all structures that meet cost-benefit thresholds as defined by FEMA. Carteret County will assist all municipal jurisdictions in working through the structural mitigation grant funding process.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.1	PP	**Carteret County Planning Department,** Carteret County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS, HMGP, BRIC, UHMA	Ongoing – next 5 years	Carry Forward	Carteret County continues to aggressively seek out grant funding for elevating RLPs and SRLPs and is currently administering a grant program to rehabilitate and mitigate properties during recent hurricanes. The County also maintains an up-to-date list of all RLPs and SRLPs in the County. Beaufort provides information on available funding to property owners and provides assistance with the application process as possible. Pine Knoll Shores continues to aggressively seek grant funding for elevating RLPs. This is a particular challenge because Pine Knoll Shores generally is not favorable for grant opportunities. Cedar Point will be seeking participants from the Repetitive Loss List to assist with mitigation through the FMA program.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA22	Increase the availability of skilled contractors to perform needed work post hazard by: • Developing a partnership with major local contractors in selected areas (roofing, tree trimming, etc.), such that they will deploy resources and skilled contractors to affected areas as needed. • Creating local contractor retention plan (perhaps with incentives related to permits, commitments for County/City projects, a reduction in community college tuition, etc.) to reduce the flight of local skilled labor.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorms, Severe Winter Weather, Earthquake, Dam & Levee Failure	Med	2.2	PP	**Carteret County Planning Department,** Carteret County Board of Commissioners, Municipal Administrations	Staff Time	GF	2 to 3 years	Carry Forward	Carteret County has a team of licensed building inspectors that continually work with local contractors to streamline the building and debris removal process immediately after an emergency or disaster situation. Beaufort works with local and traveling contractors to ensure proper permitting and inspections are provided for post-hazard work.
CA23	Improve awareness regarding the intensity of natural hazard events as they materialize and subside by: • Establishing an emergency radio broadcast frequency that runs a recorded message pre- and post-hazard to communicate critical-time sensitive information. It could include things like routes/ bridges that are open or closed, weather/hazard forecasts, location of emergency shelters. • More fully utilizing County/Town websites to provide pre-hazard and post-hazard recovery information (debris pick up schedule, critical dates, forms, phone numbers, housing availability, etc.).	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Earthquake, Dam & Levee Failure	High	2.2	ES	**Carteret County Emergency Services,** Carteret County Board of Commissioners, Municipal Administrations	Staff Time	GF	2 to 3 years	Carry Forward	Beaufort provides access to a mass notification platform called Regroup to broadcast emergency messaging via email, text message/SMS, and voice call, with online signup. Beaufort utilizes social media platforms, “sunshine list” emails, and website posting for emergency messaging in addition to emergency alerts and press releases.
CA24	Continue to coordinate annually with the NC Forest Service to address the threat of wildfire throughout the County. These efforts will involve posting of the daily fire risk present within the County on the County website daily. Additionally, the County will distribute and make information available regarding County methods for mitigating fire hazards.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Wildfire	High	4.1	PP	**Carteret County Emergency Services,** Carteret County Board of Commissioners, Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	Other - Annually	Carry Forward	In Progress. Carteret County coordinates with NC Forest Service on wildfire mitigation and preparedness.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA25	Conduct wildfire risk assessments in all participating communities, engage residents, and co-create individual mitigation action plans to protect people, property, and natural resources from wildland fire.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Wildfire	Med	4.1	P, PP	**Carteret County Emergency Services,** Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	3-5 years	New	
CA26	Improve stormwater management planning and implement stormwater improvement projects.	Emerald Isle	Flooding, Hurricane & Coastal Hazards	High	1.3	SP	**Emerald Isle Planning Department**	TBD; will vary by project	GF, BRIC, HMGP, State grant funds, NCDEQ	3-5 years	New	
CA27	Support beach preservation efforts through the Carteret County Shoreline Protection Office, including stabilizing erosion hazard areas.	Carteret County, Emerald Isle	Flooding, Hurricane & Coastal Hazards	Med	1.3	SP	**Carteret County Shoreline Protection Office,** Emerald Isle Planning Department	TBD	Local funds	3-5 years	New	
CA28	Create or Update Community Wildfire Protection Plans in each fire district	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Wildfire	Med	4.1	P, PIO	**Carteret County Staff,** NC Forest Service	To Be Determined	Grant Funds	3-5 years	New	

Table 7.3 – Mitigation Action Plan, Craven County

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR1	Review respective Comprehensive Land Use Plans annually to ensure that the Future Land Use Map adequately delineates portions of the community deemed unsuitable for development due to existing environmental conditions. This effort will also involve the identification of potential drainage easements and open space areas that will positively affect drainage conditions within areas documented as stormwater/flooding hot spots. Additionally, the County will attempt to identify portions of the County susceptible to wildfire damage.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure, Wildfire	Med	1.3	P	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDCM, NCDPS, Other	2 to 3 years	Carry Forward	In Progress. Craven County, as well as participating municipal jurisdictions, will consider updating the County's Comprehensive land Use Plan over the next three fiscal years.
CR2	Review respective Flood Damage Prevention Ordinances to assess whether any revisions and/or updates have been mandated by FEMA or NCEM. Additionally, jurisdictions will consider whether regulatory options are available to provide for more effective floodplain management.	Craven County, Bridgeton, Cove City, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	3.1	P	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS	Other – Review annually	Carry Forward	Implementation is ongoing as needed. Craven County, and all participating municipal jurisdictions, will review their respective Flood Damage Prevention Ordinances annually, or as directed by NCDPS. Auto adopt of map changes has been incorporated within the Craven County Flood Damage Prevention Ordinance.
CR3	Continue to support NCDEQ in efforts to enforce the Neuse River Basinwide Water Quality Management Rules.	Craven County, Havelock, New Bern, River Bend, Trent Woods	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Low	1.3	NRP	**Craven County Planning Department,** Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	These rules are currently being enforced. Changes in standards will coincide with amendments established by NCDEQ.
CR4	Consider the data and recommendations outlined within this plan when preparing updates to respective Capital Improvements Plans. All recommendations regarding capital expenditures will focus on siting infrastructure and public facilities outside of the Flood Hazard Area.	Craven County, New Bern, River Bend, Havelock	All Hazards	Med	1.3	SP	**Craven County Board of Commissioners,** Municipal Elected Boards	Staff Time	GF	Other – review annually with budget preparation	Carry Forward	Craven County, New Bern, River Bend and Havelock establish capital outlay for infrastructure projects through their respective Capital Improvements Plans. This will continue to occur in line with annual budget preparation.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR5	Continue to proactively seek out grant funding through NCEM and FEMA for mitigation of repetitive loss properties (RLP's) from future flooding events. The County will maintain a list of RLP's, and on an annual basis, will apply for funding for all structures that meet cost-benefit thresholds as defined by FEMA. Craven County will assist all municipal jurisdictions in working through the structural mitigation grant funding process.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.1	PP	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS, HMGP, BRIC, UHMA	Ongoing – as needed	Carry Forward	Craven County in coordination with all participating municipal jurisdictions will utilize annual as well as post disaster funding to treat repetitive loss properties through elevation, acquisition/demolition, or reconstruction.
CR6	Continue to expand upon the County's Emergency Notification System available to all residents. Craven County Emergency Services will coordinate with all municipal jurisdictions regarding registration.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	High	2.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time, $30,000	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County utilizes, and will continue to employ, the CODE RED Emergency Alert System to notify residents of the status of natural hazard events.
CR7	Consider all of the data, information, maps and recommendations outlined throughout this plan when siting for the development of all new critical facilities.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure, Wildfire	Med	1.3	PP	**Craven County Board of Commissioners,** Municipal Elected Boards	To Be Determined	GF, NCDPS, FEMA, USDA	Ongoing – as needed	Carry Forward	Mitigation measures will be considered any time development or relocation of any County or Municipal facility (critical) takes place.
CR8	Develop a formal system and plan for evaluating and assessing the availability and effectiveness of all critical facilities outlined within this plan. Craven County will coordinate with NCEM, American Red Cross, local animal shelters, local care homes, etc., in making determinations related to need and capacity required in the event of a disaster.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	High	2.1	P	**Craven County Emergency Services,** Craven County Board of Commissioners, Municipal Elected Boards	Staff Time	GF, NCDPS, American Red Cross	Ongoing – Next 5 years	Carry Forward	Craven County in coordination with all participating municipal jurisdictions, will work through this exercise annually, as well as following the effects of a natural hazard event through the corrective action planning process.
CR9	In conjunction with annual EOP updates, determine if access to all critical facilities is readily available in the event of a flooding event. Careful consideration should be given to localized flooding issues that may restrict access along limited access thoroughfares. Where access issues are identified, the County will establish a plan for alternative transportation.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County EOP is reviewed annually and updated as necessary.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR10	Continue to maintain the County's Continuity of Operations Plan (COP). This effort will include an annual update addressing risk management, service retention, alternative staffing procedures and recovery checklist for each County department.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	Med	3.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County COP is reviewed annually and updated as necessary.
CR11	Review and update the County Emergency Operations Plan (EOP) on an annual basis. This update will involve coordination with all municipalities to ensure that all emergency contacts are accurate.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	Med	3.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County EOP is reviewed annually and updated as necessary.
CR12	Continue to coordinate annually with the NC Forest Service to address the threat of wildfire throughout the County. These efforts will involve posting of the daily fire risk present within the County on the County website daily. Additionally, the County will distribute and make information available regarding County methods for mitigating fire hazards.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Wildfire	High	4.1	PP	**Craven County Emergency Services,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	Other - Annually	Carry Forward	In Progress. Craven County, with the assistance of the North Carolina Forest Service, are now working in partnership to develop Fire Wise tactics to implement within the County.
CR13	Work to expand upon the County's Special Medical Needs Registry (SMNR). The SMNR is available to all County residents. Effective participation will require close cooperation between County ES and local government staff members. All jurisdictions will work to advertise the availability of this service within their respective communities. It should be noted that applicants must be approved once application is made. Application alone does not result in guaranteed emergency service.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	2.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF	Ongoing – over next five years	Carry Forward	The County will work with participating municipal jurisdictions to advertise, maintain, and expand upon the County's special needs registry.
CR14	Continue to maintain the County's Local Emergency Planning Committee (LEPC) focused on monitoring the presence and proliferation of hazard materials throughout the County. The LEPC and County staff will continue to monitor these materials as submitted.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Hurricanes & Coastal Hazards, Flooding	Med	4.2	ES	**Craven County LEPC**	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County Emergency Management will coordinate and maintain the County LEPC with representation from all participating municipalities.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR15	Maintain information on the County website relating to evacuation and sheltering. Emergency information on the website will include: evacuation routes, sheltering, delays and closures, pet sheltering options, and special needs information.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	High	2.2	PIO	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County maintains this information on the County's website and will continue to do so through the planning period.
CR16	Continue to provide detailed information regarding properties located within flood hazard areas as outlined under CRS Manual Section 322.a through 322.g.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.2	PP	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	Craven County, Havelock, New Bern, and River Bend will continue to implement all activities defined under their respective CRS programs. Other Craven County municipalities will consider joining the program through implementation of this plan.
CR17	Continue to maintain a library of materials focused on educating citizens, builders, realtors and developers about the dangers associated with floodplain development. This information will also provide material outlining sound techniques for floodplain development and floodproofing of existing structures. The County will also maintain staff educated in these issues to work with prospective builders.	Craven County, Havelock, New Bern, River Bend	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	2.2	PIO, PP	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	This activity is carried out by the County for the benefit of all Citizens including all participating municipal jurisdictions.
CR18	Maintain a contract with a qualified post-disaster recovery service provider. This contract will include the provision of essential services and equipment, including generators, and will include documentation required for reimbursement from FEMA/NCEM.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	Med	1.1	PP	**Craven County Board of Commissioners,** Municipal Governing Boards	To Be Determined	GF, NCDPS	Other – Review Annually	Carry Forward	Craven County, and all participating municipal jurisdictions, maintains a contractor for generators and storm cleanup.
CR19	Maintain reciprocal mutual aid agreements with all neighboring communities in an effort to ensure adequate fire protection throughout the County. Additionally, all jurisdictions will provide preventive maintenance efforts to ensure the fire hydrants and equipment are working properly.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	High	4.2	ES	**Craven County Emergency Services,** Municipal Administrations, Volunteer Fire Departments	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County Emergency Services maintains mutual aid agreements with neighboring communities and updates them annually.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR20	Work to implement all strategies outlined within the Hurricane Matthew Resilient Redevelopment Plan.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	3.1	P	**Craven County Board of Commissioners,** Municipal Governing Boards	To Be Determined	GF, NCDPS, FEMA, NCDCM, USDA, NCDEQ, NCDOT	Ongoing – next 5 years	Carry Forward	Craven County continues to utilize the Hurricane Matthew Resilient Redevelopment Plan to seek funding opportunities for items identified within this plan.
CR21	Continue to proactively seek out grant funding through NCEM and FEMA for mitigation of Craven County Schools and other critical facilities that involves general public usage during and after disaster events (such as generators, structural modifications, etc.) which would make structures more resilient during future storms and natural hazard events.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure, Earthquake	High	2.1	SP	**Craven County Planning Department,** Craven County Administration, Municipal Administrations	Based on need and availability of funding	GF, FEMA, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County monitors and applies for grant funding as the need arises and/or funding becomes available. The County has currently applied for FMA funding and will continue to utilize funding when available to improve the resiliency of County Critical Facilities.
CR22	Craven County will purchase a flood barrier system that will be installed around the Bryan Well site to protect the electrical and SCADA systems from further flood damage	Craven County	Flooding, Hurricanes & Coastal Hazards	High	3.1	PP	**Craven County Water Department,** Craven County Manager's Office, Craven County Planning Department, Eastern Carolina Council of Governments, Management Consultant, Engineering Consultant	To Be Determined	BRIC, Local Funding	2026	New	Applied for funding in 2023. Will continue to pursue funding for implementation.
CR25	Consider historical and cultural preservation opportunities when applying for federal grants	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	Med	2.2	PP	**Craven County Planning Department**	Based on need and availability of funding	FEMA, NCDPS	Ongoing-Next 5 years	New	Cultural resources are impacted by climate change. In partnership with the National Conference of State Historic Preservation and the National Park Service, new tools are being developed to help guide managing historic structures.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR26	Work to create drainage maps within all areas of the County that are outside regularly maintained NCDOT right of ways to help address localized drainage issues that often lead to flood damage to homes, land, crops and other structures within the County. Craven County will seek out any grant funding that may assist in the maintenance of drainage ditches, blueline streams or other tributaries that convey water to the river.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes and Costal Hazards, Dam Failure, Levee Failure, Tsunamis	Med	1.3	SP	**Craven County Planning Department, Craven County Soil and Water Conservation**	Based on need and availability of funding	GF, FEMA, NCDPS, Other	Ongoing-Next 5 years	New	Common flooding issues can be attributed to lack of maintenance to the existing drainage system. Often maintenance exceeds landowner capability to correct.
CR27	Integration of environmentally friendly flood control measures will be implemented where necessary, such as the installation of living shorelines, marsh sills, flood barriers etc. to protect environmentally sensitive areas and maintain the natural floodplain.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes and Costal Hazards, Dam Failure, Levee Failure, Tsunamis	Med	1.2	NRP	**Craven County Planning Department, Craven County Soil and Water Conservation**	Based on need and availability of funding	GF, FEMA, NCDPS, Other	Ongoing – as needed	New	Craven County will seek out funding opportunities to help reestablish shorelines and floodplain lost to natural disasters or other means of degradation through environmentally friendly methods and techniques.
CR28	Create or Update Community Wildfire Protection Plans in each fire district	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Wildfire	Med	4.1	P, PIO	**Craven County Staff,** NC Forest Service	To Be Determined	Grant Funds	3-5 years	New	
CR29	Conduct Curbside Rapid Wildfire Risk Assessments within fire spread distance of the Croatan National Forest.	Craven County, Havelock, New Bern	Wildfire	High	4.1	P	**Local fire departments, NC Forest Service, Croatan Area Fireshed Partnership**	To Be Determined	Grant funds	1-2 years	New	

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
NB1	The City of New Bern will procure services to complete a flood study assessing the effectiveness of stormwater culverts running under railroad embankments and designing system improvements that will reduce flooding impacts on surrounding properties	New Bern	Flooding, Hurricanes & Coastal Hazards	High	3.1	SP	**City of New Bern,** Citizens Advocating Resiliency and Education (C.A.R.E.), American Flood Coalition, Duffyfield Residents' Council, Historic Dryborough Neighborhood Association, Sound Rivers, NC Coastal Federation, The North Carolina Railroad Company, Norfolk Southern Railway Company	To Be Determined	BRIC, Local Funding	2026	New	Applied for funding in 2023. Will continue to pursue funding for implementation.
TW1	Trent Woods will begin implementation of its Stormwater Management Plan by completing a comprehensive investigation of existing storm drainage capacity and as necessary, upsizing existing culverts, rehabilitating channels through dredging, expanding the capacity of existing ditches, and enhancing performance through the creation of infiltration ditches	Trent Woods	Flooding, Hurricanes & Coastal Hazards	High	3.1	SP	**Town of Trent Woods,** Golden LEAF Foundation, NC DEQ Stormwater Division, State Legislature, Eastern Carolina Council of Government, Management Consultant, Engineering Consultant	To Be Determined	BRIC, Local Funding	2026	New	Applied for funding in 2023. Will continue to pursue funding for implementation.
RB1	Construct new road through Northwest Quadrant Area, connecting Plantation Drive to Old Pollocksville Road to serve as additional ingress/egress route during flood events that block the primary and other access roads.	River Bend	Flooding, Hurricane & Coastal Hazards, Dam & Levee Failure	High	4.2	ES	**River Bend Town Council**	$2,000,000	GF, FEMA, NCDPS, Town	Ongoing – next 5 years	New	
RB2	Relocate Water Wells #1 & #2 and Water Treatment Plants #1 & #2 outside of the 100-year floodplain.	River Bend	Flooding, Hurricane & Coastal Hazards	High	1.1	PP	**River Bend Town Council**	$18,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
RB3	Flood Mitigation at Wastewater Treatment Plant by raising top of structures to above base flood elevation and plus 2' freeboard where possible.	River Bend	Flooding, Hurricane & Coastal Hazards	High	1.1	PP	**River Bend Town Council**	$5,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	
RB4	Relocate Wastewater Treatment Plant outside of the 100-year floodplain.	River Bend	Flooding, Hurricane & Coastal Hazards	Low	1.1	PP	**River Bend Town Council**	$60,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	
RB5	Floodproof sewer lift stations in floodplain	River Bend	Flooding, Hurricane & Coastal Hazards	Med	1.1.	PP	**River Bend Town Council**	$1,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	
RB6	Improve Stormwater Drainage System Capacity in flood hazard areas	River Bend	Flooding, Hurricane & Coastal Hazards	High	1.3	SP	**River Bend Town Council**	$4,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	

Table 7.4 – Mitigation Action Plan, Pamlico County

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P1	In the event of a substantial flooding event, or other natural hazard occurrence, perform damage assessments in coordination with NCEM. These assessments will assist the County in determining the extent of the damage caused by the respective disaster event. This data will be utilized as a tool for land use planning and future hazard mitigation plan updates and to gauge the effectiveness of the County's two-foot freeboard requirement.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	Med	3.1	PP	**Pamlico County Emergency Services,** Pamlico County Administration, Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as necessary	Carry Forward	Post-Florence there were gaps in collection of building level damage assessments. The County is working to improve capability and procedures for damage assessments and to track the resulting data. Outside partnerships and resources are needed. CAMA land use plan update currently underway.
P2	Continue to monitor drainage conditions throughout the County, in particular, issues associated with drainage ditches and agricultural runoff canals situated throughout the County. Once issues are identified, the County will work with municipal jurisdictions and State agencies to identify short- and long-term solutions to these issues.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Wildfire, Dam & Levee Failure	High	1.3	NRP	**Pamlico County Administration,** Pamlico County Emergency Services, Municipal Administrations	Staff Time	GF, NCDEQ, NCDOT	Ongoing – In Process	Carry Forward	Living shoreline project at Whittaker Pointe in Oriental has been completed. Water and Soil Department has received grants and is working on drainage maintenance across the county. Lowland and Hobucken still need ditch maintenance, especially along Hwy 304N. Current issues cause roadway flooding, which affects access to a Coast Guard station that responds to Pamlico Sound. Coastal Dynamics Design Lab is working with Pamlico County. CDDL has done a hydraulics study of the county and completing a Flood Print evaluation of flood vulnerability in the County and opportunities for mitigation, including living shorelines.
P3	Continue to proactively seek grant funding through NCEM and FEMA for mitigation of repetitive loss properties (RLP's) and other high-risk properties from future flooding events. The County will maintain a list of RLP's, and on an annual basis, will apply for funding for all structures that meet cost-benefit thresholds as defined by FEMA. Pamlico County will assist all municipal jurisdictions in working through the structural mitigation grant funding process.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	3.1	PP	**Pamlico County Planning Department,** Pamlico County Board of Commissioners, Municipal Administrations, United Way, NC Volunteers Active in Disasters	Staff Time	GF, NCDPS, HMGP, BRIC, UHMA, United Way	Ongoing – as needed	Carry Forward	One acquisition completed in the last five years. Multiple elevations have been completed and a new round will begin soon; approximately 70 applicants are interested. The County is working with the Eastern Carolina COG to manage these projects. Pamlico County has coordinated with the Pamlico County Disaster Recovery Coalition (PCDRC) and partners to support post-event repairs to preserve structures and prepare them for elevation.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P4	Continue to educate County residents about flood-related health hazards, including the linkage between flooding (standing water) and the proliferation of mosquitos, as well as mold intrusion.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Dam & Levee Failure	Med	2.2	PIO	**Pamlico County Administration,** Pamlico County Emergency Services, Pamlico County Health Department, Municipal Administrations	Staff Time	GF, NCDEQ, NCDPS	Ongoing – in process	Carry Forward	Pamlico County Health Department maintains an educational program regarding mosquito abatement and provides some resources for abatement. Duke students worked with PCDRC to study health impacts of mold. PCDRC has held some workshops on mold remediation.
P5	Make a range of materials related to flood insurance, flood protection, floodplain management, information on floodplains, and how to find a qualified contractors/ realtors familiar with floodproofing and elevation techniques, available through various avenues including: • Placing materials in the local library • Maintaining documents at the County Planning and Economic Development office • Disseminating information to local contractors • Distributing information to churches and other community-based organizations • Establishing a means to distribute information to schoolchildren	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Dam & Levee Failure	High	2.2	PIO	**Pamlico County Planning Department,** Pamlico County Board of Commissioners, Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	Grant funded Lead for NC Fellow in place in Pamlico County is supporting public information coordination. The County annually coordinates outreach before hurricane season. Pamlico County collaborates with other partner agencies and organizations to share relevant information & resources. The Town of Oriental independently provides educational information sessions on hazard mitigation and preparedness. Town of Vandemere created an Emergency Management board to share information from the County.
P6	Review and update the County Emergency Operations Plan on an annual basis. This update will involve coordination with all municipalities to ensure that all emergency contacts are accurate and that all jurisdictions are adequately prepared.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	Med	3.2	ES	**Pamlico County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County EOP is reviewed annually and updated as necessary. The County is in the process of completing a full update to the EOP.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P7	Continue to work with the North Carolina Department of Environmental Quality to enforce standards outlined within the statewide stormwater management program. Currently, this program generally addresses stormwater management for projects disturbing an area equal to or greater than one acre. Additionally, the County will monitor localized flooding issues and, where feasible, address these issues through the installation of stormwater best management practices (BMPs).	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	1.3	P	**Pamlico County Administration** Municipal Administration	Staff Time	GF, NCDPS, NCDEQ	Ongoing – In Process	Carry Forward	Pamlico County Inspections Department provides development review services throughout the County and works with NCDEQ to enforce state stormwater regulations.
P8	Develop a formal system and plan for evaluating and assessing the availability and effectiveness of all critical facilities outlined within this plan and acquire any additional equipment or backup power to ensure continuity of operations at these facilities. Pamlico County will coordinate with NCEM, Red Cross, Salvation Army, local animal shelters, local care homes etc., in making determinations relating to need and capacity.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	High	2.1	P	**Pamlico County Emergency Services,** Pamlico County Board of Commissioners, Municipal Elected Boards	Staff Time	GF, NCDPS, American Red Cross	2 to 3 years	Carry Forward	Pamlico County coordinates with partner organizations and all participating municipal jurisdictions on critical facility protection. New County EOC is under construction.
P9	Ensure that there is adequate capacity for snow and ice removal in the event of a major snowstorm. The County will work with the North Carolina Department of Transportation (NCDOT) and North Carolina Emergency Management (NCEM) to ensure that all resources necessary are available to carry out this effort. Additionally, the County will work closely with the County school system, as well as other entities, to make determinations regarding closures and delays.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Severe Winter Weather	Med	1.1	P	**Pamlico County Emergency Services,** Municipal Administrations, NCDOT	Staff Time	GF, NCDPS, NCDOT	Ongoing – In Process	Carry Forward	Pamlico County and Towns do not own equipment for snow and ice removal but Emergency Management coordinates with NCDOT on road pre-treatment, road clearing, and communicating road safety to the public.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P10	Continue to maintain all development regulations, emergency and land use related plans, and applications for permits on the respective jurisdictions' website. This information will be maintained and updated as deemed necessary. If a local website does not exist, municipal jurisdictions will consider developing one through implementation of this plan.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	High	1.3	PIO	**Pamlico County Administration,** Municipal Administrations	Staff Time/ $3,500	GF	3 to 5 years	Carry Forward	Pamlico County continues to maintain current plans and development regulations on the County website. Vandemere developed a website within the last year. Oriental and Grantsboro maintain town websites.
P11	Continue to coordinate annually with the NC Forest Service to address the threat of wildfire throughout the County. These efforts will involve posting of the daily fire risk present within the County on the County website daily. Additionally, the County will distribute and make information available regarding County methods for mitigating fire hazards.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Wildfire	High	4.1	PP	**Pamlico County Emergency Services,** Pamlico County Board of Commissioners, Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	Other - Annually	Carry Forward	NC Forest Service notifies the County of daily fire risk as well as controlled burns and other wildfire mitigation.
P12	Maintain reciprocal mutual aid agreements with all neighboring communities. Additionally, all jurisdictions will provide preventive maintenance efforts to ensure the fire hydrants and equipment are working properly.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	High	4.2	ES	**Pamlico County Emergency Services,** Municipal Administrations, Volunteer Fire Departments	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Pamlico County is part of the statewide mutual aid agreement and has mutual aid agreements with all municipalities and neighboring counties. Fire departments have mutual aid agreements with NC Forest Service.
P13	Maintain Debris Removal and Monitoring Services Contracts for post disaster response. These services should focus on preparing documentation necessary to ensure full reimbursement of cost associated with community cleanup and immediate infrastructure restoration.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	Med	1.1	PP	**Pamlico County Emergency Services,** Pamlico County Board of Commissioners, Municipal Administrations	To Be Determined	GF, NCDPS, FEMA	Ongoing – As needed	Carry Forward	Debris Removal and Monitoring Services Contracts are in place. A statewide agreement is underway.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P14	Maintain all property acquired through annual and post disaster mitigation funding as open space in perpetuity. Additionally, appropriate reuse strategies will be developed regarding this dedicated open space.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	1.2	PP	**Pamlico County Administration,** Municipal Administrations	To Be Determined	GF, NCDPS	Ongoing – in process	Carry Forward	Pamlico County is coordinating with NC Department of Commerce's Creating Outdoor Recreational Economies program. Looking into creating a kayak trail, parks, natural habitat areas, and other passive recreation opportunities on preserved coastal open space properties. Derelict/abandoned structures present an ongoing risk but funding is needed to mitigate these buildings.
P15	Create or Update Community Wildfire Protection Plans in each fire district	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Wildfire	Med	4.1	P, PIO	**Pamlico County Fire Departments,** NC Forest Service	To Be Determined	Grant Funds	3-5 years	New	
P16	Encourage planting native vegetation to support infiltration, reduce runoff, and protect property and water quality. Provide resources from NC State Cooperative Extension to educate the public on the benefits of native plantings.	Pamlico County	Flooding, Hurricanes & Coastal Hazards	Med	2.2	PIO	**Pamlico County Administration,** NC State Cooperative Extension	Staff Time	GF	1-2 years	New	
P17	Identify and equip a facility to serve as a new emergency shelter.	Pamlico County	All Hazards	High	2.1	ES, PP	**Pamlico County Emergency Services**	To Be Determined	GF, Grant Funds	3-5 years	New	
P18	Integrate hazard mitigation into land use planning.	Pamlico County	All Hazards	Med	1.2, 1.3, 1.4	P	**Pamlico County Planning Department**	Staff Time	GF	1-2 years	New	CAMA Land Use Plan update is currently underway.
P19	Develop a backup communications system in the event of cell tower failure.	Pamlico County	All Hazards	High	4.2	ES	**Pamlico County Administration**	To Be Determined	GF	2-3 years	New	

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
OR1	Annual outreach to residents for hurricane season preparations, quarterly meetings with Church reps to disseminate prep materials, instructions for before, during, and following disasters. Keep seasonal information in Town Hall and disseminate to businesses. Distribute through mailings (newsletter), social media, traditional media materials. Disseminate info on elevation for new construction, restrict building in floodplain.	Oriental	Flooding, Hurricanes & Coastal Hazards	High	2.2	PIO	**Town of Oriental Administration**	$2,000	General fund	Ongoing annually	Carry Forward	Annual Outreach done May 2024 for Hurricane Season 2024 with representatives from NOAA, NWS, churches. Hurricane packages updated and distributed in same time frame. Social media used extensively. New TextMyGov service enabled for emergency messaging. All building elevation information distributed with permitting paperwork.
OR2	Annual outreach to realtors to make sure most updated building restrictions in GMO are disseminated to all potential buyers.	Oriental	Flooding, Hurricanes & Coastal Hazards	High	2.2	PIO	**Town of Oriental Administration**	$100	General fund	Ongoing annually	Carry Forward	Monthly updates on any changes to GMO distributed through website, social media, news outlets
OR3	Annual review by Planning Board and Town Board and make changes to GMO that prevent recurrent flooding and enhance drainage capacity.	Oriental	Flooding, Hurricanes & Coastal Hazards	High	1.3	P	**Town of Oriental Administration**	$500	General fund	Ongoing annually	Carry Forward	Priority drainage through budgeting process in order of severity. Substantial dedicated funds annually.
OR4	Annual ditch clearing and assessment of town-maintained open and covered culverts. Annual education of residents/businesses about the flow of drainage (culverts not there to take water away, but to settle solids), Priority list established and reviewed for clearing/blockage of street culverts, education about ownership of land vs. rights-of-way, necessity of clearing residentially maintained ditches.	Oriental	Flooding, Hurricanes & Coastal Hazards	High	1.3	PP	**Town of Oriental Administration**	$16,000-$20,000 annually	General fund	Ongoing annually	Carry Forward	Residential education, drainage plan, green waste disposal to assist in removing vegetation- funded at $20,000.
VM1	Annual outreach to residents for hurricane season preparations. Distribute through website, newsletter, social media, and/or traditional media materials.	Vandemere	Flooding, Hurricanes & Coastal Hazards	High	2.2	PIO	**Town of Vandemere Administration**	$2,000	General fund	Ongoing annually	New	

8 PLAN MAINTENANCE

Requirement §201.6(c)(4): [The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

Implementation and maintenance of the plan is critical to the overall success of hazard mitigation planning. This section discusses how the Mitigation Action Plans will be implemented by participating jurisdictions and outlines the method and schedule for monitoring, updating, and evaluating the plan. This section also discusses incorporating the plan into existing planning mechanisms and how the public will continue to be involved in the planning process. It consists of the following three subsections:

8.1 Implementation
8.2 Monitoring, Evaluation, and Enhancement
8.3 Continued Public Involvement

8.1 IMPLEMENTATION

8.1.1 MITIGATION ACTION PLAN IMPLEMENTATION

Each jurisdiction participating in this plan update is responsible for implementing specific mitigation actions as prescribed in their Mitigation Action Plan (found in Section 7). In each Mitigation Action Plan, every proposed action is assigned to a specific local department or agency to ensure responsibility and accountability for each action. Additionally, a timeline or target date for implementation is provided for each action to help assess whether reasonable progress is being made toward implementation. When applicable, potential funding sources have also been identified for actions. The participating jurisdictions will seek funding sources to implement mitigation projects in both the pre-disaster and post-disaster environments. These criteria will be reviewed and updated as needed as part of the HMPC's regular review of the Hazard Mitigation Plan and the Mitigation Action Plans. This approach enables individual jurisdictions to track progress and update their own unique Mitigation Action Plan as needed without altering the broader focus of the regional plan.

8.1.2 PLAN INTEGRATION

Another important implementation mechanism that is highly effective and low-cost is incorporation of the Hazard Mitigation Plan recommendations and their underlying principles into other local plans and programs. Where possible, plan participants will use existing plans and/or programs to implement the Mitigation Action Plan. It will be the responsibility of the HMPC representatives from each participating jurisdiction to determine and pursue opportunities for integrating the findings and goals of this plan with other local planning documents. HMPC members should strive to ensure that the goals and strategies of new and updated local planning documents for their jurisdictions or agencies are consistent with the goals and actions of the Hazard Mitigation Plan and will not contribute to increased hazard vulnerability in the region. Methods for integration may include:

- Monitoring other planning/program agendas;
- Attending other planning/program meetings;

— Participating in other planning processes; and
— Monitoring community budget meetings for other community program opportunities.

Table 8.1 details each jurisdiction's efforts to integrate the 2020 Pamlico Sound Regional Hazard Mitigation Plan into other local planning efforts as well as any opportunities for integration of this plan update.

Table 8.1 – Integration Efforts

Jurisdiction	Integration of 2020 plan	Intended integration of this plan update
Beaufort County	Risk assessment findings and goals were integrated with Beaufort County's RCCP Resilience Strategy.	Continued integration will be pursued as opportunities arise.
Aurora	Risk assessment findings and goals were integrated with Aurora's RCCP Resilience Strategy.	Continued integration will be pursued as opportunities arise.
Bath	No integration occurred	Integration will be pursued as opportunities arise.
Belhaven	Risk assessment findings and goals were integrated with Belhaven's RCCP Resilience Strategy. Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan to support CRS participation and for guidance regarding capital expenditures that will involve projects outlined in the plan update.
Chocowinity	No integration occurred	Integration will be pursued as opportunities arise.
Pantego	No integration occurred	Integration will be pursued as opportunities arise.
Washington	Risk assessment findings and goals were integrated with Washington's RCCP Resilience Strategy.	Continued integration will be pursued as opportunities arise.
Washington Park	Risk assessment findings and goals were integrated with Washington Park's RCCP Resilience Strategy. Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan to support CRS participation and for guidance regarding capital expenditures that will involve projects outlined in the plan update.
Carteret County	Natural hazard areas were addressed in the County's 2021 Land Use Plan update. Mitigation actions supported implementation of the County's Community Rating System Program.	The County will use this plan to support implementation of Land Use Plan policies and actions related to natural hazard areas.
Atlantic Beach	Natural hazard areas were addressed in the Town's 2021 Land Use Plan update. Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use this plan to assist with implementation of the Town's CRS Program and to implement policies and actions outlined in the Land Use Plan.
Beaufort	Risk assessment findings and goals were integrated with Beaufort's RCCP Resilience Strategy. Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan to support CRS participation and for guidance regarding capital expenditures that will involve projects outlined in the plan update.

Jurisdiction	Integration of 2020 plan	Intended integration of this plan update
Bogue	The Town has incorporated hazard mitigation information on the town website.	Continued integration will be pursued as opportunities arise.
Cape Carteret	Risk assessment findings and goals were integrated with Cape Carteret's RCCP Resilience Strategy. Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan to support CRS participation and for guidance regarding capital expenditures that will involve projects outlined in the plan update.
Cedar Point	The Town integrated the Hazard Mitigation Plan with 2024 updates to the UDO, Zoning Map, and Comprehensive Plan. Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to utilize this plan to support mitigation through land use planning and policies and to help implement the Town's CRS Program.
Emerald Isle	Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan to support CRS Program participation.
Indian Beach	No integration occurred	Integration will be pursued as opportunities arise.
Morehead City	Risk assessment findings, goals, objectives, and actions were integrated with the Town's Floodplain Management Plan update.	Continued integration will be pursued as opportunities arise.
Newport	Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan in this manner, as well as for guidance regarding capital expenditures that will involve projects outlined within this plan.
Peletier	No integration occurred	Integration will be pursued as opportunities arise.
Pine Knoll Shores	Risk assessment findings and goals were integrated with Pine Knoll Shores' RCCP Resilience Strategy. Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan to support CRS participation and for guidance regarding capital expenditures that will involve projects outlined in the plan update.
Craven County	The hazard mitigation plan has been integrated with Craven County's RCCP Resilience Strategy, CRS Program, emergency preparedness planning, and infrastructure planning.	The County will continue to use the plan to support CRS participation, emergency preparedness planning, and for guidance regarding capital expenditures.
Bridgeton	No integration occurred	Integration will be pursued as opportunities arise.
Cove City	No integration occurred	Integration will be pursued as opportunities arise.
Dover	No integration occurred	Integration will be pursued as opportunities arise.
Havelock	Havelock integrated hazard risk information and plan goals with the 2023 Land Use Plan update.	The HMP will continue to be referenced when land use policy is made with reference to development within flood hazard areas.

Jurisdiction	Integration of 2020 plan	Intended integration of this plan update
New Bern	New Bern used strategies in this plan to re-establish participation in the CRS Program.	The City will continue to use this plan to support implementation of CRS activities.
River Bend	Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan in this manner, as well as for guidance regarding capital expenditures that will involve projects outlined within this plan.
Trent Woods	No integration occurred	Integration will be pursued as opportunities arise.
Vanceboro	No integration occurred	Integration will be pursued as opportunities arise.
Pamlico County	The County has been integrating the hazard mitigation plan with community and economic development plans. Risk assessment findings and goals were integrated with Pamlico County's RCCP Resilience Strategy.	The County will continue to integrate hazard mitigation with community and economic development. The County will use the plan to support CRS participation and for guidance regarding capital expenditures that will involve projects outlined within this plan.
Alliance	No integration occurred	Integration will be pursued as opportunities arise.
Arapahoe	No integration occurred	Integration will be pursued as opportunities arise.
Bayboro	Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan in this manner, as well as for guidance regarding capital expenditures that will involve projects outlined within this plan.
Grantsboro	No integration occurred	Integration will be pursued as opportunities arise.
Mesic	No integration occurred	Integration will be pursued as opportunities arise.
Minnesott Beach	Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan in this manner, as well as for guidance regarding capital expenditures that will involve projects outlined within this plan.
Oriental	Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan in this manner, as well as for guidance regarding capital expenditures that will involve projects outlined within this plan.
Stonewall	Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan in this manner, as well as for guidance regarding capital expenditures that will involve projects outlined within this plan.
Vandemere	Risk assessment findings and goals were integrated with Vandemere's RCCP Resilience Strategy. Mitigation actions supported implementation of the Town's CRS Program.	The Town will continue to use the plan to support CRS participation and for guidance regarding capital expenditures that will involve projects outlined within this plan.

During the planning process, representatives from NCDEQ noted efforts to integrate the hazard mitigation plan with watershed planning through NC Blueprint. Other opportunities to integrate the requirements of

this plan into other local planning mechanisms shall continue to be identified through future meetings of the HMPC and through the five-year review process described herein. Although it is recognized that there are many possible benefits to integrating components of this plan into other local planning mechanisms, the development and maintenance of this stand-alone Hazard Mitigation Plan is deemed by the HMPC to be the most effective and appropriate method to implement local hazard mitigation actions.

8.2 MONITORING, EVALUATION, AND ENHANCEMENT

8.2.1 ROLE OF HMPC IN IMPLEMENTATION, MONITORING AND MAINTENANCE

With adoption of this plan, each jurisdiction will be responsible for the implementation and maintenance of their mitigation actions. The County Managers or Planning Directors will take the lead in all plan monitoring and update procedures. As such, the County Managers/Planning Directors agree to continue their relationship with the HMPC and:

- Act as a forum for hazard mitigation issues;
- Disseminate hazard mitigation ideas and activities to all participants;
- Pursue the implementation of high-priority, low/no-cost recommended actions;
- Ensure hazard mitigation remains a consideration for community decision makers;
- Maintain a vigilant monitoring of multi-objective cost-share opportunities to help the communities implement the plan's recommended actions for which no current funding exists;
- Monitor and assist in implementation and update of this plan;
- Report on plan progress and recommended revisions to their County Boards of Commissioners;
- Support local jurisdictions in reporting on plan progress and recommended revisions to their local governing bodies; and
- Inform and solicit input from the public.

The HMPC's primary duty moving forward is to see the plan successfully carried out and report to the individual County Boards of Commissioners, Town and City Councils, NCEM, FEMA, and the public on the status of plan implementation and mitigation opportunities. Other duties include reviewing and promoting mitigation proposals, considering stakeholder concerns about flood mitigation, passing concerns on to appropriate entities, and providing relevant information for posting on each County and local community websites (and others as appropriate).

Simultaneous to these efforts, it will be important to maintain a constant monitoring of funding opportunities that can be leveraged to implement some of the costlier recommended actions. This task will include creating and maintaining a bank of ideas on how to meet local match or participation requirements. When funding does become available, the Region, individual counties, and participating jurisdictions will be positioned to capitalize on the opportunity. Funding opportunities to be monitored include special pre- and post-disaster funds, state and federal earmarked funds, benefit assessments, and other grant programs, including those that can serve or support multi-objective applications.

8.2.2 MAINTENANCE SCHEDULE

Plan maintenance implies an ongoing effort to monitor and evaluate plan implementation and to update the plan as progress, roadblocks, or changing circumstances are recognized. The County

Managers/Planning Directors will reconvene the HMPC quarterly for regular reviews and plan maintenance. These meetings may be held in-person or via conference call or webinar. The HMPC will also convene to review the plan after significant hazard events. If determined appropriate or as requested, an annual report on the plan will be developed and presented to local governing bodies of participating jurisdictions to report on implementation progress and recommended changes.

The five-year written update to this plan will be submitted to the NCEM and FEMA Region 4, unless disaster or other circumstances (e.g., changing regulations) require a change to this schedule. With this plan update anticipated to be adopted and fully approved by 2025, the next plan update for the Pamlico Sound Region will be completed by 2030.

8.2.3 MAINTENANCE EVALUATION PROCESS

Evaluation of progress can be achieved by monitoring changes in vulnerabilities identified in the plan. Changes in vulnerability can be identified by noting:

- Decreased vulnerability as a result of implementing recommended actions;
- Increased vulnerability as a result of failed or ineffective mitigation actions; and/or
- Increased vulnerability as a result of new development (and/or annexation).

Updates to this plan will:

- Consider changes in vulnerability due to project implementation;
- Document success stories where mitigation efforts have proven effective;
- Document areas where mitigation actions were not effective;
- Document any new hazards that may arise or were previously overlooked;
- Incorporate new data or studies on hazards and risks;
- Incorporate new capabilities or changes in capabilities;
- Incorporate growth and development-related changes to Regional inventories; and
- Incorporate new project recommendations or changes in project prioritization.

In order to best evaluate any changes in vulnerability as a result of plan implementation, the HMPC will follow the following process:

- The HMPC representatives from each jurisdiction will be responsible for tracking and reporting on their mitigation actions. Jurisdictional representatives should provide input on whether the action as implemented met the defined objectives and/or is likely to be successful in reducing vulnerabilities.
- If the action does not meet identified objectives, the jurisdictional representatives will determine what additional measures may be implemented and will make any required modifications to the plan.
- All monitoring and implementation information will be reported to the full HMPC, led by the County Emergency Management/Planning Directors, during quarterly meetings. An annual plan maintenance report may be drafted as deemed necessary.

Changes will be made to the plan as needed to accommodate for actions that have failed or are not considered feasible after a review of their consistency with established criteria, time frame, community priorities, and/or funding resources. Actions that were not ranked high but were identified as potential mitigation activities will be reviewed during the monitoring and update of this plan to determine feasibility of future implementation. Updating of the mitigation action plans will be by written changes and submissions, as is appropriate and necessary, and as approved by the appropriate jurisdiction's local governing body.

Following a disaster declaration, the plan will be revised as necessary to reflect lessons learned, or to address specific issues and circumstances arising from the event. It will be the responsibility of the County Managers/Planning Directors to reconvene the HMPC and ensure the appropriate stakeholders are invited to participate in the plan revision and update process following declared disaster events.

CRITERIA FOR QUARTERLY REVIEWS IN PREPARATION FOR 5-YEAR UPDATE

The criteria recommended in 44 CFR 201 and 206 will be utilized in reviewing and updating the plan. More specifically, quarterly reviews will monitor changes to the following information:

- Community growth or change in the past quarter.
- The number of substantially damaged or substantially improved structures by flood zone.
- The renovations to public infrastructure including water, sewer, drainage, roads, bridges, gas lines, and buildings.
- Natural hazard occurrences that required activation of the Emergency Operations Center (EOC) and whether the event resulted in a presidential disaster declaration.
- Natural hazard occurrences that were not of a magnitude to warrant activation of the EOC or a federal disaster declaration but were severe enough to cause damage in the community or closure of businesses, schools, or public services.
- The dates of hazard events descriptions.
- Documented damages due to the event.
- Closures of places of employment or schools and the number of days closed.
- Road or bridge closures due to the hazard and the length of time closed.
- Assessment of the number of private and public buildings damaged and whether the damage was minor, substantial, major, or if buildings were destroyed. The assessment will include residences, mobile homes, commercial structures, industrial structures, and public buildings, such as schools and public safety buildings.
- Review of any changes in federal, state, and local policies to determine the impact of these policies on the community and how and if the policy changes can or should be incorporated into the Hazard Mitigation Plan. Review of the status of implementation of projects (mitigation strategies) including projects completed will be noted. Projects behind schedule will include a reason for delay of implementation.

8.3 CONTINUED PUBLIC INVOLVEMENT

Continued public involvement is imperative to the overall success of the plan's implementation. The quarterly review process will provide an opportunity to solicit participation from new and existing stakeholders and to publicize success stories from the plan implementation and seek additional public comment. Efforts to involve the public in the maintenance, evaluation, and revision process may include:

- Advertising HMPC meetings in the local newspaper, public bulletin boards and/or City and County office buildings;
- Designating willing citizens and private sector representatives as official members of the HMPC;
- Utilizing local media to update the public of any maintenance and/or review activities;
- Utilizing City and County websites to advertise any maintenance and/or review activities;
- Maintaining copies of the plan in public libraries or other appropriate venues;
- Posting annual progress reports on the Plan to County, City, and Town websites;

- Heavy publicity of the plan and potential ways for the public to be involved after significant hazard events, tailored to the event that has just happened;
- Keeping websites, social media outlets, etc. updated;
- Drafting articles for the local community newspapers/newsletters;
- Utilizing social media accounts (e.g. Twitter, Facebook).

PUBLIC INVOLVEMENT FOR FIVE-YEAR UPDATE

When the HMPC reconvenes for the five-year update, they will coordinate with all stakeholders participating in the planning process—including those that joined the committee since the planning process began—to update and revise the plan. In reconvening, the HMPC will be responsible for coordinating the activities necessary to involve the greater public, including disseminating information through a variety of media channels detailing the plan update process. As part of this effort, public meetings will be held, and public comments will be solicited on the plan update draft. The HMPC will continue to reach out to stakeholders and organizations that can represent or connect with vulnerable populations and underserved communities.

9 PLAN ADOPTION

Requirement §201.6(c)(5): [The plan shall include] documentation that the plan has been formally approved by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council).

The purpose of formally adopting this plan is to secure buy-in, raise awareness of the plan, and formalize the plan's implementation. The adoption of this plan completes Planning Step 9 (Adopt the Plan) of the 10-step planning process, in accordance with the requirements of DMA 2000. FEMA Approval Letters and community adoption resolutions are provided below.

U.S. Department of Homeland Security
Region 4
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

April 30, 2025

Mr. Steve McGugan
State Hazard Mitigation Officer
Assistant Director / Mitigation Section Chief
Division of Emergency Management, NC Department of Public Safety
200 Park Offices Drive
Durham, NC 27713

Reference: Pamlico Sound Regional Hazard Mitigation Plan

Dear Mr. McGugan:

We are pleased to inform you the Pamlico Sound Regional Hazard Mitigation Plan update complies with the Federal hazard mitigation planning requirements resulting from the Disaster Mitigation Act of 2000, as contained in 44 CFR §201.6. FEMA approval does not include the review or approval of content that exceeds these applicable FEMA mitigation planning requirements. Effective April 30, 2025, the plan is approved for a period of five (5) years to April 29, 2030.

Enclosed is the status of all participating jurisdictions. Approved jurisdictions are eligible applicants through the State for the following mitigation grant programs administered by the Federal Emergency Management Agency (FEMA):

- Hazard Mitigation Grant Program (HMGP)
- Flood Mitigation Assistance (FMA)

Please note that all funding requests will be evaluated individually according to the program's specific eligibility requirements.

The State and all plan participants should be commended for their close coordination and communications with our office in the review and subsequent approval of the plan. If you or any plan participant need assistance, please do not hesitate to contact Kymberly Kudla, of my staff, at (202) 655-6712.

Sincerely,

Kristen M. Martinenza

Kristen M. Martinenza, P.E.
Risk Analysis Branch Chief

Enclosure

Enclosure: Plan Participant Status List

Attached is the list of participating jurisdictions in the referenced hazard mitigation plan.

Community Name	Jurisdiction Status	Date Approved by FEMA
1) Alliance town	APA	
2) Arapahoe town	APA	
3) Atlantic Beach town	APA	
4) Aurora town	APA	
5) Bath town	APA	
6) Bayboro town	APA	
7) Beaufort County	APA	
8) Beaufort town	APA	
9) Belhaven town	APA	
10) Bogue town	APA	
11) Bridgeton town	APA	
12) Cape Carteret town	APA	
13) Carteret County	APA	
14) Cedar Point town	APA	
15) Chocowinity town	APA	
16) Cove City town	APA	
17) Craven County	APA	
18) Dover town	APA	
19) Emerald Isle town	APA	
20) Grantsboro town	APA	
21) Havelock city	APA	
22) Indian Beach town	APA	
23) Mesic town	APA	
24) Minnesott Beach town	APA	
25) Morehead City town	APA	
26) New Bern city	APA	
27) Newport town	APA	
28) Oriental town	APA	

Community Name	Jurisdiction Status	Date Approved by FEMA
29) Pamlico County	APA	
30) Pantego town	APA	
31) Peletier town	APA	
32) Pine Knoll Shores town	APA	
33) River Bend town	Approved	4/30/25
34) Stonewall town	APA	
35) Trent Woods town	APA	
36) Vanceboro town	APA	
37) Vandemere town	APA	
38) Washington city	APA	
39) Washington Park town	APA	

U.S. Department of Homeland Security
Region 4
3005 Chamblee Tucker Road
Atlanta, GA 30341

FEMA

January 22, 2026

Mr. Steve McGugan
State Hazard Mitigation Officer
Assistant Director / Mitigation Section Chief
Division of Emergency Management, NC Department of Public Safety
200 Park Offices Drive
Durham, NC 27713

Reference: Pamlico Sound Regional Hazard Mitigation Plan

Dear Mr. McGugan:

This is a follow-up to our previous correspondence of April 30, 2025, in which we approved the Pamlico Sound Regional Hazard Mitigation Plan and all participating jurisdictions that originally submitted adoption resolutions. We have recently received and approved additional resolution(s) for inclusion. FEMA approval does not include the review or approval of content that exceeds the applicable FEMA mitigation planning requirements.

Enclosed is the status of all participating jurisdictions. Approved jurisdictions are eligible applicants through the State for the following mitigation grant programs administered by the Federal Emergency Management Agency (FEMA):

- Hazard Mitigation Grant Program (HMGP)
- Flood Mitigation Assistance (FMA)

Please note that all funding requests will be evaluated individually according to the program's specific eligibility requirements.

If you or any plan participant need assistance, please do not hesitate to contact Kymberly Kudla, of my staff, at (202) 655-6712.

Sincerely,

Kristen M. Martinenza, P.E.
Risk Analysis Branch Chief

Enclosure

Enclosure: Plan Participant Status List

Attached is the list of participating jurisdictions in the referenced hazard mitigation plan.

Jurisdiction Name	Jurisdiction Status	Date Approved by FEMA
1) Alliance town	Approved	12/19/25
2) Arapahoe town	Approved	1/21/26
3) Atlantic Beach town	Approved	12/19/25
4) Aurora town	Approved	9/11/25
5) Bath town	Approved	11/17/25
6) Bayboro town	Approved	10/21/25
7) Beaufort County	Approved	7/2/25
8) Beaufort town	Approved	5/16/25
9) Belhaven town	Approved	6/18/25
10) Bogue town	Approved	7/30/25
11) Bridgeton town	Approved	1/22/26
12) Cape Carteret town	Approved	6/18/25
13) Carteret County	Approved	5/27/25
14) Cedar Point town	Approved	6/30/25
15) Chocowinity town	Approved	11/17/25
16) Cove City town	Approved	11/17/25
17) Craven County	Approved	6/10/25
18) Dover town	Approved	9/23/25
19) Emerald Isle town	Approved	7/11/25
20) Grantsboro town	Approved	8/8/25
21) Havelock city	Approved	6/10/25
22) Indian Beach town	Approved	5/27/25
23) Mesic town	Approved	5/13/25
24) Minnesott Beach town	Approved	7/10/25
25) Morehead City town	Approved	7/10/25
26) New Bern city	Approved	8/18/25
27) Newport town	Approved	7/30/25
28) Oriental town	Approved	6/11/25

Jurisdiction Name	Jurisdiction Status	Date Approved by FEMA
29) Pamlico County	Approved	10/15/25
30) Pantego town	Approved	12/9/25
31) Peletier town	Approved	8/18/25
32) Pine Knoll Shores town	Approved	7/8/25
33) River Bend town	Approved	4/30/25
34) Stonewall town	Approved	11/17/25
35) Trent Woods town	Approved	12/19/25
36) Vanceboro town	Approved	7/8/25
37) Vandemere town	Approved	7/17/25
38) Washington city	Approved	5/13/25
39) Washington Park town	Approved	5/7/25

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Beaufort County are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Beaufort County desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five-year cycle; and

WHEREAS, Beaufort County has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of Beaufort County to fulfill this obligation in order that Beaufort County will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting Beaufort County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Beaufort County hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this June 2, 2025.

Frankie Waters, Chair
Beaufort County Board of Commissioners

Attest:

Kathleen Mosher, Clerk
Beaufort County Board of Commissioners

Certified by: Angela R Pitts (SEAL)

Date: June 11, 2025

Angela R Pitts
NOTARY PUBLIC
Beaufort County
North Carolina
My Commission Expires June 5, 2027

RESOLUTION
ADOPTING PAMLICO SOUND REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Aurora are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the region are particularly vulnerable to drought, excessive heat, hurricane and coastal hazards, thunderstorm, tornado, winter weather, flooding, wildfire, hazardous substances, cyber threat, terrorism, and infrastructure failure; and

WHEREAS, the Town of Aurora desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Aurora has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners for the Town of Aurora to fulfill this obligation in order that the Town of Aurora will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of the Town of Aurora hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Vests Town of Aurora with the responsibility, authority, and the means to:

   (a) Inform all concerned parties of this action.
   (b) Cooperate with Federal, State and local agencies and private firms which undertake to study, survey, map and identify floodplain areas, and cooperate with neighboring communities with respect to management of adjoining floodplain areas in order to prevent exacerbation of existing hazard impacts.

3. Appoints Beaufort County Emergency Management to assure that the Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to the Town of Aurora Board of Commissioners for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 2nd day of September, 2025.

Clif Williams, Mayor
Town of Aurora Board of Commissioners

Attest:

Judith S. Lannon, Clerk

Certified by: Judith S. Lannon (SEAL)

Date: September 2, 2025

2

TOWN OF BATH

RESOLUTION ADOPTING THE
PAMLICO SOUND REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the Town of Bath, NC is vulnerable to an array of natural hazards that can cause loss of life and damages to public and private property; and

WHEREAS, the Town of Bath, NC desires to seek ways to mitigate situations that may aggravate such circumstances; and

WHEREAS, the development and implementation of a hazard mitigation plan can result in actions that reduce the long-term risk to life and property from hazard hazards; and

WHEREAS, it is the intent of the Bath, NC Town Council to protect its citizens and property from the effects of natural hazards by preparing and maintaining a local hazard mitigation plan; and

WHEREAS, it is also the intent of the Bath, NC Town Council to fulfill its obligation under North Carolina General Statutes, Chapter 166A: North Carolina Emergency Management Act and Section 322: Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act to remain eligible to receive state and federal assistance in the event that a declared disaster affecting the Town of Bath, NC; and

WHEREAS, the Town of Bath, NC actively participated in the planning process of the Pamlico Sound Regional Hazard Mitigation Plan and has prepared a regional hazard mitigation plan with the input from the appropriate local and state officials; and

WHEREAS, the North Carolina Division of Emergency Management and the Federal Emergency Management Agency have reviewed the Pamlico Sound Regional Hazard Mitigation Plan for legislative compliance and have approved the plan pending the completion of local adoption procedures;

NOW, THEREFORE, be it resolved that the Bath, NC Town Council hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan; and

2. Vests the Town Administration with the responsibility, authority, and the means to:

   (a) Inform all concerned parties of this action.
   (b) Cooperate with Federal, State and local agencies and private firms which undertake the study, survey, map, and identify floodplain or flood-related erosion areas, and cooperate with neighboring communities with respect to the management of adjoining floodplain and/or flood related erosion areas in order to prevent aggravation of existing hazards.

3. Appoints the Town Administrator to assure that, in cooperation with the other participating jurisdictions, the Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all

all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to Bath, NC Town Council for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the 2020 Pamlico Sound Regional Hazard Mitigation Plan.

Adopted this 11 day of August, 2025.

TOWN OF BATH, NC

(SEAL)
JAMES L LATHAM, SR., MAYOR

ATTEST:

(SEAL)
MARION E. CARSON,
TOWN ADMINISTRATOR

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Belhaven are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town of Belhaven desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Belhaven has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Alderman of the Town of Belhaven to fulfill this obligation in order that the Town of Belhaven will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town of Belhaven;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Alderman hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the May 12,2025.

Ricky Credle, Mayor

Ricky Credle, Mayor

Attest:

Kimberly Scott, Clerk

Certified by: _____ (SEAL)

Date: _____

2

RESOLUTION
ADOPTING PAMLICO SOUND REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Chocowinity are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the region are particularly vulnerable to drought, excessive heat, hurricane and coastal hazards, thunderstorm, tornado, winter weather, flooding, wildfire, hazardous substances, cyber threat, terrorism, and infrastructure failure; and

WHEREAS, the Town of Chocowinity desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Chocowinity has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Town Board to fulfill this obligation in order that the Town of Chocowinity will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of the Town of Chocowinity hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Vests County as the Designated Representative with the responsibility, authority, and the means to:

1

(a) Inform all concerned parties of this action.
(b) Cooperate with Federal, State and local agencies and private firms which undertake to study, survey, map and identify floodplain areas, and cooperate with neighboring communities with respect to management of adjoining floodplain areas in order to prevent exacerbation of existing hazard impacts.

3. Appoints Beaufort County Emergency Management to assure that the Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to the Town of Chocowinity Board of Commissioners for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 14th day of October, 2025.

James H. Mobley, Jr., Mayor
Town of Chocowinity

Attest:

Michelle Peele, Interim Town Clerk
Town of Chocowinity

Certified by: _____ (SEAL)

Date: 10/14/25

MICHELLE K PEELE
NOTARY PUBLIC
My Commission Expires
11-17-27
BEAUFORT COUNTY, NC

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Beaufort County, Pantego are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Beaufort County, Pantego desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Beaufort County, Pantego has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Council of Beaufort County, Pantego to fulfill this obligation in order that the Beaufort County, Pantego will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Council hereby:

1

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the November 10, 2025.

Oran M. Benson Jr.
Oran Mart Benson, Jr., Co-Chair
Pantego Mayor Pro-Tem

Attest:
Bobbie Jo Ricks, Clerk
Pantego Town Clerk

Certified by: Bobbie J Ricks (SEAL)

Date: 11/17/2025

2

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Washington, NC are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Washington, NC desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, Washington, NC has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the City Council of Washington, NC to fulfill this obligation in order that the Washington, NC municipality will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Washington, NC;

NOW, THEREFORE, be it resolved that the City Council of Washington, NC hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the May 12, 2025.

Donald R. Sadler, Mayor

Attest:

Cynthia S. Bennett, City Clerk

Certified by: Cynthia S. Bennett (SEAL)

Date: 5-12-25

2

TOWN OF WASHINGTON PARK

RESOLUTION

ADOPTING THE PAMLICO SOUND REGIONAL HAZARAD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Washington Park are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town of Washington Park desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five-year cycle; and

WHEREAS, the Town of Washington Park has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of the Town of Washington Park to fulfill this obligation in order that the Town of Washington Park will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

CONTINUED NEXT PAGE

NOW, THEREFORE, be it resolved that the Board of Commissioners of the Town of Washington Park hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 5th day of May, 2025.

Thomas B. Richter, Mayor

ATTEST:

April S. Alligood, Town Clerk

(SEAL)

Date: May 5, 2025

Board of Commissioners
Chris Chadwick, Chair
Mark Mansfield, Vice-Chair
Chimer Clark
Keith Moore
David Quinn
Chuck Shinn
Marianne Waldrop

County Manager/County Attorney
Sharon D. Griffin

Clerk to the Board
Lori R. Turner

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Carteret County are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Carteret County desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five-year cycle; and

WHEREAS, Carteret County has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of Carteret County to fulfill this obligation in order that the County will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Carteret County, North Carolina hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 19th day of May 2025.

Chris Chadwick, Chair
Carteret County Board of Commissioners

Attest:
Lori Turner
Clerk to the Board

Carteret County Courthouse • 302 Courthouse Square • Beaufort, NC 28516-1898
www.carteretcountync.gov

Resolution 25-04-02

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Atlantic Beach are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Town of Atlantic Beach desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Atlantic Beach has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Town Council of Town of Atlantic Beach to fulfill this obligation in order that the Town of Atlantic Beach will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Town Council of Town of Atlantic Beach hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this 21st day of April, 2025.

ATTEST:

Katrina Tyer - Town Clerk

Danny Navey - Mayor

TOWN OF BEAUFORT RESOLUTION ADOPTING
THE PAMLICO SOUND REGIONAL HAZARD MITIGATION PLAN
RESOLUTION NO. 25-007

WHEREAS, the citizens and property within Beaufort, North Carolina are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Beaufort desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Beaufort has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

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WHEREAS, it is the intent of the Board of Commissioners of Beaufort to fulfill this obligation in order that the Beaufort will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Beaufort;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Beaufort hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan, which can be found online at https://pamlicosoundhmp.com/.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this 12th day of May 2025.

Sharon E. Harker

Sharon E. Harker, Mayor

Attest:

Elizabeth Lewis

Elizabeth Lewis, Clerk

SEAL OF TOWN OF BEAUFORT · NORTH CAROLINA
TOWN OF BEAUFORT
17 22
North Carolina
INC. 1722

Certified by: Town of Beaufort (SEAL)

Date: 5/12/2025

2

Mayor Robert O'Chat
Mayor Pro Tem David Padgett
Councilmember Albert Taylor
Councilmember Mike Crose

Councilmember John Dale
Councilmember Allison Cannon
Town Clerk Barbara Owens
Town Attorney Donna Boggs

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Bogue are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town of Bogue desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Bogue has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Town Council of the Town of Bogue to fulfill this obligation in order that the Town of Bogue will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Town Council of the Town of Bogue hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the July 21, 2025.

Robert O'Chat, Mayor

Attest:

Barbara Owens, Town Clerk

Certified by: _____ (SEAL)

Date: 072525

TOWN OF BOGUE CORPORATE SEAL 09/1995 NORTH CAROLINA

Mayor Will Baker
Mayor Pro Tem Steve Martin
Commissioner Courtney Barnhill
Commissioner Charlie Morgan

Commissioner John Ritchie
Commissioner Cameron Watts
Town Manager Gene Foxworth
Town Attorney Brett DeSelms

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Town of Cape Carteret are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town of Cape Carteret desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Cape Carteret has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of the Town of Cape Carteret to fulfill this obligation in order that the Town will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town;

NOW, THEREFORE, be it resolved that the Board of Commissioners of the Town of Cape Carteret hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 9th day of June, 2025.

Will Baker
Mayor

Attest:

Heather Leffingwell
Town Clerk

Certified by: Heather Leffingwell (SEAL)

Date: 6/9/2025

The Town of Cape Carteret - SEAL - June 3, 1959 Carteret County, N.C.

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Cedar Point are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, The Town of Cedar Point desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Cedar Point has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of the Town of Cedar Point to fulfill this obligation in order that the Town will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town;

NOW, THEREFORE, be it resolved that the Board of Commissioners of the Town of Cedar Point hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 24th day of June, 2025.

Scott Hatsell, Mayor

Attest:

Jayne Beyer, Town Clerk

Certified by: (SEAL)

Date: June 24, 2025

THE TOWN OF CEDAR POINT CORPORATE SEAL 1988 NORTH CAROLINA

2

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Emerald Isle are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Emerald Isle desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Emerald Isle has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of Emerald Isle to fulfill this obligation in order that the Town of Emerald Isle will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Emerald Isle hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the May 13, 2025.

Jason Holland, Mayor
Emerald Isle Board of Commissioners

Attest:

Jennifer Welborn, Town Clerk
Emerald Isle Board of Commissioners

Certified by:

Date: 5/13/25

Town of Indian Beach

Elizabeth (Dale) Williford, Mayor
Michael Luther Mayor Pro Tem

Commissioners
Randell Bentley
Sam Lovelace
Ryan Kelley

Tim White
Town Manager

1400 Salter Path Rd
Indian Beach, NC 28512

(252) 247-3344

Ashley Brigman
Town Clerk

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Indian Beach are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Indian Beach desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, Indian Beach has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of Indian Beach to fulfill this obligation in order that Indian Beach will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting Indian Beach;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Indian Beach hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the DATE, May 14th 2025.

Elizabeth Dale Williford

Elizabeth Dale Williford Mayor

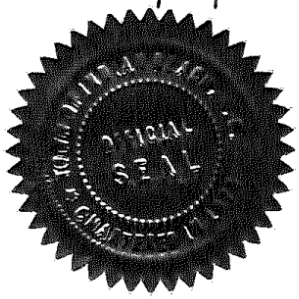
Attest:

Ashley Brigman

Ashley Brigman Town Clerk

Certified by: Ashley Brigman (SEAL)

Date: 5/20/2025



COUNCIL
George W. Ballou, Mayor Pro Tem
Richard Abell
Lee Anthony Stiles
William F. Taylor
Harvey N. Walker, Jr.

Gerald A. Jones, Jr., Mayor

MOREHEAD CITY
RESOLUTION No. 2025-R-40

RESOLUTION ADOPTING THE PAMLICO SOUND REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Morehead City are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Morehead City desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, Morehead City has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the City Council of Morehead City to fulfill this obligation in order that Morehead City will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the City Council of Morehead City hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

ADOPTED this, the 8th day of July 2025.

Gerald A. Jones, Jr., Mayor

ATTEST:

Cathy Campbell, City Clerk

SEAL OF MOREHEAD CITY NORTH CAROLINA ★ INC. 1858 ★

RESOLUTION
R 2025-05
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Town of Newport are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Town of Newport desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Newport has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Town Council of the Town of Newport to fulfill this obligation in order that the Town of Newport will be eligible for federal and state

1

assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Town Council of the Town of Newport hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 8th day of May 2025.

D.R. Barber
Dennis Barber, Mayor
Town of Newport

Attest:
Kelley A. Caldwell
Kelley A. Caldwell, Clerk
Town of Newport

TOWN OF NEWPORT SEAL INCORPORATED 1866 NORTH CAROLINA

(SEAL)

2

TOWN OF PELETIER

RESOLUTION ADOPTING PAMLICO SOUND REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Peletier ("Town") are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000, as amended, states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five-year cycle; and

WHEREAS the Town has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations and at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management, and that the plans have been updated in accordance with federal laws including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; the National Dam Safety Program Act, as amended; as required under regulations at 44 CFR Part 201, and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management; and

WHEREAS, it is the intent of the Board of Commissioners of the Town of Peletier to fulfill this obligation in order that the Town will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town;

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NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of the Town of Peletier hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan; and

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 4th day of August 2025.

Dale Sowers, Mayor

Attest:

Bea Cunningham, Town Clerk

Certified by: _____ (SEAL)

Date: 8-4-25

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Pine Knoll Shores are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Pine Knoll Shores desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Pine Knoll Shores has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of The Town of Pine Knoll Shores to fulfill this obligation in order that the Town of Pine Knoll Shores will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of the Town of Pine Knoll Shores hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

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2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 14th Day of May, 2025.

John R. Brodman, Mayor
Town of Pine Knoll Shores

Attest:

Missy Shine, Town Clerk
Town of Pine Knoll Shores

Certified by: _____ (SEAL)

Date: 5/15/25

CRAVEN COUNTY
RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Craven County are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Craven County desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, Craven County has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of Craven County to fulfill this obligation in order that Craven County will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Craven County hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

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2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this 2nd day of June 2025.

Dennis Bucher, Chairman
Craven County Board of Commissioners

Attest:

Abigail G. Wilson, Clerk
Craven County Board of Commissioners

Certified by: Abigail G. Wilson (SEAL)

Date: June 2, 2025

2

TOWN OF BRIDGETON

RESOLUTION ADOPTING PAMLICO SOUND REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Bridgeton ("Town") are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000, as amended, states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations and at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management, and that the plans have been updated in accordance with federal laws including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; the National Dam Safety Program Act, as amended; as required under regulations at 44 CFR Part 201, and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management; and

WHEREAS, it is the intent of the Board of Commissioners of the Town of Bridgeton to fulfill this obligation in order that the County will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, BE IT RESOLVED that the Board of Commissioners of the Town of Bridgeton hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 12th day of January 2026.

John Chittick, Mayor

Attest:

Stephanie Semprini, Town Clerk

Certified by: _____(SEAL)

Date: 1/12/2026

TOWN OF COVE CITY, COUNTY OF CRAVEN

RESOLUTION ADOPTING THE PAMLICO SOUND REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the Town of Cove City, County of Craven is vulnerable to an array of natural hazards that can cause loss of life and damages to public and private property; and

WHEREAS, the County and participation municipal jurisdictions desire to seek ways to mitigate situations that may aggravate such circumstances; and

WHEREAS, the development and implementation of a hazard mitigation plan can result in actions that reduce the long-term risk to life and property from such hazards; and

WHEREAS, it is the intent of the Town of Cove City, County of Craven, Town of Cove City Board of Commissioners to protect its citizens and property from the effects of natural hazards by preparing and maintaining a local hazard mitigation plan; and

WHEREAS, it is also the intent of the County of Craven, Town of Cove City Board of Commissioners to fulfill its obligation under North Carolina General Statutes, Chapter 166A:North Carolina Emergency Management Act and Section 322:Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act to remain eligible to receive state and federal assistance in the event that a declared disaster affecting the County of Craven, Town of Cove City; and

WHEREAS, the County of Craven, Town of Cove City actively participated in the planning process of the Pamlico Sound Regional Hazard Mitigation Plan and has prepared a regional hazard mitigation plan with input from the appropriate local and state officials; and

WHEREAS, the North Carolina Division of Emergency Management and the Federal Emergency Management Agency have reviewed the Pamlico Sound Regional Hazard Mitigation Plan for legislative compliance and have approved the plan pending the completion of local adoption procedures;

NOW,THEREFORE, be it resolved the Board of Commissioners of County of Craven, Town of Cove City hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan; and
2. Vests Dred C. Mitchell Jr., Mayor with the responsibility, authority, and the means to:
    a. Inform all concerned parties of this action.
    b. Cooperate with Federal, State, and local agencies and private firms which undertake to study, survey, map, and identify floodplain or flood-related

erosion areas, and cooperate with neighboring communities with respect to management of adjoining floodplain and /or flood-related erosion areas in order to prevent aggravation of existing hazards.

3. Appoints Dred C. Mitchell, Jr., Mayor to assure that, in cooperation with the other participating jurisdictions, the Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to Craven County, Town of Cove City Board of Commissioners for consideration.
4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the 2025 Pamlico Sound Regional Hazard Mitigation Plan.

Adopted this 3rd day of November,2025

Dred C. Mitchell Jr., Mayor

Town of Cove City

(SEAL)

ATTEST:

Lydia Parker Monette, Town Clerk

Town of Cove City

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Dover are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Town of Dover desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Dover has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of Dover to fulfill this obligation in order that the Town of Dover will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Dover hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 1st day of July, 2025.

William R. Mitchell Jr.
Name, Chair
Mayor

Attest:

Brenda Ingram
Name, Clerk

TOWN OF DOVER MUNICIPAL CORPORATION
SEAL
1901
CRAVEN COUNTY, N.C.

Certified by: Brenda Ingram (SEAL)

Date: July 1, 2025

2

CITY OF HAVELOCK
RESOLUTION #25-R-14
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the City of Havelock are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the City of Havelock desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the City of Havelock has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of the City of Havelock to fulfill this obligation in order that the City of Havelock will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of the City of Havelock hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

ADOPTED, this the 2nd day of June, 2025.

William L. Lewis, Jr. Mayor
City of Havelock

Attest:

Melanie Pool, Acting City Clerk
City of Havelock

Certified by: (SEAL)

Date: June 2, 2025

CITY OF HAVELOCK INCORPORATED SEAL 1959 NORTH CAROLINA

2

25-078

RESOLUTION ADOPTING
THE 2025 PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the City of New Bern are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the City of New Bern desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000, as amended, states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS the (local government) has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations and at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management, and that the plans have been updated in accordance with federal laws including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; the National Dam Safety Program Act, as amended; as required under regulations at 44 CFR Part 201, and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management; and

1

WHEREAS, it is the intent of the Board of Commissioners of the City of New Bern to fulfill this obligation in order that the County will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Aldermen of the City of New Bern does hereby:

1. Adopt the 2025 Pamlico Sound Regional Hazard Mitigation Plan.

2. Vests the City Manager Emergency Management with the responsibility, authority, and the means to:

   (a) Inform all concerned parties of this action.
   (b) Cooperate with Federal, State and local agencies and private firms which undertake to study, survey, map and identify floodplain areas, and cooperate with neighboring communities with respect to management of adjoining floodplain areas in order to prevent exacerbation of existing hazard impacts.

3. Appoints the City Manager Emergency Management to assure that the Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to the City of New Bern Board of Aldermen for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 12th day of August, 2025.

JEFFREY T. ODHAM, MAYOR

Attest:

Brenda E. Blanco

BRENDA E. BLANCO, CITY CLERK

2

TOWN OF RIVER BEND

RESOLUTION ADOPTING THE
PAMLICO SOUND REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the Town of River Bend is vulnerable to an array of natural hazards that can cause loss of life and damages to public and private property; and

WHEREAS, the County and participating municipal jurisdictions desire to seek ways to mitigate situations that may aggravate such circumstances; and

WHEREAS, the development and implementation of a hazard mitigation plan can result in actions that reduce the long-term risk to life and property from hazard hazards; and

WHEREAS, it is the intent of the River Bend Town Council to protect its citizens and property from the effects of natural hazards by preparing and maintaining a local hazard mitigation plan; and

WHEREAS, it is also the intent of the River Bend Town Council to fulfill its obligation under North Carolina General Statutes, Chapter 166A: North Carolina Emergency Management Act and Section 322: Mitigation Planning of the Robert T. Stafford Disaster Relief and Emergency Assistance Act to remain eligible to receive state and federal assistance in the event that a declared disaster affecting River Bend; and

WHEREAS, the Town of River Bend actively participated in the planning process of the Pamlico Sound Regional Hazard Mitigation Plan and has prepared a regional hazard mitigation plan with input from the appropriate local and state officials; and

WHEREAS, the North Carolina Division of Emergency Management is reviewing the Pamlico Sound Regional Hazard Mitigation Plan for legislative compliance and the plan can only be approved after completion of local adoption procedures;

NOW, THEREFORE, be it resolved that the Town Council of River Bend hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan; and

2. Vests the Town Manager with the responsibility, authority, and the means to:

    (a) Inform all concerned parties of this action.
    (b) Cooperate with Federal, State and local agencies and private firms which undertake to study, survey, map, and identify floodplain or flood-related erosion areas, and cooperate with neighboring communities with respect to management of adjoining floodplain and/or flood-related erosion areas in order to prevent aggravation of existing hazards.

3. Appoints the Town Manager to assure that, in cooperation with the other participating jurisdictions, the Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to the River Bend Town Council for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the 2025 Pamlico Sound Regional Hazard Mitigation Plan.

Adopted this 20th day of March, 2025.

Mark Bledsoe, Mayor

(Seal)

Kristie J. Nobles, NCCMC, MMC, Town Clerk

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Trent Woods are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town of Trent Woods desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five-year cycle; and

WHEREAS, the Town of Trent Woods has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of the Town of Trent Woods to fulfill this obligation in order that the Town of Trent Woods will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Trent Woods hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the May 13, 2025.

Mayor
Charles F. Tyson, Jr.

Attest:

Holly Willis, Town Clerk

Certified by: Holly Willis (SEAL)

Date: 05-14-2025

2

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Town of Vanceboro are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Town of Vanceboro desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Vanceboro has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Alderman of Town of Vanceboro to fulfill this obligation in order that the Town of Vanceboro will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town of Vanceboro;

NOW, THEREFORE, be it resolved that the Board of Alderman of Town of Vanceboro hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the July 7, 2025.

Chad E. Braxton
Mayor

Attest:

Beverly W. Drake, Clerk

Certified by: Brittany S. Mumford (SEAL)

Date: 7/8/25

BRITTANY S MUMFORD NOTARY PUBLIC CRAVEN COUNTY, NC

2

RESOLUTION
ADOPTING PAMLICO SOUND REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Pamlico County are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Pamlico County desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000, as amended, states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS the (local government) has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations and at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management, and that the plans have been updated in accordance with federal laws including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; the National Dam Safety Program Act, as amended; as required under regulations at 44 CFR Part 201, and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management; and

WHEREAS, it is the intent of the Board of Commissioners of Pamlico County to fulfill this obligation in order that the County will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

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NOW, THEREFORE, be it resolved that the Board of Commissioners of Pamlico County hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Vests Pamlico County Emergency Management with the responsibility, authority, and the means to:

   (a) Inform all concerned parties of this action.
   (b) Cooperate with Federal, State and local agencies and private firms which undertake to study, survey, map and identify floodplain areas, and cooperate with neighboring communities with respect to management of adjoining floodplain areas in order to prevent exacerbation of existing hazard impacts.

3. Appoints Pamlico County Emergency Management to assure that the Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to the Pamlico County Board of Commissioners for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 10th day of October 2025.

Ed Riggs Jr., Chairman

Attest:

Tracy Boyd, ~~Clerk~~ to the Board

Certified by: Tracy Boyd (SEAL)

Date: 10/6/2025

2

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property with the Town of Alliance are subject to the effects of natural hazards and pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorms, wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town of Alliance desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D of the North Carolina General Statutes, delegated to local government units the responsibility to adopt regulations designed to promote the public health, safety and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (State emergency assistance funds) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, The Town of Alliance has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations

at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of the Town of Alliance to fulfill this obligation in order that the Town of Alliance will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town of Alliance.

NOW, THEREFORE, be it resolved that the Board of Commissioners of the Town of Alliance hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this, the 12th day of May, 2025.

John W. Riggs, Mayor

RESOLUTION
ADOPTING PAMLICO SOUND REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Arapahoe are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Pamlico County desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000, as amended, states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS the (local government) has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations and at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management, and that the plans have been updated in accordance with federal laws including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; the National Dam Safety Program Act, as amended; as required under regulations at 44 CFR Part 201, and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management; and

WHEREAS, it is the intent of the Board of Commissioners of the Town of Arapahoe to fulfill this obligation in order that the County will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

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NOW, THEREFORE, be it resolved that the Board of Commissioners of Arapahoe hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Vests Pamlico County Emergency Management with the responsibility, authority, and the means to:

   (a) Inform all concerned parties of this action.
   (b) Cooperate with Federal, State and local agencies and private firms which undertake to study, survey, map and identify floodplain areas, and cooperate with neighboring communities with respect to management of adjoining floodplain areas in order to prevent exacerbation of existing hazard impacts.

3. Appoints Pamlico County Emergency Management to assure that the Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to the Pamlico County Board of Commissioners for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 13th day of January 2026.

Brandi Prescott Robertson, Mayor
Name, Chair
Arapahoe Board of Commissioners

Attest:
Name, Clerk
Arapahoe Board of Commissioners

Certified by: _____ (SEAL)

Date: _____

RESOLUTION OF ADOPTION

TOWN OF BAYBORO

HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Bayboro ("Town") are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the Town are particularly vulnerable to the effects of natural hazards including, but not limited to flooding, high and dangerous winds, and other hazards resulting from hurricanes, tornados, and similar weather events; and

WHEREAS, the Town desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3, 5, and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizens; and

WHEREAS, the Legislature of the State of North Carolina has in Section 1 Part 166A of the North Carolina General Statutes (adopted in Session Law 2001-214 --- Senate Bill 300 effective July 1, 2001), states therein in Item (a) (2) "For a state of disaster proclaimed pursuant to G.S. 166A-6(a) after August 1, 2002, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act"; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop a Hazard Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town, in co-operation with Pamlico County and other participating jurisdictions, has performed a comprehensive review and evaluation of each section of the previously approved and adopted the Pamlico Sound Regional Hazard Mitigation Plan and has updated said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, adoption of the Pamlico Sound Regional Hazard Mitigation Plan will promote the health, safety, and welfare of the Town's citizens and will also meet the obligations under Section 322 of the Federal Disaster Mitigation Act of 2000 requiring local governments to develop a Hazard Mitigation Plan to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding.

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WHEREAS, it is the intent of the Board of Commissioners of the Town to fulfill this obligation in order for the Town to be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town;

NOW THEREFORE, be it resolved that the Board of Commissioners of the Town of Bayboro hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan; and

2. Vests Mayor Keith Cowell with the responsibility, authority, and the means to:

   (a) Inform all concerned parties of this action.
   (b) Cooperate with federal, state and local agencies and private firms which undertake to study, survey, map and identify floodplain areas, and cooperate with neighboring communities with respect to management of adjoining floodplain areas in order to prevent exacerbation of existing hazard impacts.

3. Appoints Susan Kachur, Town Clerk, to assure that the Pamlico Sound Regional Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to the Board of Commissioners of the Town of Bayboro for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Pamlico Sound Regional Hazard Mitigation Plan.

Adopted on this day, August 5th, 2025

TOWN OF BAYBORO

By: _____
Keith Cowell, Mayor

Certified by: Susan Kachur SEAL : _____

Date: 8/5/25

LSS 180115

2

RESOLUTION
ADOPTING PAMLICO SOUND REGIONAL
HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Grantsboro are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town of Grantsboro desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000, as amended, states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS the (local government) has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations and at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management, and that the plans have been updated in accordance with federal laws including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; the National Dam Safety Program Act, as amended; as required under regulations at 44 CFR Part 201, and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management; and

WHEREAS, it is the intent of the Town Council to fulfill this obligation in order that the County will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the County;

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NOW, THEREFORE, be it resolved that the Town of Grantsboro Town Council hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Vests Pamlico County Emergency Management with the responsibility, authority, and the means to:

   (a) Inform all concerned parties of this action.
   (b) Cooperate with Federal, State and local agencies and private firms which undertake to study, survey, map and identify floodplain areas, and cooperate with neighboring communities with respect to management of adjoining floodplain areas in order to prevent exacerbation of existing hazard impacts.

3. Appoints Pamlico County Emergency Management to assure that the Hazard Mitigation Plan is reviewed annually and every five years as specified in the Plan to assure that the Plan is in compliance with all State and Federal regulations and that any needed revisions or amendments to the Plan are developed and presented to the Town of Grantsboro Town Council for consideration.

4. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 5th day of August, 2025.

Tom Newman, Mayor
Town of Grantsboro

Attest:

Ray Lewis, Clerk
Town of Grantsboro

Certified by: Evelyn R. Paul (SEAL)

Date: Aug. 5, 2025

TOWN OF GRANTSBORO CORPORATE SEAL NORTH CAROLINA

2

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Town of Mesic are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Town of Mesic desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Mesic has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Town Board of the Town of Mesic to fulfill this obligation in order that the Town of Mesic will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town of Mesic;

NOW, THEREFORE, be it resolved that the Mesic Town Board of Mesic, NC hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the May 6, 2025.

Name, Chair
Mesic Town Board

Attest:

Name, Clerk
Mesic Town Board

Certified by: (SEAL)

Date: May 6, 2025

TOWN OF MESIC
INCORPORATED
1971
NORTH CAROLINA

2

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Minnesott Beach are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Minnesott Beach desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Minnesott Beach has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of Minnesott Beach to fulfill this obligation in order that the Town of Minnesott Beach will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Minnesott Beach;

NOW, THEREFORE, be it resolved that the Board of Commissioners of Minnesott Beach hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the July 8, 2025.

David Gaskins, Mayor Pro Tem

Attest:

Denise Burns, Clerk
Town of Minnesott Beach Board of Commissioners

Certified by: Carolyn R. Brady (SEAL)

Date: 7/8/25

2

RESOLUTION 2025-08
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within the Town of Oriental are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, the Town of Oriental desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, the Town of Oriental has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

1

WHEREAS, it is the intent of the Mayor and Board of Commissioners of the Town of Oriental to fulfill this obligation in order that the Town of Oriental will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town of Oriental ;

NOW, THEREFORE, be it resolved that the Mayor and Board of Commissioners of the Town of Oriental hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the 13th Day of May, 2025.

Sally T. Belangia, Mayor

Attest:

Diane H. Miller, Clerk

Certified by: _____

Date: 5-13-25

RESOLUTION
ADOPTING THE PAMLICO SOUND
REGIONAL HAZARD MITIGATION PLAN

WHEREAS, the citizens and property within Stonewall are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, Town of Stonewall desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and
y

WHEREAS, the Town of Stonewall has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of Town of Stonewallto fulfill this obligation in order that the Town of Stonewall will be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the Town of Stonewall;

NOW, THEREFORE, be it resolved that the Board of Commissioners of the Town of Stonewall hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.

1

2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

Adopted this the April 8, 2025.

Name, Chair
Town of Stonewall Board of Commissioners

Attest:

Name, Clerk
Town of Stonewall Board of Commissioners

Certified by: _____ (SEAL)

Date: April 8, 2025

2

Town of Vandemere
1042 Pennsylvania Avenue, P.O. Box 338
Vandemere, North Carolina 28587
Office: (252) 745-5473 | 5480
www.vandemerenc.com

A Resolution to Adopt the Pamlico Sound Regional Hazard Mitigation Plan

WHEREAS, the citizens and property within The Town of Vandemere are subject to the effects of natural hazards that pose threats to lives and cause damage to property, and with the knowledge and experience that certain areas of the county are particularly vulnerable to drought, extreme heat, hailstorm, hurricane and tropical storm, lightning, thunderstorm, wind/high wind, tornado, winter storm and freeze, flood, hazardous material incident, and wildfire; and

WHEREAS, The Town of Vandemere desires to seek ways to mitigate the impact of identified hazard risks; and

WHEREAS, the Legislature of the State of North Carolina has in Article 5, Section 160D-501 of Chapter 160D of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry; and

WHEREAS, the Legislature of the State of North Carolina has enacted General Statute Section 166A-19.41 (*State emergency assistance funds*) which provides that for a state of emergency declared pursuant to G.S. 166A-19.20(a) after the deadline established by the Federal Emergency Management Agency pursuant to the Disaster Mitigation Act of 2002, P.L. 106-390, the eligible entity shall have a hazard mitigation plan approved pursuant to the Stafford Act; and.

WHEREAS, Section 322 of the Federal Disaster Mitigation Act of 2000 states that local governments must develop an All-Hazards Mitigation Plan in order to be eligible to receive future Hazard Mitigation Grant Program Funds and other disaster-related assistance funding and that said Plan must be updated and adopted within a five year cycle; and

WHEREAS, The Town of Vandemere has performed a comprehensive review and evaluation of each section of the previously approved Hazard Mitigation Plan and has updated the said plan as required under regulations at 44 CFR Part 201 and according to guidance issued by the Federal Emergency Management Agency and the North Carolina Division of Emergency Management.

WHEREAS, it is the intent of the Board of Commissioners of The Town of Vandemere to fulfill this obligation in order that the municipality be eligible for federal and state assistance in the event that a state of disaster is declared for a hazard event affecting the The Town of Vandemere;

NOW, THEREFORE, BE IT RESOLVED that The Town of Vandemere Board of Commissioners hereby:

1. Adopts the Pamlico Sound Regional Hazard Mitigation Plan.
2. Agrees to take such other official action as may be reasonably necessary to carry out the objectives of the Hazard Mitigation Plan.

ADOPTED this 14th day of July 2025.

Sandra Snipes, Mayor

Attest:

Sue Britt, Town Clerk

Town Seal

ANNEX A BEAUFORT COUNTY

A.1 ASSET INVENTORY

Beaufort County and the HMPC provided a local inventory of critical facilities and community lifelines, which are a priority for mitigation planning and emergency management. Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. Table A.1 through Table A.8 provides a count of critical facilities by FEMA lifeline category by jurisdiction in Beaufort County. Figure A.1 through Figure A.8 show the locations of all critical facilities in Beaufort County and participating jurisdictions. Note that no critical facilities were identified within the Town of Washington Park.

Table A.9 provides a detailed inventory of the critical facilities in Beaufort County, indicating each facility's FEMA lifeline category, flood zone, 1% annual chance flood depth, and vulnerability to storm surge, sea level rise, and wildfire. More information on hazard vulnerability is provided in the hazard profiles.

Table A.1 – Critical Facilities by Type, Unincorporated Beaufort County

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	99	$166,102,259
Hazardous Materials	0	$0
Health and Medical	14	$0
Safety and Security	24	$58,152,749
Transportation	0	$0
Water Systems	36	$69,250,413
Total	**173**	**$293,505,421**

Table A.2 – Critical Facilities by Type, Town of Aurora

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$5,887,040
Hazardous Materials	0	$0
Health and Medical	1	$0
Safety and Security	3	$1,463,696
Transportation	0	$0
Water Systems	2	$635,152
Total	**7**	**$7,985,888**

Table A.3 – Critical Facilities by Type, Town of Bath

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$5,458,678
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$308,102
Transportation	0	$0
Water Systems	2	$2,124,630
Total	**4**	**$7,891,410**

Table A.4 – Critical Facilities by Type, Town of Belhaven

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	2	$0
Safety and Security	3	$436,182
Transportation	0	$0
Water Systems	2	$363,846
Total	**8**	**$800,028**

Table A.5 – Critical Facilities by Type, Town of Chocowinity

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$4,332,018
Hazardous Materials	0	$0
Health and Medical	1	$0
Safety and Security	3	$3,689,883
Transportation	0	$0
Water Systems	2	$254,714
Total	**7**	**$8,276,615**

Table A.6 – Critical Facilities by Type, Town of Pantego

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$269,824
Transportation	0	$0
Water Systems	0	$0
Total	**1**	**$269,824**

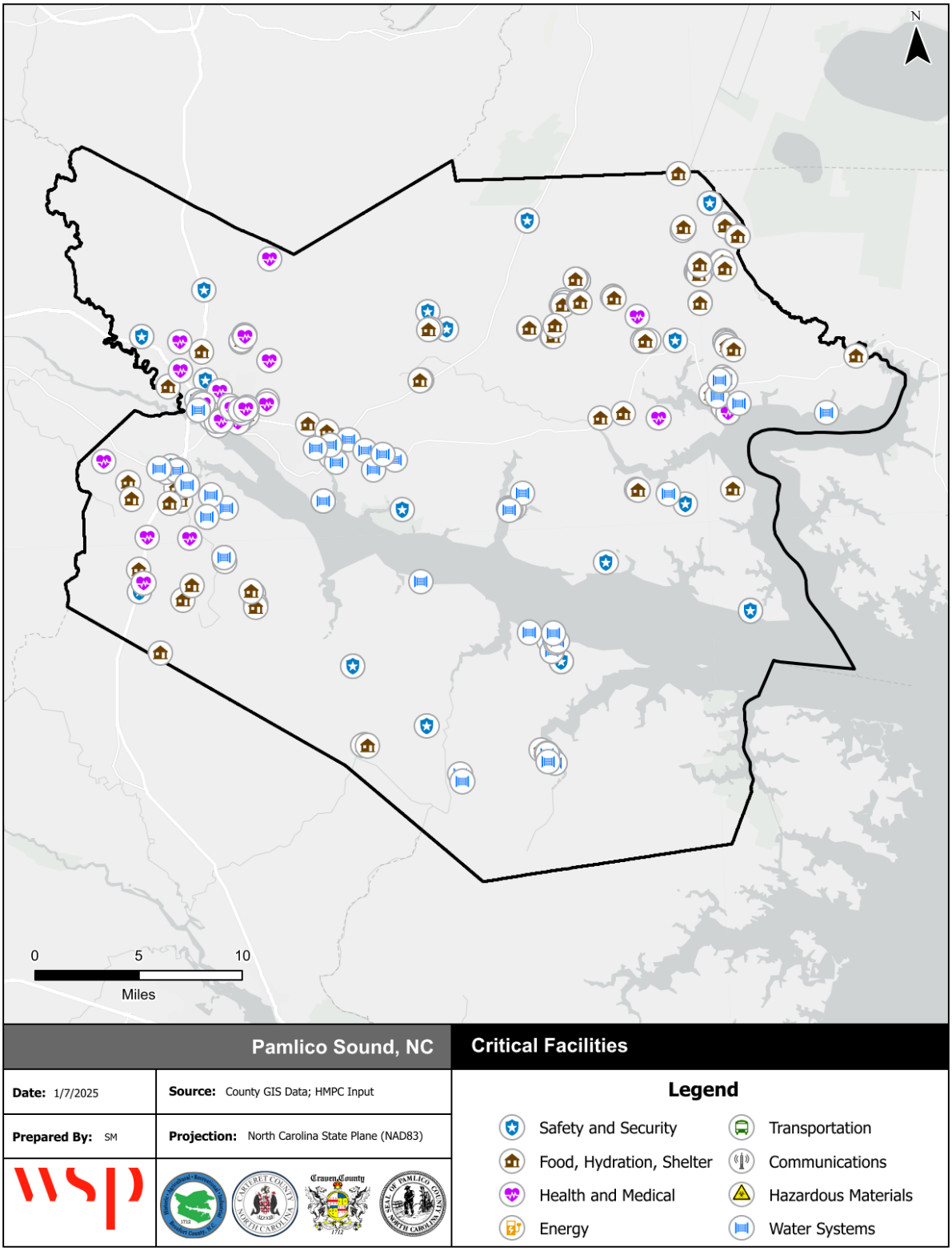
Table A.7 – Critical Facilities by Type, City of Washington

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	5	$30,583,083
Hazardous Materials	0	$0
Health and Medical	26	$1,946,506
Safety and Security	8	$6,654,126
Transportation	0	$0
Water Systems	1	$2,218,876
Total	**40**	**$41,402,591**

Table A.8 – Critical Facilities by Type, Town of Washington Park

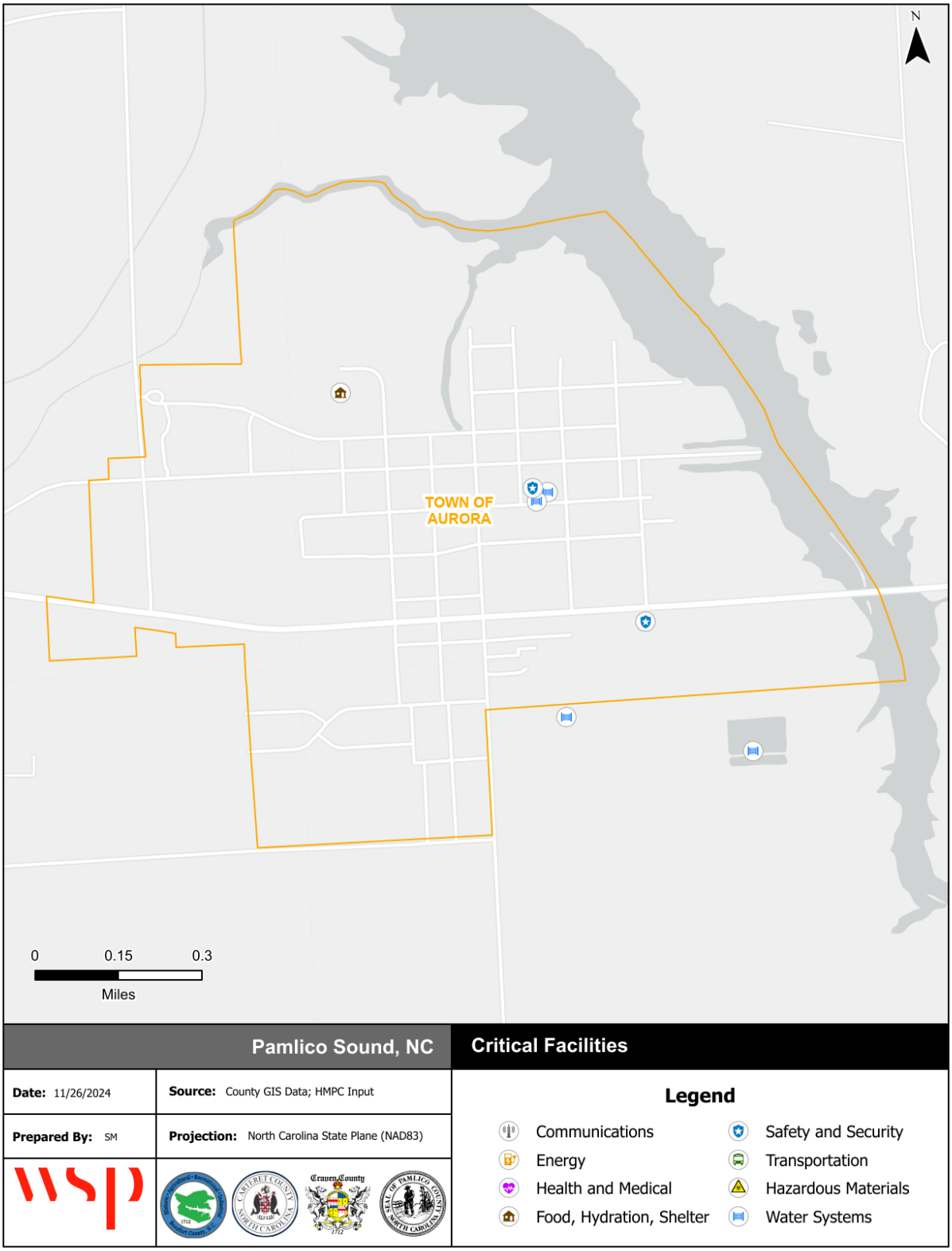
Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**0**	**$0**

Figure A.1 – Critical Facilities, Beaufort County



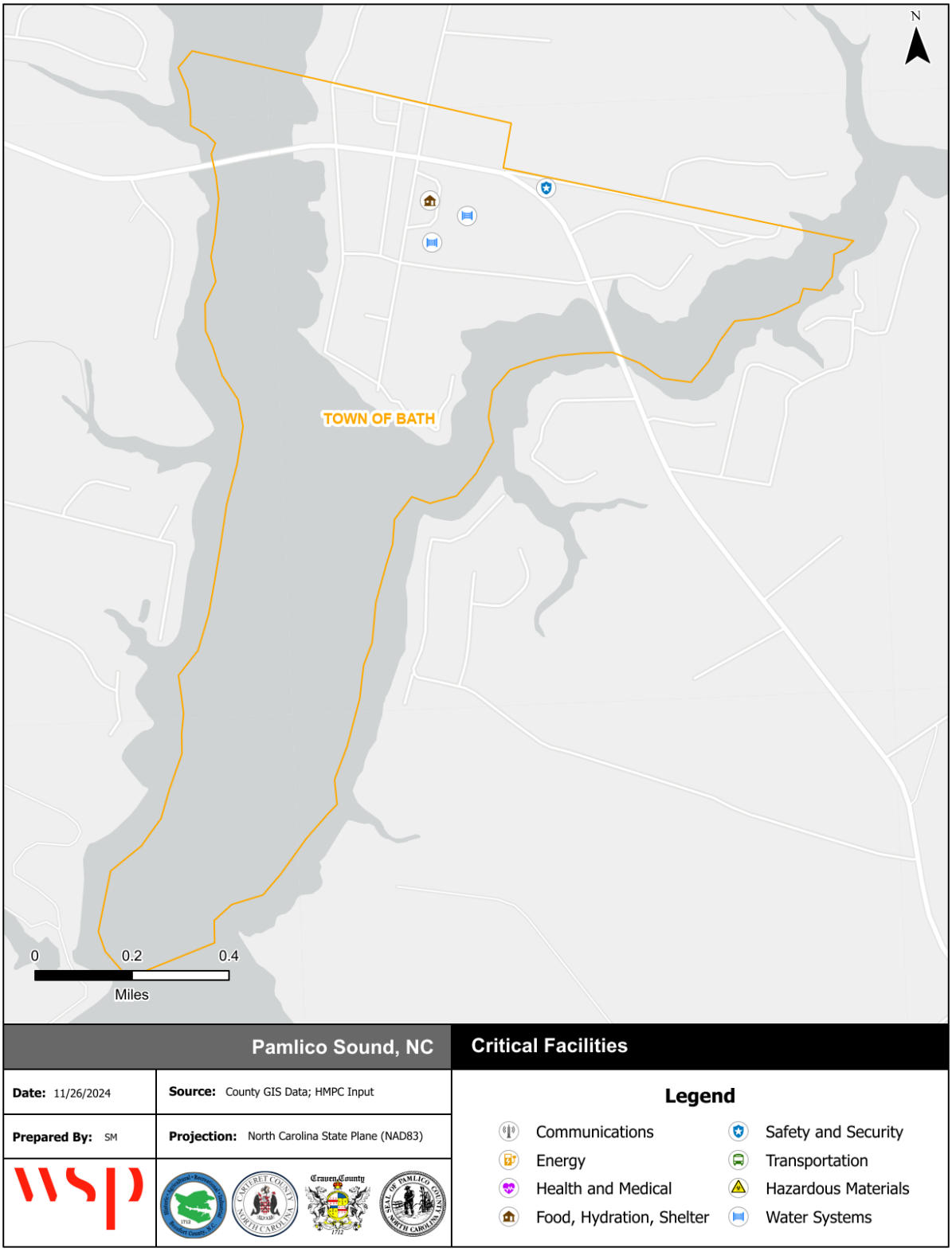
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure A.2 – Critical Facilities, Town of Aurora



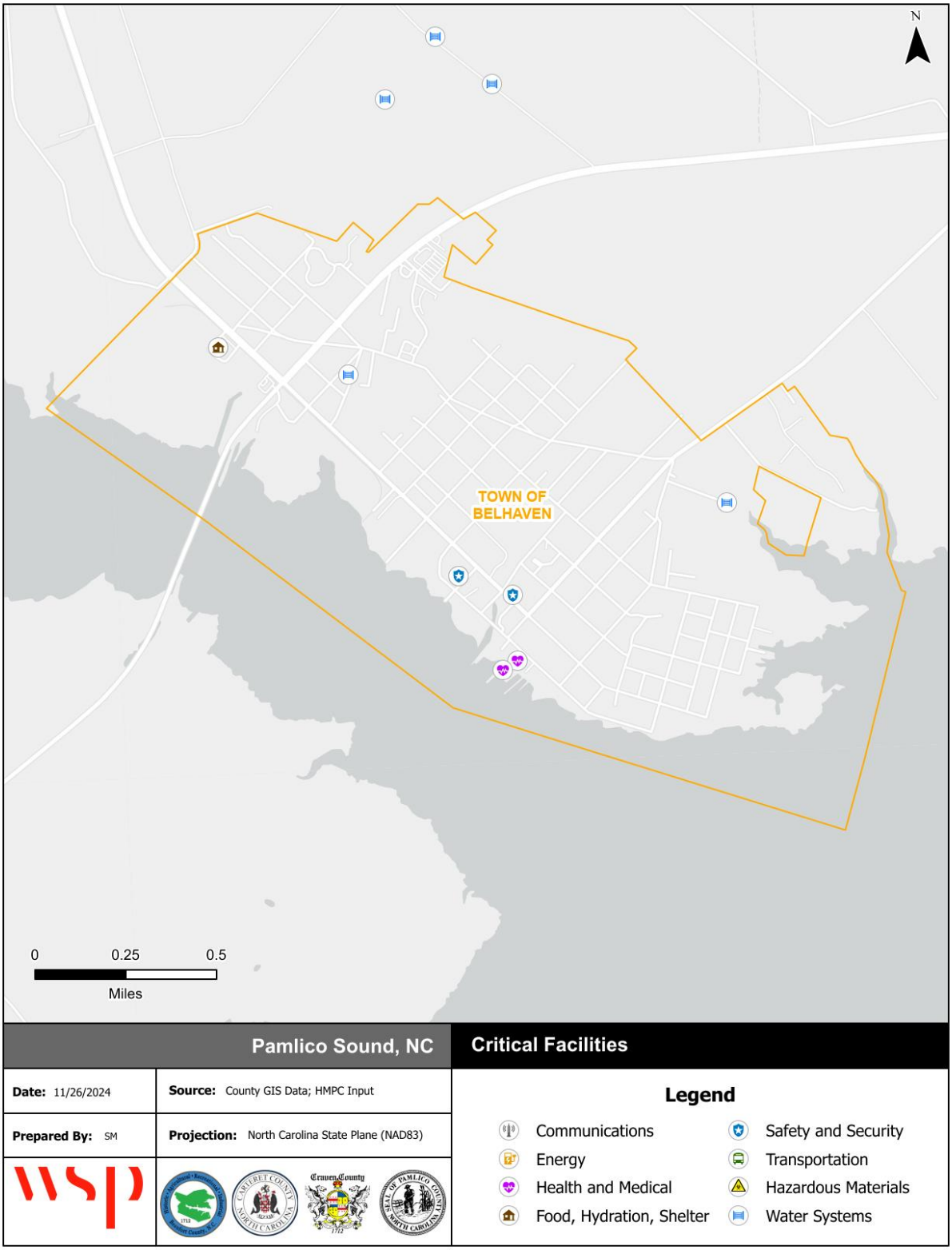
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure A.3 – Critical Facilities, Town of Bath



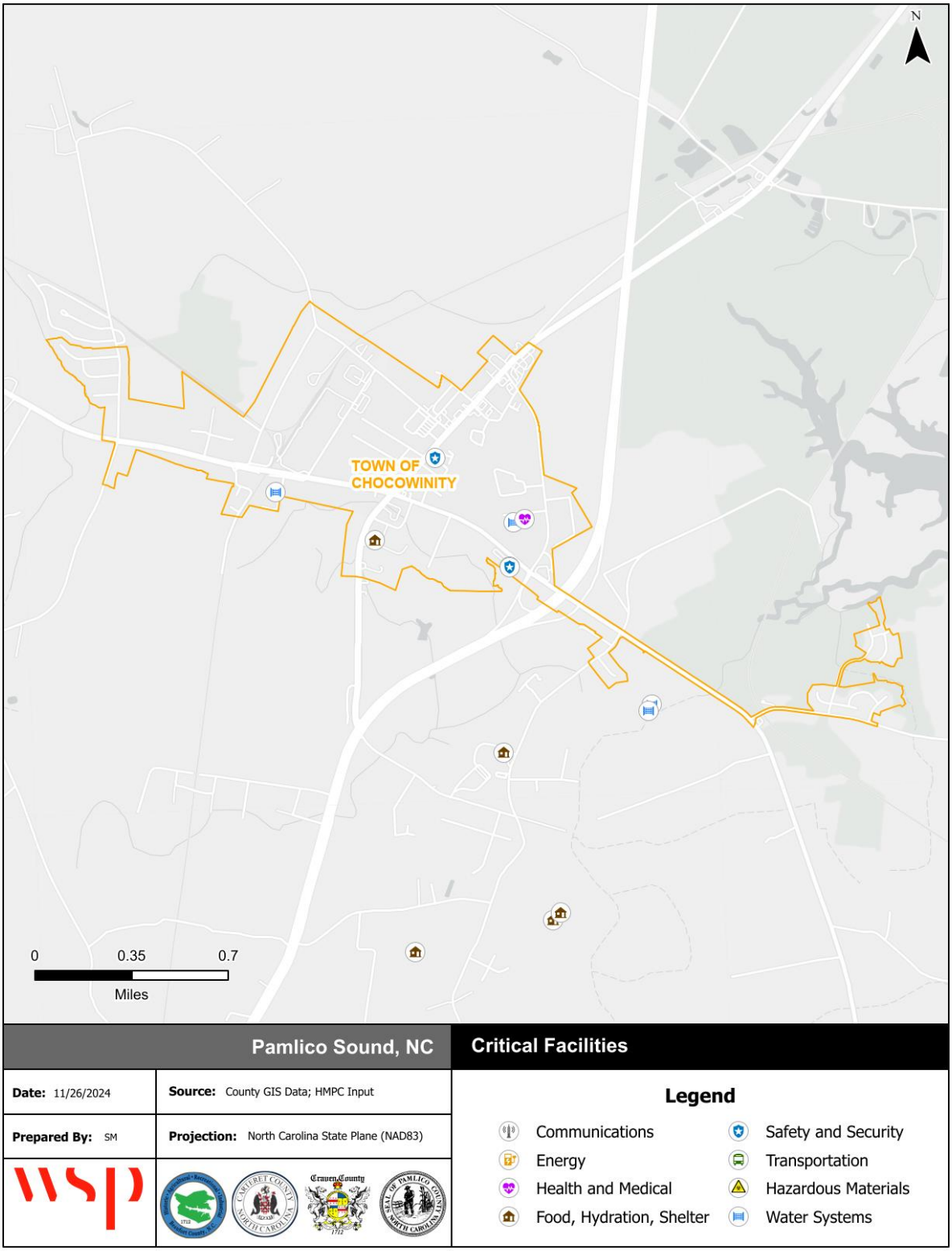
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure A.4 – Critical Facilities, Town of Belhaven



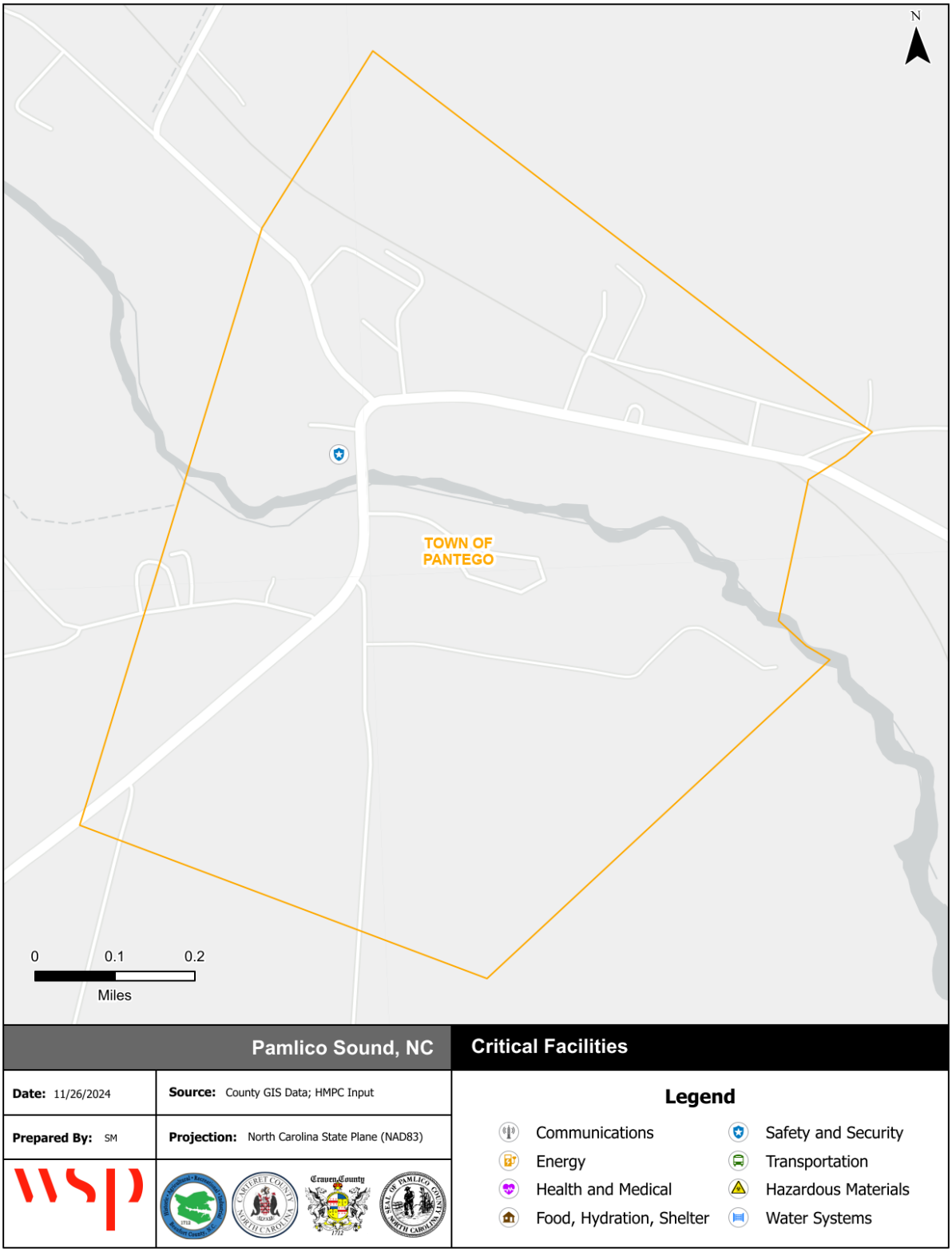
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure A.5 – Critical Facilities, Town of Chocowinity



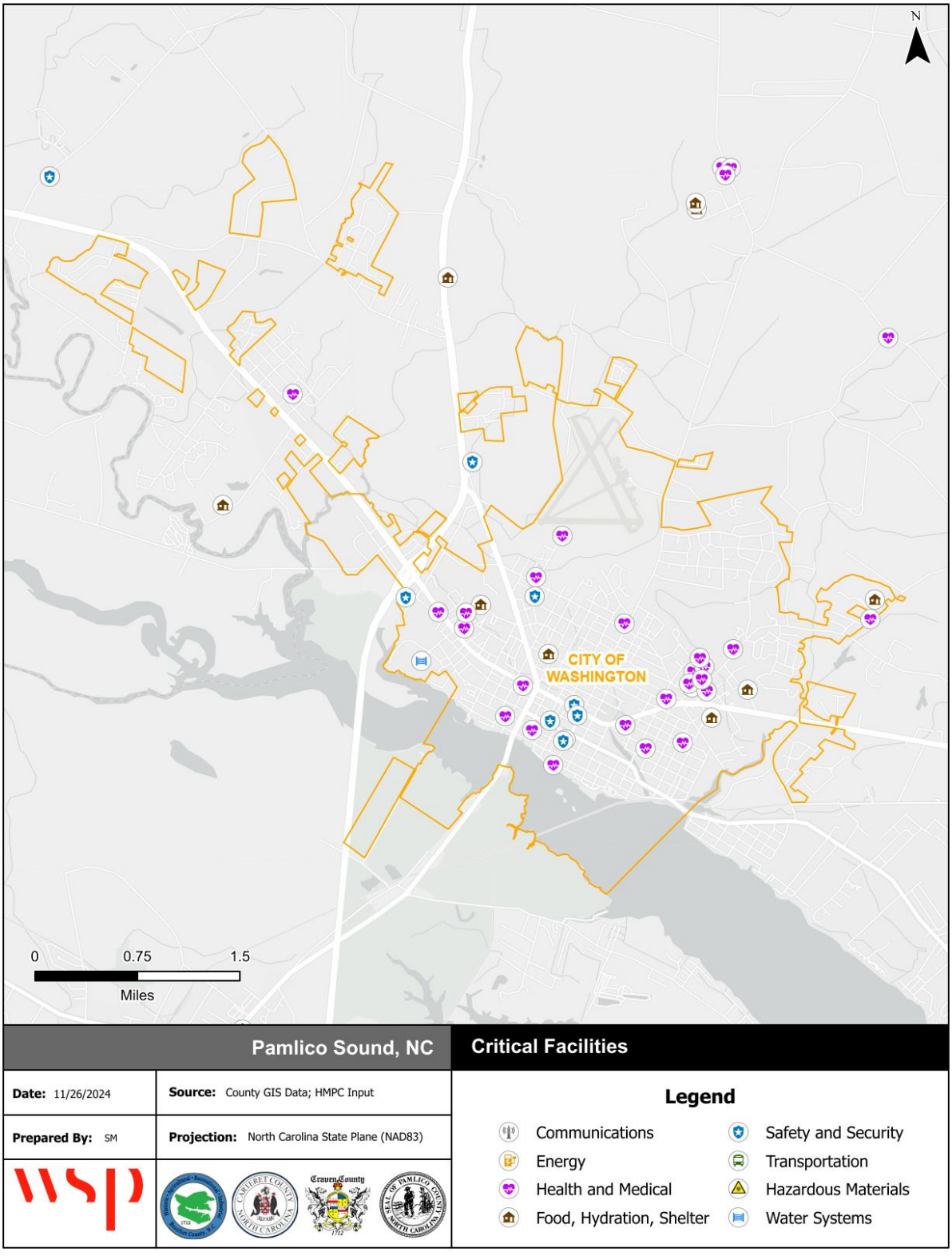
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure A.6 – Critical Facilities, Town of Pantego



Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure A.7 – Critical Facilities, City of Washington



Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure A.8 – Critical Facilities, Town of Washington Park

Source: NCEM IRISK Database, HMPC input, GIS Analysis

Table A.9 – Beaufort County Critical Facilities Inventory

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Unincorporated Beaufort County										
Water Systems	Water Treatment Distribution	-	$1,980,449	X Unshaded	0.1	NA	NA	-	2	4
Water Systems	Sewer Treatment	@ South Creek	$0	X Shaded	0.1	9	NA	-	5	5
Water Systems	Sewer Treatment	Town of Bath	$10,765	X Unshaded	0.1	NA	3	-	0	7
Water Systems	Public Water Supply	US 264 @ NC Hwy 32	$11,372	X Unshaded	0.1	NA	NA	Y	3	0
Water Systems	Public Water Supply	US 264 @ NC Forestry Service	$1,032	X Unshaded	0.1	NA	NA	Y	4	8
Water Systems	Public Water Supply	Off US Hwy 32 South	$11,704	X Unshaded	0.1	NA	4	-	4	5
Water Systems	Public Water Supply	Harvey Rd Near US 264	$2,704	X Unshaded	0.1	NA	3	Y	4	7
Water Systems	Public Water Supply	US 264 @ Camp Leach Rd	$10,314	X Unshaded	0.1	NA	NA	Y	5	5
Water Systems	Public Water Supply	550 Wells Rd @ WTP Inside Fence	$1,980,449	X Unshaded	0.1	NA	NA	-	2	4
Water Systems	Public Water Supply	US 264 Behind Propane Tank @ Tankard Farm North Side of Hwy	$0	X Unshaded	0.1	NA	NA	-	4	6
Water Systems	Public Water Supply	Neck Rd (Sr 1227)	$1,775	X Unshaded	0.1	NA	3	Y	0	4
Water Systems	Public Water Supply	Well Field Rd @ Field Site	$5,582	AE	0.8	5	1	-	0	6
Water Systems	Public Water Supply	Well Field Rd-Near House	$2,342	AE	1.3	4	1	-	0	0
Water Systems	Public Water Supply	665 Harbinger St Ext	$0	AE	1.7	4	1	-	0	0
Water Systems	Public Water Supply	South of 33 Across From 3rd St	$356	X Unshaded	0.1	9	2	-	0	0
Water Systems	Public Water Supply	Hill Ed @The WTP Site	$314,685	X Unshaded	0.1	NA	NA	Y	5	4
Water Systems	Public Water Supply	Cypress Landing Access Road	$0	X Unshaded	0.1	NA	NA	Y	3	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Water Supply	Edgewood Drive @ the WTP	$0	AE	5.3	1	1	-	2	1
Water Systems	Public Water Supply	NC Hwy 33 At Choco Recreation Complex	$0	AE	5.0	1	1	-	3	1
Water Systems	Public Water Supply	Hwy 33 .25 Mile SE of WTP	$11,336	X Unshaded	0.1	NA	NA	Y	4	0
Water Systems	Public Water Supply	Hwy 33 1 Warren Chapel Rd ~ 1mi NW of WTP	$0	X Unshaded	0.1	NA	NA	Y	3	5
Water Systems	Public Water Supply	Hwy 33 .25mi SE of WTP	$11,336	X Unshaded	0.1	NA	NA	Y	4	0
Water Systems	Public Water Supply	Hwy 33 & Warren Chapel Rd ~ 1 Mi NW of WTP	$0	X Unshaded	0.1	NA	NA	Y	3	5
Water Systems	Public Water Supply	Old Sand Hill Rd @ WTP Site	$918,398	X Unshaded	0.1	NA	NA	-	5	6
Water Systems	Public Water Supply	Old Sand Hill Rd	$19,871	X Unshaded	0.1	NA	NA	Y	5	5
Water Systems	Public Water Supply	Rt Side of Park Off Greenville Ave	$2,633	AE	2.4	4	1	Y	3	6
Water Systems	Public Water Supply	Left Side of Park @ Holley Dr	$2,633	AE	1.9	4	1	Y	3	6
Water Systems	Public Water Supply	South Of Ms Kinnions House	$9,736	X Unshaded	0.1	NA	NA	Y	0	6
Water Systems	Public Water Supply	93' West of Mill Office	$13,380,666	X Unshaded	0.1	NA	3	-	0	0
Water Systems	Public Water Supply	West Of Gypsum Stacks	$182,844	X Unshaded	0.1	NA	4	-	0	0
Water Systems	Public Water Supply	West Of Guard House	$13,380,666	X Unshaded	0.1	NA	3	-	0	0
Water Systems	Public Water Supply	Next To Barge Slip	$13,380,666	X Unshaded	0.1	10	3	-	0	0
Water Systems	Public Water Supply	Next To Barge Slip	$13,380,666	X Unshaded	0.1	10	3	-	4	0
Water Systems	Public Water Supply	Next To Mill Pond	$9,918,770	X Unshaded	0.1	NA	5	-	0	0
Water Systems	Public Water Supply	Behind The Store Near Ast's	$244,443	X Shaded	0.1	5	1	Y	2	6

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Water Supply	Located Behind Marina Bldg	$72,220	AE	2.2	2	1	-	0	1
Safety & Security	Law Enforcement - North Carolina State Highway Patrol Troop A District Iv	1821 Carolina Avenue	$237,846	X Unshaded	0.1	NA	NA	-	1	0
Safety & Security	Law Enforcement - Beaufort County Community College Police Department	5337 United States Highway 264	$25,369,874	X Unshaded	0.1	NA	NA	Y	0	0
Safety & Security	Law Enforcement - North Carolina Park Rangers - Goose Creek Park	2190 Camp Leach Road	$1,099,580	X Unshaded	0.1	NA	3	Y	4	0
Safety & Security	Fire Stations - Sidney Volunteer Fire Department Incorporated	6755 North Savannah Road	$92,702	X Unshaded	0.1	7	2	-	0	3
Safety & Security	Fire Stations - Pungo River Volunteer Fire Department Incorporated	40 Pike Road	$214,044	X Unshaded	0.1	10	3	Y	0	3
Safety & Security	Fire Stations - Old Ford Volunteer Fire Department Incorporated	6050 United States Highway 17 North	$1,974,747	X Unshaded	0.1	NA	NA	Y	1	0
Safety & Security	Fire Stations - Long Acre Volunteer Fire Department Incorporated	23177 State Highway 32 North	$4,825	X Unshaded	0.1	NA	NA	Y	4	3
Safety & Security	Fire Stations - Bunyan Volunteer Fire Department Incorporated	8264 Broad Creek Road	$74,374	X Unshaded	0.1	NA	NA	Y	3	0
Safety & Security	Fire Stations - Clarks Neck Volunteer Fire Department Incorporated Station 2	Wharton Station Road	$370,089	X Unshaded	0.1	NA	4	Y	3	3
Safety & Security	Fire Stations - Blounts Creek Volunteer Fire Department and Emergency Medical Services	13965 State Highway 33 East	$198,624	X Unshaded	0.1	NA	NA	Y	5	5
Safety & Security	Fire Stations - Pamlico Beach Fire Department and Rescue Squad	382 Old Pamlico Beach Road West	$129,062	AE	0.7	4	1	Y	3	3

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	Fire Stations - Aurora Fire Department - Edward Substation	26 Labor Camp Road	$3,000	X Unshaded	0.1	NA	NA	-	5	5
Safety & Security	Fire Stations - Pcs Phosphate	1530 State Highway 306 North	$13,380,666	X Unshaded	0.1	NA	3	-	5	0
Safety & Security	Fire Stations - Chocowinity Fire Department - Wilmar Substation	United States Highway 17 South	$4,466	X Unshaded	0.1	NA	NA	Y	5	5
Safety & Security	Fire Stations - Pinetown Volunteer Fire Department	7241 Boyd Road	$45,197	X Unshaded	0.1	NA	NA	-	0	4
Safety & Security	EMS - Pungo River Volunteer Fire Department Incorporated	40 Pike Road	$214,044	X Unshaded	0.1	10	3	Y	0	3
Safety & Security	EMS - Long Acre Volunteer Fire Department Incorporated	23177 State Highway 32 North	$4,825	X Unshaded	0.1	NA	NA	Y	4	3
Safety & Security	EMS - Clarks Neck Volunteer Fire Department Incorporated Station 2	Wharton Station Road	$370,089	X Unshaded	0.1	NA	4	Y	3	3
Safety & Security	EMS - Blounts Creek Volunteer Fire Department and Emergency Medical Services	13965 State Highway 33 East	$198,624	X Unshaded	0.1	NA	NA	Y	5	5
Safety & Security	EMS - Broad Creek Emergency Medical Services Incorporated	7214 Broad Creek Road	$137,285	X Unshaded	0.1	NA	4	-	0	7
Safety & Security	EMS - Pinetown Rescue and Emergency Medical Services	4815 North Boyd Road	$452,498	X Shaded	0.1	NA	NA	Y	0	1
Safety & Security	EMS - Pamlico Beach Fire Department and Rescue Squad	382 Old Pamlico Beach Road West	$129,062	AE	0.7	4	1	Y	3	3
Safety & Security	EMS - Bath Community Rescue Squad	10774 State Highway 99 South	$66,560	X Unshaded	0.1	10	3	Y	0	0
Safety & Security	EMS - Pcs Phosphate	1530 State Highway 306 North	$13,380,666	X Unshaded	0.1	NA	3	-	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Health & Medical	Medical Facilities - Lots of Love Family Care Home	31 Corey Road	-	X Unshaded	0.1	NA	NA	-	3	0
Health & Medical	Medical Facilities - Whispering Pines Family Care Home	3130 N. Market Street Ext.	-	X Unshaded	0.1	NA	NA	-	4	0
Health & Medical	Medical Facilities - Wooded Acres Guest Home	3706 Cherry Road	-	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - Autumnfield of Belhaven	1345 Seed Tick Neck Road	-	X Unshaded	0.1	7	2	-	0	0
Health & Medical	Medical Facilities - Cedar Manor Rest Home	Highway 17 South	-	X Unshaded	0.1	NA	NA	Y	0	5
Health & Medical	Medical Facilities - Pantego Rest Home	143 Swamp Road	-	AE	2.0	8	2	-	0	0
Health & Medical	Medical Facilities - Boyd Therapeutic Home	745 Hodges Road	-	X Unshaded	0.1	NA	NA	Y	2	0
Health & Medical	Medical Facilities - Country Living Guest Home	3094 Market Street Extension	-	X Unshaded	0.1	NA	NA	Y	3	0
Health & Medical	Medical Facilities - Country Living Guest Home #2	3052 Market Street Extension	-	X Unshaded	0.1	NA	NA	Y	3	0
Health & Medical	Medical Facilities - Kitchen Home	1825 Old New Bern Road	-	X Unshaded	0.1	NA	NA	Y	5	0
Health & Medical	Medical Facilities - LIFE, Inc./Beaufort Heights Group Home	103 Circle Street	-	X Unshaded	0.1	10	2	Y	0	0
Health & Medical	Medical Facilities - LIFE, Inc./Dixon Road Group Home	Route 1, Box 842A	-	X Unshaded	0.1	NA	NA	-	3	4
Health & Medical	Medical Facilities - Life, Inc./Slatestone Road Group Home	332 Slatestone Road	-	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - Mega Force Staffing	360 Cherry Run Shopping Center	-	X Unshaded	0.1	NA	NA	Y	2	0
Food, Hydration, Shelter	Swine Lagoons	-	$78,211	AE	2.7	6	2	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$2,016,339	AE	0.9	6	2	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$43,660	X Unshaded	0.1	NA	3	-	0	7

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Swine Lagoons	-	$1,147,177	X Unshaded	0.1	NA	5	-	0	3
Food, Hydration, Shelter	Swine Lagoons	-	$3,146	X Unshaded	0.1	8	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	2	0
Food, Hydration, Shelter	Swine Lagoons	-	$267,001	X Unshaded	0.1	NA	4	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$1,139,227	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$10,944	X Unshaded	0.1	7	2	-	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$42,748	X Unshaded	0.1	NA	3	Y	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$55,588	X Unshaded	0.1	9	2	-	2	5
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	NA	-	4	8
Food, Hydration, Shelter	Swine Lagoons	-	$10,787	X Unshaded	0.1	NA	4	-	1	0
Food, Hydration, Shelter	Swine Lagoons	-	$54,224	X Unshaded	0.1	8	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	AE	0.9	7	2	-	4	6
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$89,106	AE	0.9	5	1	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	NA	-	4	5
Food, Hydration, Shelter	Swine Lagoons	-	$149,212	X Shaded	0.1	NA	NA	-	5	7
Food, Hydration, Shelter	Swine Lagoons	-	$119	X Unshaded	0.1	NA	NA	-	2	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	AE	0.1	10	3	-	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Swine Lagoons	-	$1,163,989	X Unshaded	0.1	NA	NA	-	0	3
Food, Hydration, Shelter	Swine Lagoons	-	$1,750,777	X Unshaded	0.1	NA	NA	-	5	6
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$78,211	AE	1.5	6	2	-	0	4
Food, Hydration, Shelter	Swine Lagoons	-	$2,016,339	AE	0.9	6	2	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$2,016,339	X Shaded	0.1	10	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$2,016,339	X Shaded	0.1	10	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$43,660	X Unshaded	0.1	NA	4	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$43,660	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$1,147,177	X Unshaded	0.1	NA	5	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$521,778	X Unshaded	0.1	9	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$521,778	X Unshaded	0.1	9	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$3,146	X Unshaded	0.1	8	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	Y	0	4
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Shaded	0.1	7	2	Y	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	7	2	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Shaded	0.1	7	2	-	0	4

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Shaded	0.1	7	2	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Shaded	0.1	7	2	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	2	4
Food, Hydration, Shelter	Swine Lagoons	-	$267,001	X Unshaded	0.1	NA	4	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$1,139,227	X Unshaded	0.1	NA	3	-	0	4
Food, Hydration, Shelter	Swine Lagoons	-	$1,139,227	X Unshaded	0.1	NA	4	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$1,139,227	X Unshaded	0.1	10	2	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$1,139,227	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$1,139,227	X Unshaded	0.1	10	2	-	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$1,139,227	X Unshaded	0.1	10	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$10,944	X Unshaded	0.1	7	2	-	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$42,748	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$8,280	X Unshaded	0.1	NA	3	Y	0	2
Food, Hydration, Shelter	Swine Lagoons	-	$8,280	X Unshaded	0.1	NA	3	Y	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$32,529	AE	4.3	3	1	-	4	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	2

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Swine Lagoons	-	$149,212	X Unshaded	0.1	NA	NA	-	5	3
Food, Hydration, Shelter	Swine Lagoons	-	$0	AE	0.1	10	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$1,163,989	X Unshaded	0.1	NA	NA	-	1	4
Food, Hydration, Shelter	Swine Lagoons	-	$1,163,989	X Unshaded	0.1	NA	NA	-	1	0
Food, Hydration, Shelter	Swine Lagoons	-	$1,750,777	X Unshaded	0.1	NA	NA	-	5	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	5	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	4	-	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	4	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$43,008	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	5	-	0	3
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	5	-	0	2
Food, Hydration, Shelter	Public Schools - Chocowinity Primary	606 Gray Road	$4,955,316	X Unshaded	0.1	NA	NA	Y	1	0
Food, Hydration, Shelter	Public Schools - Northside High	7868 Free Union Church Road	$18,398,088	X Unshaded	0.1	NA	3	-	0	5

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Public Schools - P S Jones Middle	4105 N Market Street Ext	$26,824,548	X Unshaded	0.1	NA	NA	-	0	5
Food, Hydration, Shelter	Public Schools - Washington Montessori	2330 Old Bath Hwy	$7,197,089	X Unshaded	0.1	NA	5	-	0	5
Food, Hydration, Shelter	Public Schools - John Small Elementary	4103 North Market Street Ext	$26,824,548	X Unshaded	0.1	NA	NA	-	0	5
Food, Hydration, Shelter	Public Schools - Northeast Elementary	21000 US Hwy 264 East	$19,025,484	X Unshaded	0.1	NA	3	Y	3	0
Food, Hydration, Shelter	Public Schools - Southside High	5700 Hwy 33 East	-	X Unshaded	0.1	NA	NA	-	4	6
Food, Hydration, Shelter	Public Schools - Beaufort Co Early College High	5337 Hwy 264 East	$25,369,874	X Unshaded	0.1	NA	NA	Y	0	4
Food, Hydration, Shelter	Non-Public Schools - Emmanuel Christian School	3078 US Highway 17 North	-	X Unshaded	0.1	NA	NA	Y	2	0
Food, Hydration, Shelter	Non-Public Schools - Terra Ceia Christian School	4428 Christian School Road	-	X Unshaded	0.1	NA	3	-	0	4
Food, Hydration, Shelter	Non-Public Schools - Unity Christian Academy	1501 Haw Branch Rd.	$0	X Unshaded	0.1	NA	NA	-	5	8
Food, Hydration, Shelter	Animal Farms - Ted and Jack Allen, Inc. # 2	-	$479,758	X Unshaded	0.1	NA	NA	-	4	7
Food, Hydration, Shelter	Animal Farms - 3B Farms	-	$0	X Unshaded	0.1	NA	NA	-	4	5
Food, Hydration, Shelter	Animal Farms - Gray Road Hog Farm Inc.	-	$3,000	X Unshaded	0.1	NA	NA	Y	0	0
Food, Hydration, Shelter	Animal Farms - Vanguard Farms Inc	-	$1,756,246	X Unshaded	0.1	NA	NA	-	4	6
Food, Hydration, Shelter	Animal Farms - Carowan Hog Farm	-	$22,922	X Unshaded	0.1	NA	4	-	0	4
Food, Hydration, Shelter	Animal Farms - Benson Farms Inc (off-site farm)	-	$267,001	X Unshaded	0.1	NA	5	-	0	4
Food, Hydration, Shelter	Animal Farms - Wildwood Farm	-	$1,750,777	X Unshaded	0.1	NA	NA	-	5	0
Food, Hydration, Shelter	Animal Farms - Four Beez Sow Farm	-	$0	X Unshaded	0.1	9	2	-	2	7
Food, Hydration, Shelter	Animal Farms - L.H. Allen & Son, Inc. Sow Farm	-	$127,184	AE	1.6	6	2	Y	4	7

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Animal Farms - L.H. Allen & Son, Inc. - Finishing	-	$0	X Unshaded	0.1	NA	3	-	0	5
Food, Hydration, Shelter	Animal Farms - Hodges Sow Farm	-	$1,163,989	AE	1.7	NA	NA	-	0	0
Food, Hydration, Shelter	Animal Farms - Beech Ridge Pork Farm Inc	-	$0	X Unshaded	0.1	9	3	-	2	0
Food, Hydration, Shelter	Animal Farms - J. L. M. Pantego Farms, LLC	-	$1,139,227	X Unshaded	0.1	NA	4	-	0	0
Food, Hydration, Shelter	Animal Farms - J.L.M. Pungo Farms, LLC	-	$2,016,339	X Shaded	0.1	7	2	-	0	0
Food, Hydration, Shelter	Animal Farms - J.L.M. Wilmar Farms LLC	-	$874,068	X Unshaded	0.1	NA	NA	-	5	5
City of Washington										
Water Systems	Sewer Treatment	@ Tar River	$2,218,876	X Shaded	0.1	7	2	-	0	0
Safety & Security	Law Enforcement - Washington Police Department	201 West 3rd Street	$127,755	AE	0.2	8	2	-	0	0
Safety & Security	Law Enforcement - Beaufort County Sheriffs Department	210 North Market Street	$307,333	X Unshaded	0.1	10	2	-	0	0
Safety & Security	Law Enforcement - United States Fish and Wildlife Service - Office Of Law Enforcement	711 West 15th Street	$1,205,776	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	Fire Stations - Washington Fire and Rescue	410 North Market Street	$658,893	X Unshaded	0.1	9	2	-	0	0
Safety & Security	Ems - Coastal Medical Transport Incorporated	122 West 5th Street	$17,530	X Unshaded	0.1	9	2	-	0	0
Safety & Security	Ems - Tar Heel Medical Transport	425 Grimes Road	$6,662	X Unshaded	0.1	7	2	Y	0	0
Safety & Security	Ems - Washington Fire and Rescue	410 North Market Street	$658,893	X Unshaded	0.1	9	2	-	0	0
Safety & Security	Emergency Operation Center - Beaufort County Emergency Management	112 W Second St	$3,671,284	X Unshaded	0.1	10	3	-	0	0
Health & Medical	Medical Facilities - Lifestyles Medical Fitness Center	1375 Cowell Farm Road	-	X Unshaded	0.1	NA	NA	-	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Health & Medical	Medical Facilities - Beaufort County DSS	632 West 5th Street	-	AE	3.6	5	1	-	0	0
Health & Medical	Medical Facilities - CareFocus	222 West Stewart Parkway, Suite 100	-	AE	1.3	3	1	-	0	0
Health & Medical	Medical Facilities - Coastal Carolina Home Health	1211 Highland Drive	-	X Unshaded	0.1	NA	5	-	0	0
Health & Medical	Medical Facilities - Continuum Home Care of Washington	250 Lovers Lane	$0	X Unshaded	0.1	NA	NA	Y	0	5
Health & Medical	Medical Facilities - Quality Home Staffing, Inc.	1005 Brown Street	-	X Unshaded	0.1	9	2	-	0	0
Health & Medical	Medical Facilities - Tar Heel Home Health	906 W. 15th Street	-	X Unshaded	0.1	10	2	Y	0	0
Health & Medical	Medical Facilities - Elks Rest Home, Inc.	1218 Pamlico Street	-	X Unshaded	0.1	NA	NA	-	0	0
Health & Medical	Medical Facilities - Washington Manor	609 West 2nd Street	-	X Unshaded	0.1	10	3	-	0	0
Health & Medical	Medical Facilities - Beaufort County Hospital	628 East Twelfth St	-	X Unshaded	0.1	NA	4	-	0	0
Health & Medical	Medical Facilities - Beaufort County Developmental Center	1534 West Fifth Street	-	X Unshaded	0.1	10	2	Y	0	0
Health & Medical	Medical Facilities - Beaufort County Group Home #1 (ARC-HUD)	405 East 6th Street	-	X Shaded	0.1	7	2	-	0	0
Health & Medical	Medical Facilities - Beaufort County Group Home #2 (ARC-HDS)	903 East Seventh Street	-	AE	2.6	6	2	-	0	0
Health & Medical	Medical Facilities - Keele's Therapeutic Home	1306 Harrington Street	-	X Unshaded	0.1	NA	3	-	0	0
Health & Medical	Medical Facilities - LIFE, Inc./Minute Man Group Home	588 Minute Man Lane	$1,946,506	X Unshaded	0.1	NA	NA	Y	0	1
Health & Medical	Medical Facilities - Life, Inc./Washington Day Program	1502 Market Street	-	X Unshaded	0.1	10	3	Y	0	0
Health & Medical	Medical Facilities - Passages Counseling Services	323 West Second Street	-	AE	0.5	7	2	-	0	0
Health & Medical	Medical Facilities - Potter's House of Beaufort County	319 East 11th Street	-	X Unshaded	0.1	10	3	-	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Health & Medical	Medical Facilities - Rainbow House	619 Plant Street	-	X Unshaded	0.1	9	2	-	0	0
Health & Medical	Medical Facilities - Refuge Helping Hands	325 North Market Street	-	X Unshaded	0.1	9	2	-	0	0
Health & Medical	Medical Facilities - Restorational Behavioral Health Services Inc.	322 East 14th Street	-	X Unshaded	0.1	10	3	Y	0	0
Health & Medical	Medical Facilities - Tideland House	1755 Highland Drive	-	X Unshaded	0.1	NA	NA	Y	2	0
Health & Medical	Medical Facilities - Tideland Mental Health Center	1308 Highland Drive	-	X Unshaded	0.1	NA	NA	-	0	0
Health & Medical	Medical Facilities - Westside Group Home	618 Plant Street	-	X Unshaded	0.1	9	2	-	0	0
Health & Medical	Medical Facilities - Britthaven of Washington	250 Lovers Lane	$0	X Unshaded	0.1	NA	NA	Y	0	5
Health & Medical	Medical Facilities - Ridgewood Manor, Inc.	1624 Highland Drive	-	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Public Schools - B C Ed Tech Center	820 North Bridge St	$1,258,521	X Unshaded	0.1	NA	3	-	0	0
Food, Hydration, Shelter	Public Schools - Eastern Elementary	947 Hudnell Street	$5,128,755	X Unshaded	0.1	NA	3	Y	0	0
Food, Hydration, Shelter	Public Schools - John C Tayloe Elementary	910 Tarboro Street	$3,365,802	X Unshaded	0.1	NA	3	Y	0	0
Food, Hydration, Shelter	Public Schools - Washington High	400 Slatestone Road	$20,830,005	X Unshaded	0.1	NA	NA	Y	0	0
Food, Hydration, Shelter	Non-Public Schools - Woolard-Paige Academy	148 Avon Avenue	-	X Unshaded	0.1	NA	NA	Y	3	0
Town of Aurora										
Water Systems	Water Treatment Distribution	-	$317,576	X Unshaded	0.1	9	2	Y	5	0
Water Systems	Public Water Supply	Adjacent To Water Treatment Plant	$317,576	X Unshaded	0.1	8	2	Y	5	0
Safety & Security	Law Enforcement - Aurora Police Department	460 4th Street	$317,576	X Unshaded	0.1	8	2	Y	5	0
Safety & Security	Fire Stations - Aurora Fire Department and Rescue Squad	99 State Highway 33 East	$573,060	X Unshaded	0.1	9	2	-	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	Ems - Aurora Fire Department and Rescue Squad	99 State Highway 33 East	$573,060	X Unshaded	0.1	9	2	-	5	0
Health & Medical	Medical Facilities - Coastal Carolina Home Health Agency	310 Pearl Street	-	X Unshaded	0.1	8	2	Y	5	0
Food, Hydration, Shelter	Public Schools - S W Snowden Elementary	693 North 7th Street	$5,887,040	X Shaded	0.1	6	1	Y	0	0
Town of Bath										
Water Systems	Water Treatment Distribution	-	$18,494	X Unshaded	0.1	NA	3	Y	0	5
Water Systems	Public Water Supply	Water Plant @ Craven St	$2,106,136	X Unshaded	0.1	NA	3	-	0	0
Safety & Security	Fire Stations - Bath Volunteer Fire Department	430 Carteret Street	$308,102	X Unshaded	0.1	NA	3	-	0	3
Food, Hydration, Shelter	Public Schools - Bath Elementary	110 S King Street	$5,458,678	X Unshaded	0.1	NA	3	-	0	3
Town of Belhaven										
Water Systems	Water Treatment Distribution	-	$6,776	AE	0.6	6	1	Y	0	3
Water Systems	Sewer Treatment	@ Battalina Creek	$357,070	AE	1.7	4	1	Y	3	3
Safety & Security	Law Enforcement - Belhaven Police Department	215 East Main Street	$0	AE	2.6	2	1	-	0	0
Safety & Security	Fire Stations - Belhaven Fire And Rescue	245 Haslin Street	$218,091	AE	1.2	5	1	Y	0	0
Safety & Security	Ems - Belhaven Fire And Rescue	245 Haslin Street	$218,091	AE	1.2	5	1	Y	0	0
Health & Medical	Medical Facilities - Pungo District Hospital Corporation	202 East Water St	-	AE	2.4	3	1	-	0	0
Health & Medical	Medical Facilities - Pungo District Hospital	202 E. Water Street	-	AE	2.4	3	1	-	0	0
Food, Hydration, Shelter	Non-Public Schools - Pungo Christian Academy	983 West Main Street	-	AE	3.1	3	1	Y	4	0
Town of Chocowinity										
Water Systems	Water Treatment Distribution	-	$232,277	X Unshaded	0.1	NA	NA	Y	0	4
Water Systems	Water Treatment Distribution	-	$22,437	X Unshaded	0.1	NA	NA	Y	1	2
Safety & Security	Law Enforcement - Chocowinity Police Department	3359 US Hwy 17 South	$315,355	X Unshaded	0.1	NA	NA	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	Fire Stations - Chocowinity Volunteer Fire Department	512 State Hwy 33 East	$1,687,264	X Unshaded	0.1	NA	NA	-	0	5
Safety & Security	Ems - Chocowinity Emergency Medical Services Incorporated	512 State Hwy 33 East	$1,687,264	X Unshaded	0.1	NA	NA	-	0	5
Health & Medical	Medical Facilities - Life, Inc./Edgewood Group Home	506 Edgewood Drive	-	X Unshaded	0.1	NA	NA	Y	0	0
Food, Hydration, Shelter	Public Schools - Chocowinity Middle	3831 US HWY 17 S	$4,332,018	X Unshaded	0.1	NA	NA	Y	1	0
Town of Pantego										
Safety & Security	Fire Stations - Pantego Fire Department	25673 US Highway 264 East	$269,824	AE	1.0	6	2	Y	0	0

A.2 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level within Beaufort County. The hazards included in this section are flood and wildfire.

A.2.1 FLOODING

Table A.10 details the acreage of Beaufort County's total area by jurisdiction and flood zone on the Effective DFIRM. Per this assessment, at 98 percent, the Town of Belhaven has the largest portion of its land area within the mapped 1%-annual-chance floodplain, followed by Washington Park. The towns of Chocowinity and Washington have the lowest portion of land in the 1%-annual-chance floodplain, at 1 percent and 16 percent, respectively. Overall, 19 percent of the county's total land area falls within this floodplain.

Table A.10 – Flood Zone Acreage by Jurisdiction, Beaufort County

Flood Zone	Acreage	Percent of Total (%)
Town of Aurora		
Zone AE	264.5	38.1
Zone X (500-year)	44.5	6.4
Zone X (unshaded)	384.8	55.5
Total	**693.8**	--
Town of Bath		
Zone AE	170.9	26.5
Zone VE	271.0	41.9
Zone X (500-year)	0.2	0.03
Zone X (unshaded)	204.1	31.6
Total	**646.2**	--
Town of Belhaven		
Zone AE	1,374.3	98.3
Zone X (500-Year)	16.3	1.2
Zone X (unshaded)	7.0	0.5
Total	**1,397.5**	--
Town of Chocowinity		
Zone AE	10.3	1.5
Zone X (500-year)	3.3	0.5
Zone X (unshaded)	691.2	98.1
Total	**704.8**	--
Town of Pantego		
Zone AE	97.5	22.7
Zone X (500-year)	41.5	9.7
Zone X (unshaded)	290.0	67.6
Total	**428.9**	--

Flood Zone	Acreage	Percent of Total (%)
City of Washington		
Zone AE	916.0	16.6
Zone VE	315.0	5.7
Zone X (500-year)	179.0	3.3
Zone X (unshaded)	4,027.9	73.2
Open Water	67.7	1.2
Total	5,505.6	--
Town of Washington Park		
Zone AE	78.7	38.6
Zone VE	34.2	16.8
Zone X (500-year)	34.6	17.0
Zone X (unshaded)	56.2	27.6
Total	**203.8**	--
Unincorporated Beaufort County		
Zone AE	118,014.3	19.6
Zone AO	16.1	0.003
Zone VE	12,280.3	2.0
Zone X (500-year)	20,272.5	3.4
Zone X (unshaded)	410,219.0	68.1
Open Water	41,843.4	6.9
Total	**602,645.6**	--

Source: FEMA Effective DFIRM; U.S. Census Bureau

Figure A.9 through Figure A.16 reflect the effective mapped flood hazard zones for all jurisdictions in Beaufort County, and Figure A.17 through Figure A.24 display the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table A.11 provides building counts and values for critical facilities by flood zone in Beaufort County and incorporated jurisdictions.

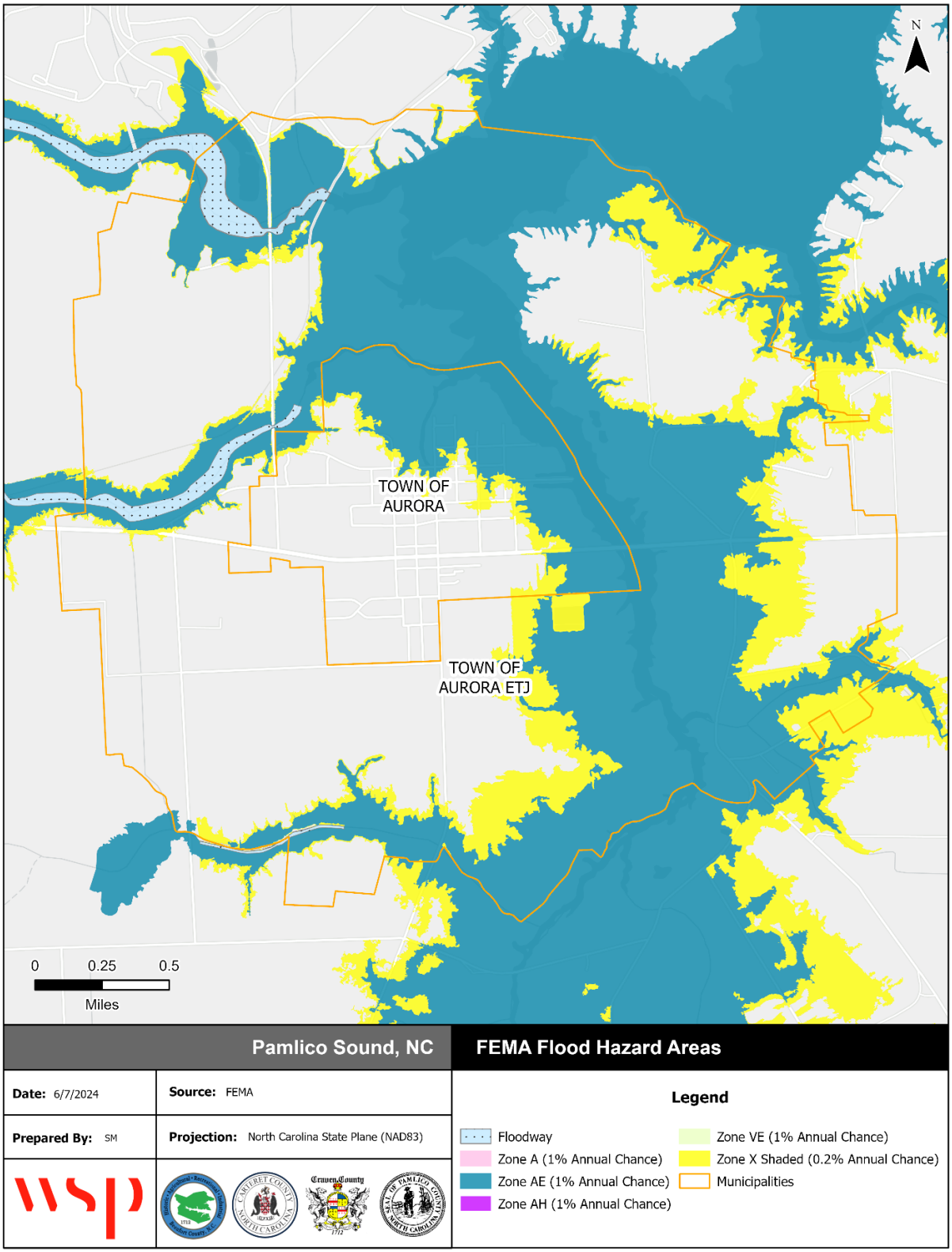
Table A.11 – Critical Facilities Exposed to Flooding, Beaufort County

Flood Zone	Critical Facility Count	Structure Value
Town of Aurora		
Zone X (500-year)	1	$5,887,040
Zone X (unshaded)	6	$2,098,848
Total	**7**	**$7,985,888**
Town of Bath		
Zone X (unshaded)	4	$7,891,410
Total	**4**	**$7,891,410**
Town of Belhaven		
Zone AE	8	$800,028
Total	**8**	**$800,028**
Town of Chocowinity		
Zone X (unshaded)	7	$8,276,615
Total	**7**	**$8,276,615**

Flood Zone	Critical Facility Count	Structure Value
Town of Pantego		
Zone AE	1	$269,824
Total	**1**	**$269,824**
City of Washington		
Zone AE	5	$127,755
Zone X (500-year)	2	$2,218,876
Zone X (unshaded)	33	$39,055,960
Total	**40**	**$41,402,591**
Unincorporated Beaufort County		
Zone AE	22	$5,945,442
Zone X (500-year)	11	$6,895,170
Zone X (unshaded)	140	$280,664,809
Total	**173**	**$293,505,421**

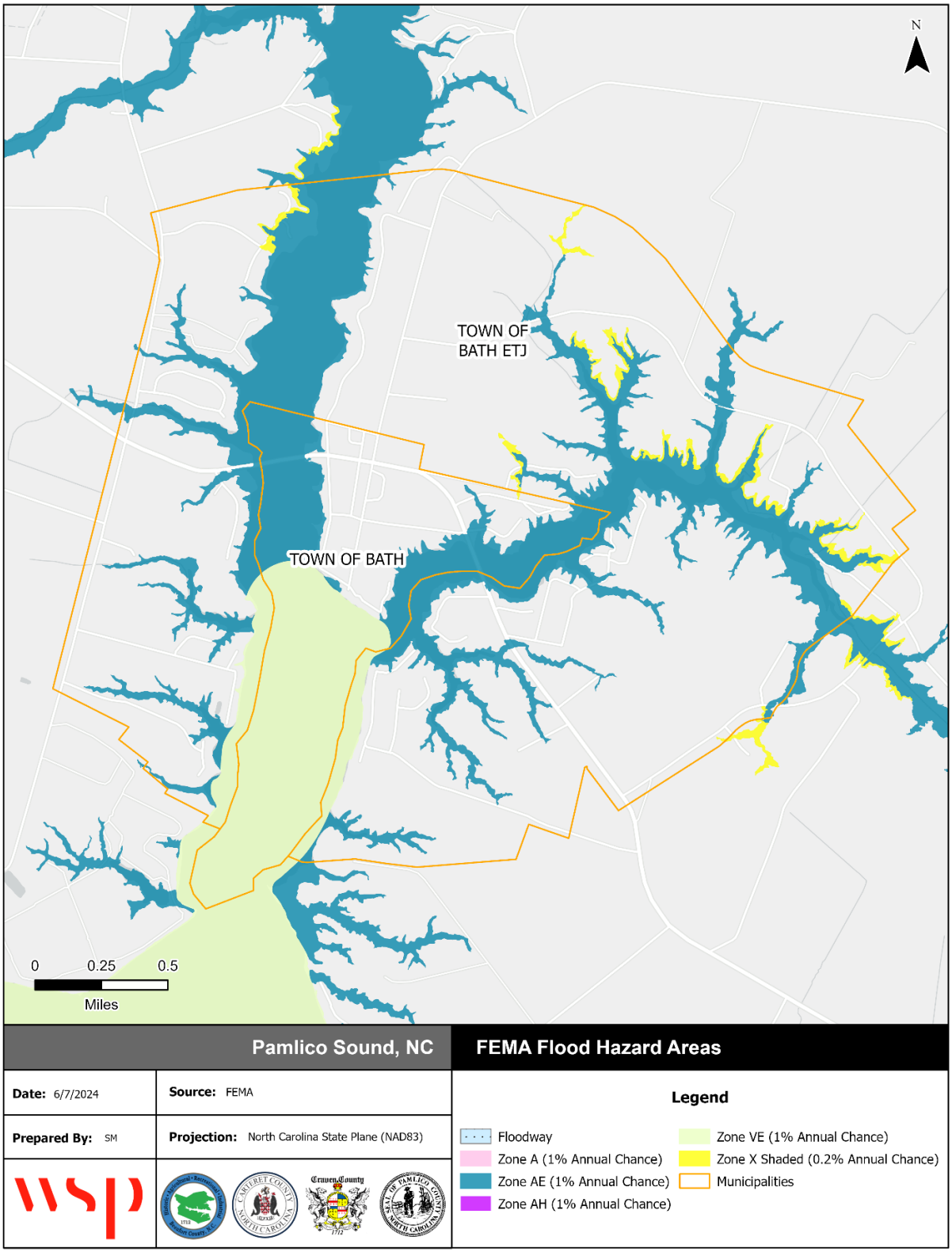
Source: FEMA Effective FIRM

Figure A.9 - FEMA Flood Hazard Areas, Town of Aurora



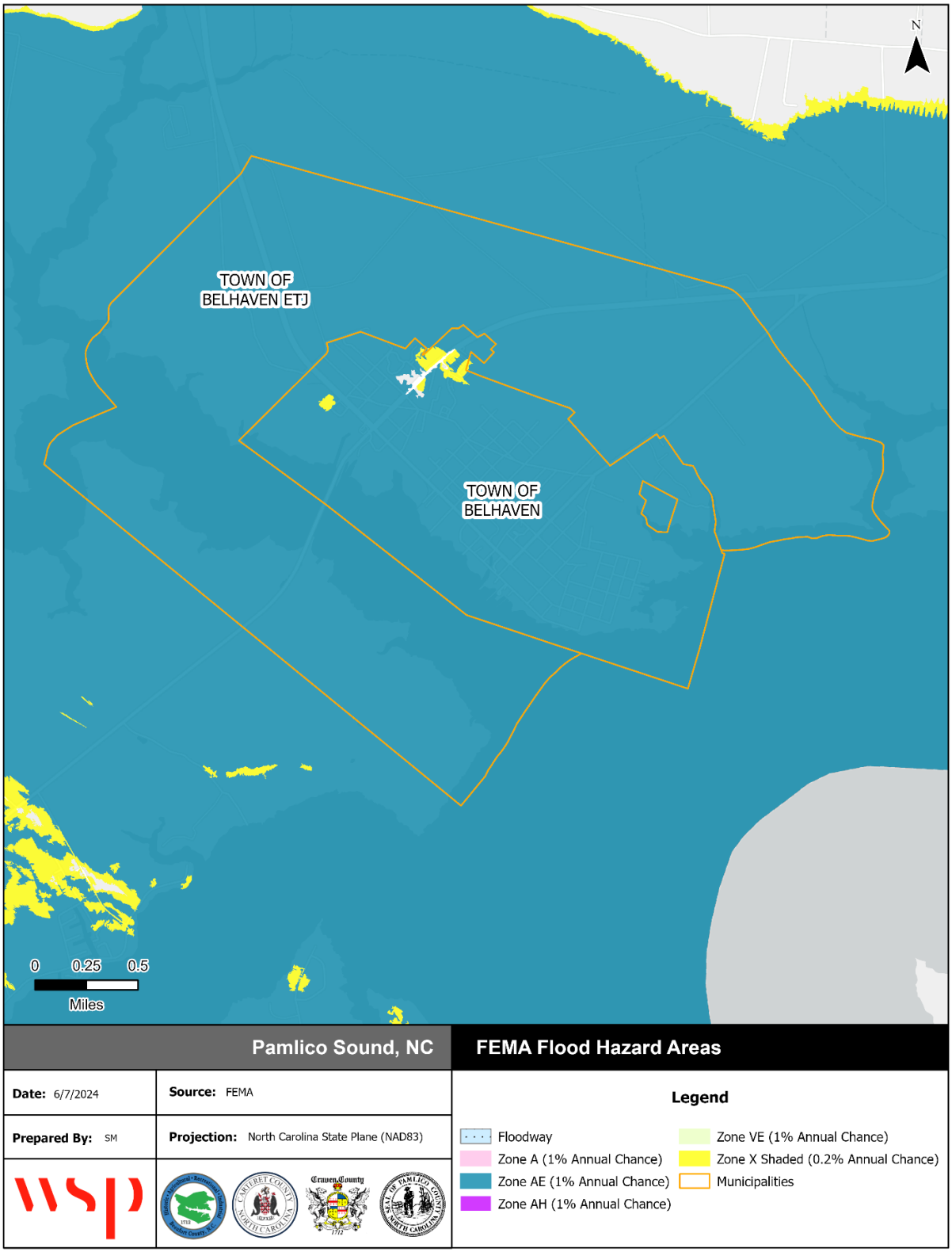
Source: FEMA Effective DFIRM

Figure A.10 – FEMA Flood Hazard Areas, Town of Bath



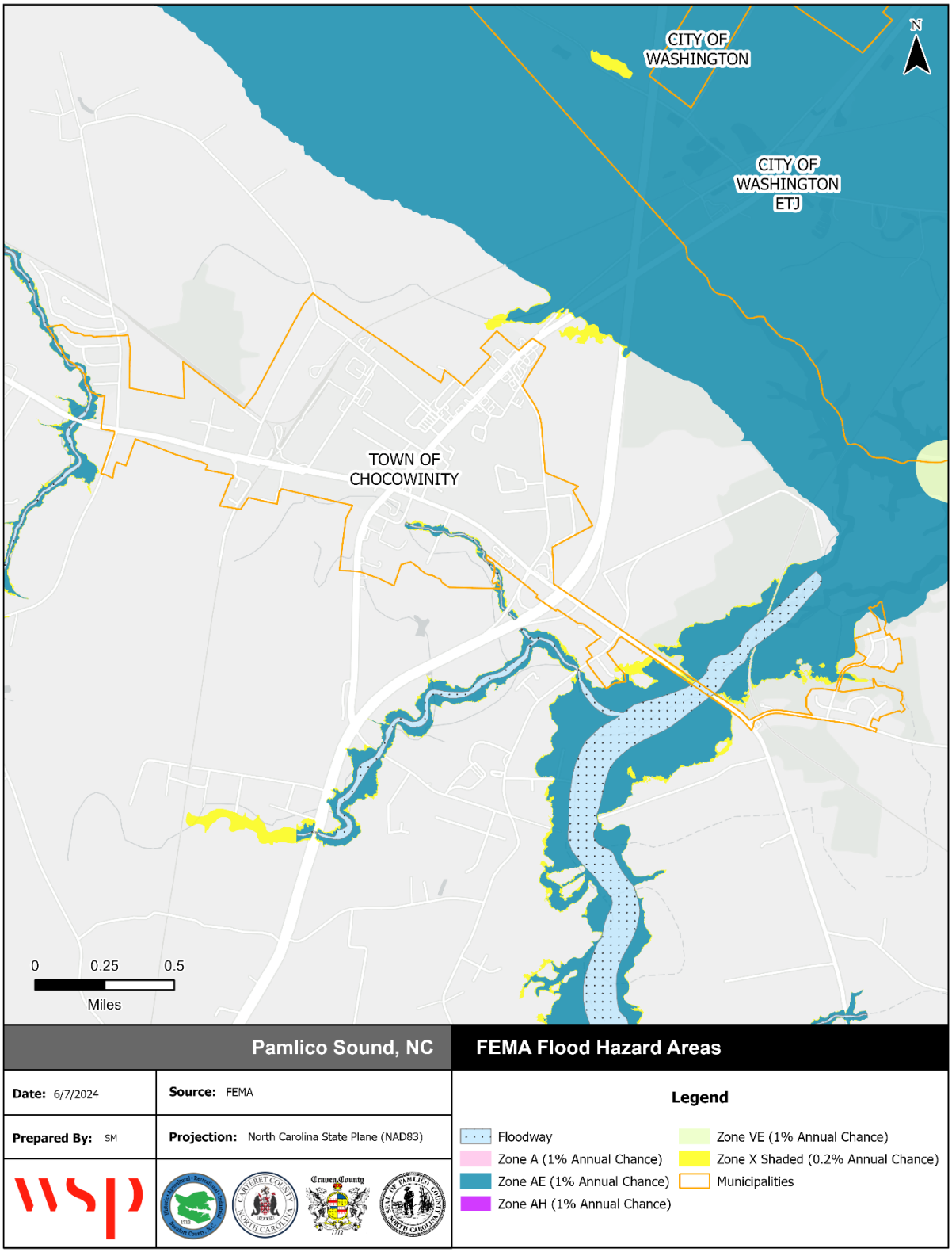
Source: FEMA Effective DFIRM

Figure A.11 – FEMA Flood Hazard Areas, Town of Belhaven



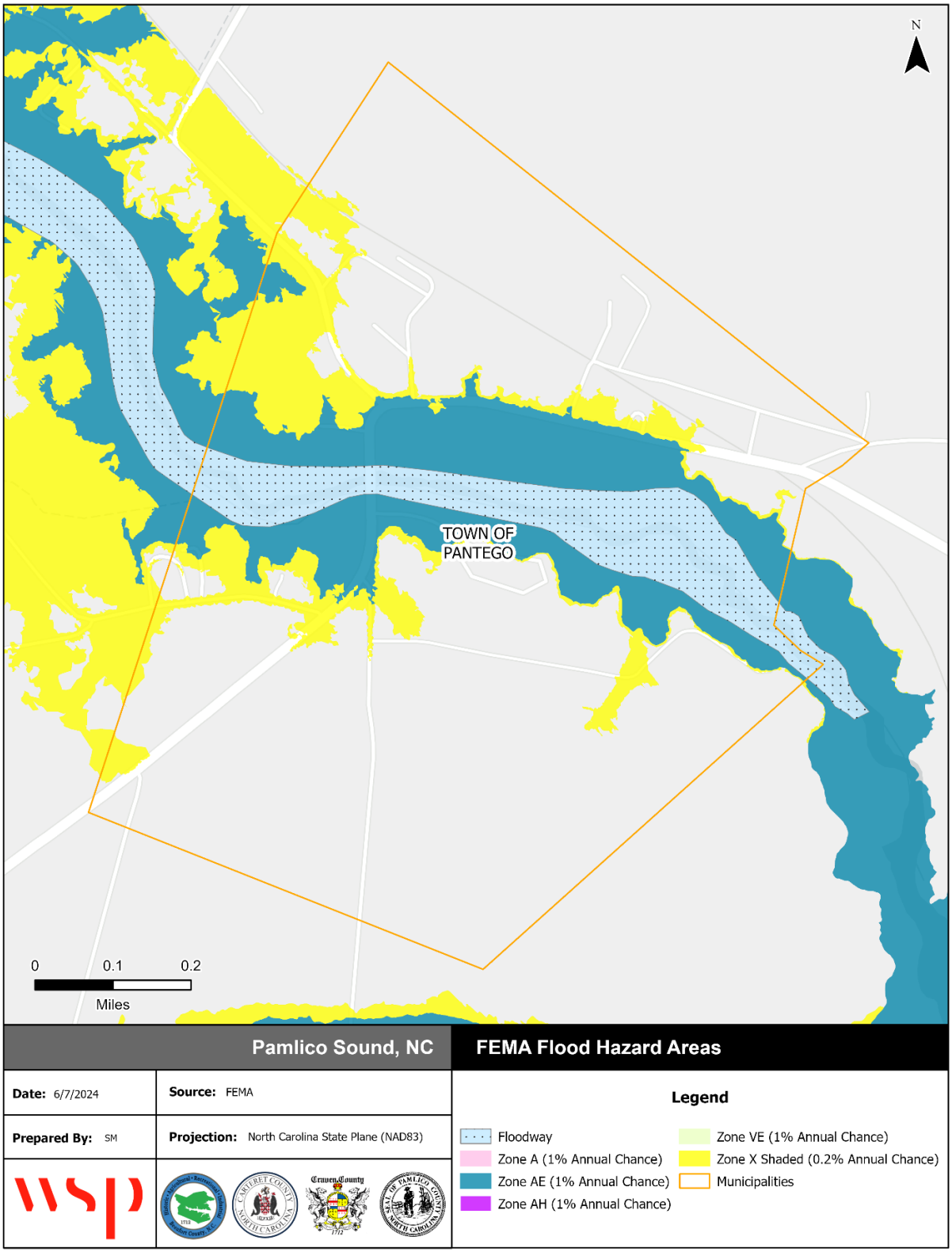
Source: FEMA Effective DFIRM

Figure A.12 – FEMA Flood Hazard Areas, Town of Chocowinity



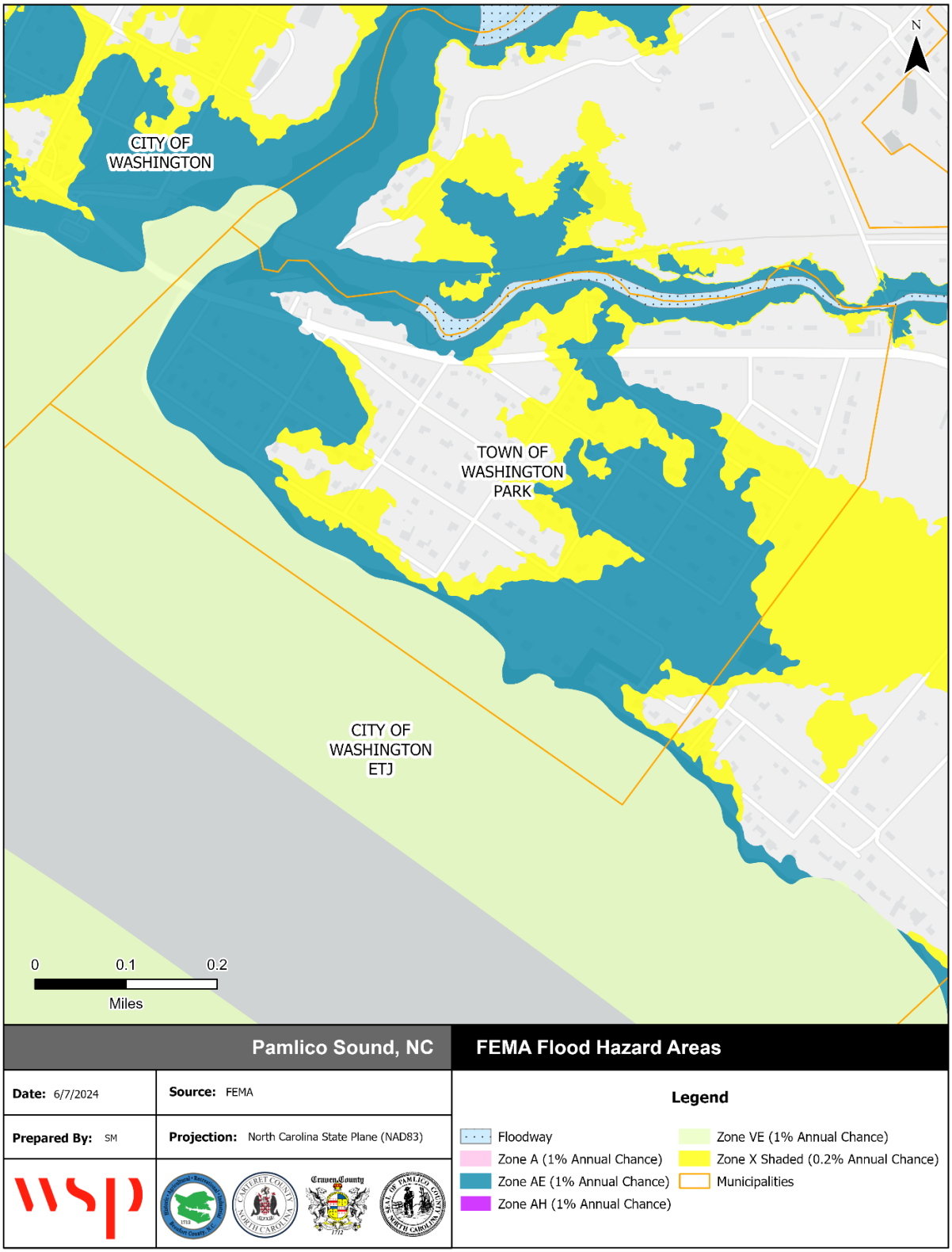
Source: FEMA Effective DFIRM

Figure A.13 – FEMA Flood Hazard Areas, Town of Pantego



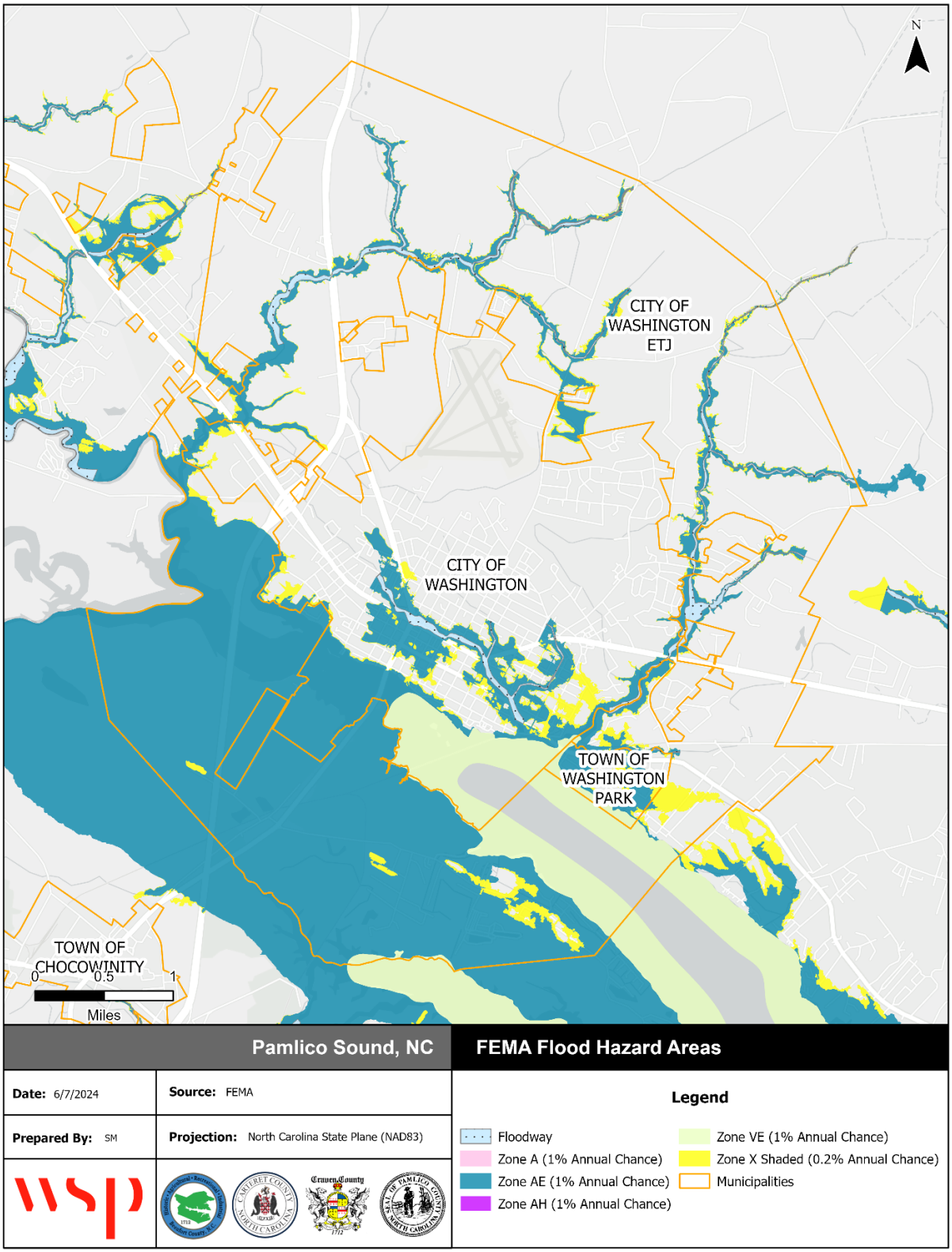
Source: FEMA Effective DFIRM

Figure A.14 – FEMA Flood Hazard Areas, Town of Washington Park



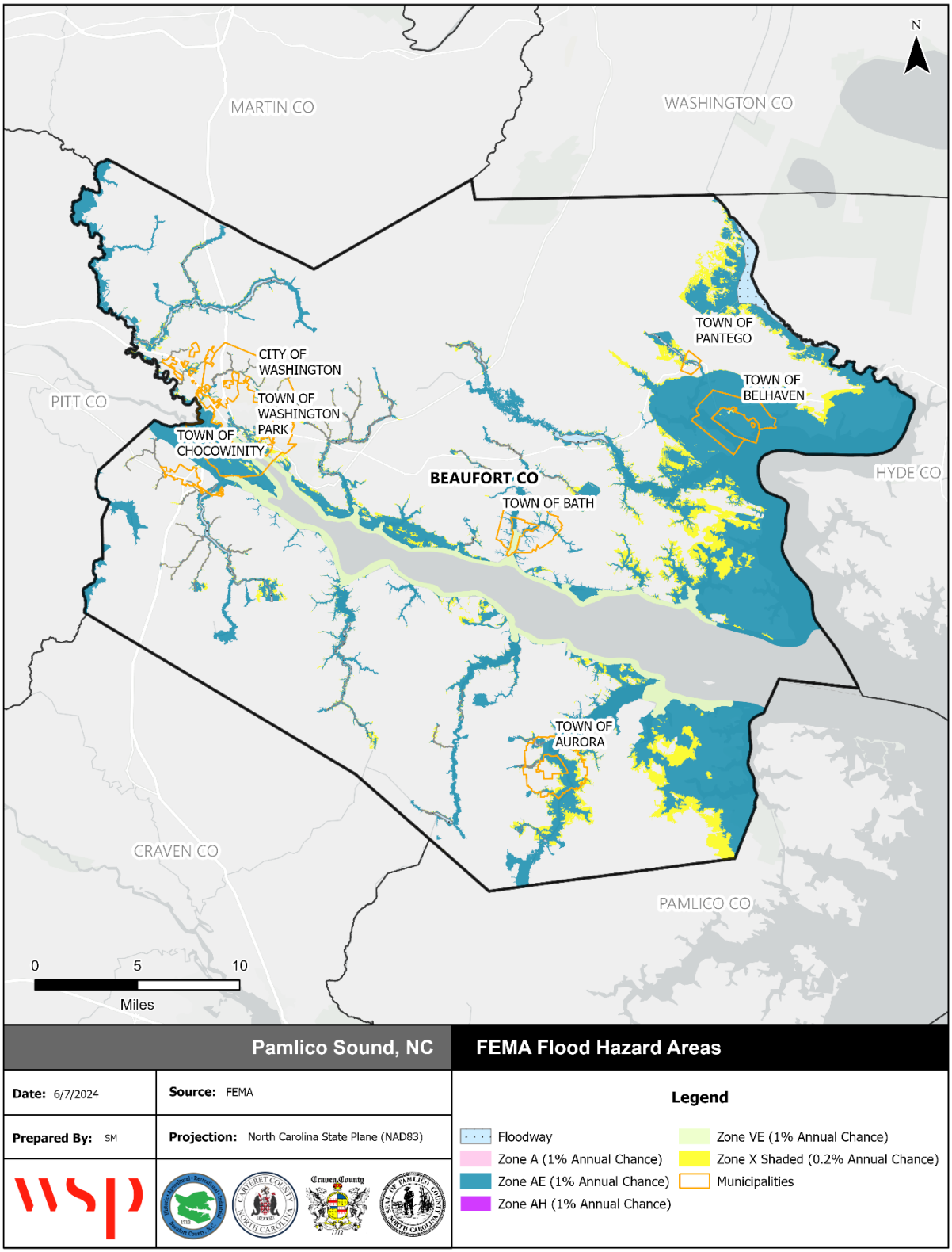
Source: FEMA Effective DFIRM

Figure A.15 – FEMA Flood Hazard Areas, City of Washington



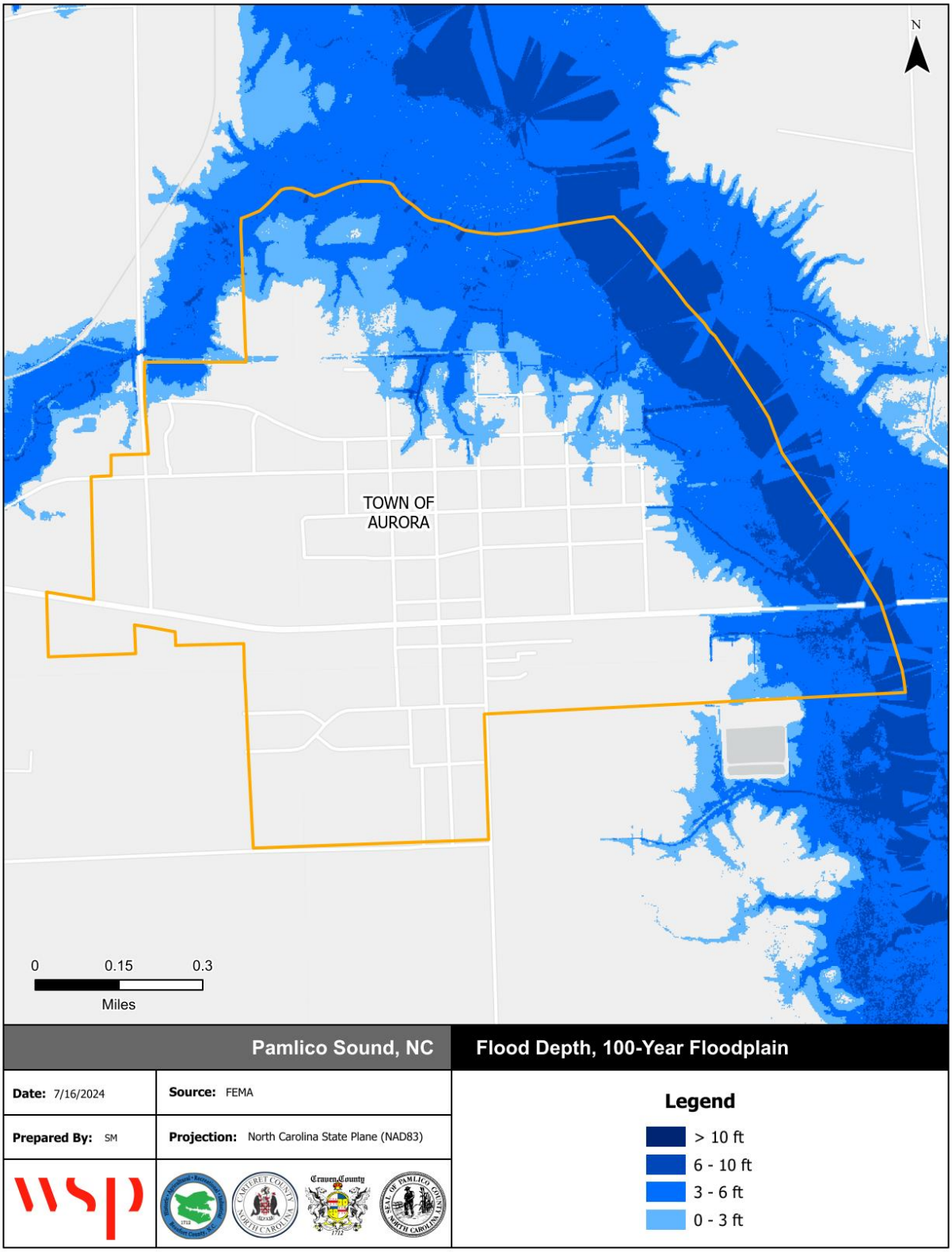
Source: FEMA Effective DFIRM

Figure A.16 – FEMA Flood Hazard Areas, Unincorporated Beaufort County



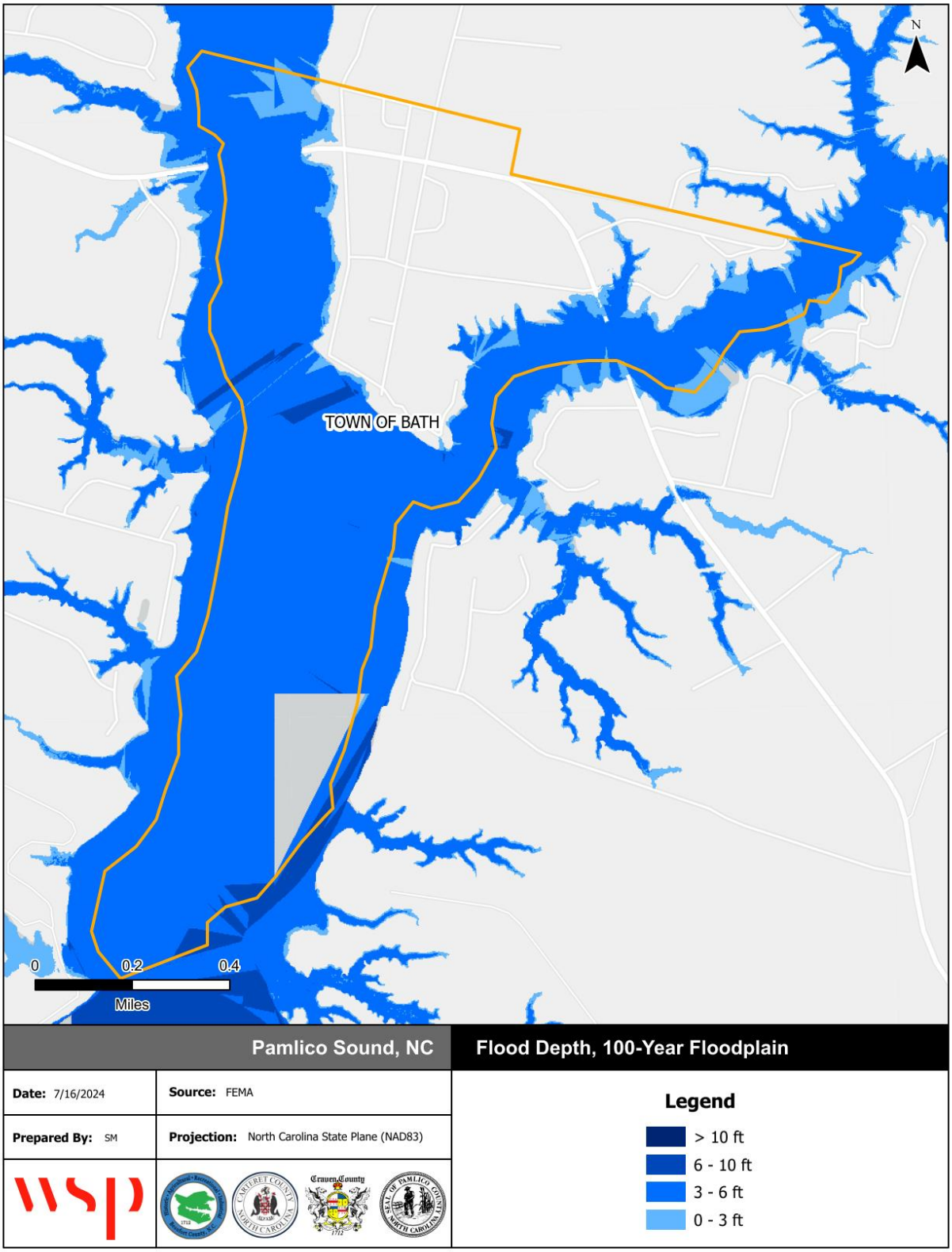
Source: FEMA Effective DFIRM

Figure A.17 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Aurora



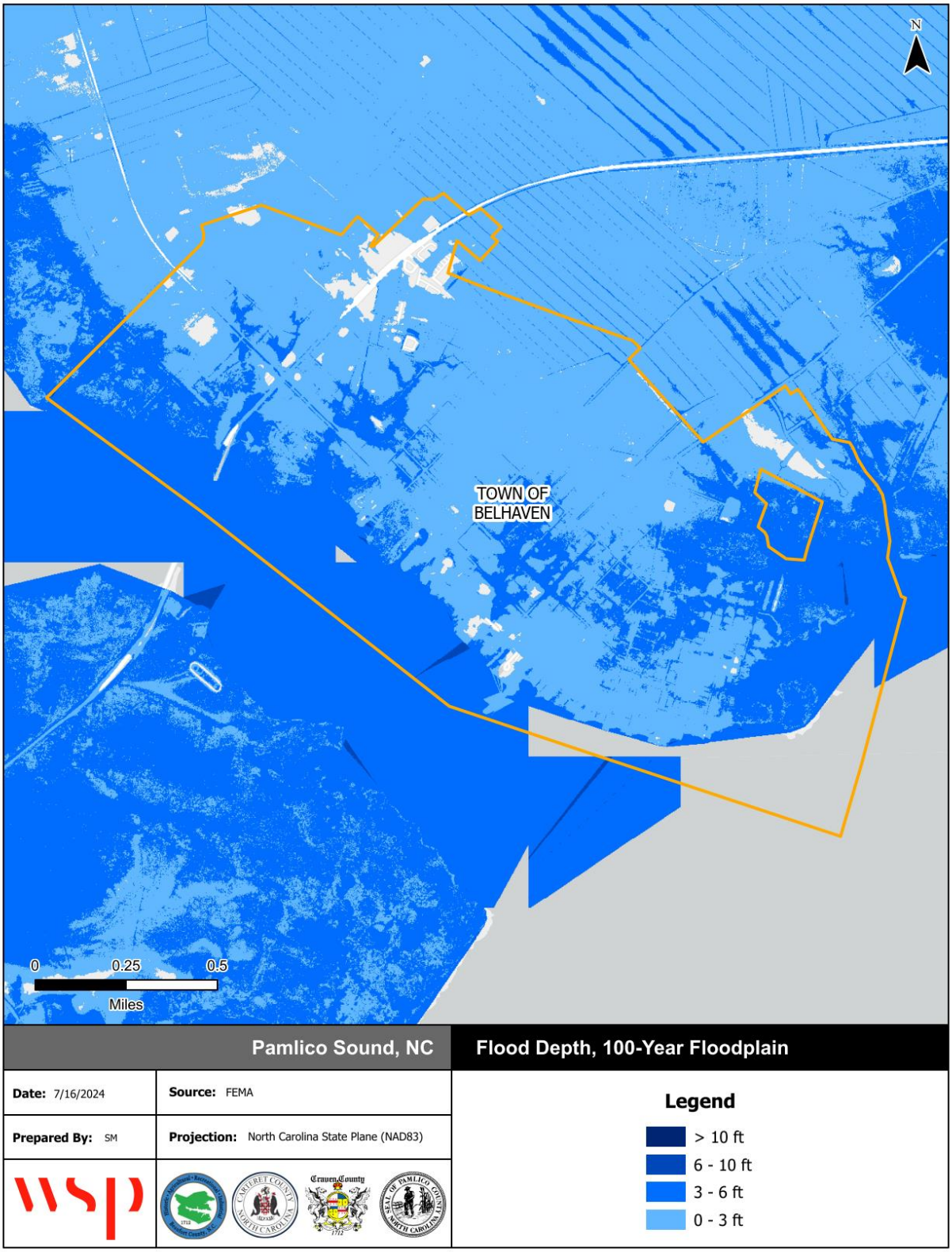
Source: FEMA Effective DFIRM

Figure A.18 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Bath



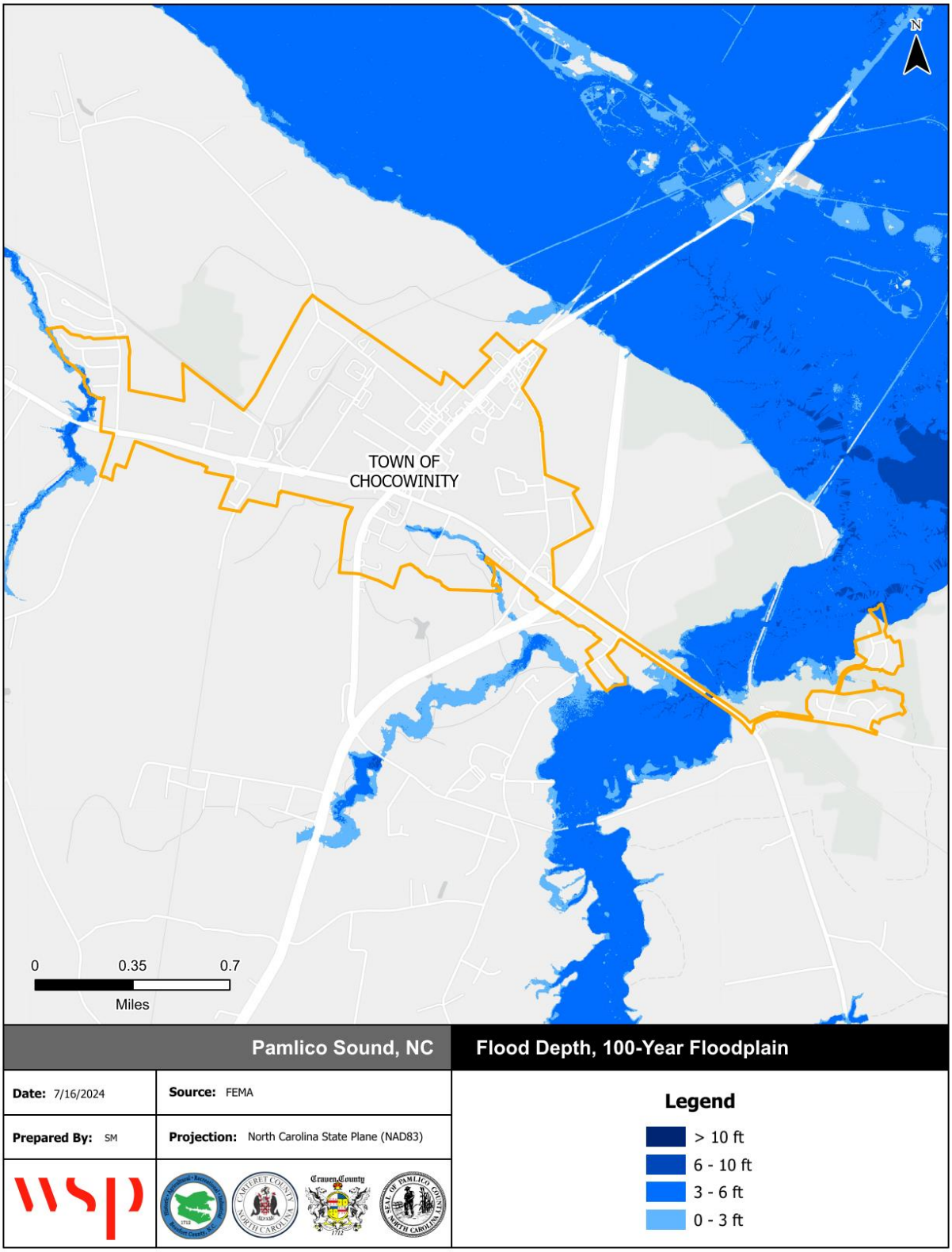
Source: FEMA Effective DFIRM

Figure A.19 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Belhaven



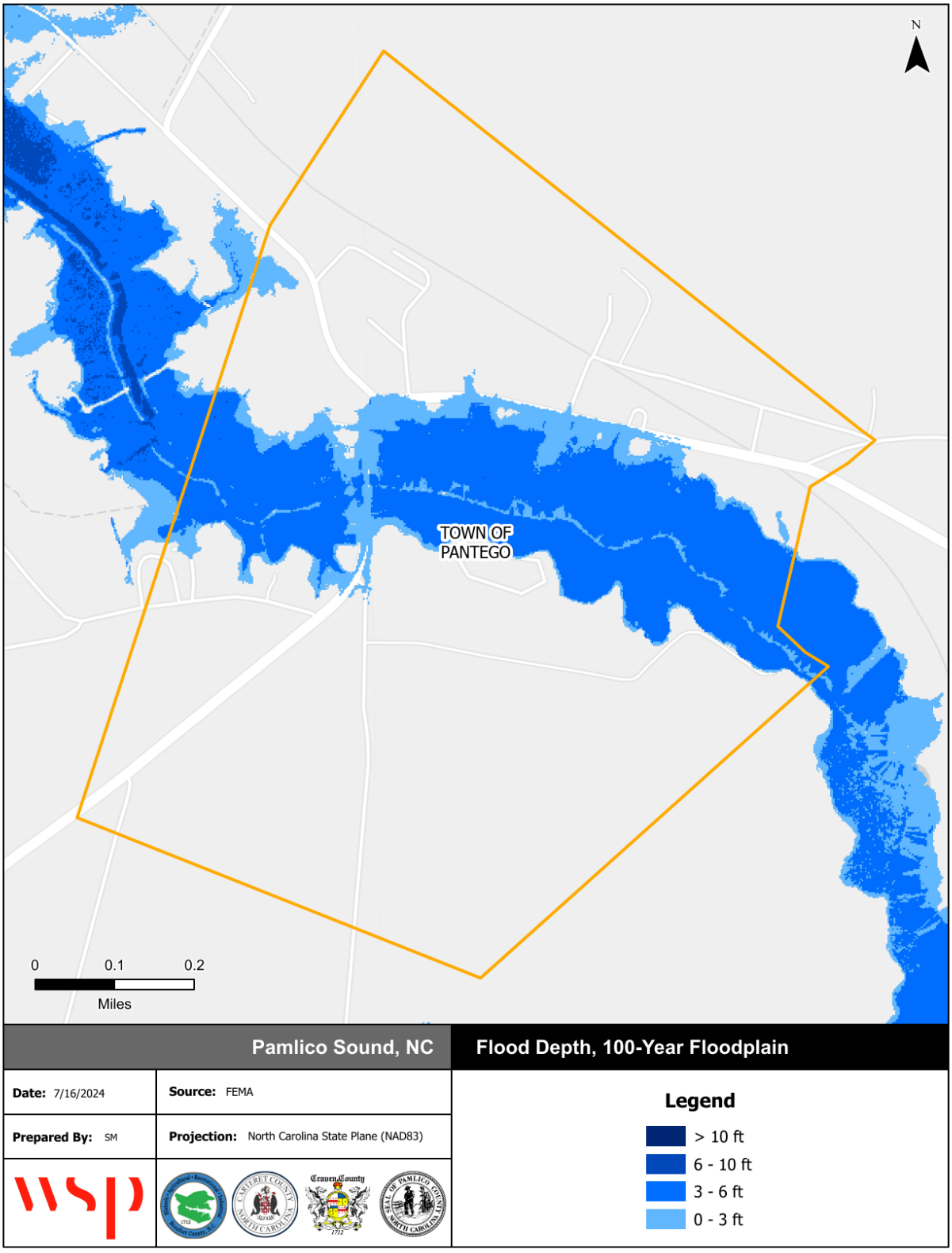
Source: FEMA Effective DFIRM

Figure A.20 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Chocowinity



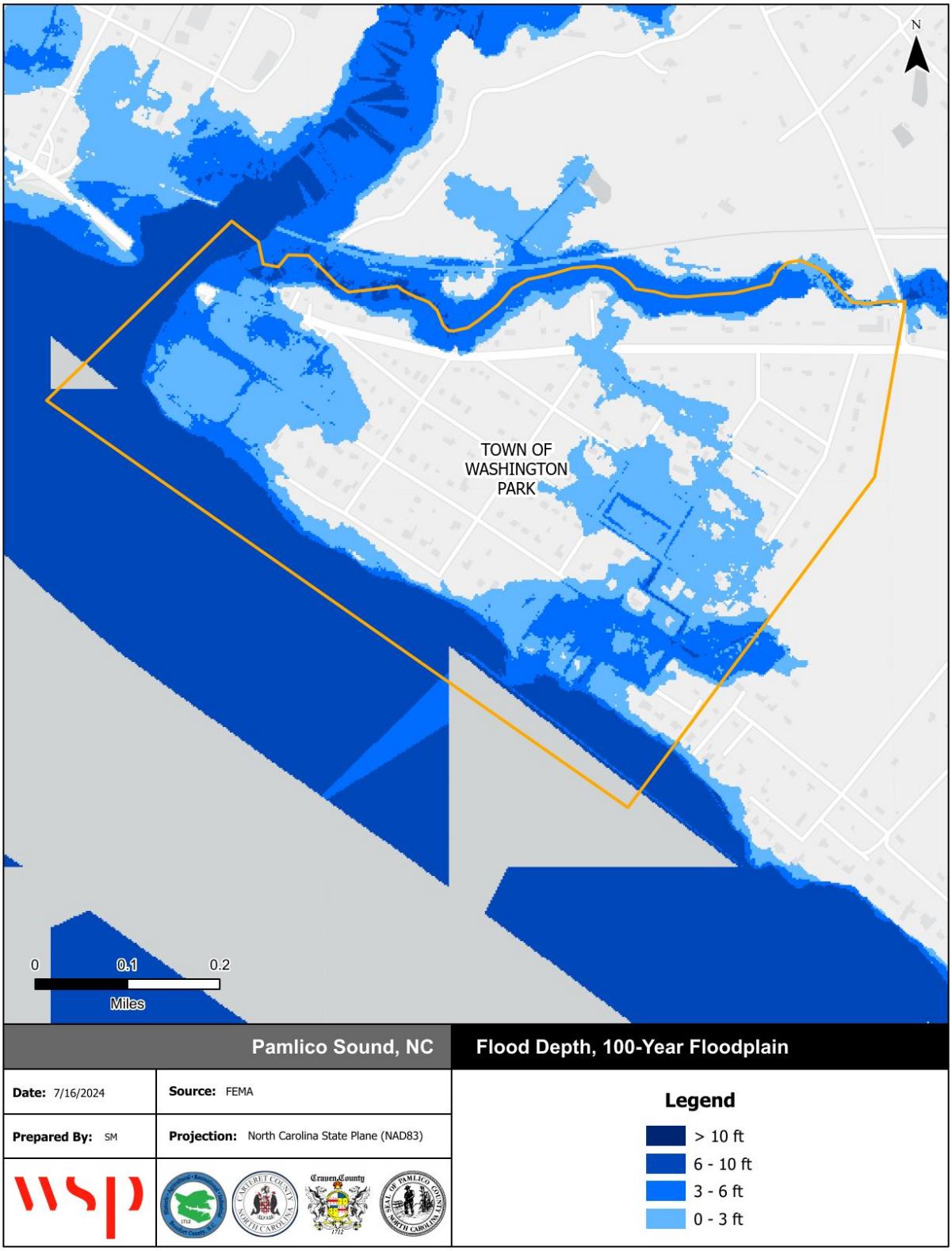
Source: FEMA Effective DFIRM

Figure A.21 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Pantego



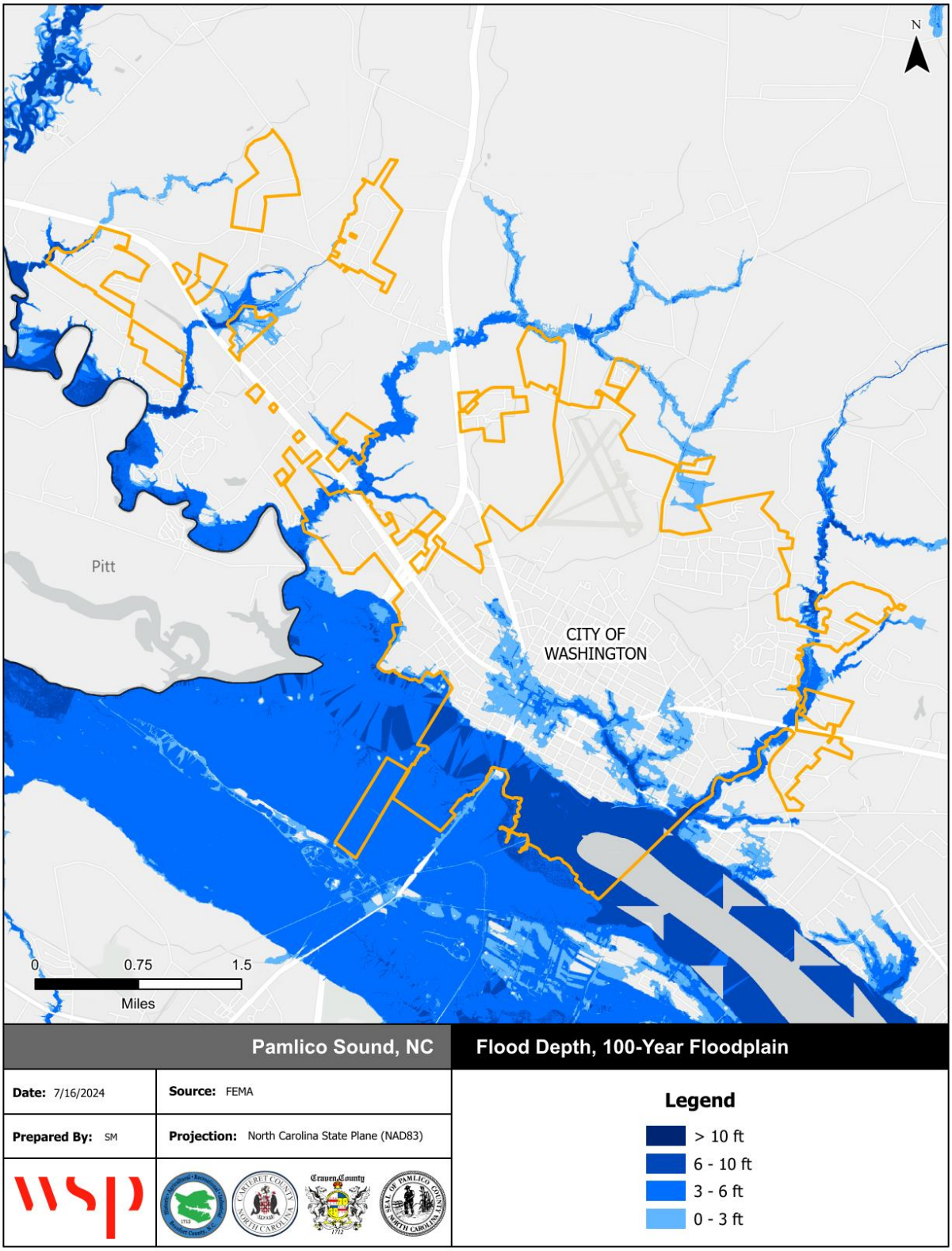
Source: FEMA Effective DFIRM

Figure A.22 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Washington Park



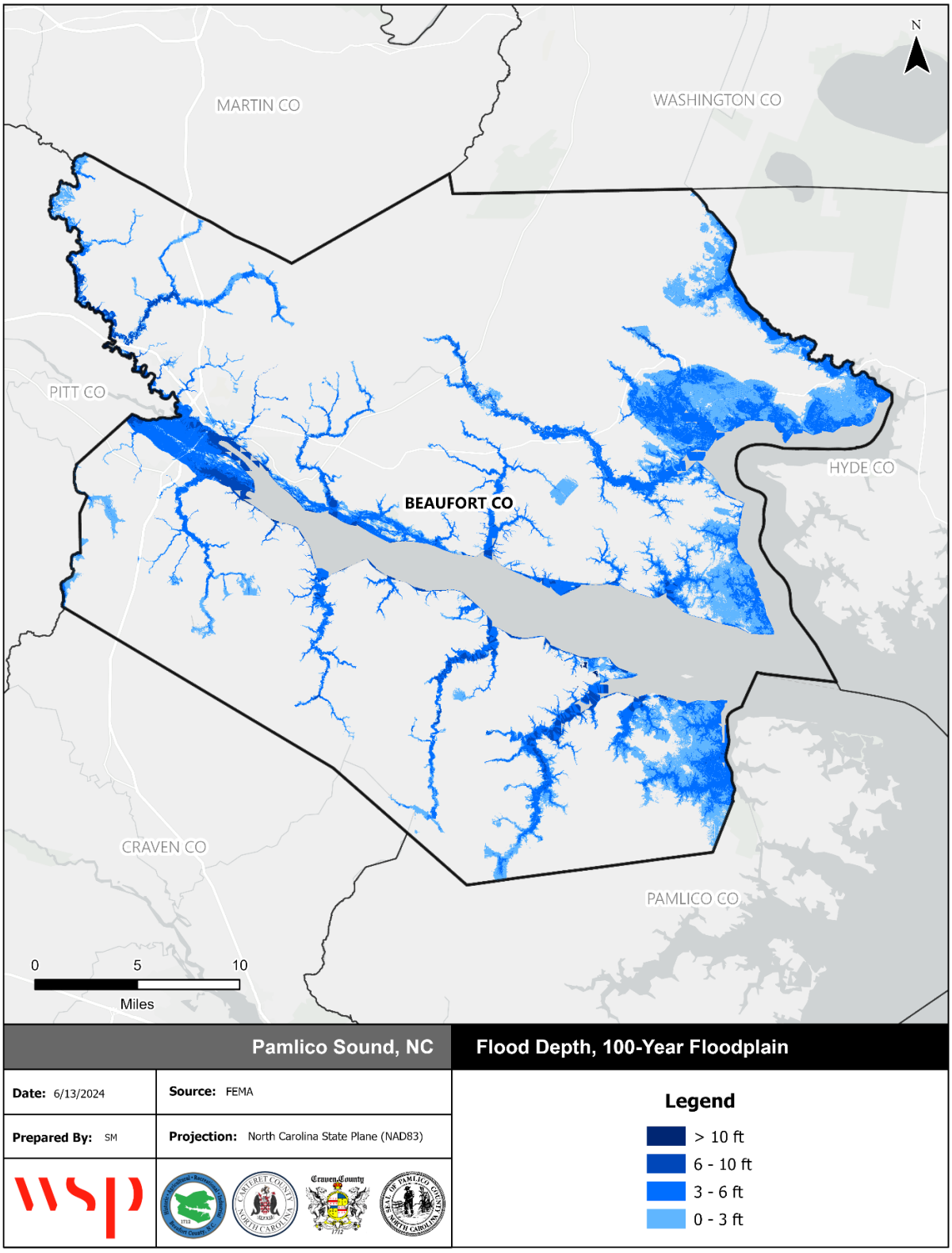
Source: FEMA Effective DFIRM

Figure A.23 – Flood Depth, 1%-Annual-Chance Floodplain, City of Washington



Source: FEMA Effective DFIRM

Figure A.24 – Flood Depth, 1%-Annual-Chance Floodplain, Unincorporated Beaufort County



Source: FEMA Effective DFIRM

A.2.1.1 *FLOOD INSURANCE DATA*

The following tables reflect NFIP entry dates as well as policy and claims data for Beaufort County and incorporated jurisdictions categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table A.12 – NFIP Program Entry Dates

Community	Emergency Entry	Regular Program Entry
Beaufort County (Unincorporated Area)	June 9, 1972	February 4, 1987
Town of Aurora	June 4, 1975	January 3, 1986
Town of Bath	April 8, 1987	April 8, 1987
Town of Belhaven	October 27, 1972	May 16, 1977
Town of Chocowinity	N/A	June 30, 1997
Town of Pantego	November 24, 1975	August 5, 1985
Town of Washington Park	September 29, 1972	November 22, 1976
City of Washington	October 6, 1972	February 2, 1977

Table A.13 – NFIP Policy and Claims Data by Structure Type

Structure Type	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Aurora					
Single Family	18	$11,397	$3,475,000	30	$442,283.53
2-4 Family	5	$3,307	$1,330,000	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	5	$2,792	$414,000	10	$67,695.98
Total	**28**	**$17,496**	**$5,219,000**	**40**	**$509,979.51**
Town of Bath					
Single Family	51	$33,702	$14,876,000	32	$362,100.53
2-4 Family	1	$821	$319,000	1	$18,218.52
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	2	$2,819	$205,000	7	$52,152.62
Total	**54**	**$37,342**	**$15,400,000**	**40**	**$432,471.67**
Town of Belhaven					
Single Family	202	$112,267	$33,609,000	1,640	$14,170,721.95
2-4 Family	6	$3,814	$1,500,000	5	$11,913.48
All Other Residential	48	$21,091	$12,281,000	19	$168,615.65
Non-Residential	51	$89,696	$11,329,000	454	$9,347,088.97
Total	**307**	**$226,868**	**$58,719,000**	**2,118**	**$23,698,340.05**
Town of Chocowinity					
Single Family	2	$591	$434,000	7	$99,791.53
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	0	$0	$0	0	$0.00
Total	**2**	**$591**	**$434,000**	**7**	**$99,791.53**

Structure Type	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Pantego					
Single Family	4	$2,107	$681,000	16	$183,129.00
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	3	$5,553	$1,715,000	1	$9,672.44
Total	**7**	**$7,660**	**$2,396,000**	**17**	**$192,801.44**
Town of Washington Park					
Single Family	89	$66,871	$21,397,000	378	$5,960,591.49
2-4 Family	0	$0	$0	3	$56,696.02
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	1	$699	$71,000	1	$23,217.63
Total	**90**	**$67,570**	**$21,468,000**	**382**	**$6,040,505.14**
City of Washington					
Single Family	387	$211,425	$84,146,000	1,155	$10,981,106.80
2-4 Family	113	$30,605	$7,223,000	85	$1,416,035.11
All Other Residential	29	$13,633	$9,611,000	10	$34,344.24
Non-Residential	72	$95,475	$28,328,000	247	$6,370,679.44
Total	**601**	**$351,138**	**$129,308,000**	**1,497**	**$18,802,165.59**
Unincorporated Beaufort					
Single Family	1,418	$989,336	$357,862,000	5,268	$78,857,264.73
2-4 Family	4	$2,408	$908,000	22	$296,093.35
All Other Residential	9	$1,931	$1,444,000	12	$150,923.72
Non-Residential	19	$28,781	$5,975,000	120	$3,111,828.78
Total	**1,450**	**$1,022,456**	**$366,189,000**	**5,422**	**$82,416,110.58**

Source: FEMA Community Information System, accessed January 2025

Table A.14 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Aurora					
A01-30 & AE Zones	12	$7,277	$1,668,000	31	$422,439.29
B, C & X Zone					
Standard	16	$10,219	$3,551,000	4	$0.00
Preferred	0	$0	$0	3	$87,540.22
Total	**28**	**$17,496**	**$5,219,000**	**38**	**$509,979.51**
Town of Bath					
A01-30 & AE Zones	24	$16,544	$5,899,000	34	$373,939.12
B, C & X Zone					
Standard	30	$20,798	$9,501,000	3	$4,061.39
Preferred	0	$0	$0	3	$54,471.16
Total	**54**	**$37,342**	**$15,400,000**	**40**	**$432,471.67**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Belhaven					
A01-30 & AE Zones	306	$225,102	$58,369,000	1,998	$22,977,590.54
B, C & X Zone					
Standard	1	$1,766	$350,000	9	$157,795.72
Preferred	0	$0	$0	0	$0.00
Total	**307**	**$226,868**	**$58,719,000**	**2,007**	**$23,135,386.26**
Town of Chocowinity					
A01-30 & AE Zones	0	$0	$0	3	$72,591.53
B, C & X Zone					
Standard	2	$591	$434,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**2**	**$591**	**$434,000**	**3**	**$72,591.53**
Town of Pantego					
A01-30 & AE Zones	4	$2,107	$681,000	17	$192,801.44
B, C & X Zone					
Standard	3	$5,553	$1,715,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**7**	**$7,660**	**$2,396,000**	**17**	**$192,801.44**
Town of Washington Park					
A01-30 & AE Zones	61	$46,175	$13,517,000	357	$5,813,653.92
B, C & X Zone					
Standard	29	$21,395	$7,951,000	16	$197,599.02
Preferred	0	$0	$0	2	$1,541.41
Total	**90**	**$67,570**	**$21,468,000**	**375**	**$6,012,794.35**
City of Washington					
A01-30 & AE Zones	342	$197,282	$69,399,000	1,276	$16,043,299.08
A Zones	0	$0	$0	30	$323,156.95
B, C & X Zone					
Standard	259	$153,856	$59,909,000	102	$1,865,058.41
Preferred	0	$0	$0	41	$267,060.95
Total	**601**	**$351,138**	**$129,308,000**	**1,449**	**$18,498,575.39**
Unincorporated Beaufort County					
A01-30 & AE Zones	1,112	$781,214	$265,852,000	4,832	$73,967,132.45
A Zones	3	$2,700	$382,000	225	$3,728,435.59
B, C & X Zone					
Standard	334	$237,885	$99,727,000	126	$2,386,558.21
Preferred	0	$0	$0	63	$1,187,407.28
Total	**1,449**	**$1,021,799**	**$365,961,000**	**5,246**	**$81,269,533.53**

Source: FEMA Community Information System, accessed January 2025

Table A.15 – NFIP Policy and Claims Data, Pre-FIRM

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Aurora					
A01-30 & AE Zones	7	$4,053	$656,000	21	$352,066.56
B, C & X Zone	14	$8,962	$3,061,000	5	$70,667.52
Standard	14	$8,962	$3,061,000	4	$0.00
Preferred	0	$0	$0	1	$70,667.52
Total	**21**	**$13,015**	**$3,717,000**	**26**	**$422,734.08**
Town of Bath					
A01-30 & AE Zones	6	$5,056	$1,521,000	22	$320,036.89
B, C & X Zone	14	$9,030	$4,002,000	5	$58,532.55
Standard	14	$9,030	$4,002,000	2	$4,061.39
Preferred	0	$0	$0	3	$54,471.16
Total	**20**	**$14,086**	**$5,523,000**	**27**	**$378,569.44**
Town of Belhaven					
A01-30 & AE Zones	139	$126,293	$23,396,000	1,660	$20,672,783.91
B, C & X Zone	0	$0	$0	9	$157,795.72
Standard	0	$0	$0	9	$157,795.72
Preferred	0	$0	$0	0	$0.00
Total	**139**	**$126,293**	**$23,396,000**	**1,669**	**$20,830,579.63**
Town of Chocowinity					
A01-30 & AE Zones	0	$0	$0	1	$29,040.56
B, C & X Zone	2	$591	$434,000	0	$0.00
Standard	2	$591	$434,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**2**	**$591**	**$434,000**	**1**	**$29,040.56**
Town of Pantego					
A01-30 & AE Zones	4	$2,107	$681,000	16	$184,174.76
B, C & X Zone	3	$5,553	$1,715,000	0	$0.00
Standard	3	$5,553	$1,715,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**7**	**$7,660**	**$2,396,000**	**16**	**$184,174.76**
Town of Washington Park					
A01-30 & AE Zones	45	$38,298	$10,073,000	311	$5,205,486.98
B, C & X Zone	24	$17,048	$6,418,000	16	$190,330.63
Standard	24	$17,048	$6,418,000	15	$188,789.22
Preferred	0	$0	$0	1	$1,541.41
Total	**69**	**$55,346**	**$16,491,000**	**327**	**$5,395,817.61**
City of Washington					
A01-30 & AE Zones	157	$93,098	$25,065,000	1,003	$14,053,929.19
A Zones	0	$0	$0	30	$323,156.95
B, C & X Zone	184	$101,099	$35,224,000	80	$1,049,176.20
Standard	184	$101,099	$35,224,000	65	$993,285.49
Preferred	0	$0	$0	16	$80,867.78
Total	**341**	**$194,197**	**$60,289,000**	**1,113**	**$15,426,262.34**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Unincorporated Beaufort County					
A01-30 & AE Zones	407	$328,970	$90,023,000	3,445	$56,861,607.66
A Zones	3	$2,700	$382,000	216	$3,281,855.10
B, C & X Zone	152	$108,679	$43,536,000	134	$2,423,162.86
Standard	152	$108,679	$43,536,000	103	$2,042,785.66
Preferred	0	$0	$0	31	$380,377.20
Total	**562**	**$440,349**	**$133,941,000**	**3,795**	**$62,566,625.62**

Source: FEMA Community Information System, accessed January 2025

Table A.16 – NFIP Policy and Claims Data, Post-FIRM

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Aurora					
A01-30 & AE Zones	5	$3,224	$1,012,000	10	$70,372.73
B, C & X Zone	2	$1,257	$490,000	2	$16,872.70
Standard	2	$1,257	$490,000	0	$0.00
Preferred	0	$0	$0	2	$16,872.70
Total	**7**	**$4,481**	**$1,502,000**	**12**	**$87,245.43**
Town of Bath					
A01-30 & AE Zones	18	$11,488	$4,378,000	12	$53,902.23
B, C & X Zone	16	$11,768	$5,499,000	1	$0.00
Standard	16	$11,768	$5,499,000	1	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**34**	**$23,256**	**$9,877,000**	**13**	**$53,902.23**
Town of Belhaven					
A01-30 & AE Zones	167	$98,809	$34,973,000	338	$2,304,806.63
B, C & X Zone	1	$1,766	$350,000	0	$0.00
Standard	1	$1,766	$350,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**168**	**$100,575**	**$35,323,000**	**338**	**$2,304,806.63**
Town of Chocowinity					
A01-30 & AE Zones	0	$0	$0	2	$43,550.97
B, C & X Zone	0	$0	$0	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**0**	**$0**	**$0**	**2**	**$43,550.97**
Town of Pantego					
A01-30 & AE Zones	0	$0	$0	1	$8,626.68
B, C, & X Zone	0	$0	$0	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**0**	**$0**	**$0**	**1**	**$8,626.68**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Washington Park					
A01-30 & AE Zones	16	$7,877	$3,444,000	46	$608,166.94
B, C & X Zone	5	$4,347	$1,533,000	2	$8,809.80
Standard	5	$4,347	$1,533,000	1	$8,809.80
Preferred	0	$0	$0	1	$0.00
Total	21	$12,224	$4,977,000	48	$616,976.74
City of Washington					
A01-30 & AE Zones	185	$104,184	$44,334,000	273	$1,989,369.89
B, C & X Zone	75	$52,757	$24,685,000	62	$1,057,966.09
Standard	75	$52,757	$24,685,000	37	$871,772.92
Preferred	0	$0	$0	25	$186,193.17
Total	**260**	**$156,941**	**$69,019,000**	**335**	**$3,047,335.98**
Unincorporated Beaufort County					
A01-30 & AE Zones	705	$452,244	$175,829,000	1,387	$17,105,524.79
A Zones	0	$0	$0	9	$446,580.49
B, C & X Zone	182	$129,206	$56,191,000	55	$1,150,802.63
Standard	182	$129,206	$56,191,000	23	$343,772.55
Preferred	0	$0	$0	32	$807,030.08
Total	**887**	**$581,450**	**$232,020,000**	**1,451**	**$18,702,907.91**

Source: FEMA Community Information System, accessed January 2025

A.2.2 WILDFIRE

Table A.17 summarizes the acreage in Beaufort County that falls within the Wildland Urban Interface (WUI), categorized by housing density. Areas in the WUI are those where development may intermix with flammable vegetation. Approximately 70 percent of Beaufort County is not included in the WUI.

Table A.17 – Wildland Urban Interface Acreage, Beaufort County

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*432,238*	70.14%
	LT 1hs/40ac	67,164	10.90%
	1hs/40ac to 1hs/20ac	38,608	6.27%
	1hs/20ac to 1hs/10ac	31,767	5.16%
	1hs/10ac to 1hs/5ac	20,913	3.39%
	1hs/5ac to 1hs/2ac	16,144	2.62%
	1hs/2ac to 3hs/1ac	9,287	1.51%
	GT 3hs/1ac	103	0.02%
	Total	**616,224**	**100%**

Source: Southern Wildfire Risk Assessment

Figure A.25 depicts the WUI for Beaufort County and all participating jurisdictions. Figure A.26 through Figure A.28 detail the Fire Intensity Scale, which indicates the potential severity of fire based on fuel

loads, topography, and other factors. Figure A.29 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Potential fire intensity is highest in the unincorporated areas of Beaufort County, particularly south of the Pamlico River and on the northwest edge of the county. Burn probability is highest in the southeastern corner of the county. In much of unincorporated areas, it is moderate, and in most incorporated areas it is quite low. While the unincorporated area east of Aurora has both high potential fire intensity and a high burn probability, much of this area is located outside of the WUI, so a fire here might not pose as high a risk to human settlement and the built environment.

Table A.18 through Table A.25 provide the count and estimated value of all structures that intersect with areas of unincorporated Beaufort County and participating jurisdictions that are rated moderate to high on the WUI Risk Index.

Table A.26 through Table A.33 provides building counts and values for critical facilities by FEMA lifeline that are located in areas rated moderate to high on the WUI Risk Index.

Table A.18 – Structures at Risk to Moderate-High WUI Risk Index, Unincorporated Beaufort County

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	258	$14,201,078.00	$14,201,078.00	$28,402,156.00
Commercial	356	$54,282,614.00	$54,282,614.00	$108,565,228.00
Education	21	$21,775,836.00	$21,775,836.00	$43,551,672.00
Government	22	$74,259,689.00	$74,259,689.00	$148,519,378.00
Industrial	148	$33,162,879.00	$49,744,318.50	$82,907,197.50
Religious	163	$36,115,959.00	$36,115,959.00	$72,231,918.00
Residential	11,396	$770,687,240.00	$385,343,620.00	$1,156,030,860.00
Total	**12,364**	**$1,004,485,295.00**	**$502,242,647.50**	**$1,506,727,942.50**

Source: Southern Wildfire Risk Assessment

Table A.19 – Structures at Risk to Moderate-High WUI Risk Index, Town of Aurora

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	2	$339,546.00	$339,546.00	$679,092.00
Commercial	39	$2,489,440.00	$2,489,440.00	$4,978,880.00
Education	6	$6,874,896.00	$6,874,896.00	$13,749,792.00
Government	9	$557,326.00	$557,326.00	$1,114,652.00
Industrial	7	$1,243,076.00	$1,864,614.00	$3,107,690.00
Religious	11	$1,544,049.00	$1,544,049.00	$3,088,098.00
Residential	294	$13,176,018.00	$6,588,009.00	$19,764,027.00
Total	**368**	**$26,224,351.00**	**$13,112,175.50**	**$39,336,526.50**

Source: Southern Wildfire Risk Assessment

Table A.20 – Structures at Risk to Moderate-High WUI Risk Index, Town of Bath

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	1	$6,500.00	$6,500.00	$13,000.00
Commercial	8	$9,252,150.00	$9,252,150.00	$18,504,300.00
Education	0	$0	$0	$0
Government	8	$483,434.00	$483,434.00	$966,868.00
Industrial	2	$258,479.00	$387,718.50	$646,197.50
Religious	1	$120,292.00	$120,292.00	$240,584.00
Residential	75	$7,296,455.00	$3,648,227.50	$10,944,682.50
Total	**95**	**$17,417,310.00**	**$8,708,655.00**	**$26,125,965.00**

Source: Southern Wildfire Risk Assessment

Table A.21 – Structures at Risk to Moderate-High WUI Risk Index, Town of Belhaven

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	2	$11,540.00	$11,540.00	$23,080.00
Commercial	46	$3,881,665.00	$3,881,665.00	$7,763,330.00
Education	1	$712,639.00	$712,639.00	$1,425,278.00
Government	5	$61,767,231.00	$61,767,231.00	$123,534,462.00
Industrial	5	$900,899.00	$1,351,348.50	$2,252,247.50
Religious	15	$4,373,695.00	$4,373,695.00	$8,747,390.00
Residential	643	$28,645,093.00	$14,322,546.50	$42,967,639.50
Total	**717**	**$100,292,762.00**	**$50,146,381.00**	**$150,439,143.00**

Source: Southern Wildfire Risk Assessment

Table A.22 – Structures at Risk to Moderate-High WUI Risk Index, Town of Chocowinity

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	17	$24,210,792.00	$24,210,792.00	$48,421,584.00
Education	3	$3,992,789.00	$3,992,789.00	$7,985,578.00
Government	7	$60,684,210.00	$60,684,210.00	$121,368,420.00
Industrial	5	$1,862,547.00	$2,793,820.50	$4,656,367.50
Religious	10	$2,276,438.00	$2,276,438.00	$4,552,876.00
Residential	303	$18,944,163.00	$9,472,081.50	$28,416,244.50
Total	**345**	**$111,970,939.00**	**$55,985,469.50**	**$167,956,408.50**

Source: Southern Wildfire Risk Assessment

Table A.23 – Structures at Risk to Moderate-High WUI Risk Index, Town of Pantego

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	8	$1,908,757.00	$1,908,757.00	$3,817,514.00
Education	1	$47,554.00	$47,554.00	$95,108.00
Government	2	$178,651.00	$178,651.00	$357,302.00
Industrial	3	$90,135.00	$135,202.50	$225,337.50
Religious	3	$275,717.00	$275,717.00	$551,434.00
Residential	88	$4,280,690.00	$2,140,345.00	$6,421,035.00
Total	**105**	**$6,781,504.00**	**$3,390,752.00**	**$10,172,256.00**

Source: Southern Wildfire Risk Assessment

Table A.24 – Structures at Risk to Moderate-High WUI Risk Index, City of Washington

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	3	$120,479.00	$120,479.00	$240,958.00
Commercial	205	$65,798,394.00	$65,798,394.00	$131,596,788.00
Education	13	$31,287,853.00	$31,287,853.00	$62,575,706.00
Government	43	$10,087,387.00	$10,087,387.00	$20,174,774.00
Industrial	33	$5,139,502.00	$7,709,253.00	$12,848,755.00
Religious	13	$2,977,444.00	$2,977,444.00	$5,954,888.00
Residential	1,845	$186,772,007.00	$93,386,003.50	$280,158,010.50
Total	**2,155**	**$302,183,066.00**	**$151,091,533.00**	**$453,274,599.00**

Source: Southern Wildfire Risk Assessment

Table A.25 – Structures at Risk to Moderate-High WUI Risk Index, Town of Washington Park

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	12	$997,560.00	$997,560.00	$1,995,120.00
Education	0	$0	$0	$0
Government	0	$0	$0	$0
Industrial	1	$41,127.00	$61,690.50	$102,817.50
Religious	0	$0	$0	$0
Residential	207	$26,634,886.00	$13,317,443.00	$39,952,329.00
Total	**220**	**$27,673,573.00**	**$13,836,786.50**	**$41,510,359.50**

Source: Southern Wildfire Risk Assessment

Table A.26 – Critical Facilities Exposed to Wildfire, Unincorporated Beaufort County

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	11	$49,540,166
Hazardous Materials	0	$0
Health and Medical	9	$0
Safety and Security	17	$30,875,387
Transportation	0	$0
Water Systems	16	$643,870
Total	**53**	**$81,059,423**

Source: Southern Wildfire Risk Assessment

Table A.27 – Critical Facilities Exposed to Wildfire, Town of Aurora

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$5,887,040
Hazardous Materials	0	$0
Health and Medical	1	$0
Safety and Security	1	$317,576
Transportation	0	$0
Water Systems	2	$635,152
Total	**5**	**$6,839,768**

Source: Southern Wildfire Risk Assessment

Table A.28 – Critical Facilities Exposed to Wildfire, Town of Bath

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	1	$18,494
Total	**1**	**$18,494**

Source: Southern Wildfire Risk Assessment

Table A.29 – Critical Facilities Exposed to Wildfire, Town of Belhaven

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$436,182
Transportation	0	$0
Water Systems	2	$363,846
Total	**5**	**$800,028**

Source: Southern Wildfire Risk Assessment

Table A.30 – Critical Facilities Exposed to Wildfire, Town of Chocowinity

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$4,332,018
Hazardous Materials	0	$0
Health and Medical	1	$0
Safety and Security	1	$315,355
Transportation	0	$0
Water Systems	2	$254,714
Total	**5**	**$4,902,087**

Source: Southern Wildfire Risk Assessment

Table A.31 – Critical Facilities Exposed to Wildfire, Town of Pantego

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$269,824
Transportation	0	$0
Water Systems	0	$0
Total	**1**	**$269,824**

Source: Southern Wildfire Risk Assessment

Table A.32 – Critical Facilities Exposed to Wildfire, City of Washington

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	4	$29,324,562
Hazardous Materials	0	$0
Health and Medical	8	$1,946,506
Safety and Security	2	$1,212,438
Transportation	0	$0
Water Systems	0	$0
Total	**14**	**$32,483,506**

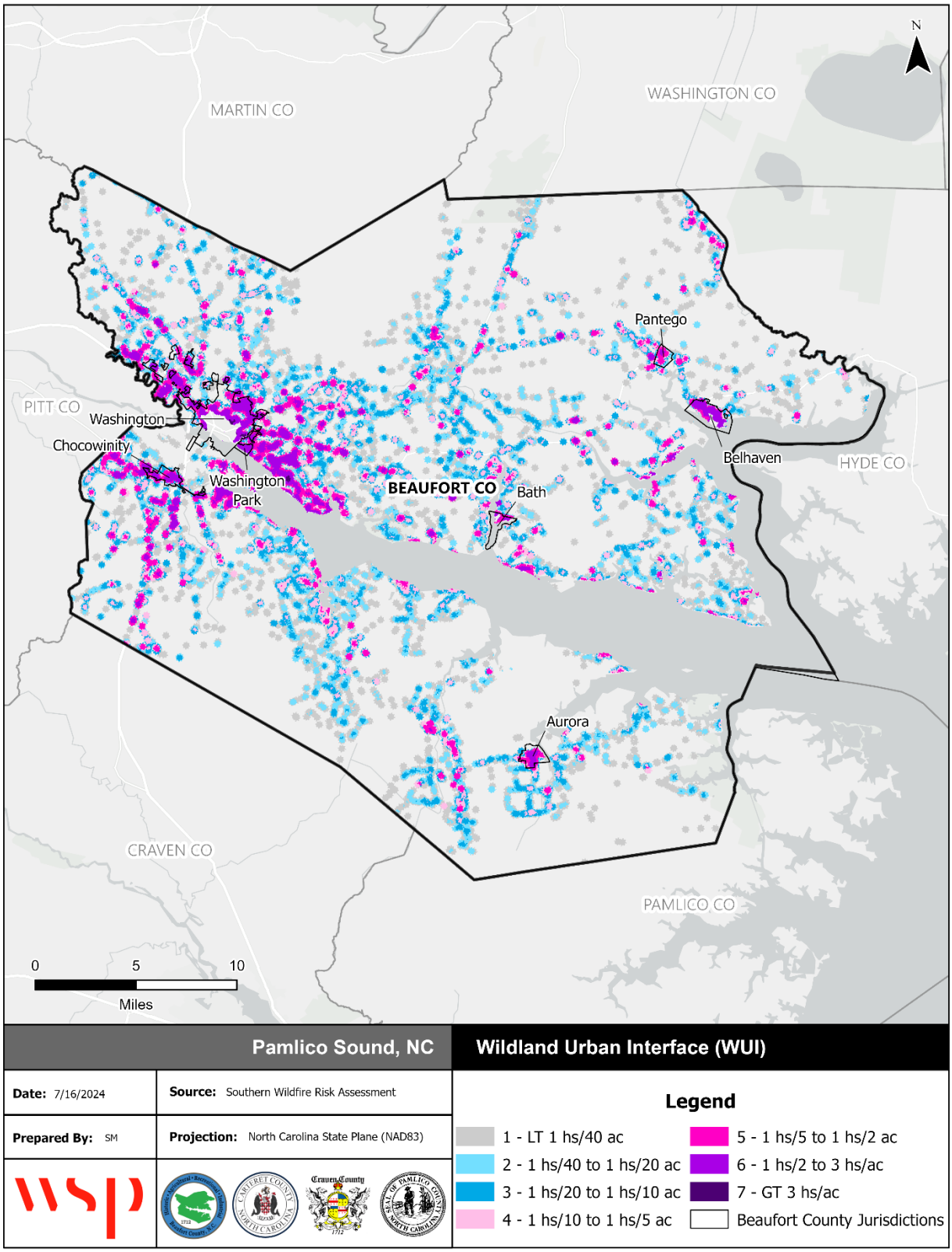
Source: Southern Wildfire Risk Assessment

Table A.33 – Critical Facilities Exposed to Wildfire, Town of Washington Park

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**0**	**$0**

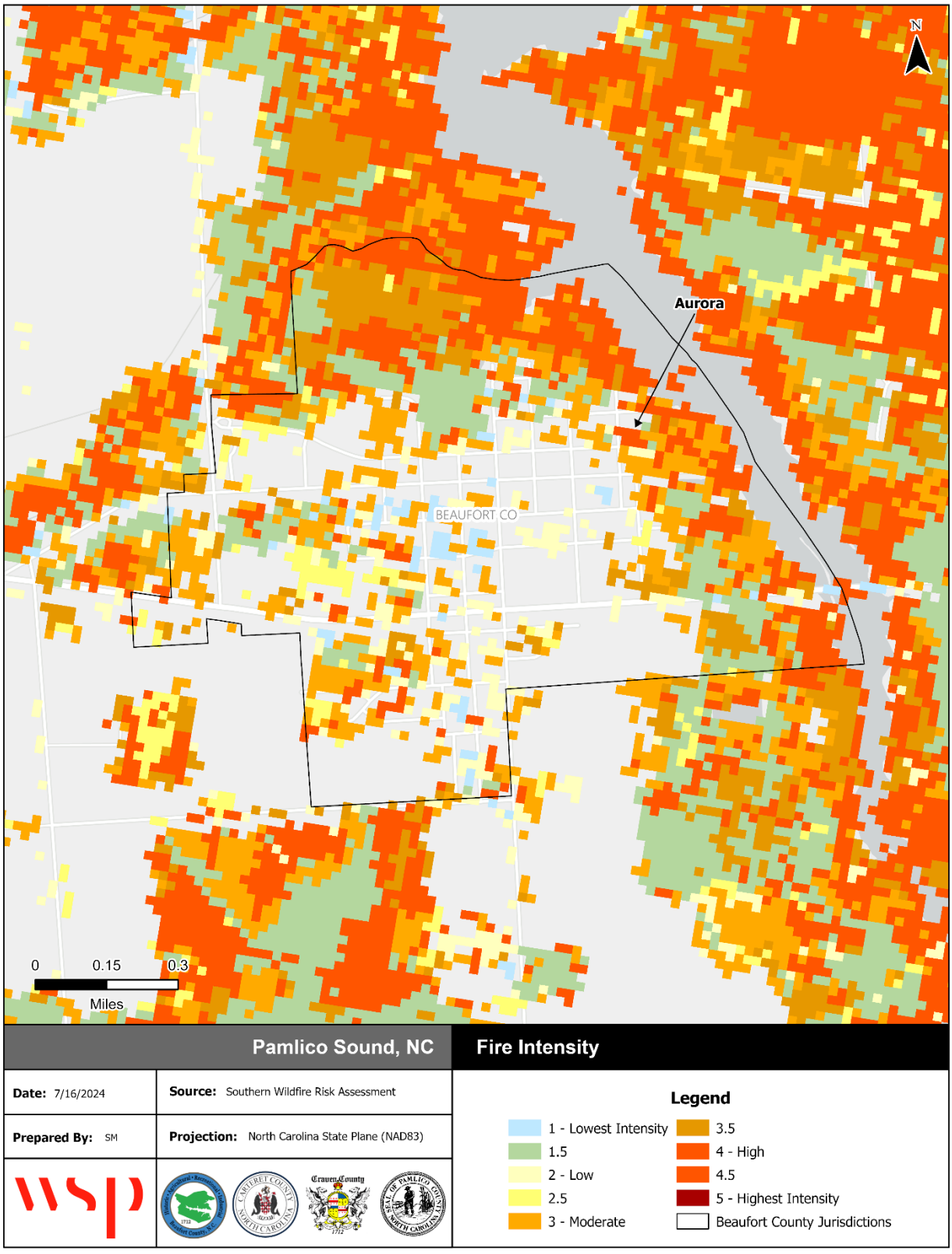
Source: Southern Wildfire Risk Assessment

Figure A.25 – Wildland Urban Interface, Beaufort County



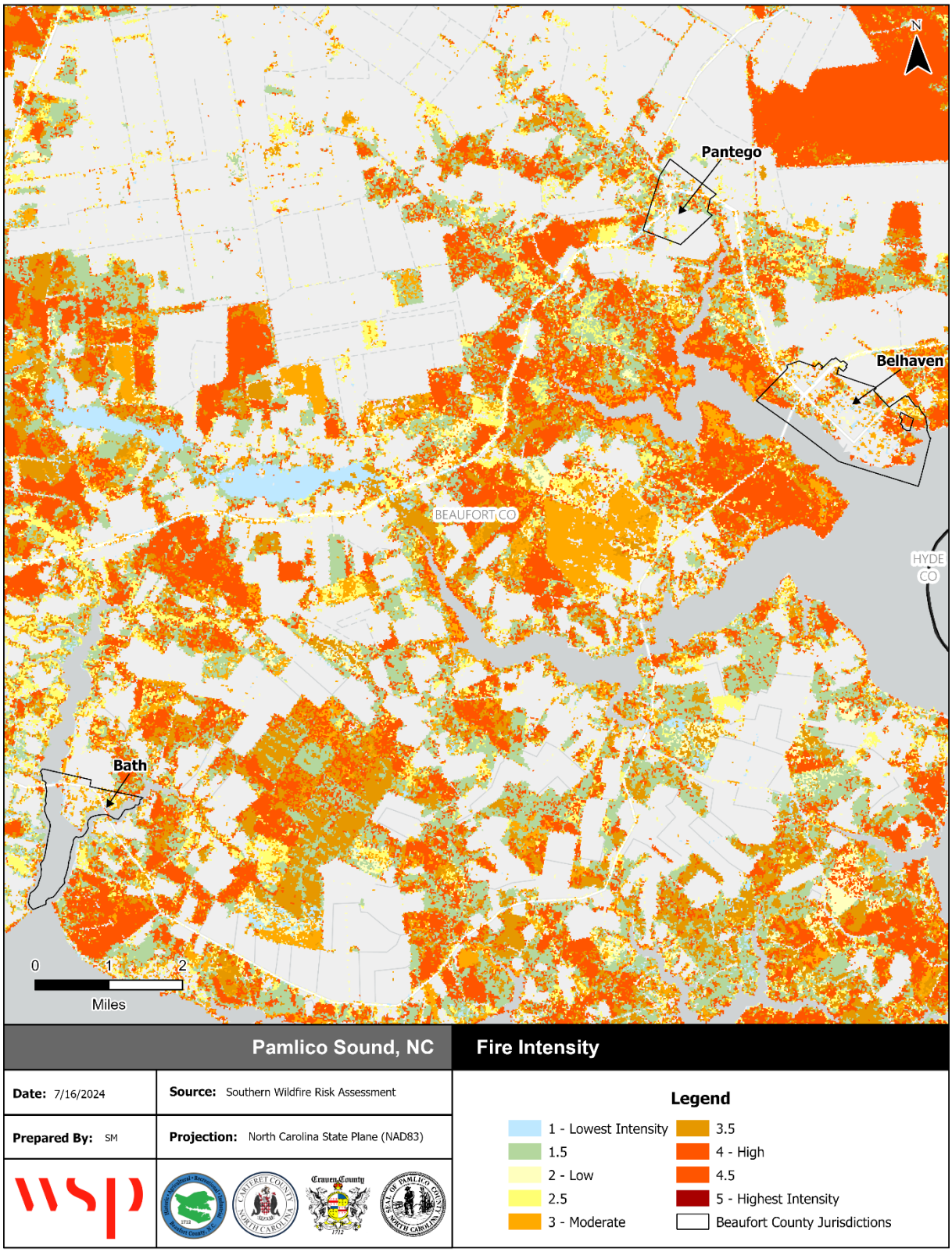
Source: Southern Wildfire Risk Assessment

Figure A.26 – Fire Intensity Scale, Beaufort County (Detail 1)



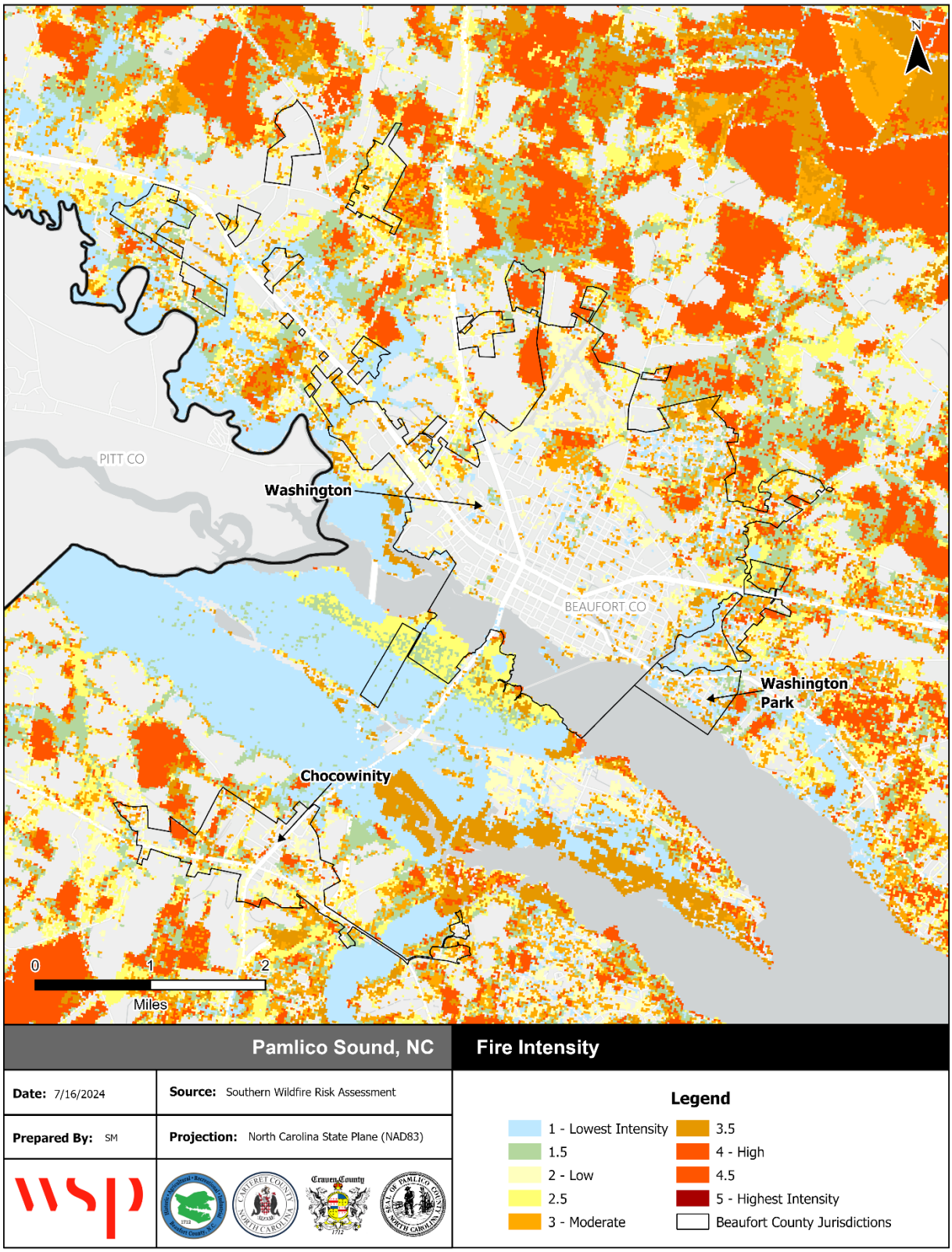
Source: Southern Wildfire Risk Assessment

Figure A.27 – Fire Intensity Scale, Beaufort County (Detail 2)



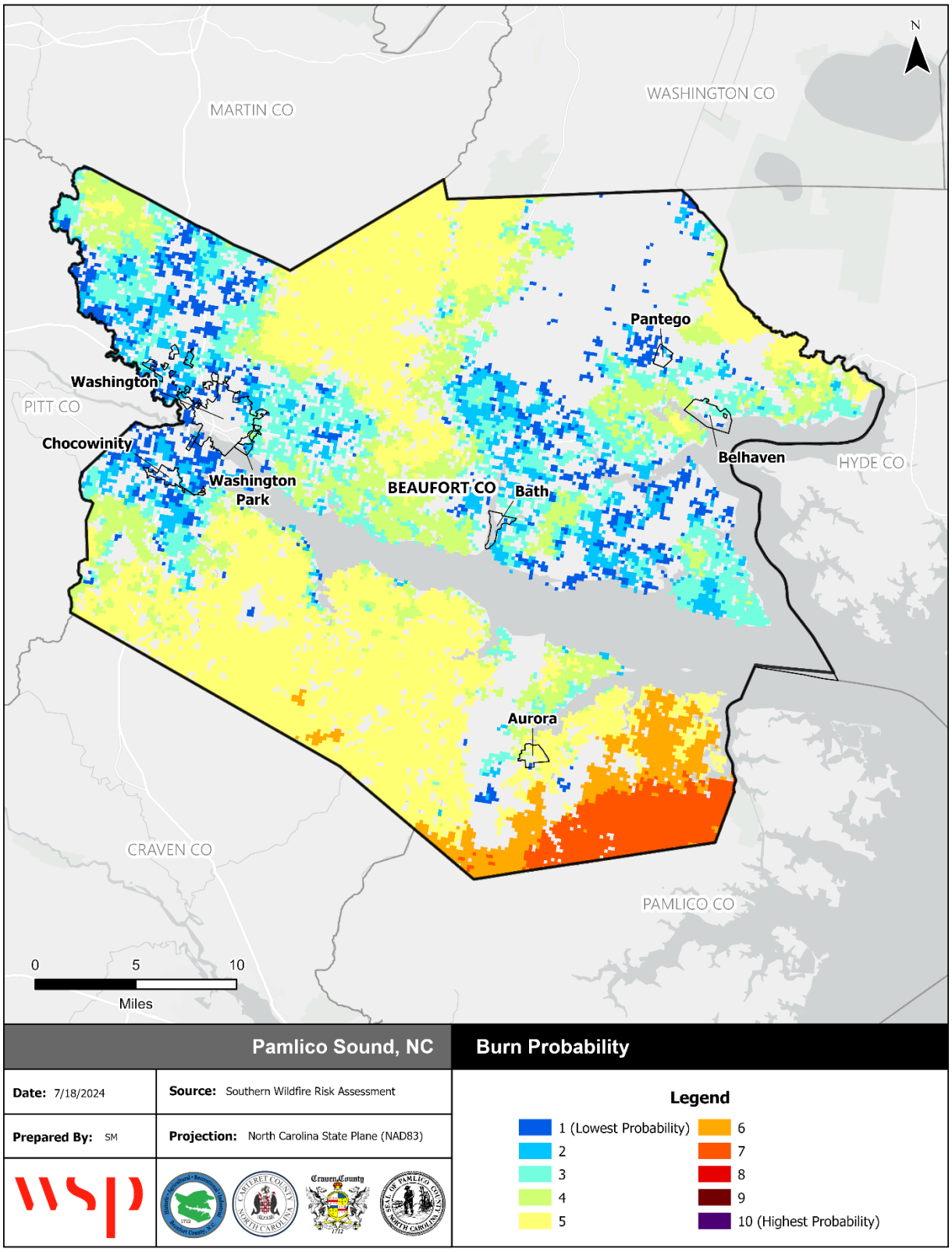
Source: Southern Wildfire Risk Assessment

Figure A.28 – Fire Intensity Scale, Beaufort County (Detail 3)



Source: Southern Wildfire Risk Assessment

Figure A.29 – Burn Probability, Beaufort County



Source: Southern Wildfire Risk Assessment

A.3 MITIGATION STRATEGY

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B1	Continue to coordinate all development/planning decisions with review of appropriate CAMA LUP's including stated redevelopment policies and actions.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	Med	1.3	PP	**Beaufort County Planning,** Municipal Administrations	To Be Determined	GF, NCDEQ	Other – as opportunities arise	Carry Forward	All jurisdictions currently utilize their respective CAMA Land Use Plan when making decisions regarding development proposals.
B2	Maintain reciprocal mutual aid agreements with surrounding communities for fire protection and emergency response.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	4.2	ES	**Beaufort County Emergency Services,** Municipal Administrations, Volunteer Fire Departments	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County Emergency Services maintains mutual aid agreements with neighboring communities and updates them annually. County also participates in statewide mutual aid agreement, updated annually.
B3	Annually evaluate adequacy of existing local early warning and emergency response communications equipment and prepare annual capital improvements plans to improve early warning and communication effectiveness before, during, and following disaster events. Complete needs assessment, purchase and installation of additional stream gages connected to a flood warning system and provision of signage and other means of communicating risk information to the public.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	2.1	ES	**Beaufort County Emergency Services,** Municipal Administrations, Beaufort County Soil & Water, Beaufort County Public Works, Beaufort County Inspections, Committee of 100, Mid-East Commission, North Carolina Department of Transportation, Department of Environmental and Natural Resources, Newport / Morehead City, NC National Weather Service	Staff Time	GF, NCDPS, FEMA, BRIC	Ongoing – next 5 years	Carry Forward	Beaufort County Emergency Services reviews its emergency notification system annually in coordination with tabletop exercises associated with the EOP. County started a new mass notification software in the past two years, and additional updates are anticipated to begin in the summer of 2025. County has applied for BRIC funding for flood gages and flood gage poles.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B4	Develop standard protocols for training/ certification of volunteer staff for shelter management, traffic control, first aid, etc., to improve volunteer response capability during and following disaster events, including coordination with American Red Cross personnel on an annual basis.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	2.1	ES	**Beaufort County Emergency Services,** Beaufort County Social Services	To Be Determined	GF, NCDPS, ARC	2-3 years	Carry Forward	Beaufort County Emergency Services continues to work towards improving emergency shelters and updates to the state CRES plan. A list of shelters is maintained on the County website. In 2024, the County has developed a new Short Term Recovery Plan, Long Term Recovery Plan, Disaster Reunification Plan, and has completed a THIRA. The County established a Long Term Recovery group that meets biannually before and after storm season. SPR is underway. County updated to following CPG version 3. Update to follow FEMA NIMS procedures.
B5	Complete an annual evaluation of each designated emergency shelter, including structural inspection, resource inventory, staffing plan, and vulnerability assessment, including coordination with American Red Cross (ARC) personnel.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	2.1	ES	**Beaufort County Emergency Services,** Beaufort County Social Services	To Be Determined	GF, NCDPS, ARC	2-3 years	Carry Forward	Beaufort County Emergency Services continues to work towards improving emergency shelters and updates to the state CRES plan. A list of shelters is maintained on the County website. Annually update contracts with ARC.
B6	Provide citizens and visitors with maps of evacuation routes which will facilitate the evacuation of the county in case of a hazardous event.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	High	2.2	ES, PIO	**Beaufort County Emergency Services,** Beaufort County Social Services	To Be Determined	GF, NCDPS, ARC	2-3 years	Carry Forward	Evacuation maps are currently available on the County website or through the Emergency Services Department. Action revised as hard copy maps are no longer a priority.
B7	Continue to monitor and establish programs to maintain continuity of government operations through annual review and update of the Continuity of Operations Plan (COOP).	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	Med	4.2	ES	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County COOP is reviewed annually and updated as necessary.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B8	Continue to support and participate in the directives of the County Emergency Operations Plan (EOP). The EOP includes evacuation procedures and response to hazards not addressed in this plan such as hazardous materials, petroleum products, hazardous waste, nuclear threat/attack, and civil disorder. The County will review and update the EOP annually to ensure that it coordinates with the most recent NCEM and NCOEMS directives.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	Med	3.2	ES	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County Emergency Services works closely with all participating municipalities to review and update the Emergency Operations Plan (EOP) on an annual basis. The County completed a full rewrite of the EOP in 2024. The basic EOP is posted on the county's website.
B9	Continue to apply for grant funds, allocate local funding, and work with local electric service providers to procure and maintain back-up generators/transfer switches for all critical public facilities, with an emphasis on emergency services facilities, critical water/sewer facilities, and shelter facilities. Evaluate the equipment on a regular basis to assure it continues to meet the needs of the operations occurring at each facility. Back-up generators are still needed at Southside High School and John Cotten Tayloe Elementary School.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	1.1	PP	**Beaufort County Emergency Services,** Independent Facility Operators, Town Public Utilities	To Be Determined	GF, NCDPS, NCDOT, HMGP	Ongoing – next 5 years	Carry Forward	Beaufort County Emergency Services will continue to work towards establishing permanent pad mount generators at all critical facilities. This effort will initially focus on primary and backup shelter facilities. Recently won LESCGP FY24 grant for transfer switches to improve shelter capacity at S.W. Snowden Elementary School.
B10	Hold an annual public hazard mitigation meeting, attended by the HMPC and participating jurisdictions, to educate the public and elected officials and receive comments about the location of high risk facilities/development, the jurisdictions' overall vulnerability to natural and man-made hazards, and the jurisdictions' hazards mitigation efforts.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	2.2	PIO	**Beaufort County Emergency Services,** Beaufort County Planning, Municipal Administrations	Staff Time	GF	1 Year	Carry Forward	Beaufort County Emergency Services holds a public officials conference at least annually to educate decision makers on the vulnerability to hazards and mitigation efforts.
B11	Maintain the Hazard Mitigation Planning Committee (HMPC) and hold annual HMPC meetings to continue relationship-building and communicate about mitigation measures taking place throughout the community.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	3.1	P	**Pamlico Sound HMPC,** Beaufort County Administration, Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	The HMPC will be maintained to ensure implementation and update the PSRHMP.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B12	Maintain continual contact/working relationship with electric service providers in the county to address the following: 1) Disaster preparedness techniques (e.g., tree trimming, vegetation planting requirements, pole replacement); 2) Identification of critical electrical facilities needing retrofit or upgrade and map with elevation reference marks; 3) Identification of problem areas and potential solutions; and 4) Communication with county officials during and immediately after a natural hazard event that results in loss of electrical power.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Tornado & Thunderstorm, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	1.1	P	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS, Electric Service Providers	Other – meet annually	Carry Forward	Beaufort County Emergency Services continues to meet annually with all electric service providers operating in the county.
B13	Monitor trees and vegetation on publicly owned property to assure that no property or utility damage will occur as a result of diseased or dying trees or other vegetation.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Flooding, Hurricanes & Coastal Hazards, Severe Winter Weather, Tornado & Thunderstorm	Med	1.1	ES	**Beaufort County Public Works,** Municipal Administrations	Staff Time	GF	Ongoing – over the next five years	Carry Forward	Beaufort County, as well as municipal, public works departments will maintain trees on public property and in right of ways to minimize the impact of falling limbs and trees in the event of a natural disaster.
B14	Continue to maintain all property acquired with public mitigation funds within the Special Flood Hazard Area (SFHA) as undisturbed open space in perpetuity. Continue to pro-actively establish open space within the floodplain and floodway as grant funds become available to carry out this initiative.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	1.2	PP	**Beaufort County Administration,** Municipal Administrations	To Be Determined	GF, NCDPS	Ongoing – in process	Carry Forward	All jurisdictions actively maintain these sites and promote reuse that is permitted under FEMA guidelines.
B15	Integrate new greenway and public park improvements into comprehensive planning and capital improvement efforts for land not suitable for development (including coordination with all local certified CAMA Land Use Plans).	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	1.2	P, SP	**Beaufort County Parks and Recreation,** Beaufort County Planning	To Be Determined	GF, NCDEQ	Other – as opportunities arise	Carry Forward	Beaufort County updated its certified CAMA Land Use plan this year and will use the updated LUP to promote these strategies.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B16	Annually review local floodplain ordinances to provide improved flood protection standards and require freeboard for retrofitting and new construction as required by NC State Building Code. The County will consider establishing a freeboard requirement.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	Med	3.2	PP	**Beaufort County Administration,** Municipal NFIP participants	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	All jurisdictions will review and amend their respective Flood Damage Prevention Ordinances. All jurisdictions will consider establishing a freeboard requirement, except for Washington and Washington Park who already have a 2-foot freeboard established.
B17	Maintain current listings of Severe Repetitive Loss properties and conduct annual outreach activities to encourage homeowners to participate in FEMA-sponsored residential acquisition and elevation programs. Continue to apply for HMGP/HMA funding for residential acquisition and elevation of vulnerable structures.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	Med	2.2	PP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS, HMGP, BRIC, UHMA	Ongoing – as needed	Carry Forward	Beaufort County in coordination with all participating municipal jurisdictions will utilize annual as well as post-disaster funding to treat repetitive loss properties through elevation or acquisition/ demolition. The County holds meetings 2-3 times per year as grant funding becomes available to educate property owners about mitigation opportunities.
B18	Encourage County Commissioners and elected officials of non-CRS communities to participate in the Community Rating System.	Beaufort County, Aurora, Bath, Chocowinity, Pantego	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	1.3	PP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	Non-CRS communities will consider joining the program through implementation of this plan. Belhaven, Washington and Washington Park will continue to implement their program annually.
B19	Continue to work with local real estate agencies and manufactured home vendors to ensure that agents are informing clients when property for sale is located within an SFHA. The county will provide these agencies with brochures documenting the concerns relating to development located within the flood prone areas and ways that homeowners may make their home more disaster resistant to strong winds, lightning, and heavy rains.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	2.2	PP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	This activity is carried out by the County for the benefit of all Citizens including all participating municipal jurisdictions.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B20	Make information regarding hazards and development regulations within floodplains available through the following: 1) Ensure that local libraries maintain information relating to flooding and flood protection, 2) Provide a link on the municipal website to FEMA resources addressing flooding and flood protection, evacuation procedures, disaster preparedness, and post-disaster recovery, and 3) Provide website links to relevant hazard mitigation measures.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	Med	2.2	PP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	This activity is carried out by the County for the benefit of all Citizens including all participating municipal jurisdictions.
B21	Promote national "awareness" weeks (i.e., hurricane preparedness, severe weather preparedness, etc.) through local media. ("Awareness" weeks are listed on the National Weather Service website at Preparedness and Weather Safety - NWS Raleigh, NC	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	All Hazards	High	2.2	PIO	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County will continue to implement this strategy for the benefit of all Citizens, including all participating jurisdictions. The County uses social media and cable channel for outreach.
B22	Educate the general public to the importance of weather alert radios and systems that can operate on alternative power and can provide up-to-the-moment information regarding locations of severe storms and possible tornadoes.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure, Severe Winter Weather, Earthquake, Tornado & Thunderstorm	Med	2.1	ES	**Beaufort County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County developed a new outreach program for this activity in 2024.
B23	Maintain a Hazardous Material Action Plan that addresses the proper containment of spills, etc. This effort will be coordinated with the county LEPC.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding	Med	4.2	ES	**Beaufort County Local Emergency Planning Committee,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Beaufort County will continue to facilitate the meeting of the County LEPC. The LEPC meets quarterly and is growing.
B24	Monitor natural and man-made drainage structures to ensure they are clear and functioning properly; prioritize needed drainage projects and review funding alternatives annually.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	High	1.3	SP	**Beaufort County Administration,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS, NCDOT, USDA, HMA	Ongoing – next 5 years	Carry Forward	The County will continue to monitor drainage conditions to identify flooding hot spots and system deficiencies. Once identified engineered solutions will be established. Ag Extension Office has been working with USDA to receive and implement grants.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B25	Continue to coordinate annually with the NC Forest Service to address the threat of wildfire throughout the County. These efforts will involve posting of the daily fire risk present within the County on the County website daily. Additionally, the County will distribute and make information available regarding County methods for mitigating fire hazards.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Wildfire	High	4.1	PP	**Beaufort County Emergency Services,** Beaufort County Board of Commissioners, Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	Other - Annually	Carry Forward	Beaufort County coordinates with NC Forest Service daily on wildfire risk identification and communication.
B26	Maintain Debris Removal and Monitoring Services Contracts for post-disaster response. These services should focus on preparing documentation necessary to ensure full reimbursement of cost associated with community cleanup and immediate infrastructure restoration.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	1.1	ES	**Beaufort County Emergency Services,** Beaufort County Board of Commissioners, Municipal Administrations	To Be Determined	GF, NCDPS, FEMA	Ongoing – As needed	Carry Forward	Post-disaster debris removal contracts are in place with the State. Beaufort County is working on putting pre-disaster contracts in place for debris removal, potable water, emergency power, critical needs, response and recovery, and consultant resources.
B27	Work to implement all strategies outlined within the Hurricane Matthew Resilient Redevelopment Plan.	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Hurricanes & Coastal Hazards, Flooding, Dam & Levee Failure	Med	3.1	P	**Beaufort County Board of Commissioners,** Municipal Governing Boards	To Be Determined	GF, NCDPS, FEMA, NCDCM, USDA, NCDEQ, NCDOT	Ongoing – next 5 years	Carry Forward	Beaufort County has HMGP projects from Hurricane Matthew in progress.
B28	Installation of automatic bar screen device and other improvements to the Jack's Creek Pump Station to improve function of equipment and safety to operating personnel.	Washington	Hurricanes & Coastal Hazards, Flooding	High	3.1	SP	**Municipal Administration**	To Be Determined	FEMA HHDPR, BRID, Local	2026	New	Applied for funding in 2023. Will continue to pursue funding for implementation.
B29	Create or Update Community Wildfire Protection Plans in each fire district	Beaufort County, Aurora, Bath, Belhaven, Chocowinity, Pantego, Washington, Washington Park	Wildfire	Med	4.1	P, PIO	**Beaufort County Staff**, NC Forest Service	To Be Determined	Grant Funds	3-5 years	New	
B30	Solar Resiliency Backup for Critical Facilities and Infrastructure	Beaufort County	All Hazards	High	1.1	PP	**Beaufort County Emergency Services**	$545,000	Grant Funds (BRIC)	3 years	New	LOI submitted to the State and waiting on next stage.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
B31	Cyber Continuity of Operations through implementation of resilient communication strategies and system improvements.	Beaufort County	Cyber Threat	High	4.2	P, ES	**Beaufort County Emergency Services**	$50,000	Grant Funds	2 years	New	Submitted for grant funding. Waiting on award status.

ANNEX B CARTERET COUNTY

B.1 ASSET INVENTORY

Carteret County and the HMPC provided a local inventory of critical facilities and community lifelines, which are a priority for mitigation planning and emergency management. Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. Table B.1 through Table B.12 provides a count of critical facilities by FEMA lifeline category by jurisdiction in Carteret County. Figure B.1 through Figure B.12 shows the locations of all critical facilities in Carteret County and participating jurisdictions. Note that no critical facilities were identified within the Town of Bogue. There are additional Marine Corps and U.S. Navy facilities within the region that are outside the scope of this plan and inventory.

Table B.13 provides a detailed inventory of the critical facilities in Carteret County, indicating each facility's FEMA lifeline category, flood zone, 1% annual chance flood depth, and vulnerability to storm surge, sea level rise, and wildfire. More information on hazard vulnerability is provided in the hazard profiles.

Table B.1 – Critical Facilities by Type, Unincorporated Carteret County

Facility Type	Count of Facility Type	Structure Value
Communications	8	$303,862
Energy	1	$2,499,952
Food, Hydration, Shelter	12	$64,413,493
Hazardous Materials	0	$0
Health and Medical	12	$2,902,270
Safety and Security	31	$11,799,860
Transportation	19	$40,646,009
Water Systems	101	$27,485,474
Total	**184**	**$150,050,920**

Table B.2 – Critical Facilities by Type, Town of Atlantic Beach

Facility Type	Count of Facility Type	Structure Value
Communications	1	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	3	$0
Transportation	0	$0
Water Systems	6	$0
Total	**10**	**$0**

Table B.3 – Critical Facilities by Type, Town of Beaufort

Facility Type	Count of Facility Type	Structure Value
Communications	6	$83,886,447
Energy	1	$309,205
Food, Hydration, Shelter	19	$25,390,627
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	18	$12,701,240
Transportation	0	$0
Water Systems	19	$2,510,957
Total	**63**	**$124,798,476**

Table B.4 – Critical Facilities by Type, Town of Bogue

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**0**	**$0**

Table B.5 – Critical Facilities by Type, Town of Cape Carteret

Facility Type	Count of Facility Type	Structure Value
Communications	1	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$586,555
Transportation	0	$0
Water Systems	0	$0
Total	**3**	**$586,555**

The Town of Cape Carteret noted that in addition to the identified facilities there are numerous private package wastewater treatment plants in the region.

Table B.6 – Critical Facilities by Type, Town of Cedar Point

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$758,148
Transportation	0	$0
Water Systems	0	$0
Total	**3**	**$758,148**

Table B.7 - Critical Facilities by Type, Town of Emerald Isle

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	7	$4,623,293
Transportation	0	$0
Water Systems	17	$3,343,341
Total	**24**	**$7,966,634**

Table B.8 - Critical Facilities by Type, Town of Indian Beach

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	3	$1,351,770
Transportation	0	$0
Water Systems	3	$738,672
Total	**6**	**$2,090,442**

Table B.9 - Critical Facilities by Type, Town of Morehead City

Facility Type	Count of Facility Type	Structure Value
Communications	4	$1,579,0781
Energy	0	$0
Food, Hydration, Shelter	7	$24,832,467
Hazardous Materials	0	$0
Health and Medical	22	$6,596,578
Safety and Security	14	$31,850,009
Transportation	0	$0
Water Systems	9	$841,893
Total	**56**	**$79,911,728**

Table B.10 - Critical Facilities by Type, Town of Newport

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	3	$11,509,807
Hazardous Materials	0	$0
Health and Medical	4	$0
Safety and Security	3	$470,228
Transportation	0	$0
Water Systems	5	$33,560
Total	**15**	**$12,013,595**

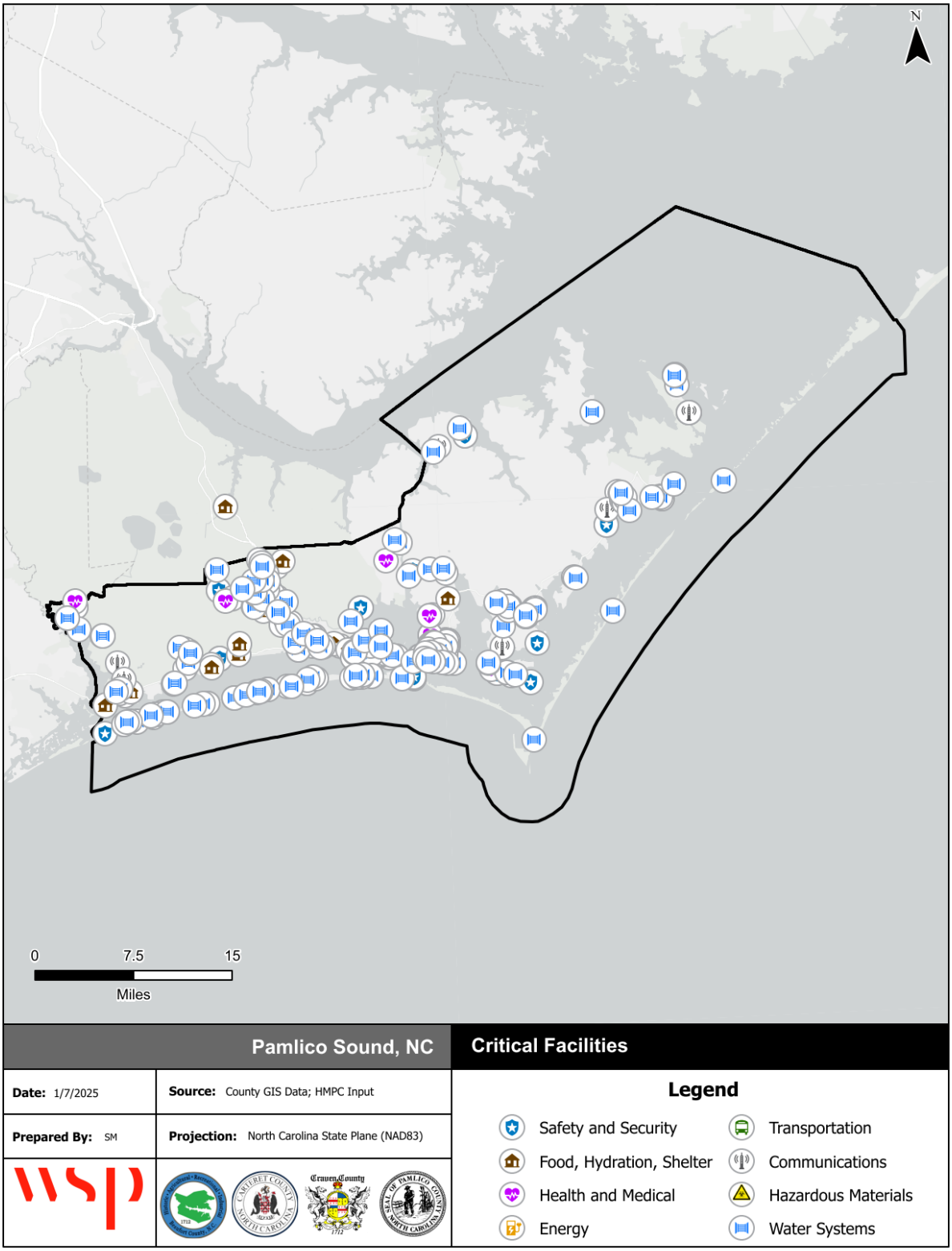
Table B.11 - Critical Facilities by Type, Town of Peletier

Facility Type	Count of Facility Type	Structure Value
Communications	1	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**1**	**$0**

Table B.12 - Critical Facilities by Type, Town of Pine Knoll Shores

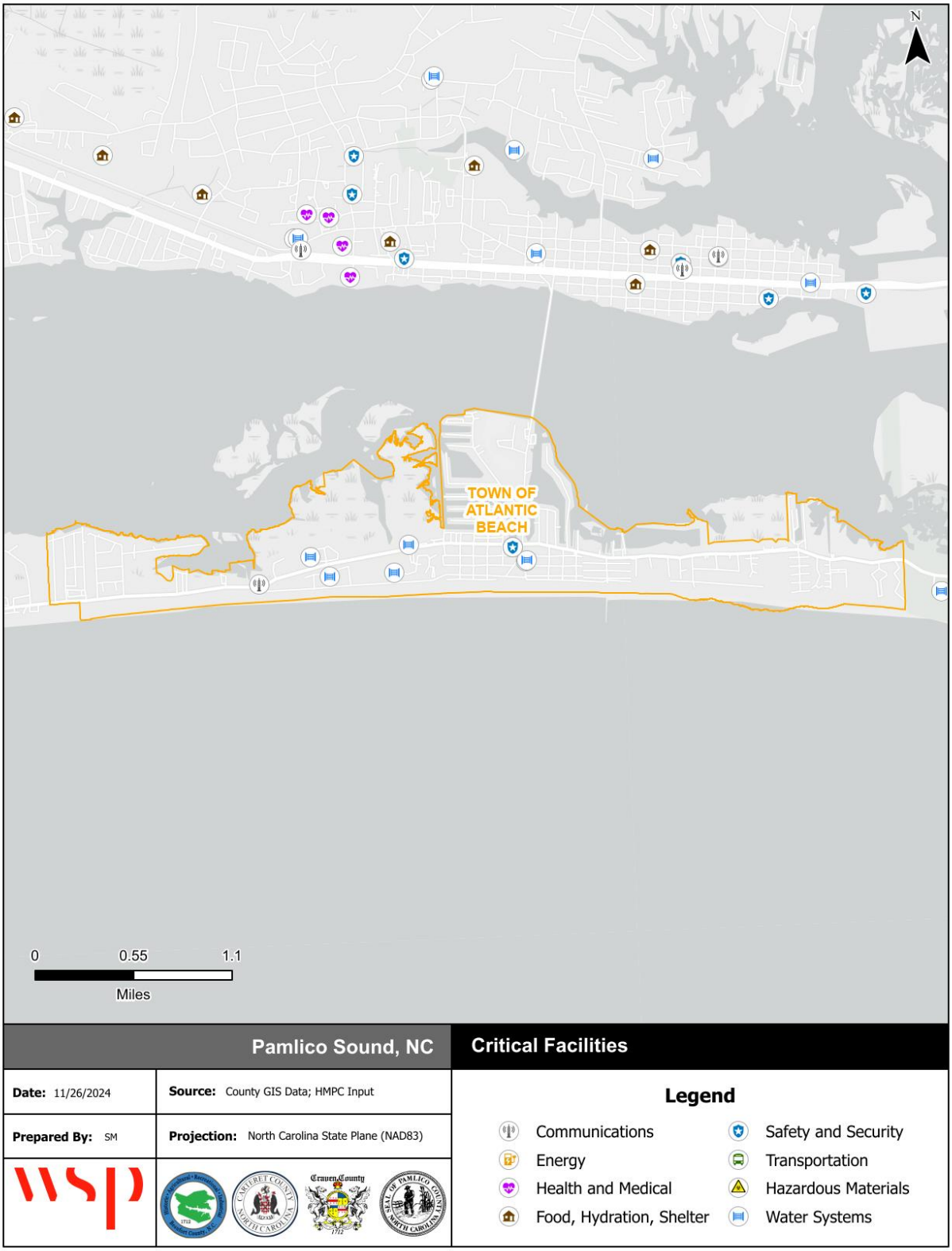
Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	3	$3,427,179
Transportation	0	$0
Water Systems	6	$7,207,230
Total	**9**	**$10,634,409**

Figure B.1 – Critical Facilities, Carteret County



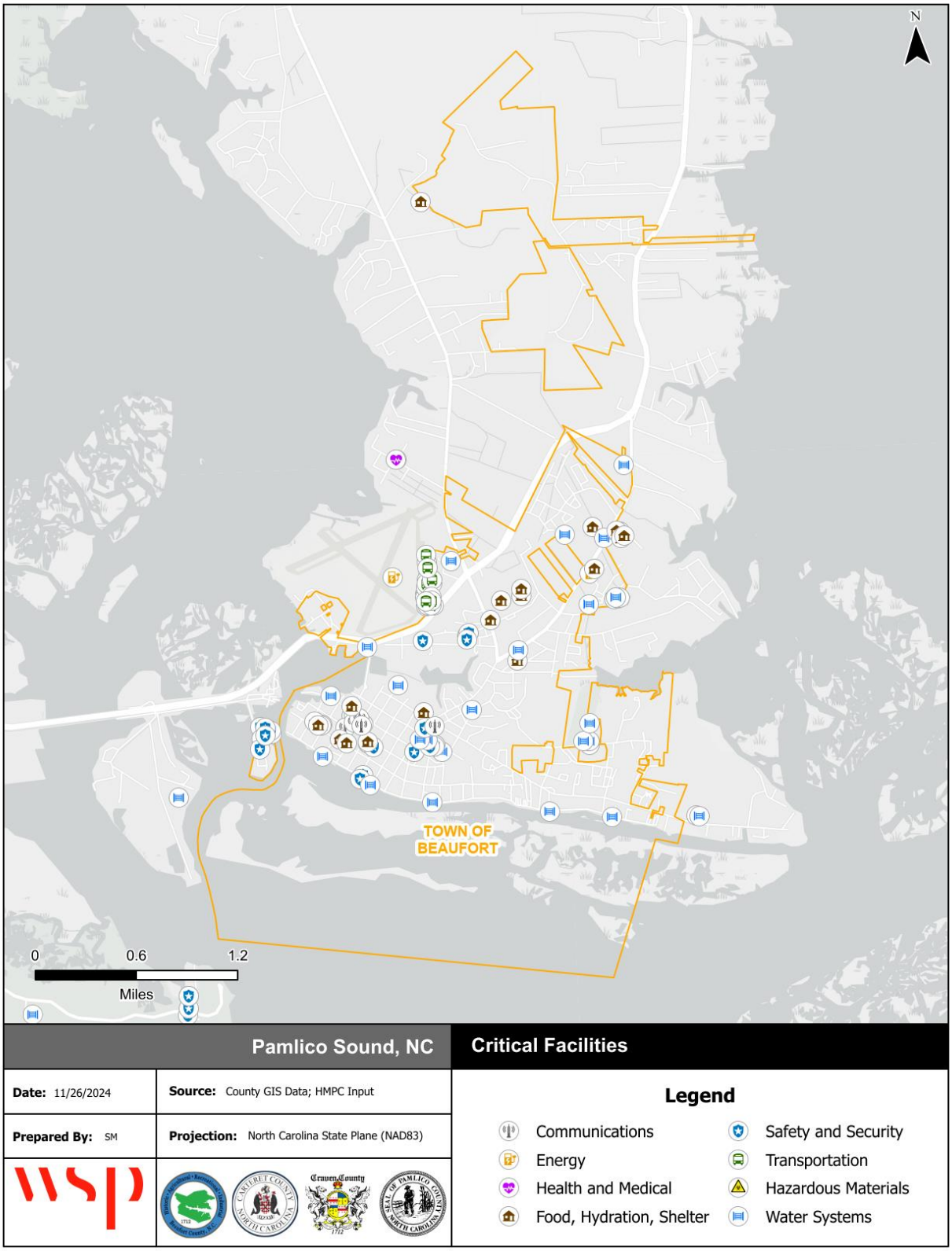
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.2 – Critical Facilities, Atlantic Beach



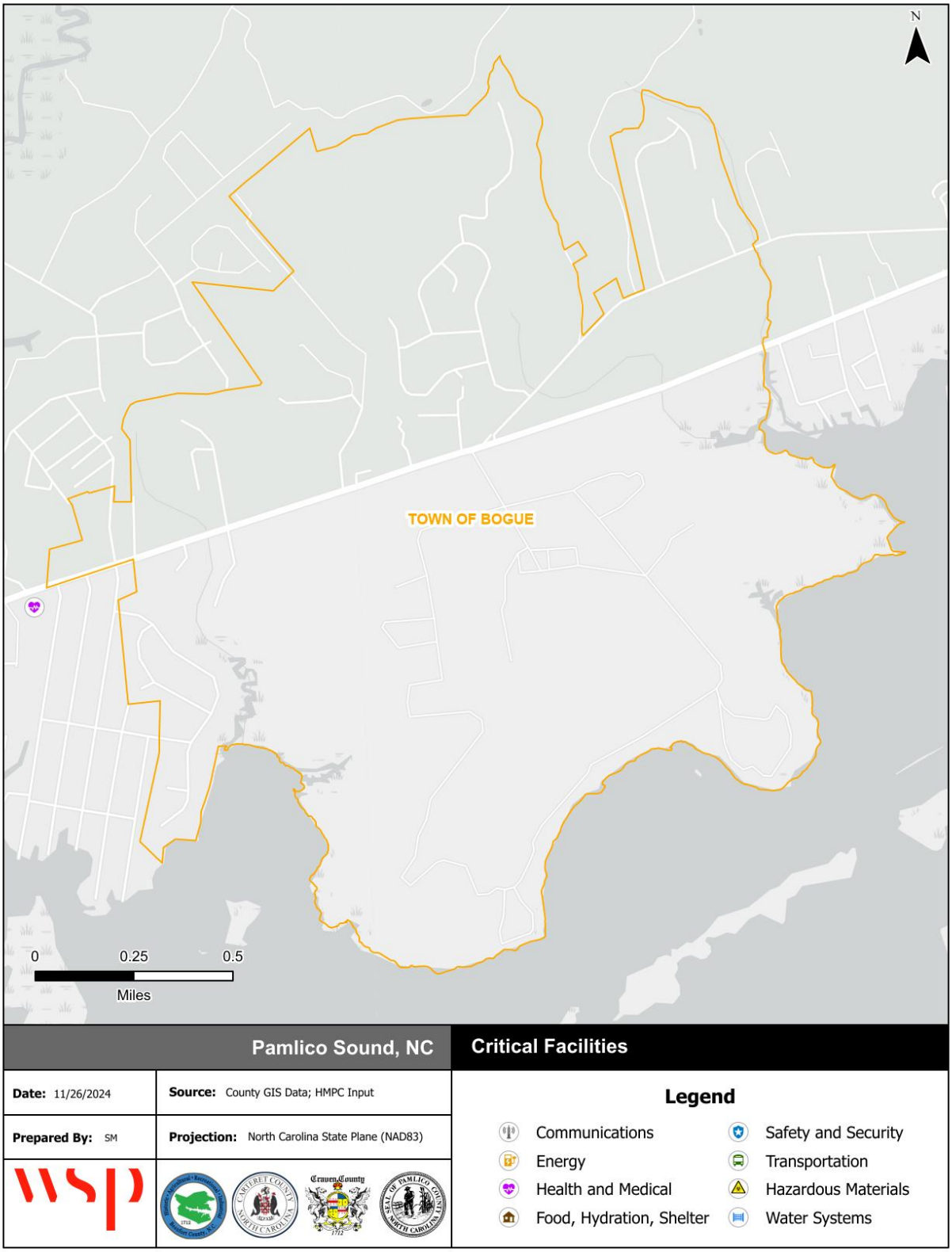
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.3 – Critical Facilities, Town of Beaufort



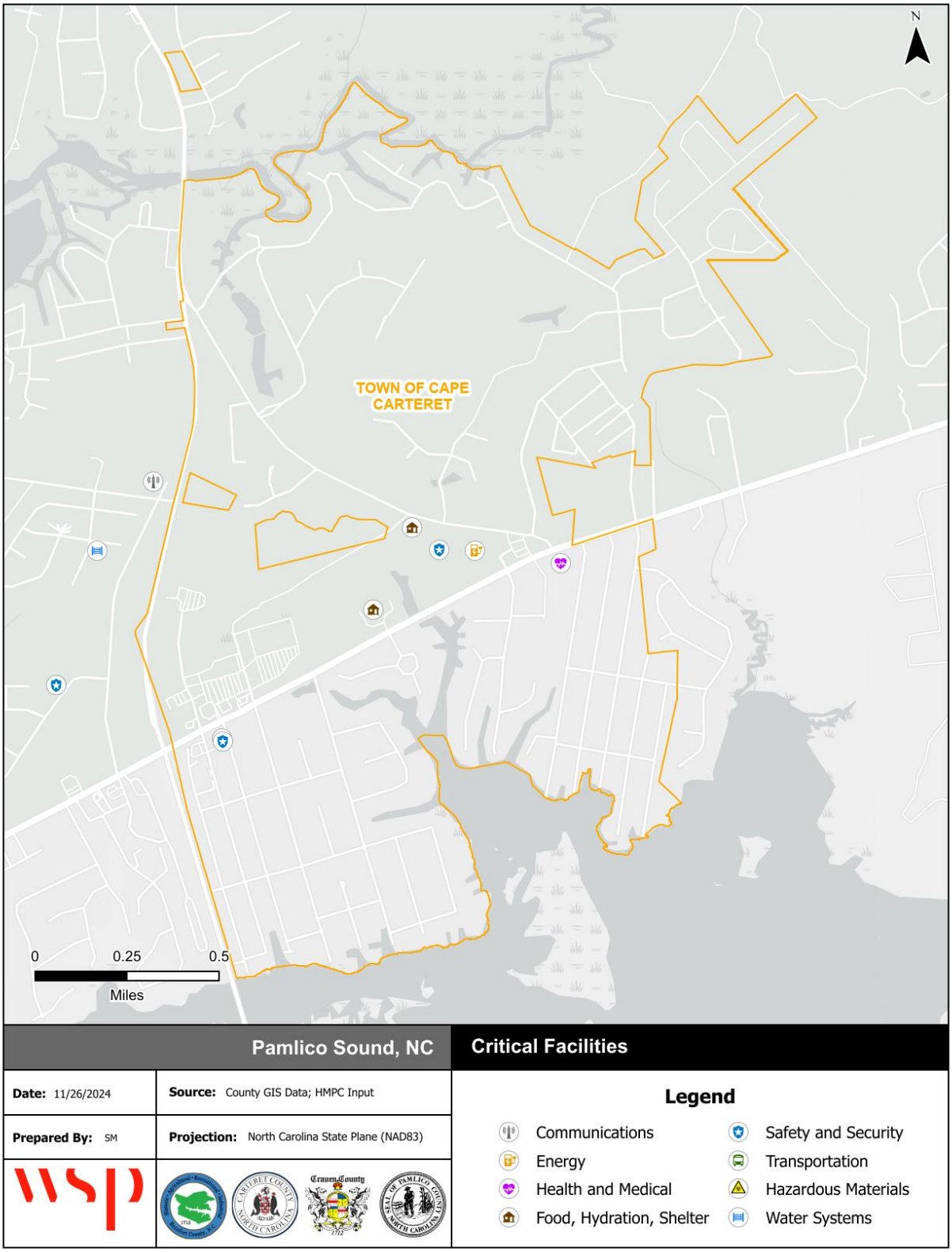
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.4 – Critical Facilities, Town of Bogue



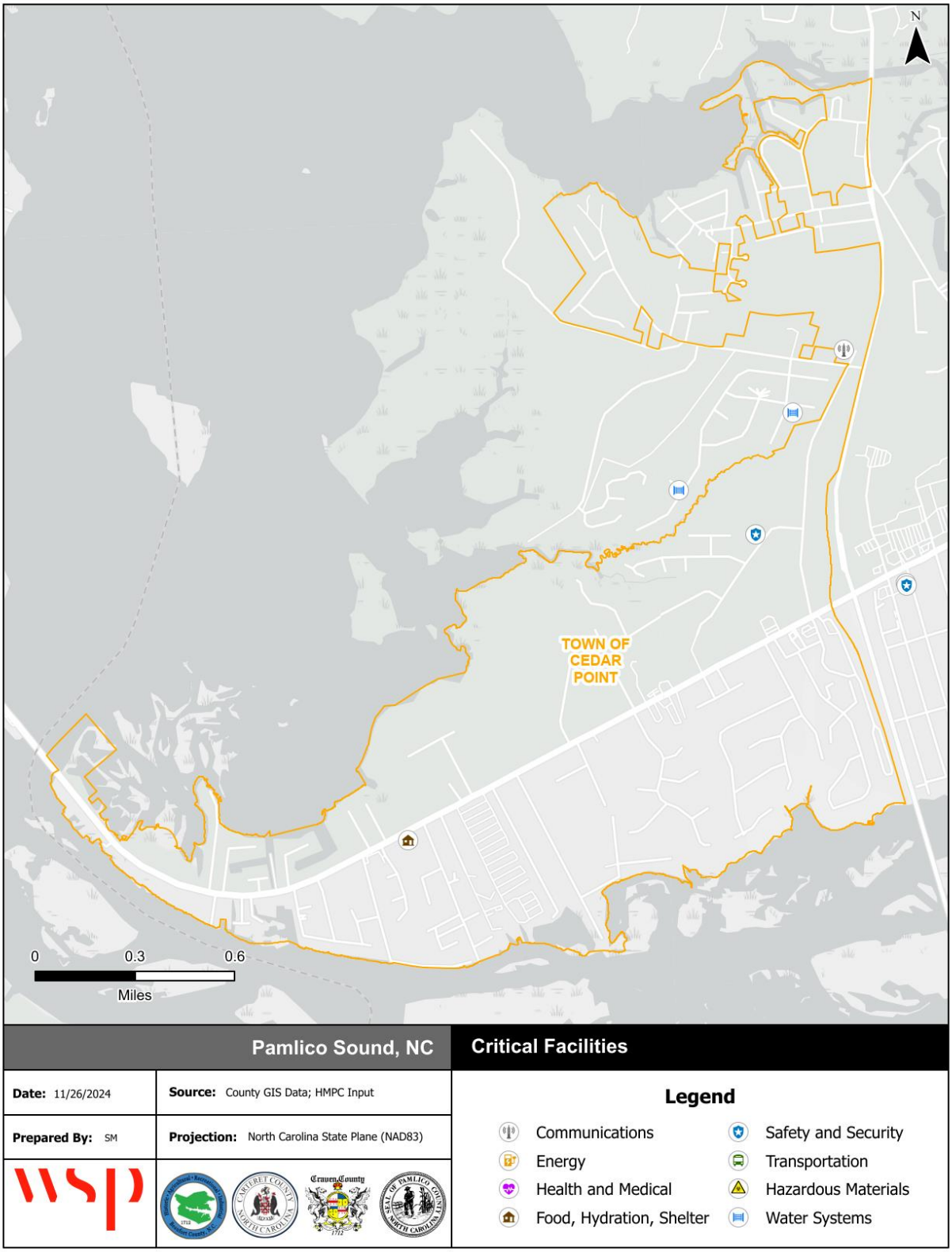
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.5 – Critical Facilities, Town of Cape Carteret



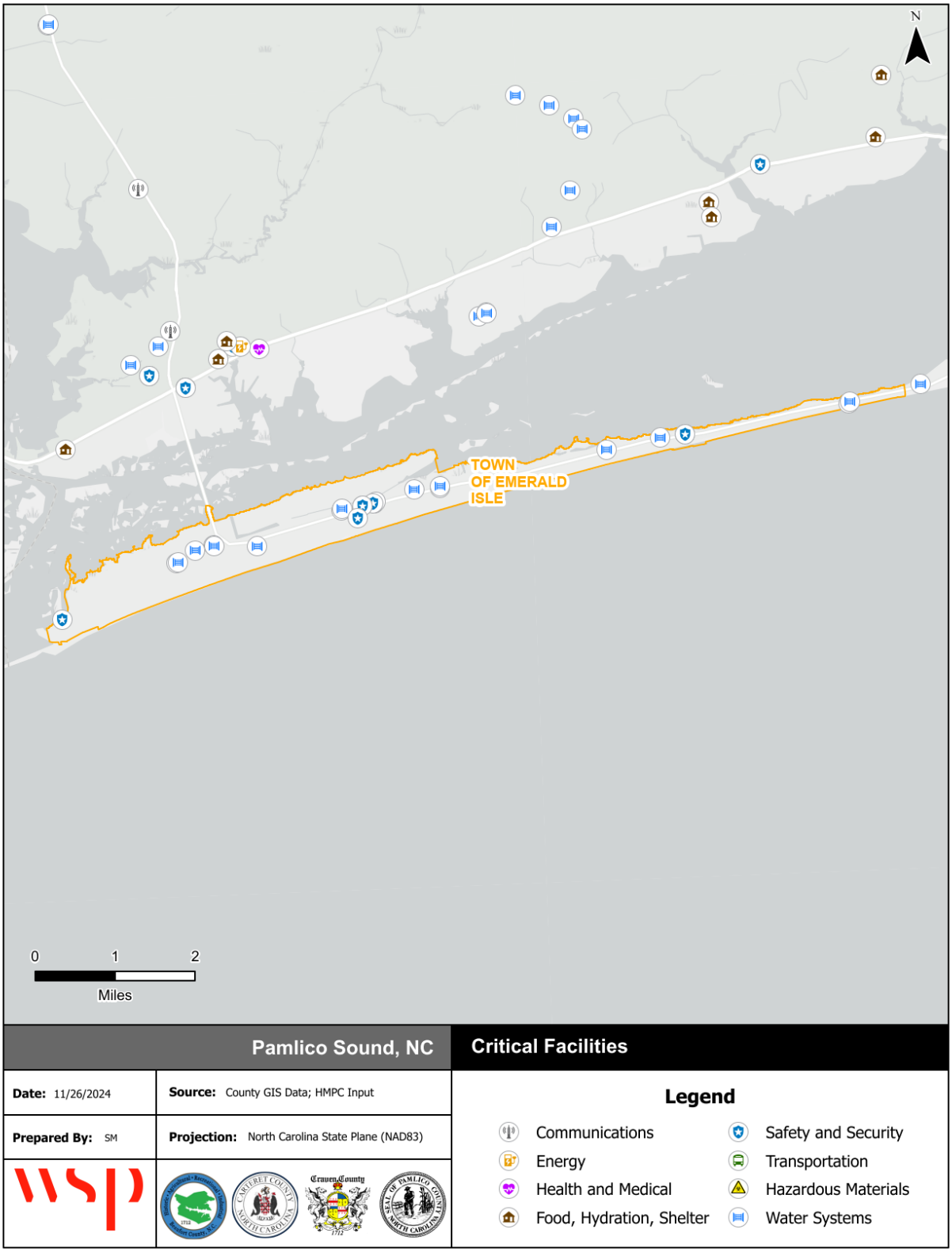
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.6 – Critical Facilities, Town of Cedar Point



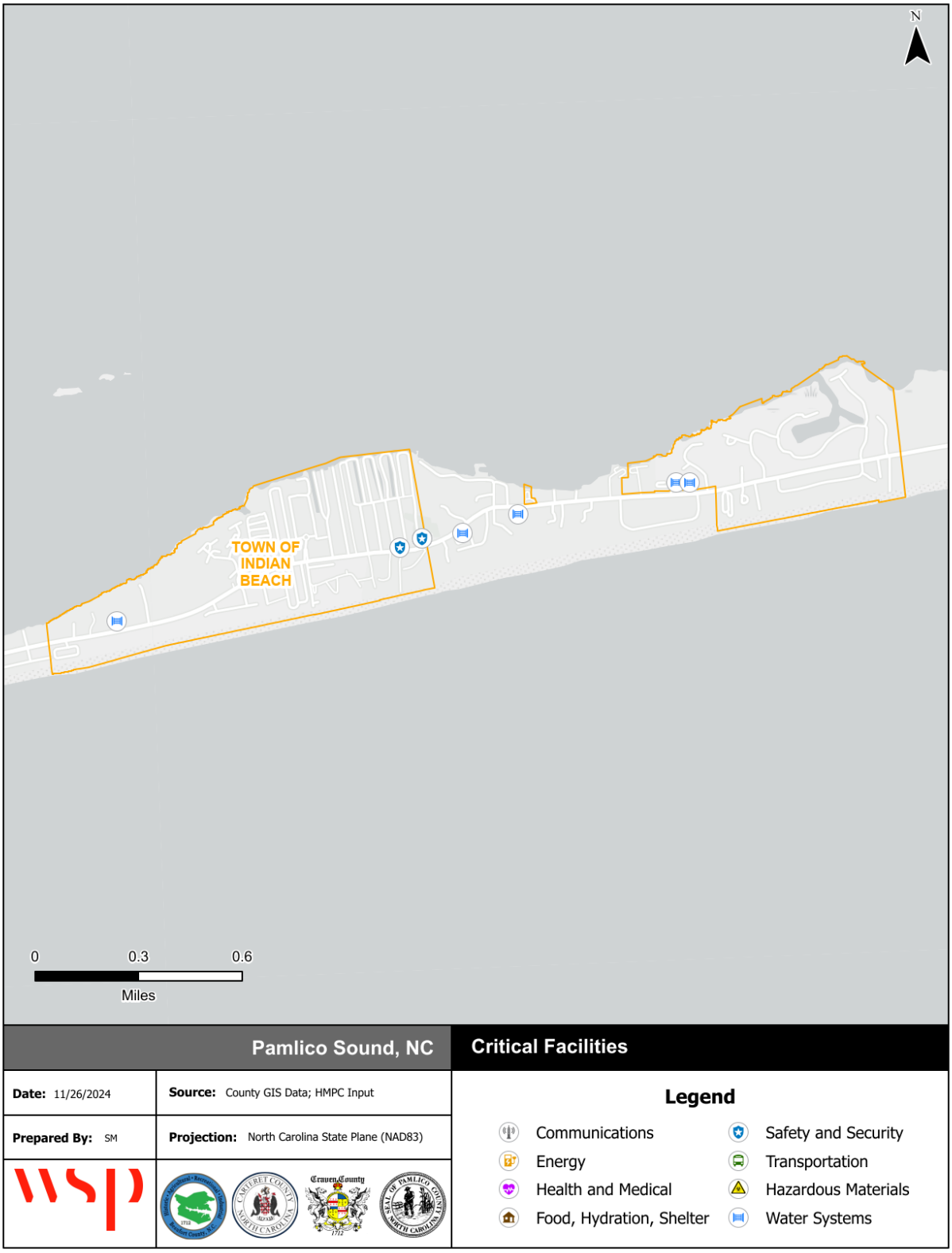
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.7 – Critical Facilities, Town of Emerald Isle



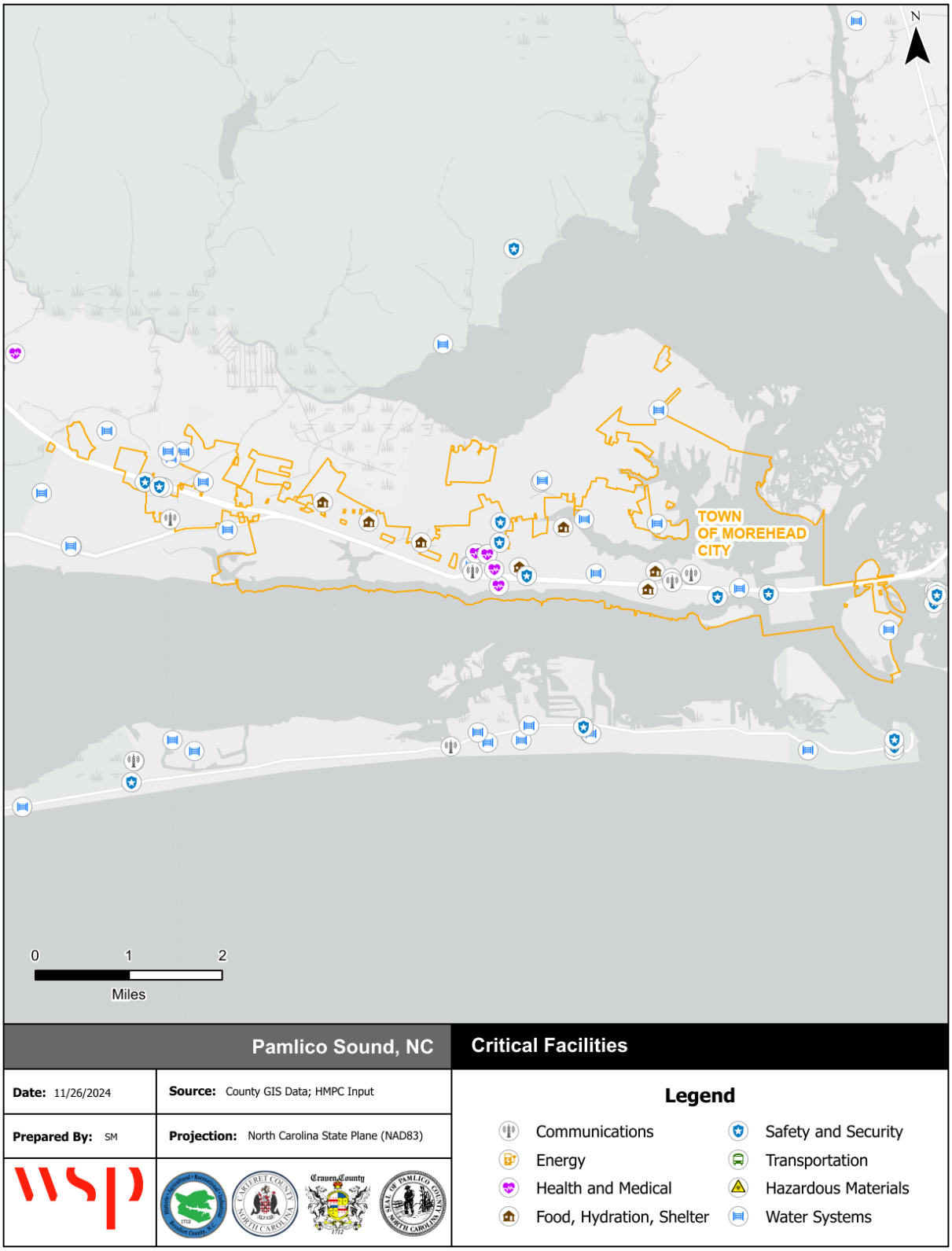
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.8 – Critical Facilities, Town of Indian Beach



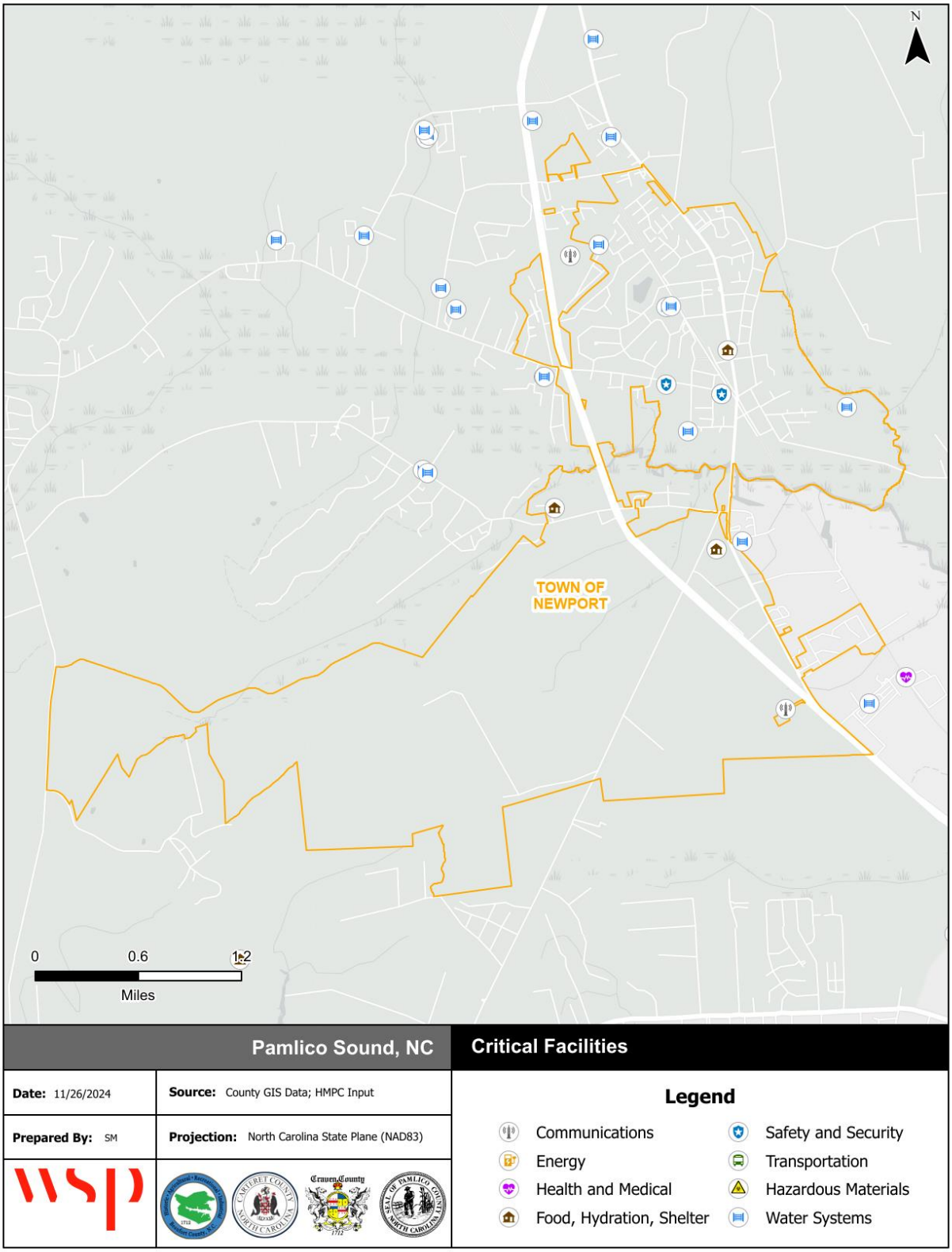
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.9 – Critical Facilities, Town of Morehead City



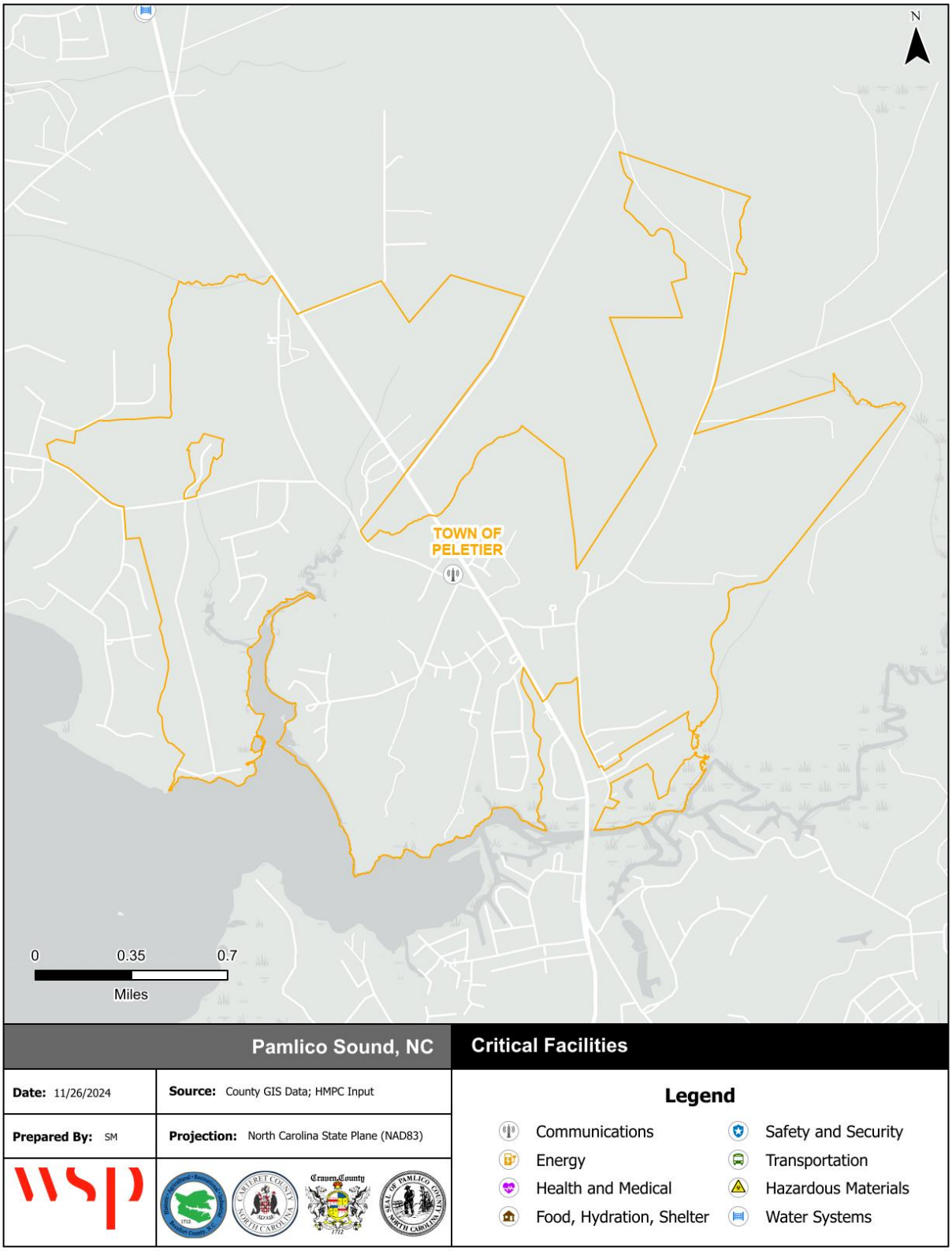
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.10 – Critical Facilities, Town of Newport



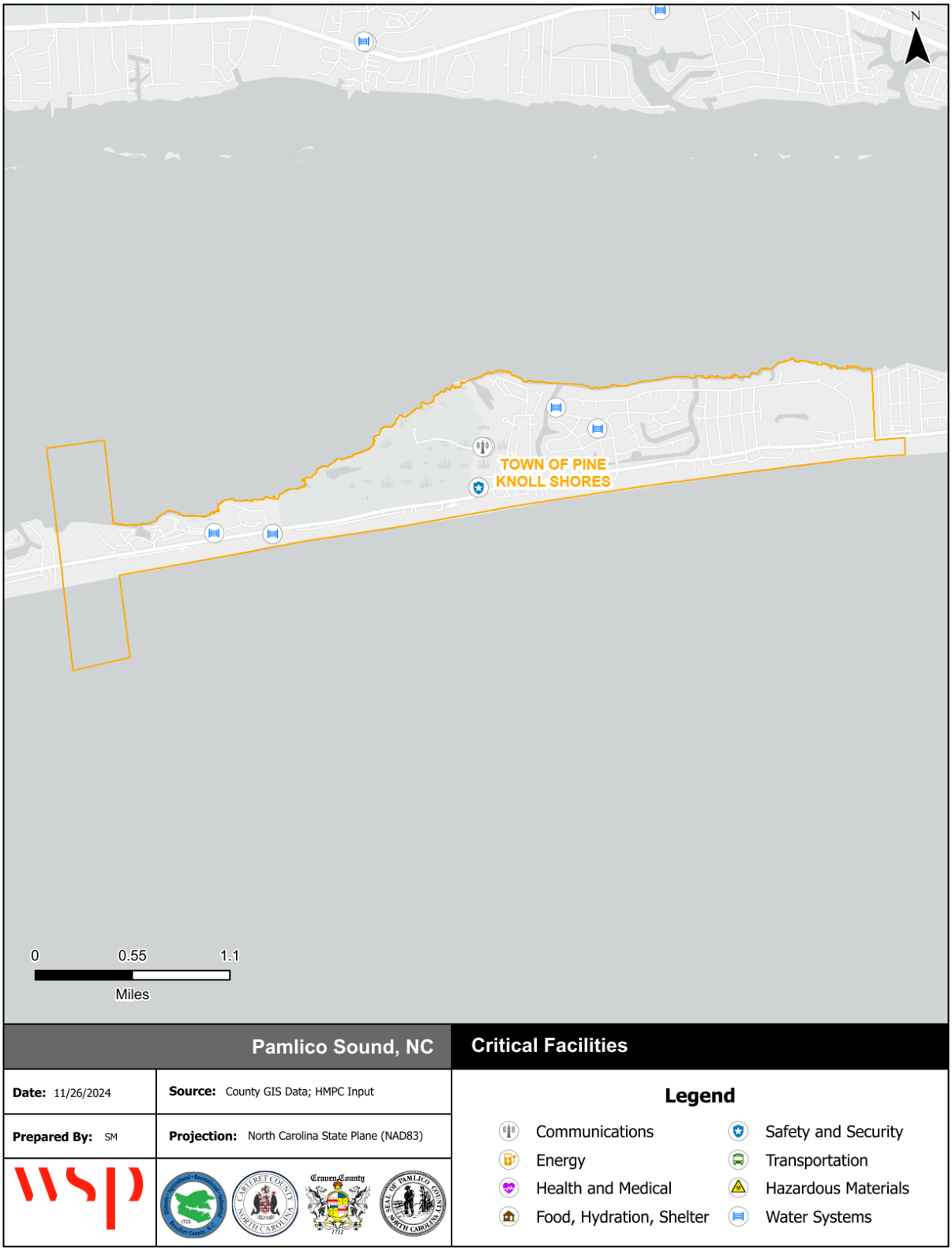
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.11 – Critical Facilities, Town of Peletier



Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure B.12 – Critical Facilities, Town of Pine Knoll Shores



Source: NCEM IRISK Database, HMPC input, GIS Analysis

Table B.13 – Carteret County Critical Facilities Inventory

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Unincorporated Carteret County										
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	5	Y	0	6
Water Systems	Water Treatment Distribution	-	$3,412	X Unshaded	0.1	7	2	Y	2	0
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	5	Y	0	3
Water Systems	Sewer Treatment	Town Of Beaufort WWT	$0	X Unshaded	0.1	10	3	Y	4	0
Water Systems	Public Water Supply	Inside PLT @ Guthrie Drive	$3,412	X Unshaded	0.1	7	2	Y	2	0
Water Systems	Public Water Supply	Yeomans Dr And Bayview Dr	$752	X Shaded	0.1	7	2	Y	1	5
Water Systems	Public Water Supply	East End @ Ft Macon State Park	$623,366	X Shaded	0.1	5	2	-	0	0
Water Systems	Public Water Supply	Croatan National Forest	$0	X Unshaded	0.1	NA	NA	Y	6	0
Water Systems	Public Water Supply	Croatan National Forest	$0	X Unshaded	0.1	NA	NA	Y	6	0
Water Systems	Public Water Supply	Croatan National Forest	$0	X Unshaded	0.1	NA	NA	Y	6	6
Water Systems	Public Water Supply	Croatan Nat'l Forest-Pringle Rd	$0	X Unshaded	0.1	NA	NA	Y	6	6
Water Systems	Public Water Supply	Croatan Nail Forest - Pringle Rd	$0	X Unshaded	0.1	NA	NA	-	6	7
Water Systems	Public Water Supply	Front Of Park	$0	X Shaded	0.1	5	2	Y	3	0
Water Systems	Public Water Supply	Well Closest to Facility- Well Outside Of Pump House 10000 Gal Diesel Tank 60' North Of Well Within Conc. Block Area	$1,798,772	AE	0.1	4	1	Y	5	6
Water Systems	Public Water Supply	Well farthest from Facility- Well Inside Pump House Old Well#2 Abandoned and Located 75' South Of Pump House.	$1,798,772	AE	0.1	3	1	-	5	7
Water Systems	Public Water Supply	Front Of Park	$0	AE	0.1	7	2	Y	5	5
Water Systems	Public Water Supply	West Of Storage Tank	$163,213	X Unshaded	0.1	NA	4	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Water Supply	East Of Storage Tank	$163,213	X Unshaded	0.1	NA	4	Y	0	0
Water Systems	Public Water Supply	3001 East of Well #2	$163,213	X Unshaded	0.1	NA	4	Y	0	0
Water Systems	Public Water Supply	Closest To WTP	$1,870	X Unshaded	0.1	NA	NA	Y	5	0
Water Systems	Public Water Supply	Closest To Hwy 70	$1,870	X Unshaded	0.1	NA	NA	Y	5	0
Water Systems	Public Water Supply	Front Of Park Right Side Facing Roberts Rd	$0	X Unshaded	0.1	NA	4	Y	5	0
Water Systems	Public Water Supply	Front Of Park Left Side Facing Roberts Rd	$0	X Unshaded	0.1	NA	4	Y	0	0
Water Systems	Public Water Supply	Front of Park	$0	X Unshaded	0.1	NA	4	Y	0	0
Water Systems	Public Water Supply	Hwy 24 @ WTP Inside Bldg	$314,542	X Unshaded	0.1	NA	5	Y	0	3
Water Systems	Public Water Supply	Hwy 24 @ WTP	$314,542	X Unshaded	0.1	NA	5	Y	4	3
Water Systems	Public Water Supply	Back of Park on R Side-Wooded	$0	X Shaded	0.1	NA	3	Y	0	5
Water Systems	Public Water Supply		$1,737	X Unshaded	0.1	NA	4	Y	0	0
Water Systems	Public Water Supply	Front of Park on Right of Dirt Drive Through Park	$38,659	X Unshaded	0.1	NA	NA	Y	5	0
Water Systems	Public Water Supply	At MH Lots #17 & #18	$319,924	X Unshaded	0.1	NA	NA	-	0	5
Water Systems	Public Water Supply	Front Of S/D Near Pool; 108 Sea Gate Blvd, Newport, Nc	$0	AE	5.3	4	1	-	6	0
Water Systems	Public Water Supply	200 Country Club Ln, Newport, NC 28570. West Side of Country Club Ln, North of Clipper Point Way	$0	X Shaded	0.1	NA	2	Y	6	2
Water Systems	Public Water Supply	Inside The Treatment Plant	$2,902,270	AE	0.1	6	2	Y	6	5
Water Systems	Public Water Supply	Rt Side Treat House Closet to Woods	$0	X Unshaded	0.1	NA	4	Y	5	0
Water Systems	Public Water Supply	Lft Side of Treatment House Closest To Entrance	$0	X Unshaded	0.1	NA	4	Y	5	0
Water Systems	Public Water Supply	Front Of Park	$15,281	X Unshaded	0.1	NA	4	-	5	3

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Water Supply	301 Steel Tank Rd, Beaufort, NC SW Corner of Steel Tank Rd and Sensation Weigh	$0	AE	0.1	4	1	Y	0	6
Water Systems	Public Water Supply	Front Of MHP- Less Than 25 Feet West of EOP For Howard Rd Outside of Treatment Building	$14,901	X Unshaded	0.1	NA	3	Y	5	0
Water Systems	Public Water Supply	515 Tom Mann Rd Located in Open Field At End Of Road In Center Of Western Side Of MHP	$0	X Unshaded	0.1	NA	4	-	5	0
Water Systems	Public Water Supply	Open Field Approximately 115' NE of Well #1, Within Small Enclosure	$0	X Unshaded	0.1	NA	4	-	5	0
Water Systems	Public Water Supply	Sr 1114 OIW Sea Horse/Sandy St	$0	X Unshaded	0.1	NA	NA	Y	4	0
Water Systems	Public Water Supply	Ocean Spray Dr	$91,798	X Unshaded	0.1	NA	2	Y	3	3
Water Systems	Public Water Supply	End Or Sr 1101	$63,807	X Unshaded	0.1	NA	3	Y	4	0
Water Systems	Public Water Supply	Laurel Rd At Elevated Tank Behind WTP	$0	X Shaded	0.1	9	2	-	0	5
Water Systems	Public Water Supply	1364 Merrimon Road Sr 1300	$2,364	AE	0.1	9	1	Y	6	2
Water Systems	Public Water Supply	Jonaquin Creek Rd Sr 1317	$3,329	AE	1.0	6	2	Y	5	7
Water Systems	Public Water Supply	Front Of MHP	$12,946	X Unshaded	0.1	NA	5	Y	6	0
Water Systems	Public Water Supply	Off Pintail Ln, Dirt Access Rd on East Side	$0	AE	0.1	4	1	Y	1	4
Water Systems	Public Water Supply	Off Pintail Ln, Dirt Access Rd on East Side	$0	AE	0.1	3	1	Y	1	3
Water Systems	Public Water Supply	Inside Treatment Plant	$446,223	AE	0.1	4	1	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Water Supply	In Median Approximately 100' From WTP	$446,223	AE	0.1	5	2	Y	0	0
Water Systems	Public Water Supply	Behind School Near Playground	$3,477,135	AE	0.1	6	2	Y	5	5
Water Systems	Public Water Supply	Side Of School Near Playground	$1,080,534	X Unshaded	0.1	NA	NA	Y	0	0
Water Systems	Public Water Supply	West Of Well #2 Behind Main Office	$0	X Unshaded	0.1	NA	3	-	3	0
Water Systems	Public Water Supply	East Of Well #1 Behind Main Office	$0	X Unshaded	0.1	10	3	-	3	0
Water Systems	Public Water Supply	Beside Dock in Front of Grill	$0	AE	0.1	5	NA	Y	0	0
Water Systems	Public Water Supply	On The Left Entering Motel Parking Lot	$66,125	X Shaded	0.1	8	3	-	0	0
Water Systems	Public Water Supply	Bldg 7028 Behind Barracks	$0	X Unshaded	0.1	NA	5	Y	5	7
Water Systems	Public Water Supply	Bldg 9058 Behind Maint Shop Bldg	$0	AE	0.1	7	1	-	0	0
Water Systems	Public Water Supply	Front Left by Hwy	$0	AE	0.1	5	2	Y	5	0
Water Systems	Public Water Supply	Plywood Wellhouse in Front Yard Of Bldg	$239,010	X Unshaded	0.1	NA	NA	Y	2	3
Water Systems	Public Water Supply	Driveway In Tile Cover 45` From Bldg	$239,010	X Unshaded	0.1	NA	NA	Y	2	0
Water Systems	Public Water Supply	Rt Front Corner Lt from Hwy	$74,103	AE	0.1	5	2	Y	5	0
Water Systems	Public Water Supply	Left Front of Building ~ 5 Ft Off Hwy 70	$0	AE	0.1	4	2	Y	6	0
Water Systems	Public Water Supply	Lft Side of The Store ~50 Ft from Harkers Island Rd	$159,639	AE	0.1	6	2	Y	5	0
Water Systems	Public Water Supply	Front Of Church	$2,190,798	X Unshaded	0.1	NA	NA	Y	6	0
Water Systems	Public Water Supply	In Pumphouse Beside the Old Well House	$346,412	X Unshaded	0.1	NA	4	Y	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Water Supply	Located At 119 Hwy 70 E - Yard Beside Store	$0	AE	0.1	6	2	Y	5	0
Water Systems	Public Water Supply	@Bathouse&The Playground	$0	AE	0.1	4	1	Y	5	0
Water Systems	Public Water Supply	30' Away from Bathroom House	$0	X Shaded	0.1	9	2	-	5	6
Water Systems	Public Water Supply	Far Right Side of Facility Beyond Prk Lot	$307,873	X Unshaded	0.1	NA	5	Y	5	1
Water Systems	Public Water Supply	Front Of Property East Side	$1,269,859	X Unshaded	0.1	NA	4	Y	0	0
Water Systems	Public Water Supply	Between The Parking Lots on The East Side of The Building	$0	X Unshaded	0.1	NA	NA	Y	5	7
Water Systems	Public Water Supply	Under Pecan Tree Near Parking Lot	$293,508	X Unshaded	0.1	NA	5	Y	5	0
Water Systems	Public Water Supply	Left Rear from Road	$178,132	X Unshaded	0.1	NA	4	-	5	0
Water Systems	Public Water Supply	Rt Corner of Bldg	$248,140	X Unshaded	0.1	NA	4	Y	3	5
Water Systems	Public Water Supply	Right Side of Lot Behind Bldg in Wellhouse	$143,144	AE	0.1	5	1	Y	5	0
Water Systems	Public Water Supply	Lft Front Side of Property Water Wooden Box	$87,727	X Shaded	0.1	10	3	-	0	0
Water Systems	Public Water Supply	Back Left Corner Of Park	$0	X Shaded	0.1	8	2	Y	5	8
Water Systems	Public Water Supply	Right Back Side of Church	$2,490,678	X Unshaded	0.1	NA	4	Y	5	0
Water Systems	Public Water Supply	Right Of Daycare	$5,509	X Unshaded	0.1	NA	NA	Y	0	3
Water Systems	Public Water Supply	Eastern Most Well	$265,091	X Unshaded	0.1	NA	5	Y	0	3
Water Systems	Public Water Supply	Western Most Well	$265,091	X Unshaded	0.1	NA	5	Y	0	3
Water Systems	Public Water Supply	E Side of Bathhouse @ Parking	$0	AE	0.1	6	2	Y	5	4
Water Systems	Public Water Supply	Behind Wellhouse	$0	X Unshaded	0.1	10	3	-	0	2
Water Systems	Public Water Supply	East Side of Property	$487,937	X Unshaded	0.1	NA	NA	-	6	6
Water Systems	Public Water Supply	Back Of Campground	$112,924	AE	0.1	2	1	Y	5	5

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
		Between Shed and Site 55								
Water Systems	Public Water Supply	Between Bldg and Hwy 70	$143,400	AE	0.1	7	2	Y	5	3
Water Systems	Public Water Supply	Behind The Ice Machine in Wooden Wellhouse	$0	AE	0.1	6	2	Y	5	2
Water Systems	Public Water Supply	In Pumphouse Out Fron Near Hwy 70	$53,438	AE	0.1	8	2	Y	5	3
Water Systems	Public Water Supply	Beside Wellhouse Behind Store	$189,353	AE	0.1	4	1	-	0	0
Water Systems	Public Water Supply	Well Is About 50' North Of The Bathhouse	$415,098	AE	0.1	3	1	Y	0	6
Water Systems	Public Water Supply	Well Is Replacement For Well Drilled In The 70's Per Owner	$555,380	AE	0.1	4	1	Y	5	5
Water Systems	Public Water Supply	Back Right Corner of Property	$0	AE	0.1	5	2	Y	5	2
Water Systems	Public Water Supply	In Wellhouse in Front Of Treatment Room	$0	AE	0.1	2	1	-	0	0
Water Systems	Public Water Supply	In Wellhouse Behind the Generator Bldg	$0	AE	0.1	2	1	-	0	0
Water Systems	Public Water Supply	Back Right Corner from Treatment Room In The Dunes	$0	VE	0.1	6	3	-	1	0
Water Systems	Public Water Supply	Front Right Corner of Property	$493,820	X Unshaded	0.1	8	2	Y	6	0
Water Systems	Sewer - Wastewater Treatment Plant		$632,065	X Unshaded	0.1	NA	3	-	4	5
Water Systems	Sewer - Wastewater Treatment Plant		$632,065	X Unshaded	0.1	NA	3	-	4	5
Water Systems	Sewer - Wastewater Treatment Plant		$632,065	X Shaded	0.1	10	2	-	3	2
Transportation	Airport		$2,499,952	X Shaded	0.1	7	2	Y	4	0
Transportation	Airport		$2,499,952	X Shaded	0.1	7	2	Y	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	5	2	Y	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	7	2	-	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Transportation	Airport		$2,499,952	X Shaded	0.1	7	2	-	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	7	2	-	0	0
Transportation	Airport		$57,484	X Shaded	0.1	6	2	Y	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	6	2	Y	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	6	2	Y	0	0
Transportation	Airport		$2,499,952	AE	0.1	6	2	Y	4	0
Transportation	Airport		$2,499,952	X Shaded	0.1	6	2	Y	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	7	2	Y	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	6	2	Y	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	6	2	Y	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	6	2	Y	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	7	2	Y	0	0
Transportation	Airport		$437,682	X Shaded	0.1	6	2	-	0	0
Transportation	Airport		$2,499,952	X Shaded	0.1	6	2	-	0	0
Transportation	Airport		$151,611	X Shaded	0.1	6	2	-	0	0
Safety & Security	Law Enforcement - Fort Macon State Park Ranger Station	2300 East Fort Macon Road	$623,366	AE	0.1	5	2	Y	0	0
Safety & Security	Law Enforcement - United States Coast Guard - Fort Macon	2301 East Fort Macon Road	$881,413	AE	0.1	4	1	Y	0	7
Safety & Security	Law Enforcement - Cape Lookout National Seashore - Headquarters	131 Charles Street	$879,475	AE	0.1	6	2	Y	0	0
Safety & Security	Fire Stations - United States Coast Guard - Fort Macon Station 4	2301 East Fort Macon Road	$881,413	AE	0.1	6	2	-	0	0
Safety & Security	Fire Stations - North Carolina Division of Forest Resources District 4 - Carteret County	2721 State Highway 101	$41,973	X Shaded	0.1	7	2	-	0	0
Safety & Security	Fire Stations - Stella Volunteer Fire Department	141 Morristown Road	$208,112	X Unshaded	0.1	NA	NA	Y	0	0
Safety & Security	Fire Stations - Stacy Volunteer Fire Department Incorporated	1442 United States Highway 70	$84,998	AE	0.1	5	1	-	6	0
Safety & Security	Fire Stations - South River-Merrimon Fire and Emergency Medical Services Incorporated	1329 South River Road	$156,157	X Shaded	0.1	6	1	Y	5	0
Safety & Security	Fire Stations - North River and Laurel Road Volunteer Fire Department	893 Merrimon Road	$81,787	AE	0.1	3	1	Y	6	5

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	Fire Stations - Marshallberg Volunteer Fire Department Incorporated	109 Goose Pond Road	$44,715	AE	0.1	4	2	Y	5	5
Safety & Security	Fire Stations - Davis Volunteer Fire Department Incorporated	595 United States Highway 70	$234,539	AE	0.1	5	2	Y	6	3
Safety & Security	Fire Stations - Atlantic Fire Department Incorporated	967 Seashore Drive	$54,440	X Unshaded	0.1	NA	NA	Y	0	0
Safety & Security	Fire Stations - Cedar Island Volunteer Fire Department	2208 Cedar Island Road	$170,709	AE	0.1	8	3	Y	0	7
Safety & Security	Fire Stations - Newport Fire Department - Substation	485 Lake Road	$383,944	X Unshaded	0.1	NA	NA	Y	6	3
Safety & Security	Fire Stations - Sealevel Fire Rescue and Community Center	647 United States Highway 70	$5,414	AE	0.1	4	1	Y	5	0
Safety & Security	Fire Stations - Mill Creek Fire and Rescue Department	2376 Mill Creek Road	$46,415	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	Fire Stations - Broad and Gales Creek Volunteer Fire Department	3010 State Highway 24 East	$1,732,406	X Unshaded	0.1	NA	5	Y	0	0
Safety & Security	Fire Stations - Harkers Island Fire and Rescue Squad	1219 Island Road	$639,144	X Unshaded	0.1	8	2	Y	0	4
Safety & Security	Fire Stations - Otway Volunteer Fire and Rescue Department Incorporated	509 United States Highway 70 East Otway	$143,144	AE	0.1	5	2	Y	5	0
Safety & Security	EMS - United States Coast Guard - Fort Macon Station 4	2301 East Fort Macon Road	$881,413	AE	0.1	6	2	-	0	0
Safety & Security	EMS - Stella Volunteer Fire Department	141 Morristown Road	$208,112	X Unshaded	0.1	NA	NA	Y	0	0
Safety & Security	EMS - Stacy Volunteer Fire Department Incorporated	1442 United States Highway 70	$84,998	AE	0.1	5	1	-	6	0
Safety & Security	EMS - South River-Merrimon Fire and Emergency Medical Services Incorporated	1329 South River Road	$156,157	X Shaded	0.1	6	1	Y	5	0
Safety & Security	EMS - Atlantic Fire Department Incorporated	967 Seashore Drive	$54,440	X Unshaded	0.1	NA	NA	Y	0	0
Safety & Security	EMS - Cedar Island Volunteer Fire Department	2208 Cedar Island Road	$170,709	AE	0.1	8	3	Y	0	7
Safety & Security	EMS - Newport Fire Department - Substation	485 Lake Road	$383,944	X Unshaded	0.1	NA	NA	Y	6	3
Safety & Security	EMS - Sealevel Fire Rescue and Community Center	647 United States Highway 70	$5,414	AE	0.1	4	1	Y	5	0
Safety & Security	EMS - Mill Creek Fire and Rescue Department	2376 Mill Creek Road	$46,415	X Unshaded	0.1	NA	3	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	EMS - Broad and Gales Creek Rescue Squad	3010 State Highway 24 East	$1,732,406	X Unshaded	0.1	NA	5	Y	0	0
Safety & Security	EMS - Harkers Island Fire and Rescue Squad	1219 Island Road	$639,144	X Unshaded	0.1	8	2	Y	0	4
Safety & Security	EMS - Otway Volunteer Fire and Rescue Department Incorporated	509 United States Highway 70 East Otway	$143,144	AE	0.1	5	2	Y	5	0
Health & Medical	Medical Facilities - Compassionate Hands, Inc./Crystal Coast Family Care	107 Graham Lane	$0	X Shaded	0.1	5	2	-	5	5
Health & Medical	Medical Facilities - Compassionate Hands, Inc./Crystal Coast Family Care	105 Graham Lane	$0	X Shaded	0.1	5	2	-	5	5
Health & Medical	Medical Facilities - Harkers Island Family Care Home	172 Cape Lookout Drive	$0	X Unshaded	0.1	9	2	Y	1	0
Health & Medical	Medical Facilities - Harris Family Care Home	819 Highway 101	$0	AE	0.1	5	2	Y	5	0
Health & Medical	Medical Facilities - Rimmer Family Care Home	4722 Highway 101	$0	X Unshaded	0.1	NA	3	Y	5	0
Health & Medical	Medical Facilities - Wadin Creek Family Care Home	819 Highway 101	$0	AE	0.1	5	2	Y	5	0
Health & Medical	Medical Facilities - Akins Therapeutic Home	174 Silver Hill Rd.	$0	X Unshaded	0.1	NA	5	Y	5	0
Health & Medical	Medical Facilities - LIFE, Inc./Grey Fox Run Group Home	148 Grey Fox Run	$0	X Unshaded	0.1	NA	4	Y	5	3
Health & Medical	Medical Facilities - LIFE, Inc./Nine Foot Road Group Home	1229 Nine Foot Road	$0	X Unshaded	0.1	NA	4	Y	6	0
Health & Medical	Medical Facilities - Willis Therapeutic Home	207 Hunters Creek Road	$0	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - Snug Harbor on Nelson Bay	272 Highway 70 East	$2,902,270	AE	0.1	2	1	Y	6	7
Health & Medical	Medical Facilities - Taylor Extended Care Facility	468 Hwy 70	$0	AE	0.1	5	2	Y	6	0
Food, Hydration, Shelter	Swine Lagoons	-	$112,761	X Unshaded	0.1	NA	4	-	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	10	2	Y	5	7
Food, Hydration, Shelter	Public Schools - Atlantic Elementary	151 School Drive	$1,080,534	X Unshaded	0.1	NA	NA	Y	0	0
Food, Hydration, Shelter	Public Schools - Broad Creek Middle	2382 Hwy 24	$6,331,764	X Unshaded	0.1	NA	5	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Public Schools - East Carteret High	3263 Hwy 70 E	$8,601,900	AE	0.1	6	2	Y	0	0
Food, Hydration, Shelter	Public Schools - Harkers Island Elementary	1163 Island Road	$1,921,642	X Unshaded	0.1	7	2	Y	1	0
Food, Hydration, Shelter	Public Schools - Smyrna Elementary	174 Marshallberg Road	$3,477,135	AE	0.1	7	2	Y	5	6
Food, Hydration, Shelter	Public Schools - Bogue Sound Elementary	3323 Highway 24	$21,097,575	X Unshaded	0.1	NA	5	Y	0	0
Food, Hydration, Shelter	Public Schools - Croatan High	1 Cougar Lane	$21,097,575	X Unshaded	0.1	NA	5	-	2	0
Food, Hydration, Shelter	Non-Public Schools - Gramercy Christian School	8170 Highway 70	$0	X Unshaded	0.1	NA	NA	Y	6	0
Food, Hydration, Shelter	Non-Public Schools - Opportunity School	145 Eckerd Road	$692,607	X Unshaded	0.1	NA	4	Y	5	0
Food, Hydration, Shelter	Animal Farms - Joyce Hog Farm	-	$0	X Unshaded	0.1	NA	4	-	6	8
Energy	Energy (fuel) - Fuel Depot		$2,499,952	X Shaded	0.1	6	2	-	0	3
Communications	Radio Communication Tower	600 Time Warner Dr	$0	X Unshaded	0.1	NA	NA	Y	5	7
Communications	Radio Communication Tower	188 Training Grounds Rd	$21,977	X Unshaded	0.1	NA	NA	Y	0	0
Communications	Radio Communication Tower	120 Rossevelt Blvd	$0	AE	0.1	0	NA	-	0	0
Communications	Radio Communication Tower	169 Little 9 Rd	$18,516	X Unshaded	0.1	NA	4	Y	0	3
Communications	Radio Communication Tower	241 Laurel Rd	$0	AE	0.1	5	2	Y	5	0
Communications	Radio Communication Tower	1951 Highway 70	$92,660	AE	0.1	5	1	-	6	3
Communications	Radio Communication Tower	5125 Merrimon Rd	$0	AE	1.6	5	1	Y	4	2
Communications	Radio Communication Tower	2208 Cedar Island Rd.	$170,709	AE	0.1	8	3	Y	0	7
Town of Atlantic Beach										
Water Systems	Water Treatment Distribution	-	$0	AE	0.1	5	2	-	0	0
Water Systems	Public Water Supply	East Dr at WTP	$0	AE	0.1	6	2	-	0	0
Water Systems	Public Water Supply	Hwy 58 At Coral Bay Shopping	$0	X Unshaded	0.1	9	4	Y	0	0
Water Systems	Public Water Supply	Ocean Ridge Rd	$0	X Shaded	0.1	NA	4	Y	0	0
Water Systems	Public Water Supply	Hwy 58 Across from Peppertree	$0	X Shaded	0.1	5	2	Y	0	0
Water Systems	Public Water Supply	West End Elevated Storage Tank	$0	AE	0.1	3	1	Y	0	0
Safety & Security	Law Enforcement - Atlantic Beach Police Department	125 West Fort Macon Road	$0	AE	0.1	5	1	-	0	0
Safety & Security	Fire Stations - Atlantic Beach Fire Department	125 West Fort Macon Road	$0	AE	0.1	5	1	-	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	EMS - Atlantic Beach Fire Department	125 West Fort Macon Road	$0	AE	0.1	5	1	-	0	0
Communications	Radio Communication Tower	1710 W. Fort Macon Rd	$0	AE	0.1	2	1	Y	0	0
Town of Beaufort										
Water Systems	Water Tower		$0	X Unshaded	0.1	9	2	-	0	0
Water Systems	Water Tower		$0	X Shaded	0.1	8	2	Y	0	3
Water Systems	Water Tower		$0	X Shaded	0.1	7	2	Y	0	0
Water Systems	Water - Drinking Water Well and Treatment		$132,078	X Unshaded	0.1	NA	3	-	0	0
Water Systems	Water - Drinking Water Well and Treatment		$242,111	X Unshaded	0.1	NA	3	-	0	0
Water Systems	Water - Drinking Water Well and Treatment		$176,257	X Unshaded	0.1	NA	3	-	0	0
Water Systems	Sewer - Sewer Pump Station		$0	X Unshaded	0.1	NA	3	Y	5	0
Water Systems	Sewer - Sewer Pump Station		$547,673	X Shaded	0.1	8	2	Y	4	0
Water Systems	Sewer - Sewer Pump Station		$0	X Shaded	0.1	7	2	Y	4	0
Water Systems	Sewer - Sewer Pump Station		$0	AE	0.1	5	1	Y	4	0
Water Systems	Sewer - Sewer Pump Station		$0	X Shaded	0.1	7	2	Y	0	0
Water Systems	Sewer - Sewer Pump Station		$0	AE	0.1	6	2	Y	3	0
Water Systems	Sewer - Sewer Pump Station		$1,126,309	AE	0.1	5	1	Y	4	0
Water Systems	Sewer - Sewer Pump Station		$0	AE	0.1	4	2	-	0	0
Water Systems	Sewer - Sewer Pump Station		$0	AE	0.1	3	1	Y	0	0
Water Systems	Sewer - Sewer Pump Station		$0	AE	0.1	5	2	Y	0	7
Water Systems	Sewer - Sewer Pump Station		$286,529	AE	0.1	4	1	Y	0	0
Water Systems	Sewer - Sewer Pump Station		$0	AE	0.1	3	1	Y	0	0
Water Systems	Sewer - Sewer Pump Station		$0	AE	0.1	3	1	Y	2	1
Safety & Security	Emergency Services - Police Department		$618,178	X Shaded	0.1	9	2	-	0	0
Safety & Security	Emergency Services - EMS / Ambulance		$271,944	X Shaded	0.1	9	2	Y	0	0
Safety & Security	Emergency Services - EMS / Ambulance		$3,202	X Shaded	0.1	8	2	Y	0	3
Safety & Security	Government Services - Town Hall		$693,015	AE	0.1	5	2	Y	2	0
Safety & Security	Government Services - Public Works Maintenance Building		$54,005	X Unshaded	0.1	NA	3	-	0	0
Safety & Security	Government Services - Public Works Maintenance Building		$54,005	X Unshaded	0.1	NA	3	-	0	0
Safety & Security	Government Services - Public Works Maintenance Building		$54,005	X Unshaded	0.1	NA	3	-	0	0
Safety & Security	Emergency Services - EMS / Ambulance		$271,944	X Shaded	0.1	9	2	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	Emergency Services - Fire Department		$2,182,046	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	Employment / Research - USACE Facility		$1,062,362	AE	0.1	5	2	-	0	0
Safety & Security	Employment / Research - USACE Facility		$1,062,362	AE	0.1	5	1	-	0	0
Safety & Security	Employment / Research - USACE Facility		$1,062,362	AE	0.1	5	2	-	0	0
Safety & Security	Employment / Research - USACE Facility		$1,062,362	AE	0.1	5	2	-	0	0
Safety & Security	Employment / Research - USACE Facility		$1,062,362	AE	0.1	5	1	-	0	6
Safety & Security	Employment / Research - USACE Facility		$1,062,362	AE	0.1	5	2	-	0	3
Safety & Security	Employment / Research - USACE Facility		$1,062,362	AE	0.1	5	2	Y	0	0
Safety & Security	Employment / Research - USACE Facility		$1,062,362	AE	0.1	5	2	Y	0	0
Safety & Security	Emergency Services - Lynn Eury Park + Police/Fire Dock		$0	AE	0.1	3	1	Y	0	0
Food, Hydration, Shelter	Grocery - Market	100 Holly Lane	$47,925	X Shaded	0.1	9	2	-	0	0
Food, Hydration, Shelter	School - School	302 Courthouse Square	$5,654,331	X Unshaded	0.1	NA	3	Y	0	0
Food, Hydration, Shelter	School - School	302 Courthouse Square	$2,132,137	X Unshaded	0.1	10	3	Y	4	0
Food, Hydration, Shelter	Distribution Center - Episcopal Church	209 Ann Street	$149,360	X Shaded	0.1	7	2	-	0	0
Food, Hydration, Shelter	Distribution Center - Episcopal Church	209 Ann Street	$251,785	X Shaded	0.1	8	2	-	0	0
Food, Hydration, Shelter	Distribution Center - Baptist Church	403 Ann Street	$481,909	X Shaded	0.1	8	2	-	0	0
Food, Hydration, Shelter	Distribution Center - Methodist Church	417 Ann Street	$1,347,792	X Shaded	0.1	9	2	-	0	0
Food, Hydration, Shelter	Grocery	317 Cedar Street	$117,731	X Shaded	0.1	9	2	Y	0	0
Food, Hydration, Shelter	Distribution Center - Episcopal Church	209 Ann Street	$1,751,813	X Shaded	0.1	10	3	-	0	0
Food, Hydration, Shelter	School	302 Courthouse Square	$2,132,137	X Unshaded	0.1	NA	3	Y	4	3
Food, Hydration, Shelter	Grocery		$1,685,200	X Unshaded	0.1	NA	3	Y	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Distribution Center - Episcopal Church	209 Ann Street	$1,751,813	X Shaded	0.1	9	2	-	0	0
Food, Hydration, Shelter	Food	100 Misson Ridge	$453,575	X Unshaded	0.1	10	3	Y	5	0
Food, Hydration, Shelter	Grocery	120 Jericho Drive	$1,942,734	X Shaded	0.1	8	2	Y	3	0
Food, Hydration, Shelter	Tiller Elem. School		$1,098,077	X Unshaded	0.1	8	3	Y	5	5
Food, Hydration, Shelter	Tiller Elem. School		$1,098,077	X Unshaded	0.1	10	3	Y	5	5
Food, Hydration, Shelter	Tiller Elem. School		$1,098,077	X Unshaded	0.1	9	2	Y	5	4
Food, Hydration, Shelter	Tiller Elem. School		$1,098,077	X Shaded	0.1	10	2	Y	5	0
Food, Hydration, Shelter	Tiller Elem. School		$1,098,077	X Shaded	0.1	10	3	Y	5	5
Energy	Energy (fuel) - Gas Station	539 South Main Street	$309,205	X Unshaded	0.1	9	2	Y	5	0
Communications	Communications - Cell Tower	302 Courthouse Square	$20,738,190	X Shaded	0.1	9	2	Y	0	0
Communications	Communications - Cell Tower	302 Courthouse Square	$20,738,190	X Unshaded	0.1	9	2	Y	0	0
Communications	Communications - Cell Tower	302 Courthouse Square	$20,738,190	X Unshaded	0.1	9	2	Y	0	0
Communications	Communications - Cell Tower	302 Courthouse Square	$20,738,190	X Unshaded	0.1	NA	3	-	0	0
Communications	Communications - Cell Tower		$0	X Unshaded	0.1	10	3	Y	0	0
Communications	Radio Communication Tower	420 Broad St.	$933,687	X Shaded	0.1	8	2	-	0	0
Town of Cape Carteret										
Safety & Security	Law Enforcement - Cape Carteret Police Department	102 Dolphin St	$586,555	X Unshaded	0.1	NA	4	Y	0	0
Food, Hydration, Shelter	Public Schools - White Oak Elementary	555 WB McLean Drive	$0	X Unshaded	0.1	NA	3	Y	4	0
Communications	Radio Communication Tower - Carteret County Emergency Communications Tower	678 Old Highway 58	$0	X Unshaded	0.1	NA	3	Y	5	0
Town of Cedar Point										
Safety & Security	Fire Stations - Western Carteret Fire and Emergency Medical Services	140 Sherwood Avenue	$379,074	X Unshaded	0.1	NA	5	Y	3	0
Safety & Security	EMS - Western Carteret Fire and Emergency Medical Services	140 Sherwood Avenue	$379,074	X Unshaded	0.1	NA	5	Y	3	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Non-Public Schools - Salt and Light Academy	544 Cedar Point Blvd.	$0	X Unshaded	0.1	NA	3	Y	0	0
Town of Emerald Isle										
Water Systems	Water Treatment Distribution	-	$0	X Shaded	0.1	NA	3	Y	0	0
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	4	Y	0	0
Water Systems	Water Treatment Distribution	-	$0	X Shaded	0.1	10	2	Y	0	3
Water Systems	Water Treatment Distribution	-	$517,868	X Unshaded	0.1	NA	3	Y	0	3
Water Systems	Water Treatment Distribution	-	$520,148	X Unshaded	0.1	NA	3	Y	0	0
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	3	Y	0	0
Water Systems	Water Treatment Distribution	-	$116,346	X Unshaded	0.1	NA	5	-	0	0
Water Systems	Water Treatment Distribution	-	$2,107,486	X Unshaded	0.1	NA	3	Y	0	0
Water Systems	Public Water Supply	Emerald Dr @ 7th St-Old N Elev	$0	X Unshaded	0.1	NA	5	-	0	0
Water Systems	Public Water Supply	7206 Canal St	$0	AE	0.1	3	1	Y	1	6
Water Systems	Public Water Supply	7412 Emerald Dr-Office - Black Skimmer Road	$79,856	X Unshaded	0.1	NA	3	Y	0	0
Water Systems	Public Water Supply	Emerald Dr Across Bluewater Bay	$0	X Shaded	0.1	9	3	Y	0	0
Water Systems	Public Water Supply	Holly St	$0	X Unshaded	0.1	NA	2	Y	0	2
Water Systems	Public Water Supply	NC Hwy 58 Mile Post 16	$1,637	X Unshaded	0.1	NA	3	Y	0	0
Water Systems	Public Water Supply	At RO Plant Coast Guard Rd	$0	X Shaded	0.1	NA	3	Y	0	0
Water Systems	Public Water Supply	Ocean Oaks St and Coast Guard Rd	$0	X Shaded	0.1	9	3	Y	1	0
Water Systems	Public Water Supply	Coast Guard Rd at Elevated Tank	$0	X Shaded	0.1	NA	2	Y	1	7
Safety & Security	Law Enforcement - City of Emerald Isle Police Department	7500 Emerald Drive	$520,148	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	Fire Stations - Emerald Isle Fire Department Station 1 - Headquarters	7516 Emerald Drive	$1,392,568	X Unshaded	0.1	NA	4	Y	0	0
Safety & Security	Fire Stations - Emerald Isle Fire Department Station 2	2810 Emerald Drive	$353,727	X Unshaded	0.1	NA	4	-	0	0
Safety & Security	EMS - United States Coast Guard - Emerald Isle Station	11101 Station Street	$478,903	AE	4.5	6	2	-	0	0
Safety & Security	EMS - Emerald Isle Fire Department Station 1 - Headquarters	7516 Emerald Drive	$1,392,568	X Unshaded	0.1	NA	4	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	EMS - Emerald Isle Emergency Medical Services Incorporated	218 Cedar Street	$131,652	X Unshaded	0.1	NA	4	Y	1	0
Safety & Security	EMS - Emerald Isle Fire Department Station 2	2810 Emerald Drive	$353,727	X Unshaded	0.1	NA	4	-	0	0
Town of Indian Beach										
Water Systems	Water Treatment Distribution	-	$738,672	X Shaded	0.1	8	2	Y	0	7
Water Systems	Public Water Supply	Hwy 58, 1/4 Mile West of Ocean Club Condos	$0	VE	0.1	NA	4	-	0	0
Water Systems	Public Water Supply	NC Hwy 58 Milespost 10	$0	X Shaded	0.1	10	2	Y	0	5
Safety & Security	Law Enforcement - Indian Beach Police Department	1400 Salter Path Road	$983,872	X Shaded	0.1	9	3	-	0	0
Safety & Security	Fire Stations - Salter Path Volunteer Fire and Emergency Medical Services Department	1410 Salter Path Road	$183,949	X Shaded	0.1	9	3	-	0	0
Safety & Security	Ems - Salter Path Volunteer Fire and Emergency Medical Services Department	1410 Salter Path Road	$183,949	X Shaded	0.1	9	3	-	0	0
Town of Morehead City										
Water Systems	Water Treatment Distribution	-	$237,004	X Unshaded	0.1	NA	NA	Y	0	0
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	5	Y	0	0
Water Systems	Water Treatment Distribution	-	$165,409	X Unshaded	0.1	7	2	Y	0	0
Water Systems	Sewer Treatment	Town of Morehead WWT	$437,905	X Shaded	0.1	5	2	Y	4	0
Water Systems	Public Water Supply	3800 Bridges St	$1,575	X Unshaded	0.1	NA	NA	Y	0	0
Water Systems	Public Water Supply	Tootle Rd & N Gate Rd	$0	X Unshaded	0.1	NA	5	Y	5	3
Water Systems	Public Water Supply	217 Arthur Farms Rd	$0	X Unshaded	0.1	NA	4	Y	0	3
Water Systems	Public Water Supply	Rear Of Plant Property Country Club Rd	$0	X Unshaded	0.1	8	2	Y	4	5
Water Systems	Public Water Supply	Back Left Corner of Parking Lot Facing the Beach	$0	X Unshaded	0.1	9	3	-	0	6
Safety & Security	Law Enforcement - United States Customs and Border Protection - Port of Entry - Morehead City - Beaufort	534 North 35th Street	$297,326	X Unshaded	0.1	NA	4	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	Law Enforcement - North Carolina State Highway Patrol Troop A District VIII	5347 United States Highway 70	$1,192,814	X Unshaded	0.1	NA	4	Y	0	0
Safety & Security	Law Enforcement - Morehead City Police Department	202 South 8th Street	$678,249	AE	0.1	5	2	Y	0	0
Safety & Security	Law Enforcement - North Carolina State Port Authority Police - Morehead City	113 Arendell Street	$17,666,841	X Shaded	0.1	7	2	Y	0	0
Safety & Security	Fire Stations - Morehead City Fire and Emergency Medical Services Department Station 2	3308 Arendell Street	$0	X Unshaded	0.1	NA	5	-	0	0
Safety & Security	Fire Stations - Morehead City Fire Department and Emergency Medical Services Station 3	5293 United States Highway 70	$532,738	X Unshaded	0.1	NA	4	Y	0	0
Safety & Security	Fire Stations - Morehead City Fire and Emergency Medical Services Department Station 1	1406 Bridges Street	$776,134	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	Fire Stations - Wildwood Volunteer Fire Department	5291 United States Highway 70 West	$394,213	X Unshaded	0.1	NA	4	Y	0	0
Safety & Security	EMS - Medical Transport Solutions	534 North 35th Street	$988,194	X Unshaded	0.1	NA	3	Y	5	0
Safety & Security	EMS - Morehead City Fire and Emergency Medical Services Department Station 2	3308 Arendell Street	$0	X Unshaded	0.1	NA	5	-	0	0
Safety & Security	EMS - Morehead City Fire Department and Emergency Medical Services Station 3	5293 United States Highway 70	$532,738	X Unshaded	0.1	NA	4	Y	0	0
Safety & Security	EMS - Morehead City Fire and Emergency Medical Services Department Station 1	1406 Bridges Street	$776,134	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	EMS - Wildwood Volunteer Fire Department	5291 United States Highway 70 West	$394,213	X Unshaded	0.1	NA	4	Y	0	0
Safety & Security	Emergency Operation Center - Carteret County Emergency Operations Center	300 N 12th Street	$7,620,415	X Unshaded	0.1	NA	4	Y	0	0
Health & Medical	Medical Facilities - Carteret Surgery Center	3714 Guardian Drive	$0	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Carteret General Hospital Outpt Cardiac Rehabilitat	3500 Arendell St	$0	X Unshaded	0.1	NA	5	-	0	0
Health & Medical	Medical Facilities - Willis House	906 Evans Street	$0	AE	0.1	6	2	-	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Health & Medical	Medical Facilities - CareFocus	3332 Bridges Street, Suite 1-A	$0	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Carteret Home Health Services	302 Medical Park Court	$622,430	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Liberty Home Care	3601 Bridges Street	$0	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Professional Nursing Service, Inc.	212 North 35th Street	$5,351,718	X Unshaded	0.1	7	3	-	0	0
Health & Medical	Medical Facilities - Tar Heel Home Health	3800 Arendell Street	$0	X Unshaded	0.1	NA	5	-	0	0
Health & Medical	Medical Facilities - Carolina House of Morehead City	107 Bryan Street	$0	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Carteret Care, Inc.	3904 Guardian Avenue	$0	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Hospice of Carteret County	302 Medical Park Court	$622,430	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Carteret General Hospital	3500 Arendell St	$0	X Unshaded	0.1	NA	5	-	0	0
Health & Medical	Medical Facilities - Atlantic House	3710 Bridges Street	$0	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - Carteret Counseling Services, Inc.	105 North Tenth Street-Ste. 6	$0	X Unshaded	0.1	9	3	Y	0	0
Health & Medical	Medical Facilities - Family Mental Health Consultants	229 Professional Circle	$0	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Neuse Center for MH/DD/SAS	500 North 35th Street	$0	X Unshaded	0.1	NA	NA	-	0	0
Health & Medical	Medical Facilities - Pavia Therapeutic Home	1329 North Twentieth	$0	AE	0.1	5	2	Y	0	0
Health & Medical	Medical Facilities - Smith Assessment & Treatment Services	700 Arendell Street Suite 8	$0	X Unshaded	0.1	8	2	Y	0	0
Health & Medical	Medical Facilities - Station Club Enterprise	306 Church Street	$0	X Unshaded	0.1	10	3	Y	4	0
Health & Medical	Medical Facilities - Williams Therapeutic Home	1029 N Yaupon Dr.	$0	X Unshaded	0.1	6	2	Y	3	0
Health & Medical	Medical Facilities - Century Care of the Crystal Coast	201 Penny Lane	$0	X Unshaded	0.1	NA	NA	-	0	0
Health & Medical	Medical Facilities - Harborview Health Care Center	812 Shepard Street	$0	AE	0.1	3	1	Y	0	0
Food, Hydration, Shelter	Public Schools - Morehead Elem at Camp Glenn	3316 Arendell Street	$2,211,704	X Unshaded	0.1	NA	NA	Y	0	3

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Public Schools - Morehead City Middle	400 Barbour Road	$3,313,499	X Unshaded	0.1	NA	3	Y	4	0
Food, Hydration, Shelter	Public Schools - Morehead City Primary	4409 Country Club Road	$9,779,056	X Unshaded	0.1	NA	4	Y	0	0
Food, Hydration, Shelter	Public Schools - West Carteret High	4700 Country Club Road	$8,912,255	X Unshaded	0.1	NA	5	Y	6	0
Food, Hydration, Shelter	Public Schools - Cape Lookout Marine Sci High	1108 Bridges Street	$615,953	X Unshaded	0.1	NA	4	Y	0	0
Food, Hydration, Shelter	Non-Public Schools - New Life Christian Academy	301 Friendly Road	$0	X Unshaded	0.1	NA	4	Y	4	0
Food, Hydration, Shelter	Non-Public Schools - St. Egbert Catholic School	1705 Evans Street	$0	X Unshaded	0.1	9	3	-	0	0
Communications	Public Safety Answering Point	300 N 12th Street	$7,620,415	X Unshaded	0.1	NA	4	Y	0	0
Communications	Radio Communication Tower	1403 Bridges St.	$340,225	X Unshaded	0.1	NA	3	Y	0	0
Communications	Radio Communication Tower	3800 Bridges St	$209,726	X Unshaded	0.1	NA	NA	-	0	0
Communications	Radio Communication Tower	300 N. 12th St.	$7,620,415	X Unshaded	0.1	NA	4	Y	0	0
Town of Newport										
Water Systems	Water Treatment Distribution	-	$16,780	X Unshaded	0.1	NA	NA	Y	5	7
Water Systems	Sewer Treatment	Town Of Newport	$0	AE	0.1	7	2	Y	0	3
Water Systems	Public Water Supply	WTP	$16,780	X Unshaded	0.1	NA	NA	Y	5	0
Water Systems	Public Water Supply	Hargett St	$0	AE	0.1	7	2	-	5	6
Water Systems	Public Water Supply	Foxhall Rd Across from Nursing Home	$0	X Unshaded	0.1	NA	NA	Y	0	3
Safety & Security	Law Enforcement - Newport Police Department	255 Howard Boulevard	$81,446	X Unshaded	0.1	NA	NA	Y	5	1
Safety & Security	Fire Stations - Newport Fire Department	125 Howard Boulevard	$194,391	X Unshaded	0.1	NA	4	Y	5	0
Safety & Security	EMS - Newport Fire Department	125 Howard Boulevard	$194,391	X Unshaded	0.1	NA	4	Y	5	0
Health & Medical	Medical Facilities - Broman Assisted Living	453 Howard Boulevard	$0	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - Somerset Court of Newport	3020 Market Street	$0	X Unshaded	0.1	NA	4	Y	0	0
Health & Medical	Medical Facilities - ARC/HDS Carteret #1-Newport	2331 North Lakeview Drive	$0	X Unshaded	0.1	NA	NA	Y	5	0
Health & Medical	Medical Facilities - Britthaven of Newport	210 Foxhall Rd.	$0	X Unshaded	0.1	NA	NA	Y	0	0
Food, Hydration, Shelter	Public Schools - Newport Elementary	219 Chatham Street	$4,822,670	X Unshaded	0.1	NA	NA	Y	0	0
Food, Hydration, Shelter	Public Schools - Newport Middle	500 E Chatham Street	$6,687,137	X Unshaded	0.1	NA	NA	Y	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Non-Public Schools - Grace Christian School	520 Roberts Road	$0	X Unshaded	0.1	NA	NA	Y	5	5
Town of Peletier										
Communications	Carteret County Emergency Communications Tower	150 Peletier Loop Rd	$0	X Unshaded	0.1	NA	NA	Y	5	3
Town of Pine Knoll Shores										
Water Systems	Public Water Supply	Beacon Reach Tennis Courts	$0	X Shaded	0.1	NA	3	Y	0	0
Water Systems	Public Water Supply	Old Office Off Mimosa Dr	$0	X Shaded	0.1	NA	5	Y	2	4
Water Systems	Public Water Supply	Oakleak And Mimosa	$0	AE	0.1	6	2	-	2	8
Water Systems	Public Water Supply	Roosevelt Rd Off Pine Knoll Bd	$0	X Shaded	0.1	8	3	Y	2	5
Water Systems	Public Water Supply	Inside Well House	$3,603,615	X Unshaded	0.1	NA	4	Y	2	0
Water Systems	Public Water Supply	Outside In Front of Well House	$3,603,615	X Unshaded	0.1	NA	4	Y	2	0
Safety & Security	Law Enforcement - Pine Knoll Shores Police Department - Headquarters	314 Salter Path Road	$1,142,393	X Unshaded	0.1	NA	4	Y	0	6
Safety & Security	Fire Stations - Pine Knoll Shores Fire and Emergency Medical Services Department	314 Salter Path Road	$1,142,393	X Unshaded	0.1	NA	4	Y	0	6
Safety & Security	EMS - Pine Knoll Shores Fire and Emergency Medical Services Department	314 Salter Path Road	$1,142,393	X Unshaded	0.1	NA	4	Y	0	6

B.2 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level within Carteret County. The hazards included in this section are flood and wildfire.

B.2.1 FLOODING

Table B.14 details the acreage of Carteret County's total area by jurisdiction and flood zone on the Effective DFIRM. Per this assessment, at over 74 percent, the Town of Atlantic Beach has the largest portion of its land area within the mapped 1%-annual-chance floodplain. At least 50 percent of the total land area in Indian Beach, Beaufort, and the unincorporated portions of Carteret County all fall within the Special Flood Hazard Area. Peletier and Newport, at 10.3 and 12.1 percent, respectively, have the smallest portion of land within the floodplain. Overall, 62 percent of the county's total land area falls within this floodplain.

Table B.14 – Flood Zone Acreage by Jurisdiction, Carteret County

Flood Zone	Acreage	Percent of Total (%)
Town of Atlantic Beach		
Zone AE	991.5	60.9
Zone VE	226.4	13.9
Zone X (500-year)	339.5	20.9
Zone X Unshaded	70.2	4.3
Total	**1,627.6**	--
Town of Beaufort		
Zone AE	988.2	24.7
Zone VE	1,096.0	27.4
Zone X (500-year)	674.8	16.8
Zone X Unshaded	1,246.9	31.1
Total	**4,005.9**	--
Bogue		
Zone AE	345.1	19.5
Zone VE	35.1	2.0
Zone X (500-year)	81.2	4.6
Zone X Unshaded	1,305.4	73.9
Total	**1,766.8**	--
Town of Cape Carteret		
Zone AE	285.6	17.3
Zone VE	19.5	1.2
Zone X (500-year)	79.6	4.8
Zone X (unshaded)	1,262.5	76.7
Total	**1,647.1**	--

Flood Zone	Acreage	Percent of Total (%)
Town of Cedar Point		
Zone AE	428.9	29.9
Zone VE	35.8	2.5
Zone X (500-year)	116.4	8.1
Zone X (unshaded)	853.2	59.5
Total	**1,434.3**	--
Town of Emerald Isle		
Zone AE	740.1	22.5
Zone VE	570.4	17.4
Zone X (500-year)	578.9	17.6
Zone X (unshaded)	1,393.2	42.4
Total	**3,282.5**	--
Town of Indian Beach		
Zone AE	109.6	29.1
Zone VE	111.9	29.7
Zone X (500-year)	137.6	36.5
Zone X (unshaded)	17.9	4.7
Total	**377.0**	--
Town of Morehead City		
Zone AE	2,472.2	42.4
Zone VE	157.0	2.7
Zone X (500-year)	325.3	5.6
Zone X (unshaded)	2,878.7	49.3
Total	**5,833.3**	--
Town of Newport		
Zone A	526.8	11.1
Zone X (500-year)	47.7	1.0
Zone X (unshaded)	4174.5	87.9
Total	**4,749.0**	--
Town of Peletier		
Zone AE	239.9	10.3
Zone X (500-year)	56.3	2.4
Zone X (unshaded)	2,043.1	87.3
Total	**2,339.2**	--
Town of Pine Knoll Shores		
Zone AE	544.9	34.4
Zone VE	214.4	13.5
Zone X (500-year)	644.9	40.7
Zone X (unshaded)	180.3	11.4
Total	**1,584.5**	--

Flood Zone	Acreage	Percent of Total (%)
Unincorporated Carteret County		
Zone AE	347,982.6	56.0
Zone AO	1,165.5	0.2
Zone VE	61,070.6	9.8
Zone X (500-year)	33,692.2	5.4
Zone X (unshaded)	90,936.0	14.6
Open Water	86,786.4	14.0
Total	**621,633.3**	--

Source: FEMA Effective DFIRM

Note: Town of Cape Carteret provided comments on the final draft plan concerning new Flood Insurance Rate Map data. The January 2025 Effective FIRM was not yet available when this risk assessment was developed; however, this data will be incorporated into the next update of this plan.

Figure B.13 through Figure B.24 reflect the effective mapped flood hazard zones for all jurisdictions in Carteret County, and Figure B.25 through Figure B.36 display the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table B.15 provides building counts and values for critical facilities by flood zone in Carteret County and incorporated jurisdictions.

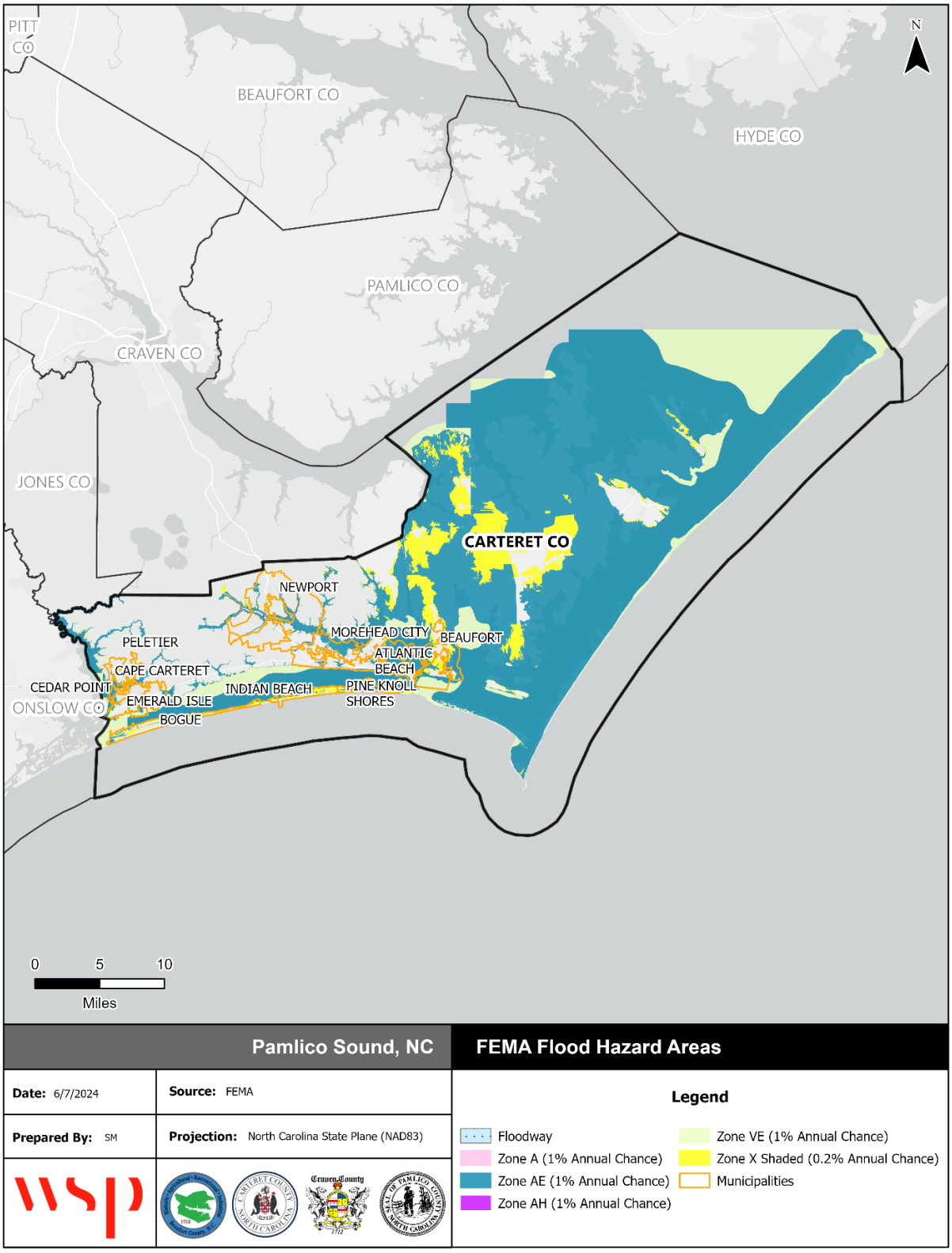
Table B.15 – Critical Facilities Exposed to Flooding, Carteret County

Flood Zone	Critical Facility Count	Structure Value
Town of Atlantic Beach		
Zone AE	7	$0
Zone X (500-year)	2	$0
Zone X (unshaded)	1	$0
Total	**10**	**$0**
Town of Beaufort		
Zone AE	19	$10,604,749
Zone X (500-year)	22	$33,423,834
Zone X (unshaded)	22	$80,769,893
Total	**63**	**$124,798,476**
Town of Cape Carteret		
Zone X (unshaded)	3	$586,555
Total	**3**	**$586,555**
Town of Cedar Point		
Zone X (unshaded)	3	$758,148
Total	**3**	**$758,148**
Town of Emerald Isle		
Zone AE	2	$478,903
Zone X (500-year)	6	$0
Zone X (unshaded)	16	$7,487,731
Total	**24**	**$7,966,634**
Town of Indian Beach		
Zone VE	1	$0
Zone X (500-year)	5	$2,090,442
Total	**6**	**$2,090,442**

Flood Zone	Critical Facility Count	Structure Value
Town of Morehead City		
Zone AE	4	$678,249
Zone X (500-year)	2	$18,104,746
Zone X (unshaded)	50	$61,128,733
Total	**56**	**$79,911,728**
Town of Newport		
Zone AE	2	$0
Zone X (unshaded)	13	$12,013,595
Total	**15**	**$12,013,595**
Town of Peletier		
Zone X (unshaded)	1	$0
Total	**1**	**$0**
Pine Knoll Shores		
Zone AE	1	$0
Zone X (500-year)	3	$0
Zone X (unshaded)	5	$10,634,409
Total	**9**	**$10,634,409**
Unincorporated Carteret County		
Zone AE	60	$35,782,844
Zone VE	1	$0
Zone X (500-year)	35	$42,410,331
Zone X (unshaded)	87	$71,857,745
Total	**184**	**$150,050,920**

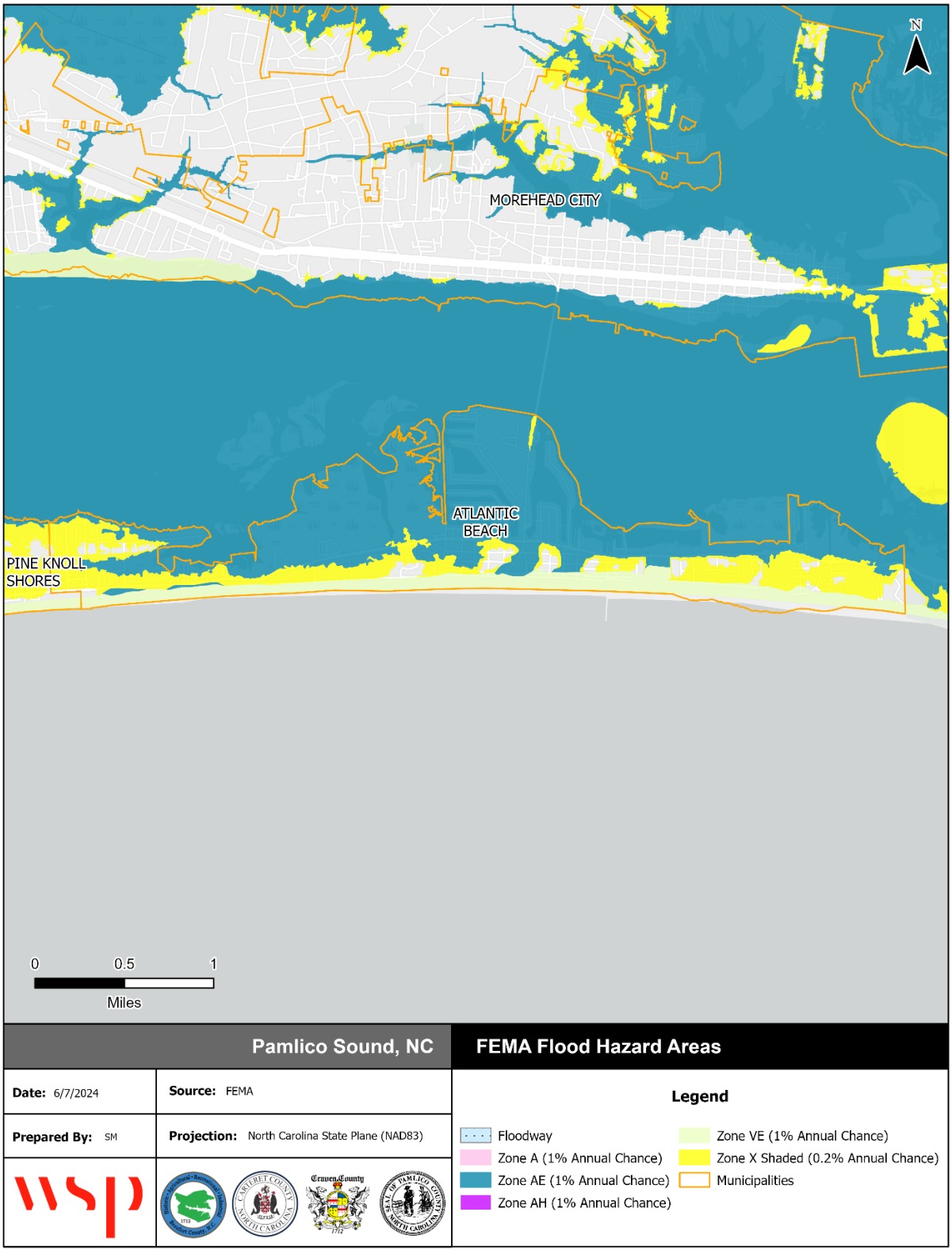
Source: FEMA Effective FIRM

Figure B.13 – FEMA Flood Hazard Areas, Unincorporated Carteret County



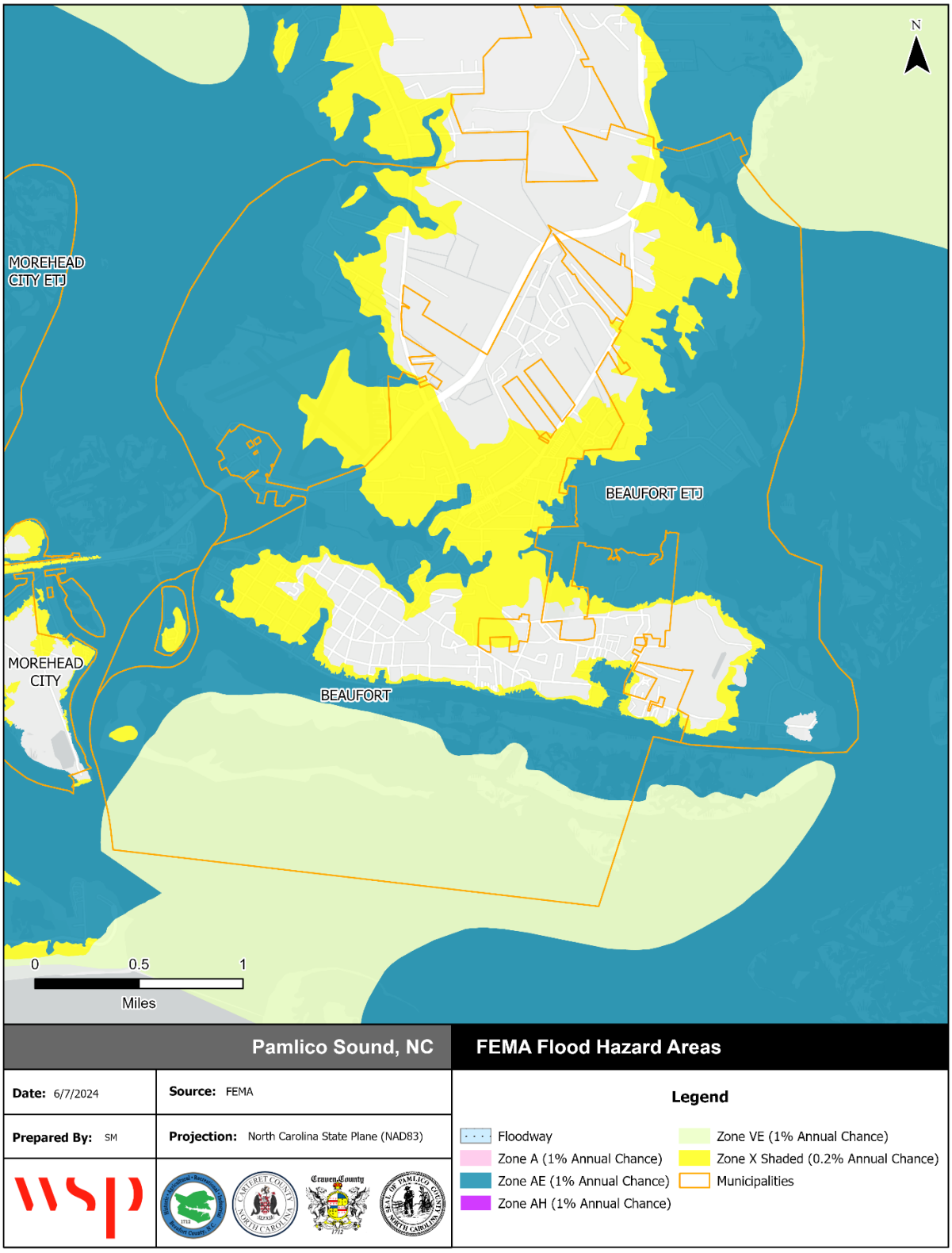
Source: FEMA Effective DFIRM

Figure B.14 – FEMA Flood Hazard Areas, Town of Atlantic Beach



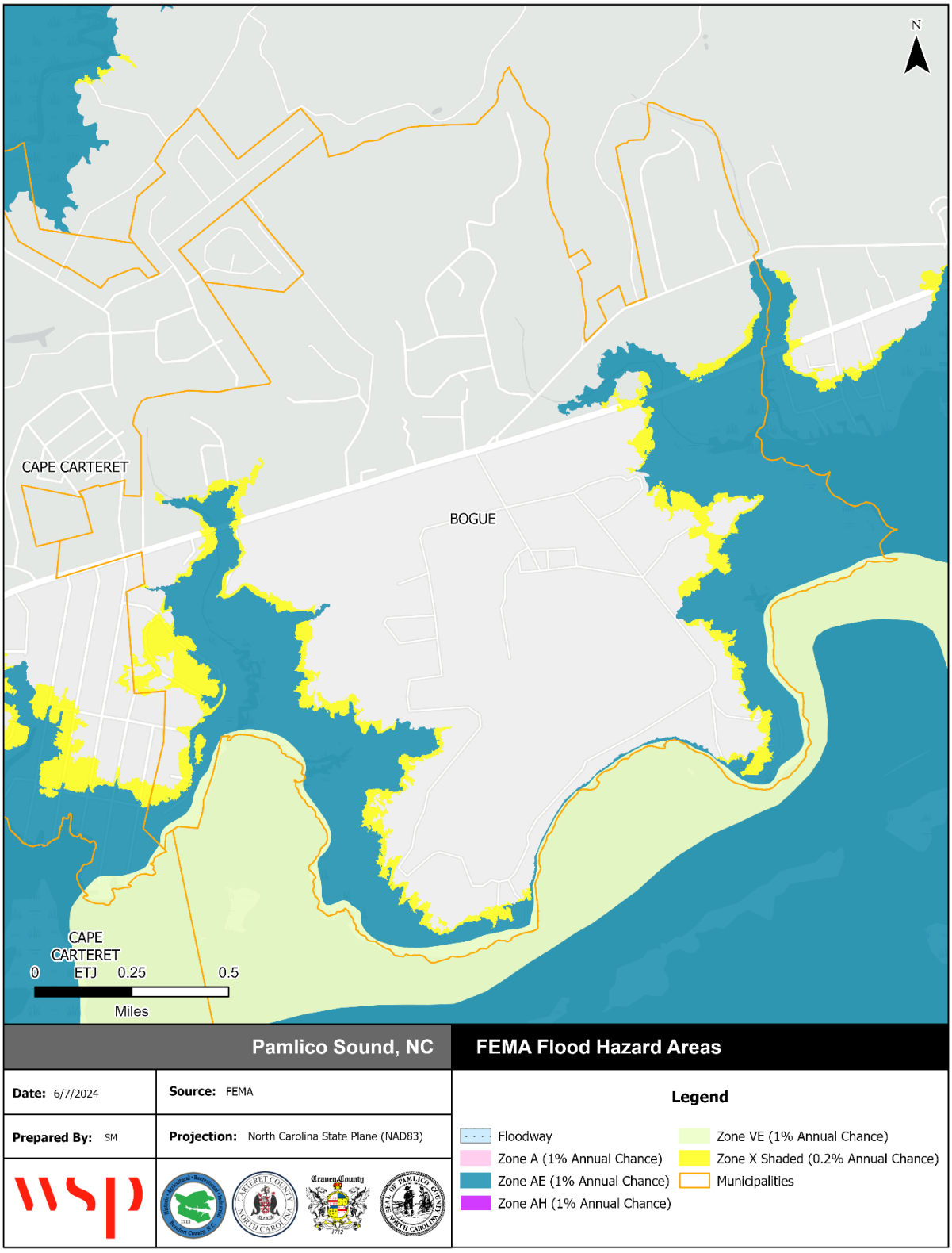
Source: FEMA Effective DFIRM

Figure B.15 – FEMA Flood Hazard Areas, Town of Beaufort



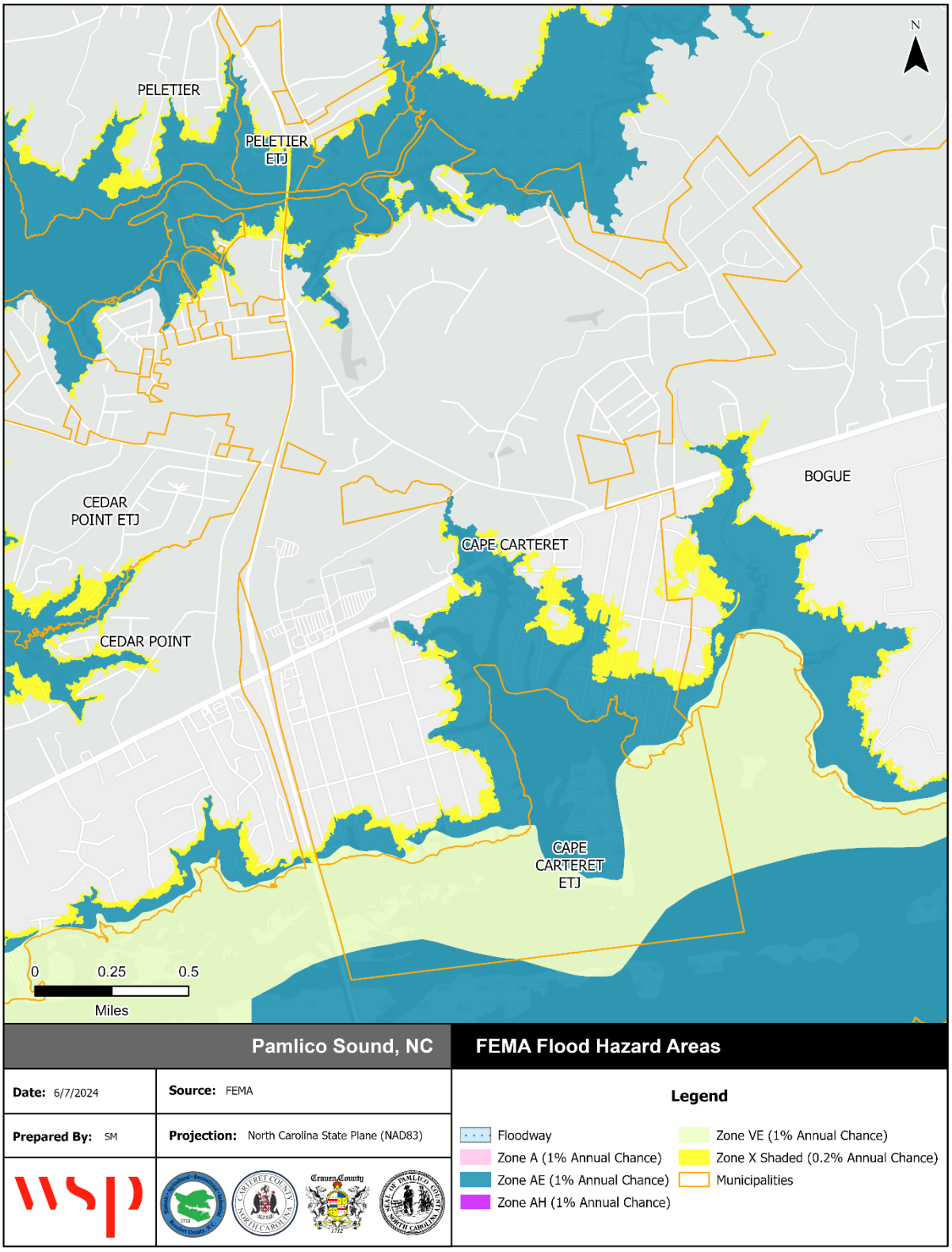
Source: FEMA Effective DFIRM

Figure B.16 – FEMA Flood Hazard Areas, Town of Bogue



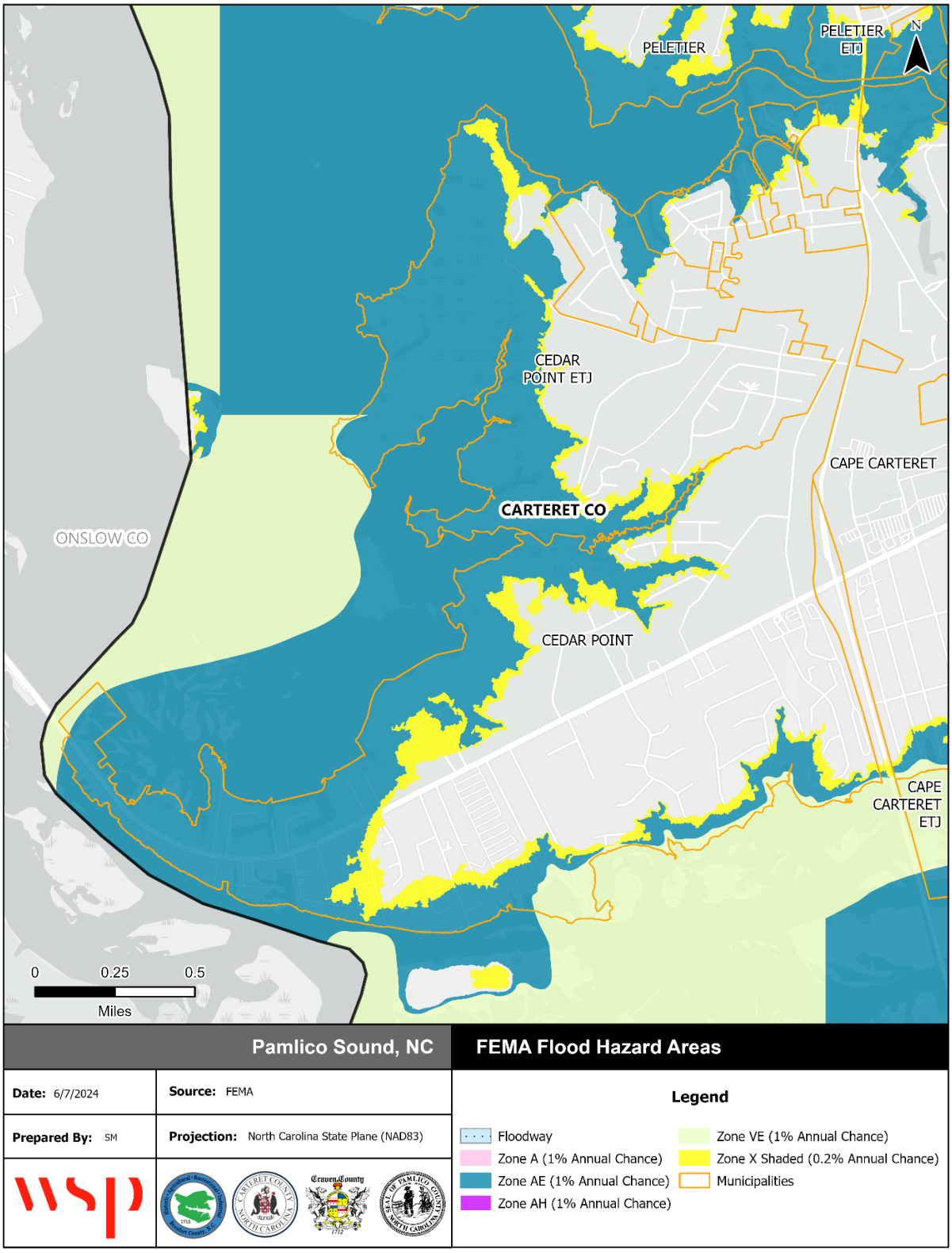
Source: FEMA Effective DFIRM

Figure B.17 – FEMA Flood Hazard Areas, Town of Cape Carteret



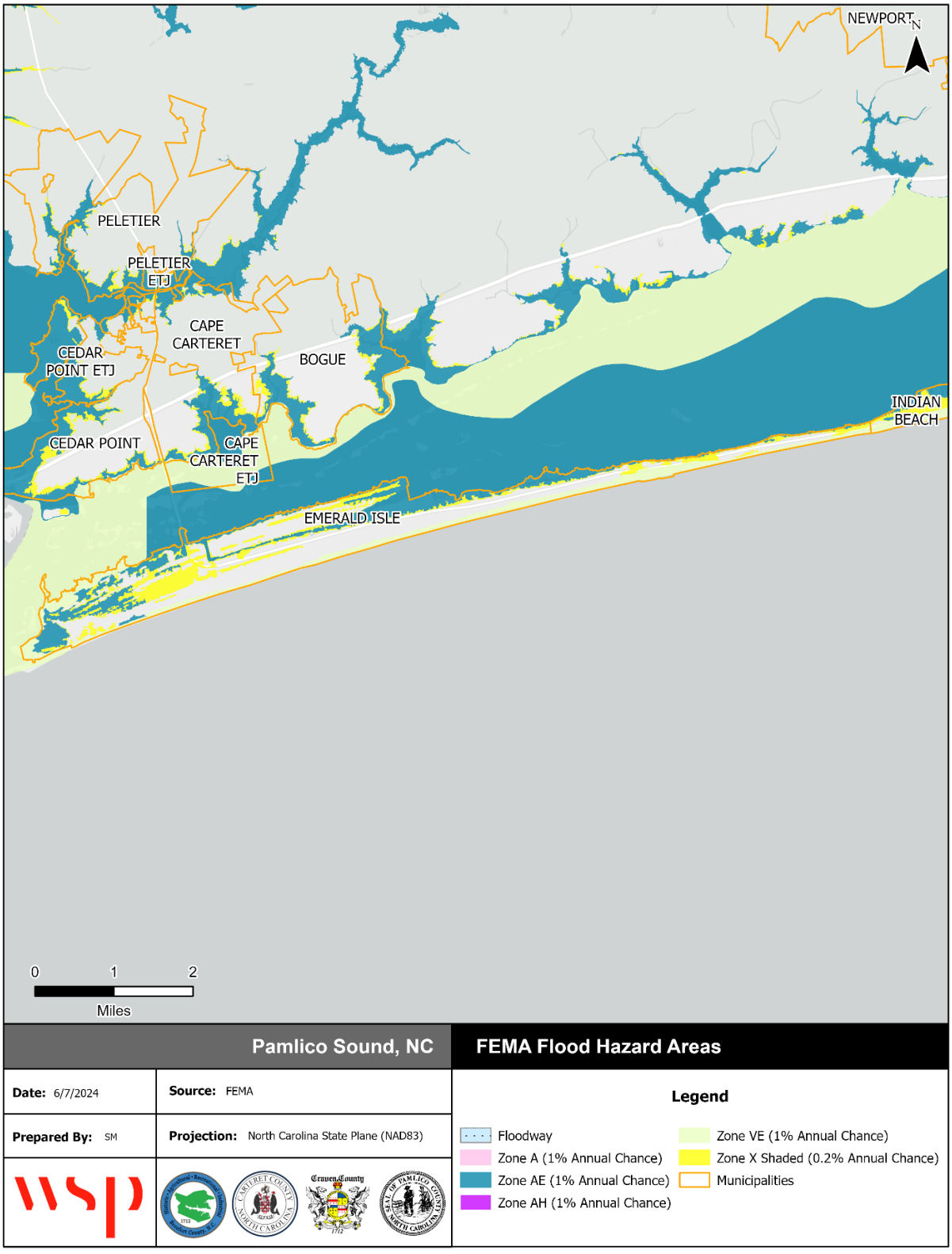
Source: FEMA Effective DFIRM

Figure B.18 – FEMA Flood Hazard Areas, Town of Cedar Point



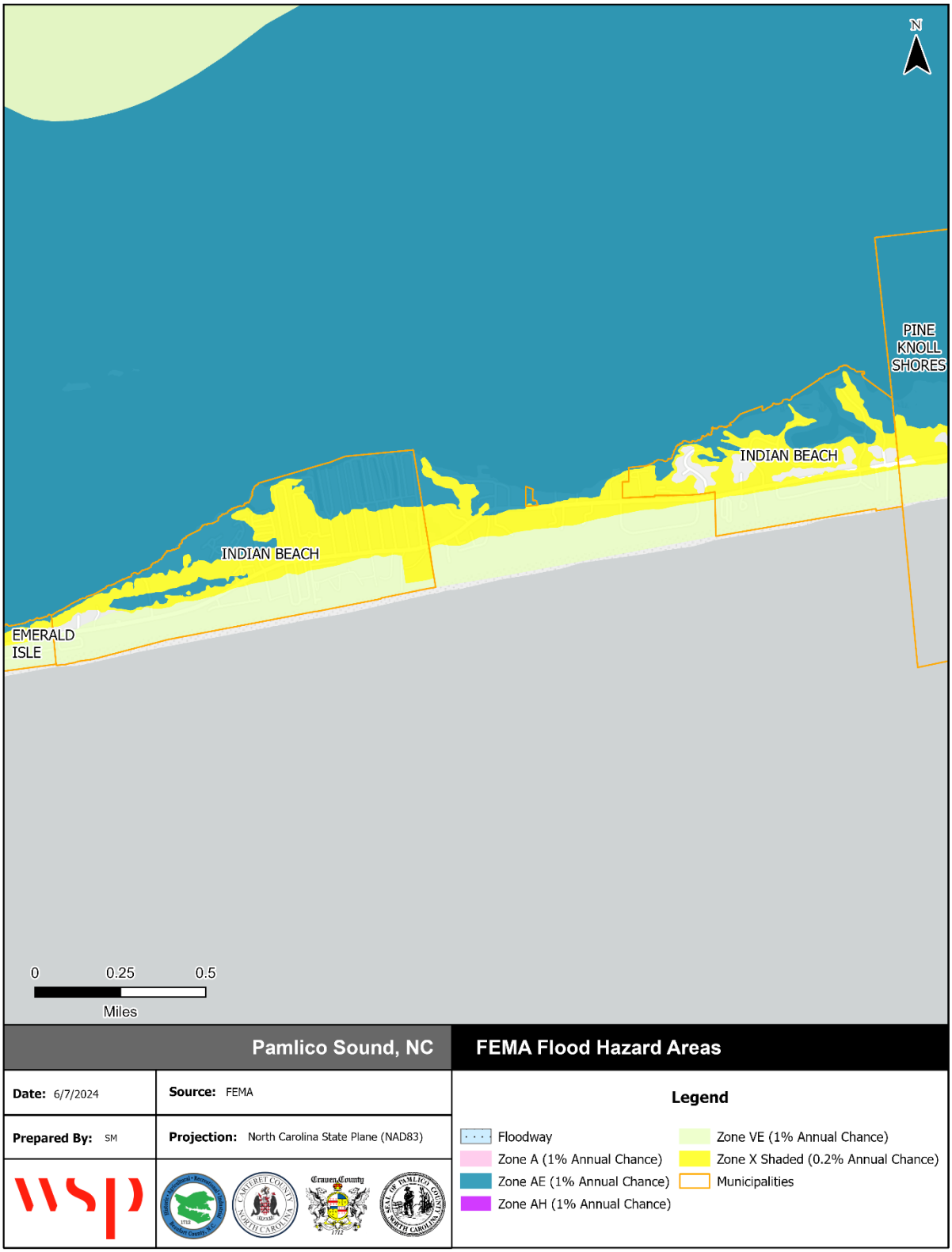
Source: FEMA Effective DFIRM

Figure B.19 – FEMA Flood Hazard Areas, Town of Emerald Isle



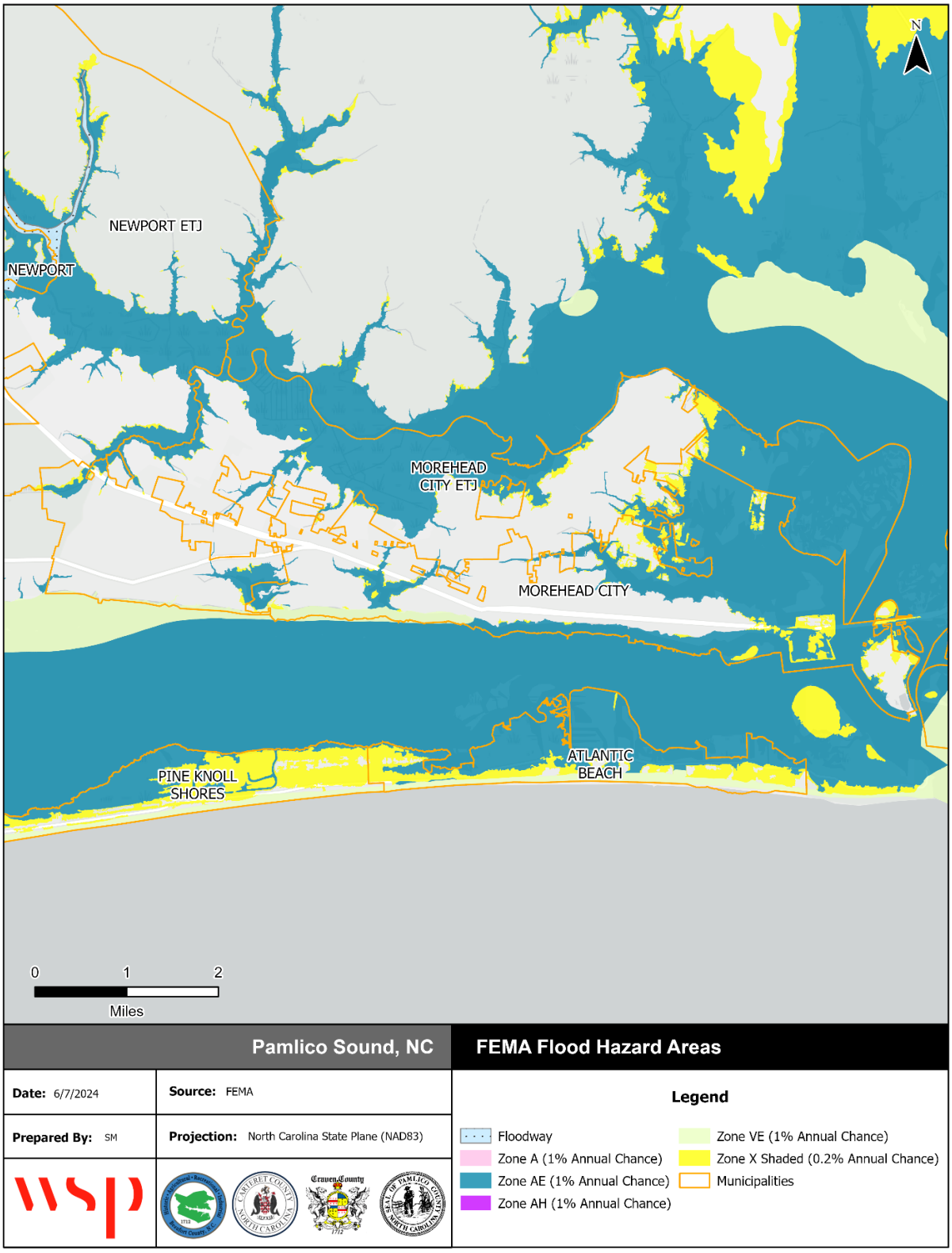
Source: FEMA Effective DFIRM

Figure B.20 – FEMA Flood Hazard Areas, Town of Indian Beach



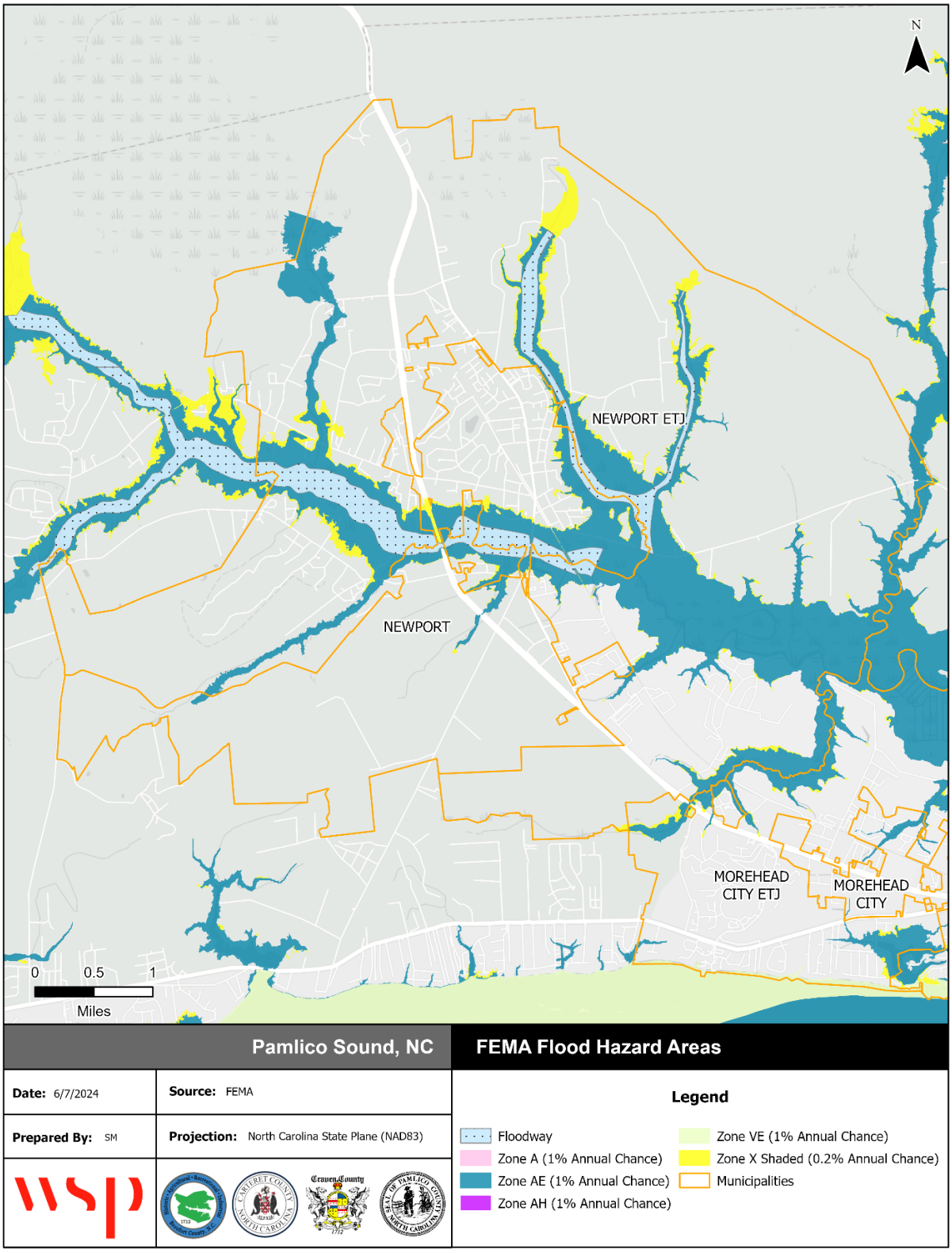
Source: FEMA Effective DFIRM

Figure B.21 – FEMA Flood Hazard Areas, Town of Morehead City



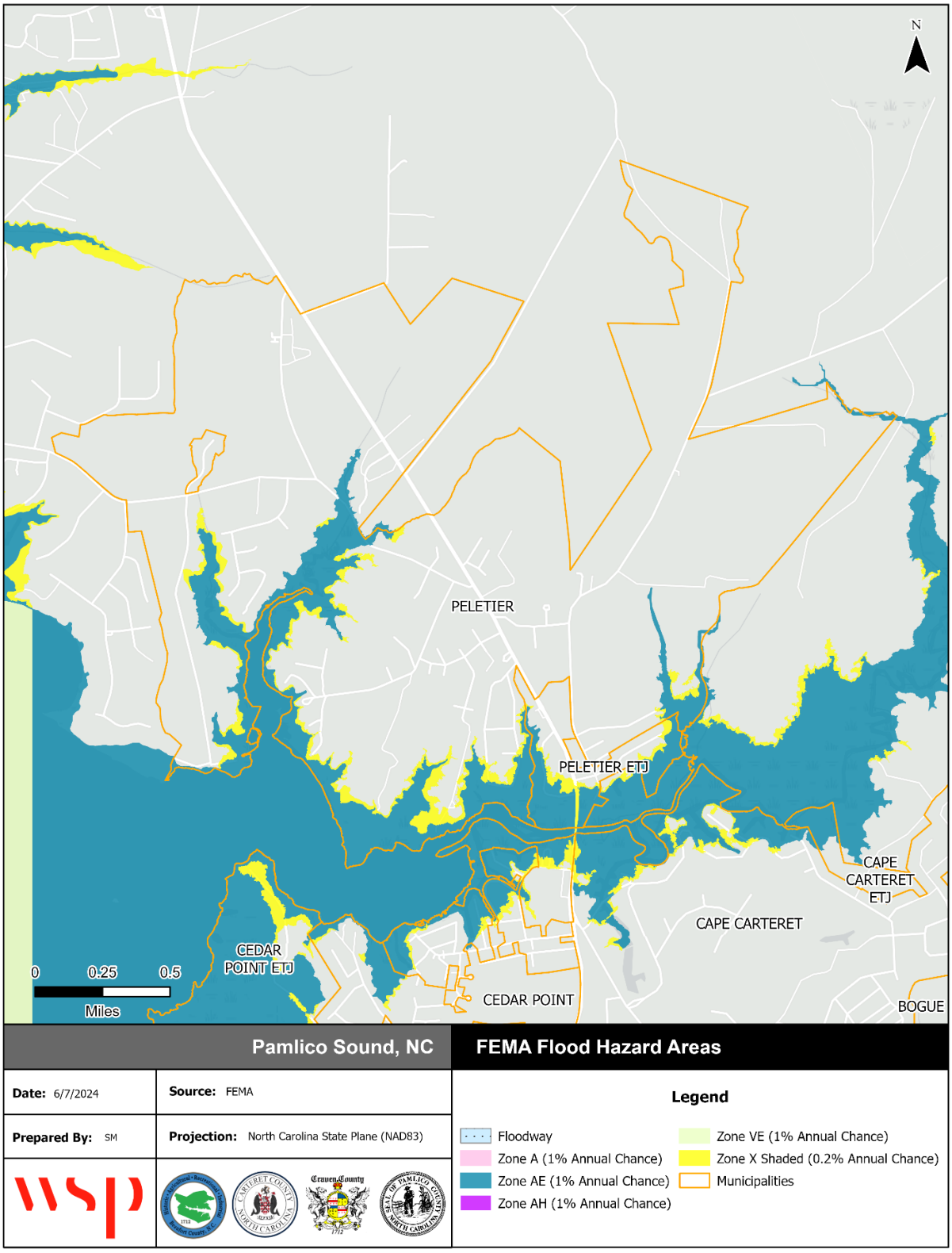
Source: FEMA Effective DFIRM

Figure B.22 – FEMA Flood Hazard Areas, Town of Newport



Source: FEMA Effective DFIRM

Figure B.23 – FEMA Flood Hazard Areas, Town of Peletier

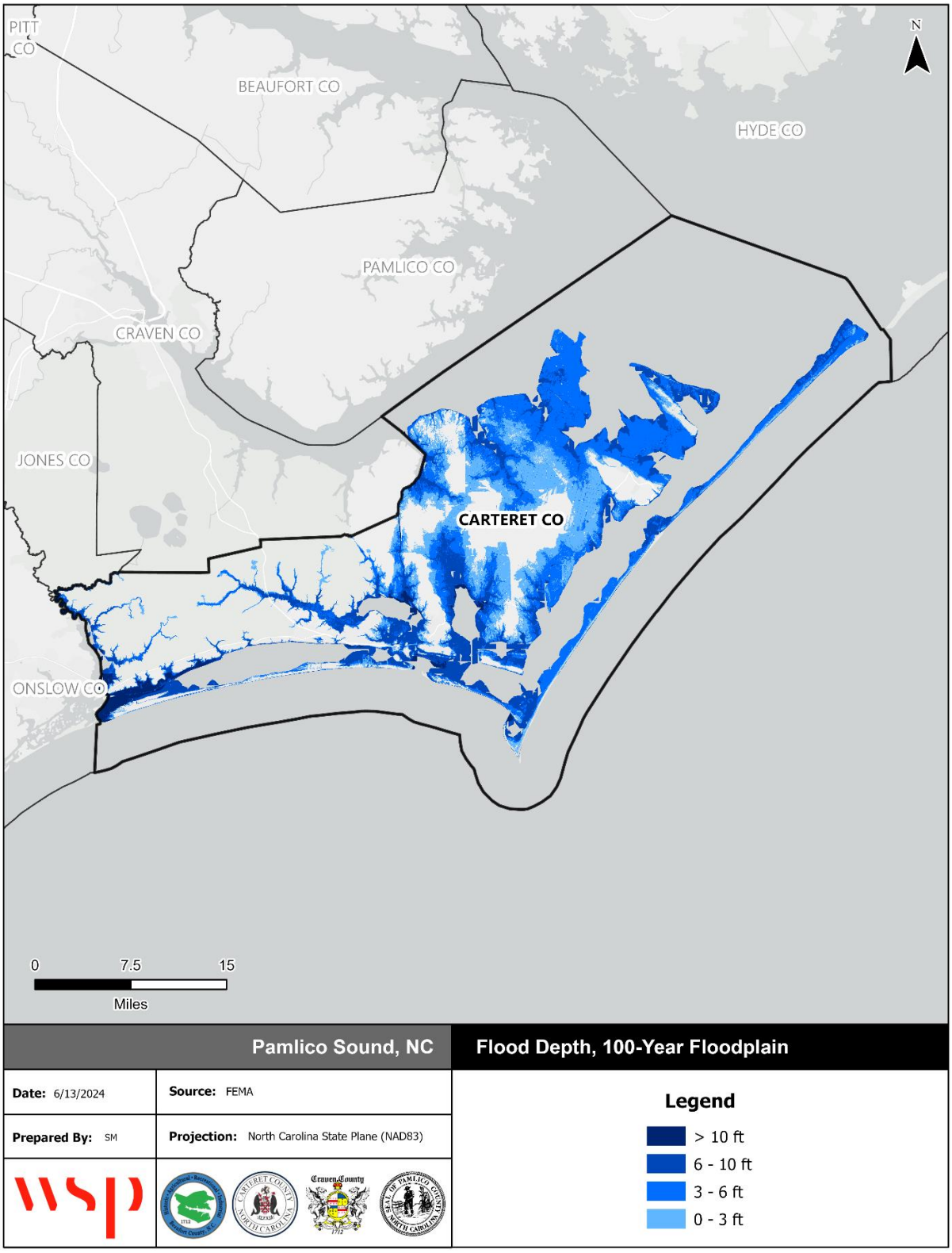


Source: FEMA Effective DFIRM

Figure B.24 – FEMA Flood Hazard Areas, Town of Pine Knoll Shores

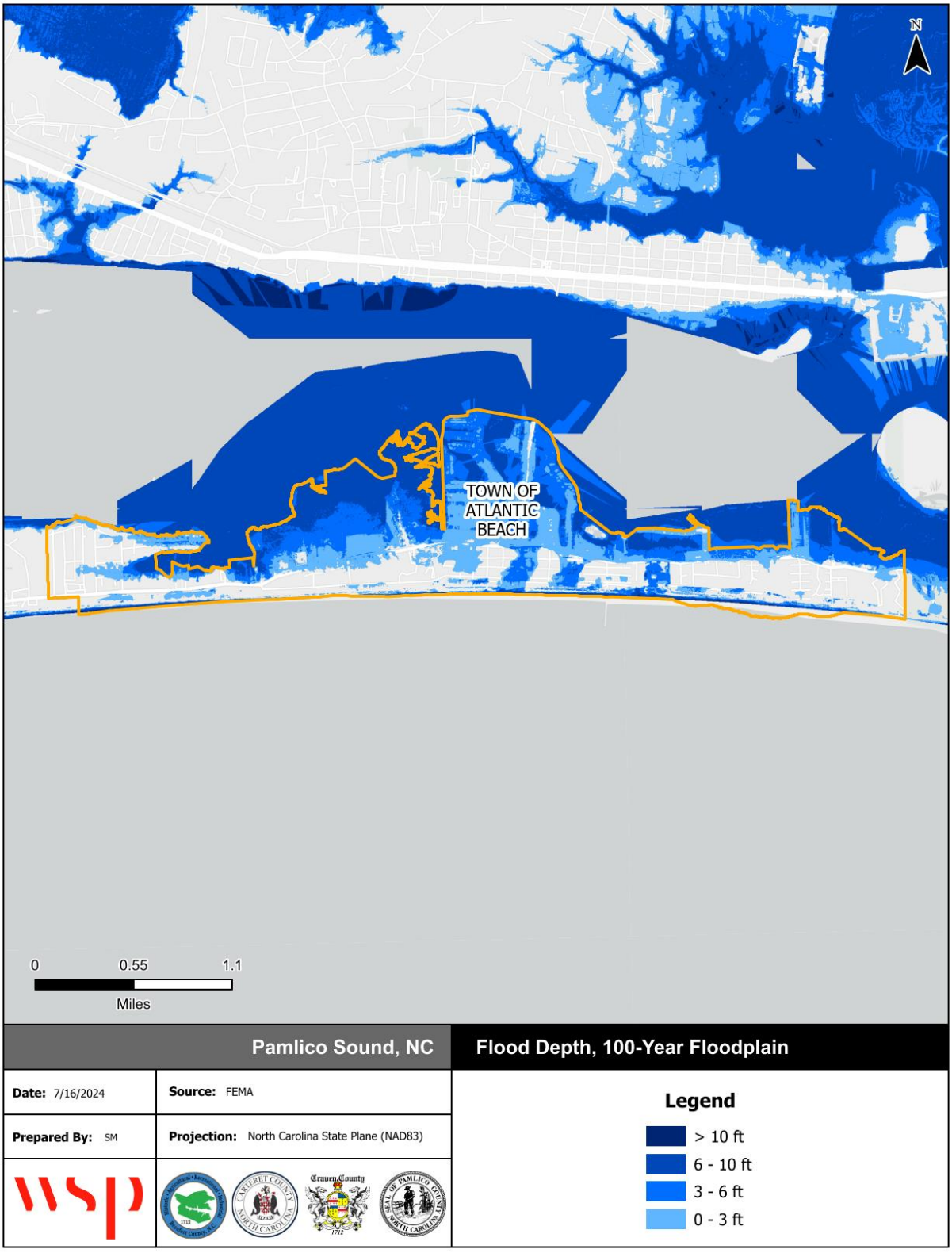
Source: FEMA Effective DFIRM

Figure B.25 – Flood Depth, 1%-Annual-Chance Floodplain, Unincorporated Carteret County



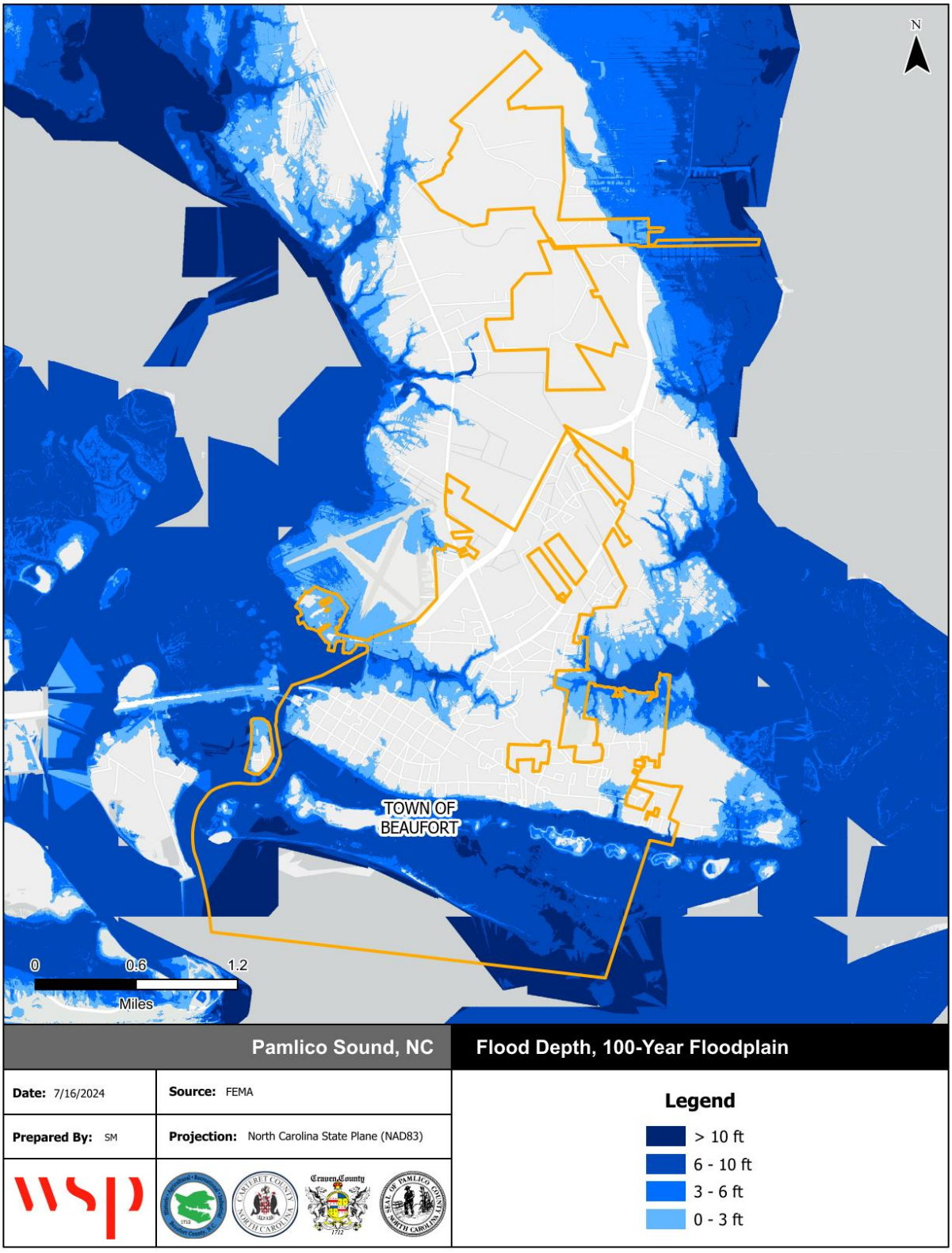
Source: FEMA Effective DFIRM

Figure B.26 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Atlantic Beach



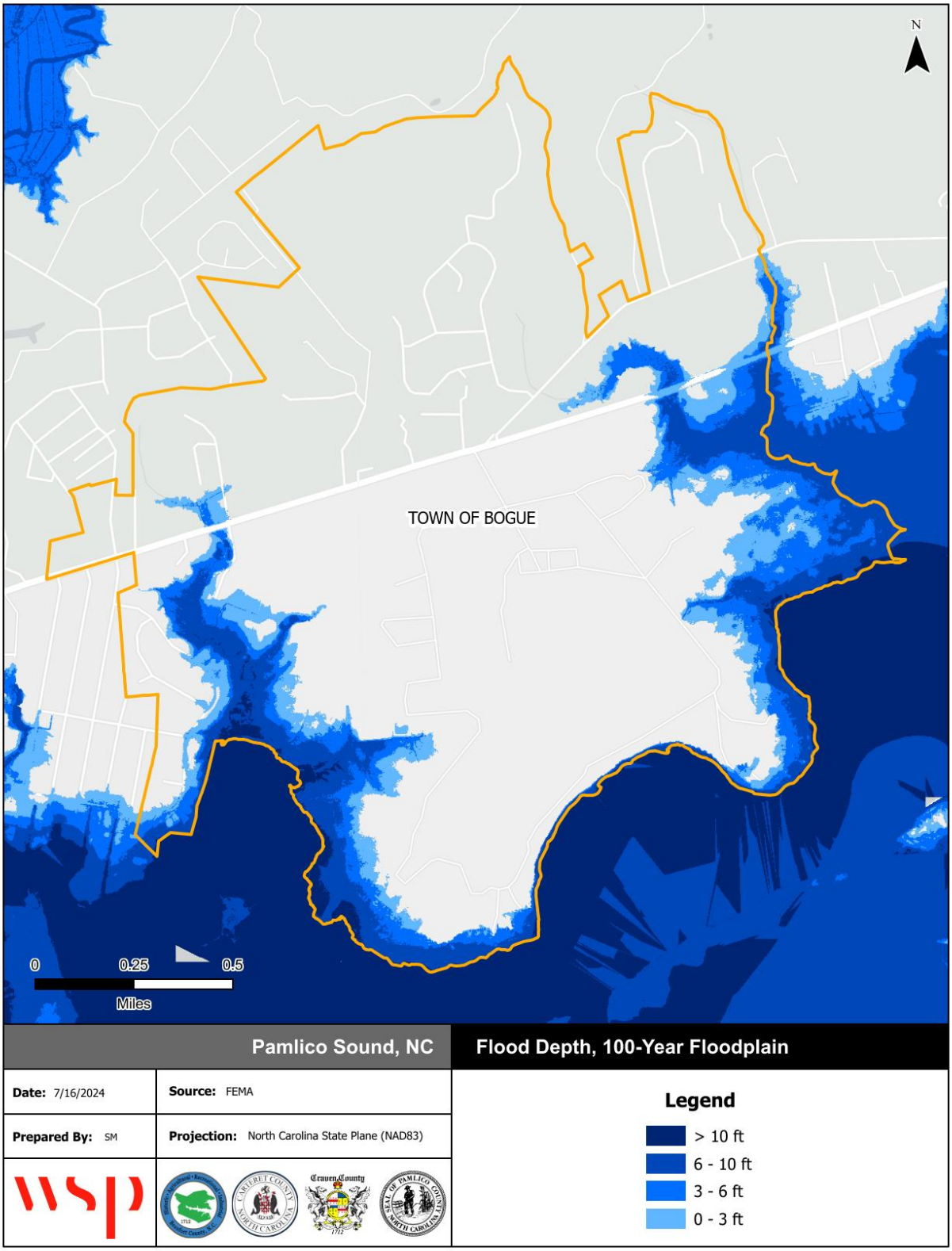
Source: FEMA Effective DFIRM

Figure B.27 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Beaufort



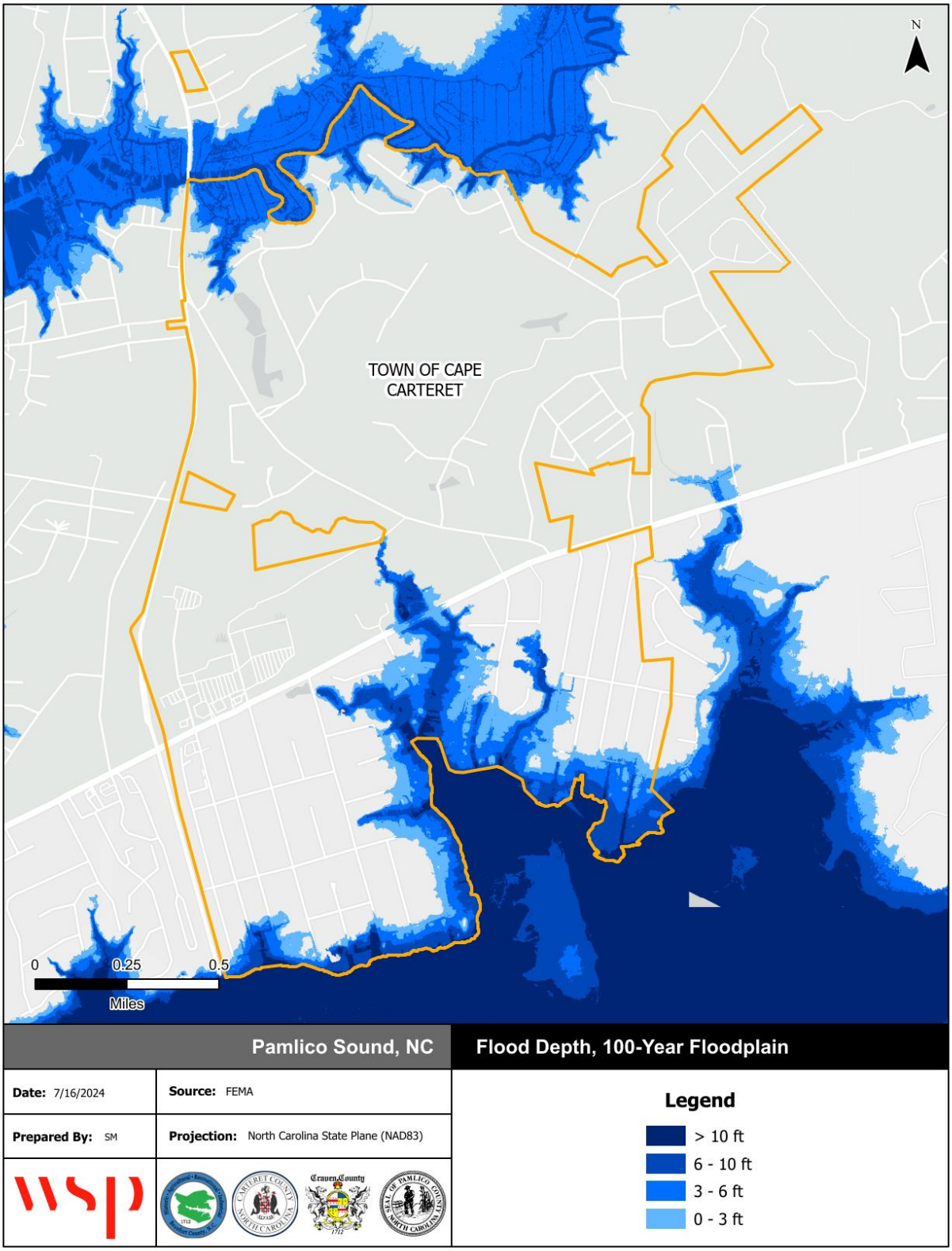
Source: FEMA Effective DFIRM

Figure B.28 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Bogue



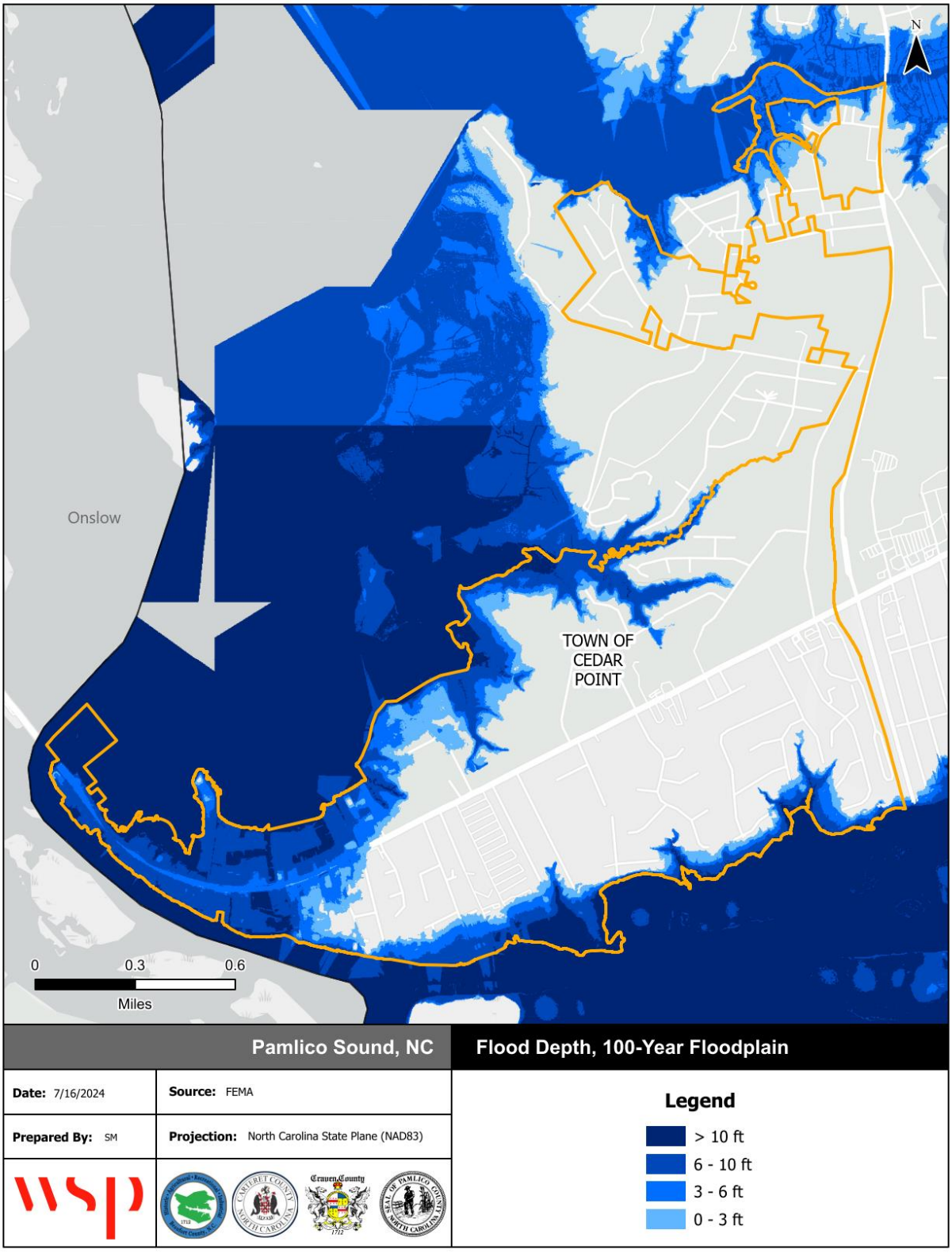
Source: FEMA Effective DFIRM

Figure B.29 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Cape Carteret



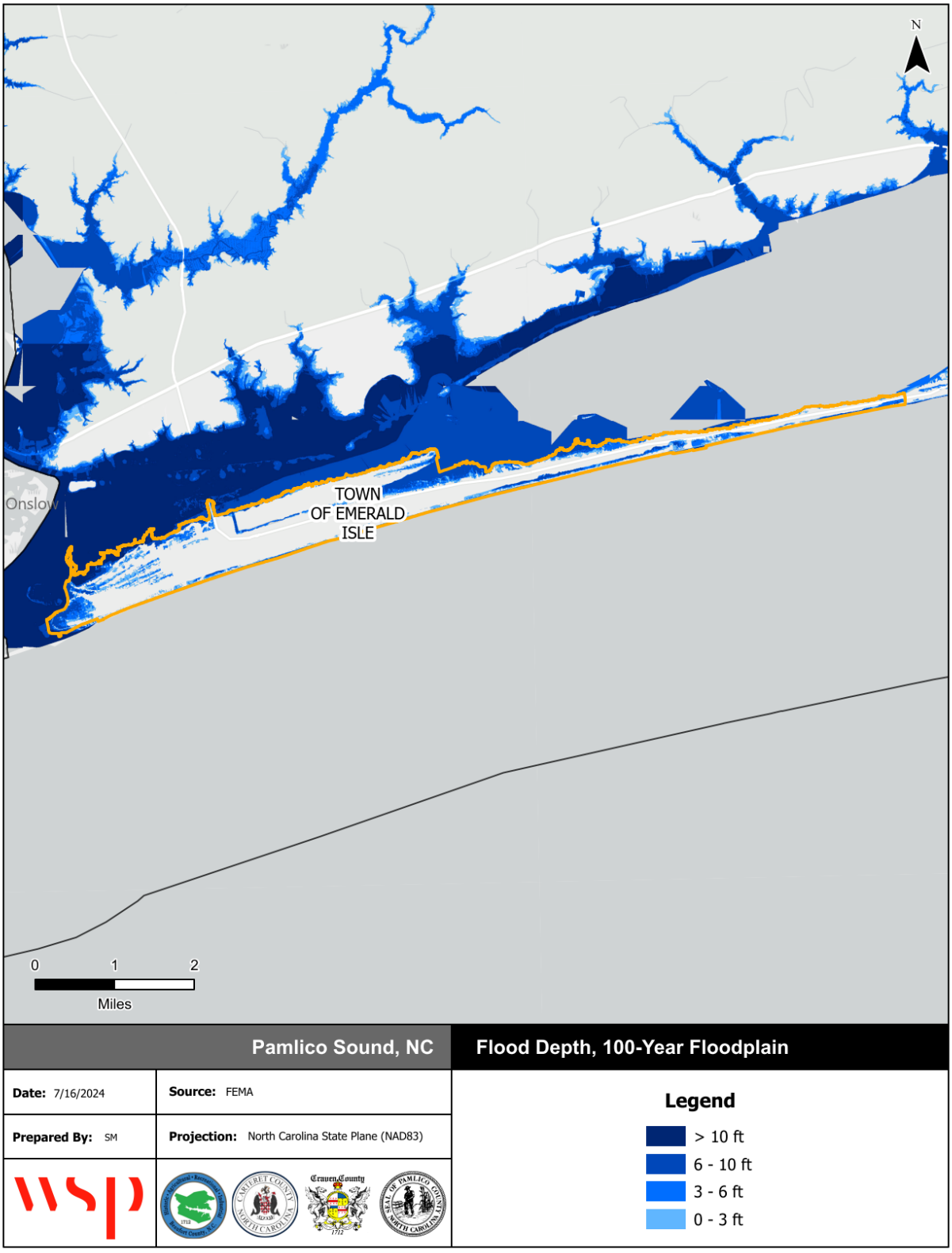
Source: FEMA Effective DFIRM

Figure B.30 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Cedar Point



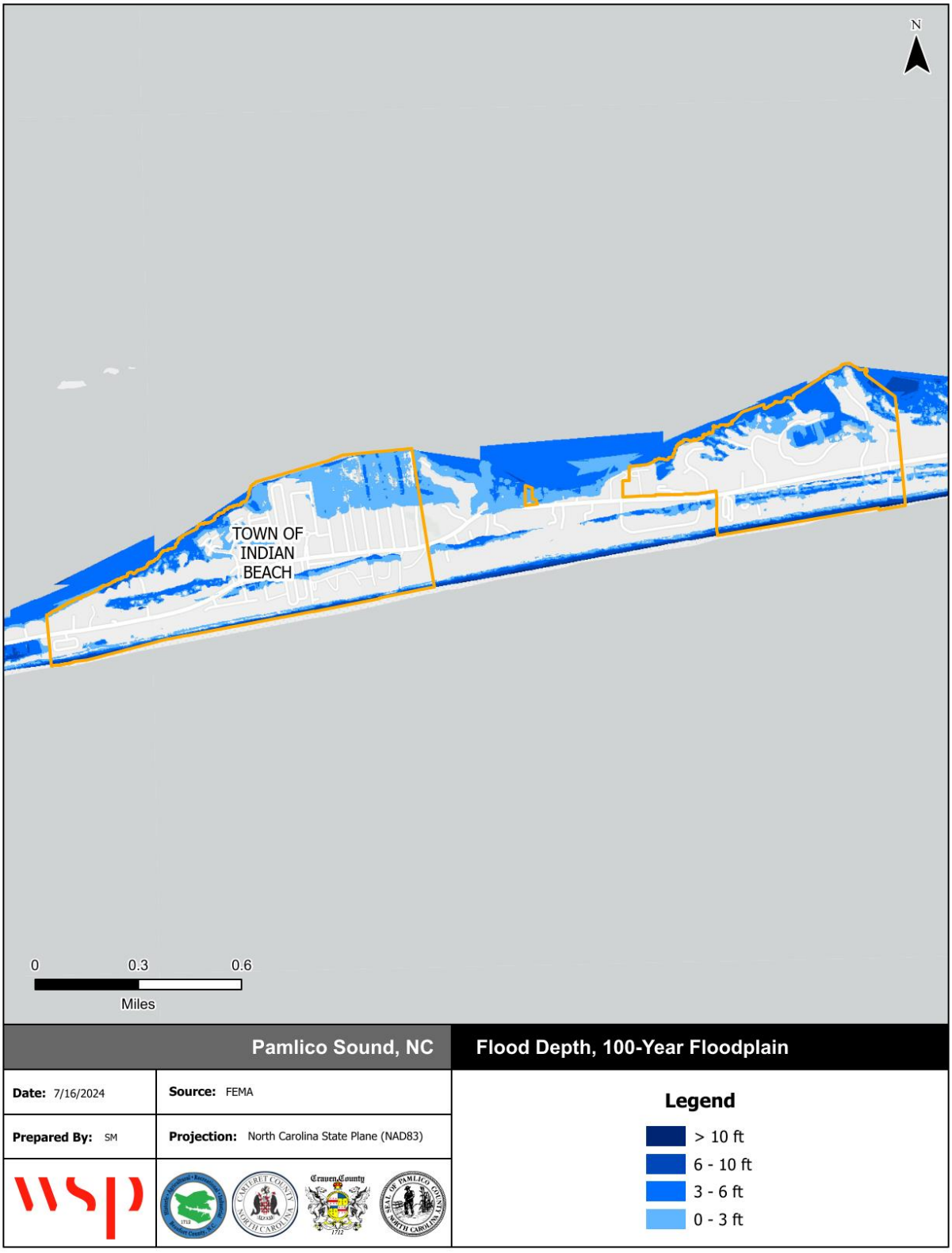
Source: FEMA Effective DFIRM

Figure B.31 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Emerald Isle



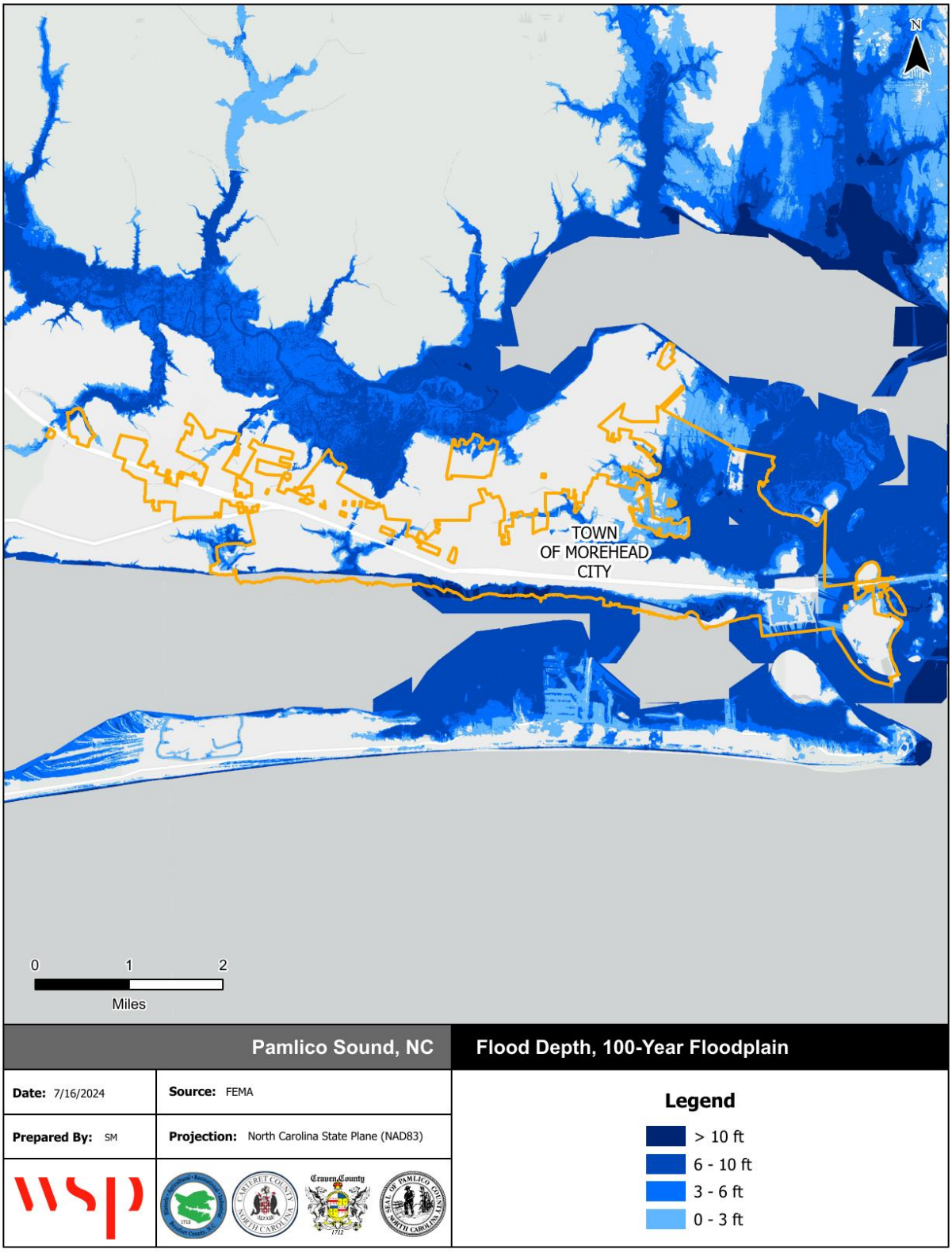
Source: FEMA Effective DFIRM

Figure B.32 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Indian Beach



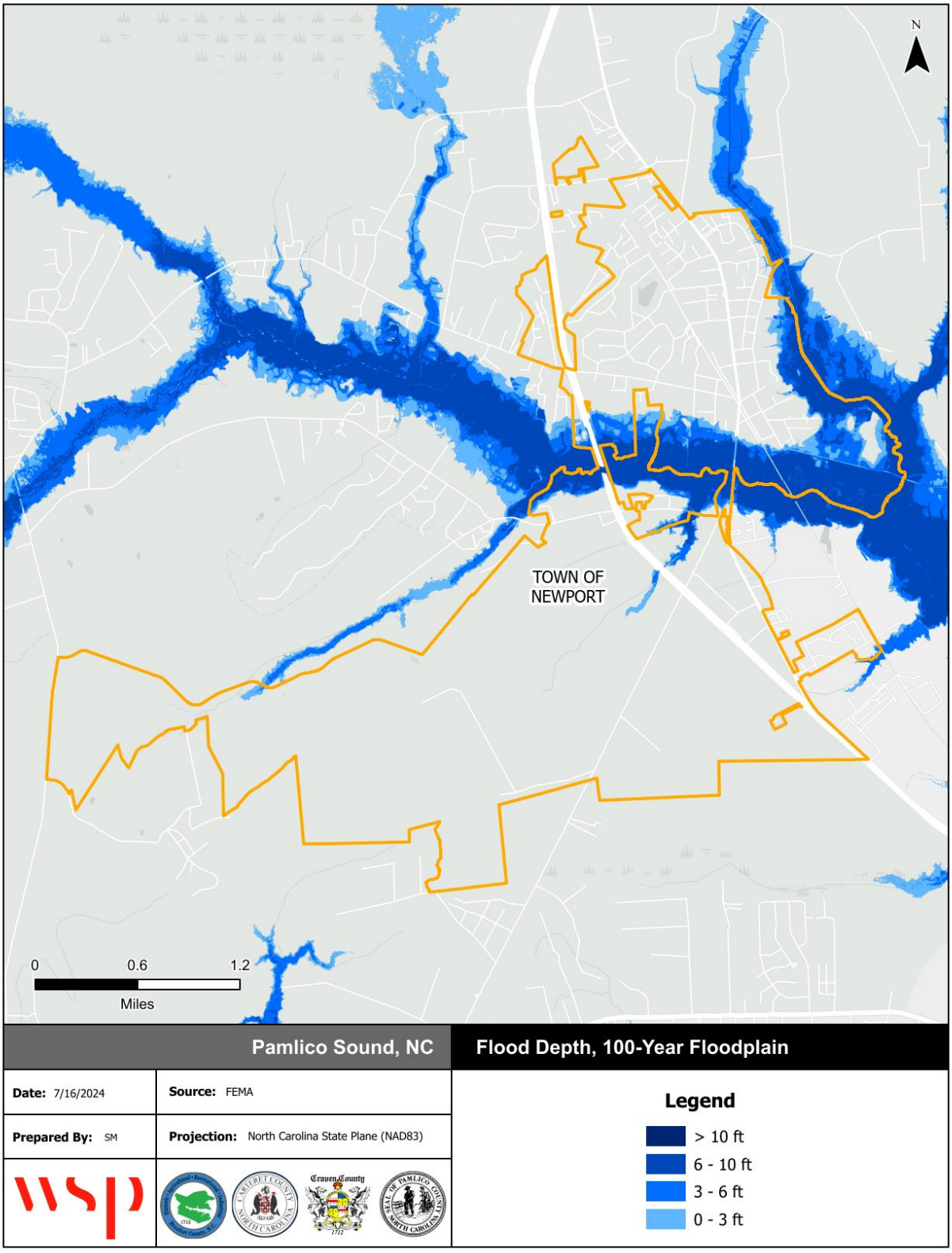
Source: FEMA Effective DFIRM

Figure B.33 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Morehead City



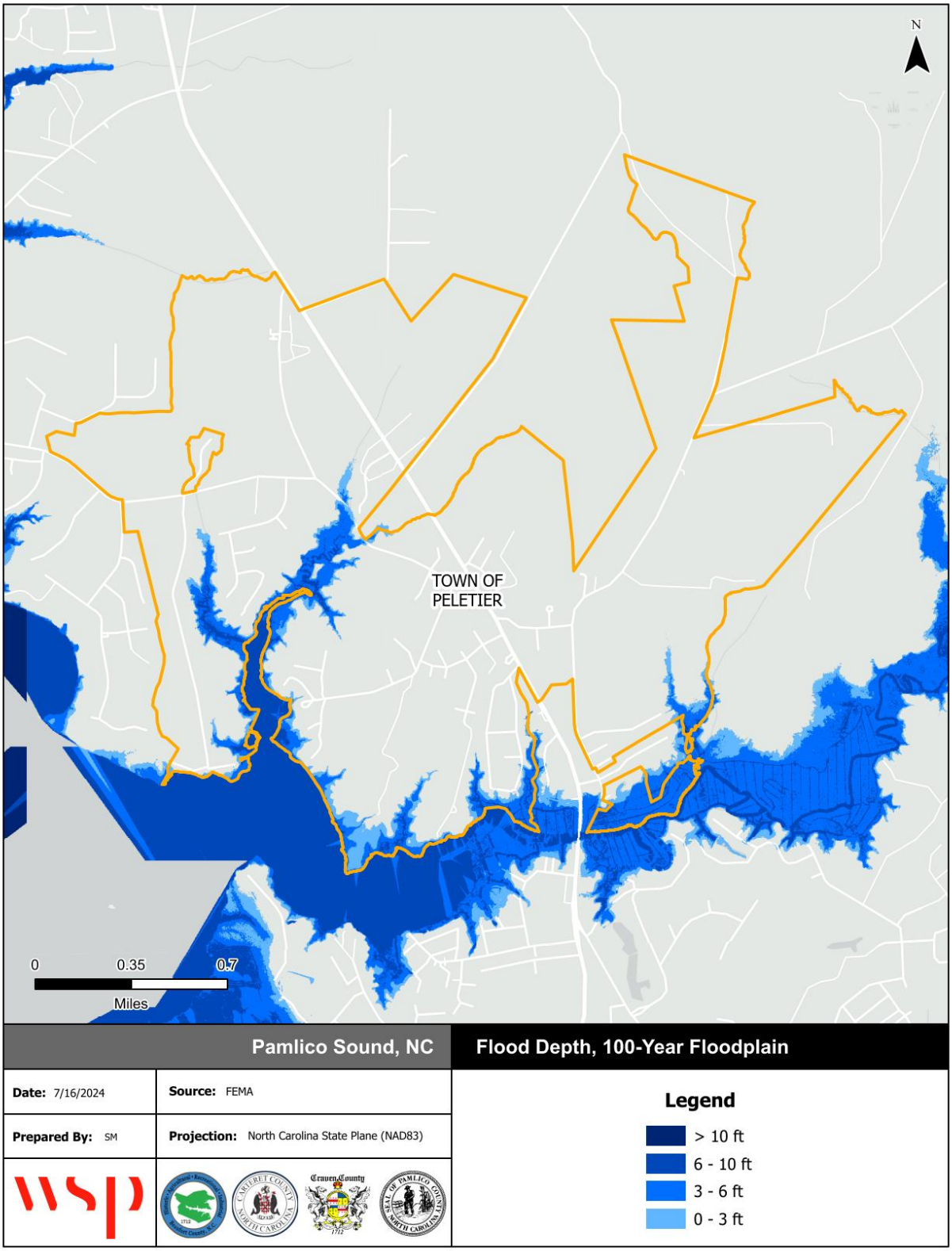
Source: FEMA Effective DFIRM

Figure B.34 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Newport



Source: FEMA Effective DFIRM

Figure B.35 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Peletier



Source: FEMA Effective DFIRM

Figure B.36 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Pine Knoll Shores

Source: FEMA Effective DFIRM

B.2.1.1 *FLOOD INSURANCE DATA*

The following tables reflect NFIP emergency and regular entry dates as well as policy and claims data for Carteret County and incorporated areas categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table B.16 – NFIP Program Entry Dates

Community	Emergency Entry	Regular Program Entry
Carteret County (Unincorporated Area)	November 19, 1971	May 15, 1980
Town of Atlantic Beach	July 14, 1972	March 15, 1977
Town of Beaufort	December 3, 1971	December 1, 1972
Town of Bogue	N/A	May 5, 1997
Town of Cape Carteret	December 12, 1973	April 1, 1977
Town of Cedar Point	July 26, 1989	July 26, 1989
Town of Emerald Isle	June 29, 1973	April 1, 1977
Town of Indian Beach	January 13, 1983	March 4, 1985
Town of Morehead City	April 14, 1973	February 16, 1977
Town of Newport	January 17, 1974	May 15, 1978
Town of Peletier	N/A	March 25, 2008
Town of Pine Knoll Shores	October 25, 1973	September 28, 1979

Table B.17 – NFIP Policy and Claims Data by Structure Type

Structure Type	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Carteret County Unincorporated Area					
Single Family	2,543	$2,060,386	$666,148,000	4,267	$69,558,764.67
2-4 Family	5	$4,647	$1,066,000	47	$445,347.08
All Other Residential	204	$35,207	$23,653,000	37	$1,032,745.04
Non-Residential	72	$157,574	$22,262,000	182	$5,467,609.47
Total	**2,824**	**$2,257,814**	**$713,129,000**	**4,533**	**$76,504,466.26**
Town of Atlantic Beach					
Single Family	706	$837,070	$202,242,000	887	$8,838,079.50
2-4 Family	125	$102,327	$29,959,000	115	$739,504.31
All Other Residential	1,627	$287,518	$189,189,000	42	$967,038.97
Non-Residential	78	$206,416	$26,939,000	119	$2,645,430.71
Total	**2,536**	**$1,433,331**	**$448,329,000**	**1,163**	**$13,190,053.49**
Town of Beaufort					
Single Family	622	$517,421	$186,057,000	222	$3,338,456.95
2-4 Family	49	$37,341	$9,689,000	4	$28,006.02
All Other Residential	8	$7,092	$2,330,000	0	$0.00
Non-Residential	39	$111,937	$12,896,000	48	$1,099,663.52
Total	**718**	**$673,791**	**$210,972,000**	**274**	**$4,466,126.49**

Structure Type	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Bogue					
Single Family	32	$35,538	$10,165,000	19	$656,800.43
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	0	$0	$0	0	$0.00
Total	**32**	**$35,538**	**$10,165,000**	**19**	**$656,800.43**
Town of Cape Carteret					
Single Family	150	$151,267	$45,074,000	184	$2,435,908.99
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	1	$13,540.60
Non-Residential	3	$4,830	$1,818,000	3	$404,638.22
Total	**153**	**$156,097**	**$46,892,000**	**188**	**$2,854,087.81**
Town of Cedar Point					
Single Family	144	$114,614	$43,129,000	118	$1,933,014.89
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	97	$8,977	$9,742,000	6	$612,023.12
Non-Residential	12	$18,875	$3,462,000	11	$269,476.62
Total	**253**	**$142,466**	**$56,333,000**	**135**	**$2,814,514.63**
Town of Emerald Isle					
Single Family	1,191	$989,352	$371,464,000	1,320	$9,052,281.78
2-4 Family	261	$209,248	$63,710,000	434	$3,090,378.25
All Other Residential	651	$79,104	$100,814,000	14	$283,870.09
Non-Residential	18	$26,074	$7,745,000	28	$518,349.07
Total	**2,121**	**$1,303,778**	**$543,733,000**	**1,796**	**$12,944,879.19**
Town of Indian Beach					
Single Family	73	$48,927	$19,800,000	39	$222,903.52
2-4 Family	1	$726	$350,000	0	$0.00
All Other Residential	615	$41,467	$139,365,000	3	$0.00
Non-Residential	5	$2,632	$1,841,000	2	$0.00
Total	**694**	**$93,752**	**$161,356,000**	**44**	**$222,903.52**
Town of Morehead City					
Single Family	947	$709,303	$287,206,000	443	$4,453,405.84
2-4 Family	52	$29,796	$13,138,000	5	$71,373.45
All Other Residential	241	$61,894	$64,263,000	9	$541,178.01
Non-Residential	61	$145,887	$26,329,000	57	$3,654,034.85
Total	**1,301**	**$946,880**	**$390,936,000**	**514**	**$8,719,992.15**
Town of Newport					
Single Family	126	$75,012	$35,777,000	90	$4,708,558.29
2-4 Family	2	$1,030	$332,000	2	$66,659.20
All Other Residential	2	$530	$172,000	0	$0.00
Non-Residential	1	$387	$70,000	4	$759,667.48
Total	**131**	**$76,959**	**$36,351,000**	**96**	**$5,534,884.97**

Structure Type	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Peletier					
Single Family	17	$8,484	$4,902,000	4	$20,783.64
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	0	$0	$0	0	$0.00
Total	**17**	**$8,484**	**$4,902,000**	**4**	**$20,783.64**
Town of Pine Knoll Shores					
Single Family	352	$302,713	$110,726,000	236	$1,162,491.36
2-4 Family	47	$33,168	$10,586,000	7	$107,192.06
All Other Residential	468	$102,919	$97,179,000	58	$848,496.40
Non-Residential	30	$51,405	$8,886,000	21	$156,470.83
Total	**897**	**$490,205**	**$227,377,000**	**322**	**$2,274,650.65**

Source: FEMA Community Information System, accessed January 2025

Table B.18 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Carteret County Unincorporated Area					
A01-30 & AE Zones	2,175	$1,902,441	$548,145,000	3,765	$68,093,326.36
A Zones	1	$978	$206,000	83	$955,531.74
V01-30 & VE Zones	14	$15,043	$3,480,000	160	$1,813,202.94
D Zones	0	$0	$0	0	$0.00
B, C & X Zone					
Standard	634	$339,352	$161,298,000	292	$3,387,452.65
Preferred	0	$0	$0	163	$1,700,466.60
Total	**2,824**	**$2,257,814**	**$713,129,000**	**4,469**	**$76,000,246.42**
Town of Atlantic Beach					
A01-30 & AE Zones	872	$856,130	$177,100,000	767	$10,875,165.34
A Zones	1	$2,236	$250,000	8	$20,066.08
AO Zones	1	$2,334	$325,000	15	$157,505.76
V01-30 & VE Zones	88	$95,424	$24,517,000	82	$348,087.35
B, C & X Zone					
Standard	1,573	$476,476	$245,817,000	208	$1,385,742.18
Preferred	0	$0	$0	80	$403,486.78
Total	**2,535**	**$1,432,600**	**$448,009,000**	**1,160**	**$13,190,053.49**
Town of Beaufort					
A01-30 & AE Zones	456	$483,187	$125,497,000	231	$3,848,503.64
B, C & X Zone					
Standard	262	$190,604	$85,475,000	10	$298,796.45
Preferred	0	$0	$0	32	$321,616.63
Total	**718**	**$673,791**	**$210,972,000**	**273**	**$4,468,916.72**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Bogue					
A01-30 & AE Zones	19	$24,896	$5,772,000	12	$531,396.33
B, C & X Zone					
Standard	13	$10,642	$4,393,000	5	$117,475.47
Preferred	0	$0	$0	2	$7,928.63
Total	**32**	**$35,538**	**$10,165,000**	**19**	**$656,800.43**
Town of Cape Carteret					
A01-30 & AE Zones	101	$111,036	$29,851,000	140	$2,295,769.83
V01-30 & VE Zones	1	$2,468	$282,000	5	$75,267.29
B, C & X Zone					
Standard	51	$42,593	$16,759,000	15	$166,042.64
Preferred	0	$0	$0	26	$246,421.83
Total	**153**	**$156,097**	**$46,892,000**	**186**	**$2,783,501.59**
Town of Cedar Point					
A01-30 & AE Zones	142	$102,084	$31,440,000	107	$2,465,384.72
A Zones	1	$1,516	$87,000	0	$0.00
V01-30 & VE Zones	0	$0	$0	15	$176,228.95
B, C & X Zone					
Standard	110	$38,866	$24,806,000	2	$60,322.10
Preferred	0	$0	$0	11	$112,578.86
Total	**253**	**$142,466**	**$56,333,000**	**135**	**$2,814,514.63**
Town of Emerald Isle					
A01-30 & AE Zones	473	$323,967	$133,835,000	400	$3,606,572.18
V01-30 & VE Zones	115	$106,700	$33,091,000	246	$1,668,299.23
B, C & X Zone					
Standard	1,533	$873,111	$376,807,000	748	$5,706,290.88
Preferred	0	$0	$0	401	$1,969,939.84
Total	**2,121**	**$1,303,778**	**$543,733,000**	**1,795**	**$12,951,102.13**
Town of Indian Beach					
A01-30 & AE Zones	144	$35,326	$28,948,000	30	$195,336.49
V01-30 & VE Zones	11	$5,492	$3,259,000	3	$0.00
B, C & X Zone					
Standard	539	$52,934	$129,149,000	6	$16,303.98
Preferred	0	$0	$0	5	$11,263.05
Total	**694**	**$93,752**	**$161,356,000**	**44**	**$222,903.52**
Town of Morehead City					
A01-30 & AE Zones	828	$609,643	$229,794,000	381	$7,235,131.09
V01-30 & VE Zones	6	$6,431	$1,356,000	6	$24,645.47
B, C & X Zone					
Standard	467	$330,806	$159,786,000	43	$444,410.29
Preferred	0	$0	$0	84	$1,015,805.30
Total	**1,301**	**$946,880**	**$390,936,000**	**514**	**$8,719,992.15**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Newport					
A01-30 & AE Zones	53	$34,504	$12,224,000	69	$4,922,438.11
A Zones	0	$0	$0	5	$91,848.47
B, C & X Zone					
Standard	78	$42,455	$24,127,000	5	$313,291.23
Preferred	0	$0	$0	17	$207,307.16
Total	**131**	**$76,959**	**$36,351,000**	**96**	**$5,534,884.97**
Town of Peletier					
A01-30 & AE Zones	8	$4,815	$1,835,000	3	$7,420.16
B, C & X Zone					
Standard	9	$3,669	$3,067,000	0	$0.00
Preferred	0	$0	$0	1	$13,363.48
Total	**17**	**$8,484**	**$4,902,000**	**4**	**$20,783.64**
Town of Pine Knoll Shores					
A01-30 & AE Zones	200	$163,786	$56,668,000	77	$539,676.04
V01-30 & VE Zones	66	$29,850	$12,869,000	23	$301,843.51
B, C & X Zone					
Standard	631	$296,569	$157,840,000	163	$694,347.59
Preferred	0	$0	$0	59	$738,783.51
Total	**897**	**$490,205**	**$227,377,000**	**322**	**$2,274,650.65**

Source: FEMA Community Information System, accessed January 2025

Table B.19 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Carteret County Unincorporated Area					
A01-30 & AE Zones	540	$608,800	$115,088,000	1,971	$45,375,793.68
A Zones	1	$978	$206,000	71	$810,834.50
V01-30 & VE Zones	4	$1,571	$870,000	126	$1,772,759.08
D Zones	0	$0	$0	6	$50,266.13
B, C & X Zone	115	$87,311	$34,851,000	277	$3,367,490.16
Standard	115	$87,311	$34,851,000	198	$2,319,087.99
Preferred	0	$0	$0	82	$1,052,911.85
Total	**660**	**$698,660**	**$151,015,000**	**2,451**	**$51,377,143.55**
Town of Atlantic Beach					
A01-30 & AE Zones	315	$339,125	$35,931,000	527	$9,376,558.29
A Zones	1	$2,236	$250,000	8	$20,066.08
AO Zones	1	$2,334	$325,000	12	$40,004.79
V01-30 & VE Zones	28	$43,258	$7,780,000	67	$320,192.02
B, C & X Zone	321	$159,121	$59,809,000	152	$740,761.55
Standard	321	$159,121	$59,809,000	121	$645,016.80
Preferred	0	$0	$0	31	$95,744.75
Total	**666**	**$546,074**	**$104,095,000**	**766**	**$10,497,582.73**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Beaufort					
A01-30 & AE Zones	141	$196,770	$34,312,000	106	$1,970,443.29
B, C & X Zone	101	$74,807	$33,612,000	23	$392,074.82
Standard	101	$74,807	$33,612,000	7	$244,336.84
Preferred	0	$0	$0	16	$147,737.98
Total	**242**	**$271,577**	**$67,924,000**	**129**	**$2,362,518.11**
Town of Bogue					
A01-30 & AE Zones	1	$2,385	$195,000	5	$368,228.42
B, C & X Zone	1	$2,922	$294,000	6	$120,080.83
Standard	1	$2,922	$294,000	5	$117,475.47
Preferred	0	$0	$0	1	$2,605.36
Total	**2**	**$5,307**	**$489,000**	**11**	**$488,309.25**
Town of Cape Carteret					
A01-30 & AE Zones	21	$31,923	$5,517,000	55	$1,482,242.86
V01-30 & VE Zones	1	$2,468	$282,000	4	$18,905.25
B, C & X Zone	17	$10,300	$5,538,000	15	$88,438.81
Standard	17	$10,300	$5,538,000	4	$18,053.53
Preferred	0	$0	$0	11	$70,385.28
Total	**39**	**$44,691**	**$11,337,000**	**74**	**$1,589,586.92**
Town of Cedar Point					
A01-30 & AE Zones	72	$42,743	$10,498,000	78	$2,229,763.72
A Zones	1	$1,516	$87,000	0	$0.00
V01-30 & VE Zones	0	$0	$0	15	$176,228.95
B, C & X Zone	61	$12,865	$8,276,000	4	$118,148.46
Standard	61	$12,865	$8,276,000	2	$60,322.10
Preferred	0	$0	$0	2	$57,826.36
Total	**134**	**$57,124**	**$18,861,000**	**97**	**$2,524,141.13**
Town of Emerald Isle					
A01-30 & AE Zones	24	$27,107	$6,370,000	67	$859,116.91
V01-30 & VE Zones	16	$16,559	$4,153,000	81	$457,887.05
B, C & X Zone	114	$119,168	$31,810,000	266	$1,485,142.29
Standard	114	$119,168	$31,810,000	194	$1,025,618.04
Preferred	0	$0	$0	73	$471,398.62
Total	**154**	**$162,834**	**$42,333,000**	**414**	**$2,802,146.25**
Town of Indian Beach					
A01-30 & AE Zones	6	$1,831	$177,000	9	$100,141.38
V01-30 & VE Zones	2	$878	$309,000	0	$0.00
B, C & X Zone	97	$9,986	$17,894,000	5	$5,574.69
Standard	97	$9,986	$17,894,000	3	$1,509.10
Preferred	0	$0	$0	2	$4,065.59
Total	**105**	**$12,695**	**$18,380,000**	**14**	**$105,716.07**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Morehead City					
A01-30 & AE Zones	144	$197,242	$35,985,000	233	$5,114,651.94
V01-30 & VE Zones	1	$1,335	$50,000	6	$24,645.47
B, C & X Zone	126	$106,852	$43,352,000	57	$668,210.57
Standard	126	$106,852	$43,352,000	25	$385,957.69
Preferred	0	$0	$0	32	$282,252.88
Total	**271**	**$305,429**	**$79,387,000**	**296**	**$5,807,507.98**
Town of Newport					
A01-30 & AE Zones	4	$3,322	$876,000	9	$279,371.25
A Zones	0	$0	$0	5	$91,848.47
B, C & X Zone	16	$8,683	$5,085,000	8	$94,029.13
Standard	16	$8,683	$5,085,000	0	$0.00
Preferred	0	$0	$0	8	$94,029.13
Total	**20**	**$12,005**	**$5,961,000**	**22**	**$465,248.85**
Town of Peletier					
A01-30 & AE Zones	5	$2,907	$963,000	0	$0.00
B, C & X Zone	1	$697	$321,000	1	$13,363.48
Standard	1	$697	$321,000	0	$0.00
Preferred	0	$0	$0	1	$13,363.48
Total	**6**	**$3,604**	**$1,284,000**	**1**	**$13,363.48**
Town of Pine Knoll Shores					
A01-30 & AE Zones	10	$15,860	$3,178,000	3	$30,557.06
V01-30 & VE Zones	43	$13,728	$6,446,000	13	$300,226.59
B, C & X Zone	138	$98,586	$37,715,000	83	$480,439.53
Standard	138	$98,586	$37,715,000	59	$297,853.24
Preferred	0	$0	$0	24	$182,586.29
Total	**191**	**$128,174**	**$47,339,000**	**99**	**$811,223.18**

Source: FEMA Community Information System, accessed January 2025

Table B.20 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Carteret County Unincorporated Area					
A01-30 & AE Zones	1,635	$1,293,641	$433,057,000	1,794	$22,717,532.68
A Zones	0	$0	$0	12	$144,697.24
V01-30 & VE Zones	10	$13,472	$2,610,000	34	$40,443.86
B, C & X Zone	519	$252,041	$126,447,000	173	$1,675,152.17
Standard	519	$252,041	$126,447,000	94	$1,068,364.66
Preferred	0	$0	$0	81	$647,554.75
Total	**2,164**	**$1,559,154**	**$562,114,000**	**2,013**	**$24,577,825.95**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Atlantic Beach					
A01-30 & AE Zones	557	$517,005	$141,169,000	240	$1,498,607.05
AO Zones	0	$0	$0	3	$117,500.97
V01-30 & VE Zones	60	$52,166	$16,737,000	15	$27,895.33
B, C & X Zone	1,252	$317,355	$186,008,000	135	$1,048,467.41
Standard	1,252	$317,355	$186,008,000	87	$740,725.38
Preferred	0	$0	$0	49	$307,742.03
Total	**1,869**	**$886,526**	**$343,914,000**	**393**	**$2,692,470.76**
Town of Beaufort					
A01-30 & AE Zones	315	$286,417	$91,185,000	125	$1,878,060.35
B, C & X Zone	161	$115,797	$51,863,000	18	$211,948.03
Standard	161	$115,797	$51,863,000	3	$54,459.61
Preferred	0	$0	$0	16	$173,878.65
Total	**476**	**$402,214**	**$143,048,000**	**143**	**$2,090,008.38**
Town of Bogue					
A01-30 & AE Zones	18	$22,511	$5,577,000	7	$163,167.91
B, C & X Zone	12	$7,720	$4,099,000	1	$5,323.27
Standard	12	$7,720	$4,099,000	0	$0.00
Preferred	0	$0	$0	1	$5,323.27
Total	**30**	**$30,231**	**$9,676,000**	**8**	**$168,491.18**
Town of Cape Carteret					
A01-30 & AE Zones	80	$79,113	$24,334,000	85	$813,526.97
V01-30 & VE Zones	0	$0	$0	1	$56,362.04
B, C & X Zone	34	$32,293	$11,221,000	25	$323,258.09
Standard	34	$32,293	$11,221,000	11	$147,989.11
Preferred	0	$0	$0	15	$176,036.55
Total	**114**	**$111,406**	**$35,555,000**	**111**	**$1,193,147.10**
Town of Cedar Point					
A01-30 & AE Zones	70	$59,341	$20,942,000	29	$235,621.00
B, C & X Zone	49	$26,001	$16,530,000	9	$54,752.50
Standard	49	$26,001	$16,530,000	0	$0.00
Preferred	0	$0	$0	9	$54,752.50
Total	**119**	**$85,342**	**$37,472,000**	**38**	**$290,373.50**
Town of Emerald Isle					
A01-30 & AE Zones	449	$296,860	$127,465,000	333	$2,747,455.27
V01-30 & VE Zones	99	$90,141	$28,938,000	165	$1,210,412.18
B, C & X Zone	1,419	$753,943	$344,997,000	882	$6,179,214.06
Standard	1,419	$753,943	$344,997,000	554	$4,680,672.84
Preferred	0	$0	$0	328	$1,498,541.22
Total	**1,967**	**$1,140,944**	**$501,400,000**	**1,380**	**$10,137,081.51**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Indian Beach					
A01-30 & AE Zones	138	$33,495	$28,771,000	21	$95,195.11
V01-30 & VE Zones	9	$4,614	$2,950,000	3	$0.00
B, C & X Zone	442	$42,948	$111,255,000	6	$21,992.34
Standard	442	$42,948	$111,255,000	3	$14,794.88
Preferred	0	$0	$0	3	$7,197.46
Total	**589**	**$81,057**	**$142,976,000**	**30**	**$117,187.45**
Town of Morehead City					
A01-30 & AE Zones	684	$412,401	$193,809,000	148	$2,120,479.15
V01-30 & VE Zones	5	$5,096	$1,306,000	0	$0.00
B, C & X Zone	341	$223,954	$116,434,000	70	$792,005.02
Standard	341	$223,954	$116,434,000	18	$58,452.60
Preferred	0	$0	$0	52	$733,552.42
Total	**1,030**	**$641,451**	**$311,549,000**	**218**	**$2,912,484.17**
Town of Newport					
A01-30 & AE Zones	49	$31,182	$11,348,000	60	$4,643,066.86
B, C & X Zone	62	$33,772	$19,042,000	14	$426,569.26
Standard	62	$33,772	$19,042,000	5	$313,291.23
Preferred	0	$0	$0	9	$113,278.03
Total	**111**	**$64,954**	**$30,390,000**	**74**	**$5,069,636.12**
Town of Peletier					
A01-30 & AE Zones	3	$1,908	$872,000	3	$7,420.16
B, C & X Zone	8	$2,972	$2,746,000	0	$0.00
Standard	8	$2,972	$2,746,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**11**	**$4,880**	**$3,618,000**	**3**	**$7,420.16**
Town of Pine Knoll Shores					
A01-30 & AE Zones	190	$147,926	$53,490,000	74	$509,118.98
V01-30 & VE Zones	23	$16,122	$6,423,000	10	$1,616.92
B, C & X Zone	493	$197,983	$120,125,000	139	$952,691.57
Standard	493	$197,983	$120,125,000	104	$396,494.35
Preferred	0	$0	$0	35	$556,197.22
Total	**706**	**$362,031**	**$180,038,000**	**223**	**$1,463,427.47**

Source: FEMA Community Information System, accessed January 2025

B.2.2 WILDFIRE

Table B.21 summarizes the acreage in Carteret County that falls within the Wildland Urban Interface (WUI), categorized by housing density. Areas in the WUI are those where development may intermix with flammable vegetation. Over 89 percent of Carteret County is not included in the WUI.

Table B.21 – Wildland Urban Interface Acreage, Carteret County

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*767,084*	89.38%
	LT 1hs/40ac	19,691	2.29%
	1hs/40ac to 1hs/20ac	8,873	1.03%
	1hs/20ac to 1hs/10ac	9,493	1.11%
	1hs/10ac to 1hs/5ac	10,136	1.18%
	1hs/5ac to 1hs/2ac	14,867	1.73%
	1hs/2ac to 3hs/1ac	26,793	3.12%
	GT 3hs/1ac	1,303	0.15%
	Total	**858,240**	**100%**

Source: Southern Wildfire Risk Assessment

Figure B.37 depicts the WUI for Carteret County's participating jurisdictions. Figure B.38 details the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.39 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Potential fire intensity is highest in the unincorporated areas of Carteret County, particularly along the northwest border with Craven County and the eastern barrier islands. Burn probability is highest on the northwest border with Craven County but is low along the barrier islands and inlets. Although the area around the northwestern border with Craven County has high burn probability and fire intensity it is outside the WUI, therefore impacts to buildings and people would be minimal.

Table B.22 through Table B.33 provide the count and estimated value of all structures that intersect with areas of unincorporated Carteret County and participating jurisdictions that are rated moderate to high on the WUI Risk Index. Table B.34 through Table B.45 provide building counts and values for critical facilities by FEMA lifeline that are located in areas rated moderate to high on the WUI Risk Index.

Table B.22 – Structures at Risk to Moderate-High WUI Risk Index, Unincorporated Carteret County

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	238	$6,656,725.01	$6,656,725.01	$13,313,450.02
Commercial	669	$106,588,844.14	$106,588,844.14	$213,177,688.29
Education	28	$33,389,769.00	$33,389,769.00	$66,779,538.00
Government	77	$267,124,048.00	$267,124,048.00	$534,248,096.00
Industrial	227	$23,509,762.40	$35,264,643.61	$58,774,406.01
Religious	146	$40,849,545.00	$40,849,545.00	81,699,090.00
Residential	17,930	$1,539,970,754.55	$769,985,377.27	$2,309,956,131.82
Total	**19,315**	**$2,018,089,448.11**	**$1,009,044,724.05**	**$3,027,134,172.16**

Source: Southern Wildfire Risk Assessment

Table B.23 – Structures at Risk to Moderate-High WUI Risk Index, Town of Atlantic Beach

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	126	$25,501,996.93	$25,501,996.93	$51,003,993.86
Education	0	$0	$0	$0
Government	11	$361,381,450.00	$361,381,450.00	$722,762,900.00
Industrial	1	$204,022.00	$306,033.00	$510,055.00
Religious	3	$1,620,914.00	$1,620,914.00	$3,241,828.00
Residential	3,339	$602,321,505.00	$301,160,752.50	$903,482,257.50
Total	**3,480**	**$991,029,887.93**	**$495,514,943.97**	**$1,486,544,831.90**

Source: Southern Wildfire Risk Assessment

Table B.24 – Structures at Risk to Moderate-High WUI Risk Index, Town of Beaufort

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	136	$27,981,612.00	$27,981,612.00	$55,963,224.00
Education	16	$13,402,702.00	$13,402,702.00	$26,805,404.00
Government	20	$76,304,830.00	$76,304,830.00	$152,609,660.00
Industrial	11	$1,161,150.00	$1,741,725.00	$2,902,875.00
Religious	12	$3,153,725.00	$3,153,725.00	$6,307,450.00
Residential	1,938	$229,631,710.00	$114,815,855.00	$344,447,565.00
Total	**2,133**	**$351,635,729.00**	**$175,817,864.50**	**$527,453,593.50**

Source: Southern Wildfire Risk Assessment

Table B.25 – Structures at Risk to Moderate-High WUI Risk Index, Town of Bogue

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	5	$107,358.00	$107,358.00	$214,716.00
Commercial	14	$2,784,769.00	$2,784,769.00	$5,569,538.00
Education	1	$167,881.00	$167,881.00	$335,762.00
Government	1	$96,014.00	$96,014.00	$192,028.00
Industrial	3	$351,267.00	$526,900.50	$878,167.50
Religious	5	$2,555,377.00	$2,555,377.00	$5,110,754.00
Residential	307	$27,176,103.00	$13,588,051.50	$40,764,154.50
Total	**336**	**$33,238,769.00**	**$16,619,384.50**	**$49,858,153.50**

Source: Southern Wildfire Risk Assessment

Table B.26 – Structures at Risk to Moderate-High WUI Risk Index, Town of Cape Carteret

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	69	$17,945,698.00	$17,945,698.00	$35,891,396.00
Education	11	$4,776,973.00	$4,776,973.00	$9,553,946.00
Government	6	$978,254.00	$978,254.00	$1,956,508.00
Industrial	10	$1,234,588.00	$1,851,882.00	$3,086,470.00
Religious	3	$1,163,395.00	$1,163,395.00	$2,326,790.00
Residential	857	$100,243,107.00	$50,121,553.50	$150,364,660.50
Total	**956**	**$126,342,015.00**	**$63,171,007.50**	**$189,513,022.50**

Source: Southern Wildfire Risk Assessment

Table B.27 – Structures at Risk to Moderate-High WUI Risk Index, Town of Cedar Point

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	18	$594,192.00	$594,192.00	$1,188,384.00
Commercial	44	$5,557,968.00	$5,557,968.00	$11,115,936.00
Education	0	$0	$0	$0
Government	2	$661,411.00	$661,411.00	$1,322,822.00
Industrial	15	$1,654,967.00	$2,482,450.50	$4,137,417.50
Religious	5	$3,125,068.00	$3,125,068.00	$6,250,136.00
Residential	936	$108,288,546.00	$54,144,273.00	$162,432,819.00
Total	**1,020**	**$119,882,152.00**	**$59,941,076.00**	**$179,823,228.00**

Source: Southern Wildfire Risk Assessment

Table B.28 – Structures at Risk to Moderate-High WUI Risk Index, Town of Emerald Isle

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	91	$20,662,584.00	$20,662,584.00	$41,325,168.00
Education	0	$0	$0	$0
Government	22	$203,661,892.00	$203,661,892.00	$407,323,784.00
Industrial	20	$3,019,488.00	$4,529,232.00	$7,548,720.00
Religious	9	$3,634,681.00	$3,634,681.00	$7,269,362.00
Residential	4,099	$894,266,419.00	$447,133,209.50	$1,341,399,628.50
Total	**4,241**	**$1,125,245,064.00**	**$562,622,532.00**	**$1,687,867,596.00**

Source: Southern Wildfire Risk Assessment

Table B.29 – Structures at Risk to Moderate-High WUI Risk Index, Town of Indian Beach

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	9	$2,734,064.00	$2,734,064.00	$5,468,128.00
Education	0	$0	$0	$0
Government	5	$61,262,229.00	$61,262,229.00	$122,524,458.00
Industrial	0	$0	$0	$0
Religious	0	$0	$0	$0
Residential	471	$112,002,680.00	$56,001,340.00	$168,004,020.00
Total	**485**	**$175,998,973.00**	**$87,999,486.50**	**$263,998,459.50**

Source: Southern Wildfire Risk Assessment

Table B.30 – Structures at Risk to Moderate-High WUI Risk Index, Town of Morehead City

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	392	$122,185,916.67	$122,185,916.67	$244,371,833.33
Education	41	$31,583,465.00	$31,583,465.00	$63,166,930.00
Government	32	$27,680,517.85	$27,680,517.85	$55,361,035.71
Industrial	41	$7,215,082.00	$10,822,623.00	$18,037,705.00
Religious	41	$21,623,627.00	$21,623,627.00	$43,247,254.00
Residential	2,976	$413,576,208.00	$206,788,104.00	$620,364,312.01
Total	**3,523**	**$623,864,816.52**	**$311,932,408.26**	**$935,797,224.78**

Source: Southern Wildfire Risk Assessment

Table B.31 – Structures at Risk to Moderate-High WUI Risk Index, Town of Newport

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	1	$17,161.00	$17,161.00	$34,322.00
Commercial	63	$15,189,337.00	$15,189,337.00	$30,378,674.00
Education	10	$10,989,303.00	$10,989,303.00	$21,978,606.00
Government	31	$192,870,080.00	$192,870,080.00	$385,740,160.00
Industrial	23	$2,206,252.00	$3,309,378.00	$5,515,630.00
Religious	25	$10,022,497.00	$10,022,497.00	$20,044,994.00
Residential	1,351	$118,288,022.00	$59,144,011.00	$177,432,033.00
Total	**1,504**	**$349,582,652.00**	**$174,791,326.00**	**$524,373,978.00**

Source: Southern Wildfire Risk Assessment

Table B.32 – Structures at Risk to Moderate-High WUI Risk Index, Town of Peletier

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	15	$159,621.63	$159,621.63	$319,243.26
Commercial	17	$1,279,559.00	$1,279,559.00	$2,559,118.00
Education	0	$0	$0	$0
Government	0	$0	$0	$0
Industrial	6	$168,613.00	$252,919.50	$421,532.50
Religious	8	$2,494,885.00	$2,494,885.00	$4,989,770.00
Residential	361	$20,682,810.00	$10,341,405.00	$31,024,215.00
Total	**407**	**$24,785,488.63**	**$12,392,744.32**	**$37,178,232.95**

Source: Southern Wildfire Risk Assessment

Table B.33 – Structures at Risk to Moderate-High WUI Risk Index, Town of Pine Knoll Shores

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	31	$8,592,720.56	$8,592,720.56	$17,185,441.11
Education	0	$0	$0	$0
Government	11	$72,304,456.00	$72,304,456.00	$144,608,912.00
Industrial	4	$541,795.00	$812,692.50	$1,354,487.50
Religious	24	$7,096,285.00	$7,096,285.00	$14,192,570.00
Residential	1,476	$474,323,730.00	$237,161,865.00	$711,485,595.00
Total	**1,546**	**$562,858,986.56**	**$281,429,493.28**	**$844,288,479.84**

Source: Southern Wildfire Risk Assessment

Table B.34 – Critical Facilities Exposed to Wildfire, Unincorporated Carteret County

Type	Critical Facility Count	Structure Value
Communications	6	$211,202
Energy	0	$0
Food, Hydration, Shelter	9	$43,203,157
Hazardous Materials	0	$0
Health and Medical	10	$2,902,270
Safety and Security	26	$9,825,065
Transportation	13	$30,056,908
Water Systems	76	$21,822,662
Total	**140**	**$108,021,264**

Source: Southern Wildfire Risk Assessment

Table B.35 – Critical Facilities Exposed to Wildfire, Town of Atlantic Beach

Type	Critical Facility Count	Structure Value
Communications	1	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	4	$0
Total	**5**	**$0**

Source: Southern Wildfire Risk Assessment

Table B.36 – Critical Facilities Exposed to Wildfire, Town of Beaufort

Type	Critical Facility Count	Structure Value
Communications	4	$62,214,570
Energy	1	$309,205
Food, Hydration, Shelter	12	$19,608,230
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	8	$5,546,875
Transportation	0	$0
Water Systems	14	$1,960,511
Total	**39**	**$89,639,391**

Source: Southern Wildfire Risk Assessment

Table B.37 - Critical Facilities Exposed to Wildfire, Town of Bogue

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**0**	**$0**

Source: Southern Wildfire Risk Assessment

Table B.38 - Critical Facilities Exposed to Wildfire, Town of Cape Carteret

Type	Critical Facility Count	Structure Value
Communications	1	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$586,555
Transportation	0	$0
Water Systems	0	$0
Total	**3**	**$586,555**

Source: Southern Wildfire Risk Assessment

Table B.39 - Critical Facilities Exposed to Wildfire, Town of Cedar Point

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$758,148
Transportation	0	$0
Water Systems	0	$0
Total	**3**	**$758,148**

Source: Southern Wildfire Risk Assessment

Table B.40 - Critical Facilities Exposed to Wildfire, Town of Emerald Isle

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	4	$3,436,936
Transportation	0	$0
Water Systems	15	$3,226,995
Total	**19**	**$6,663,931**

Source: Southern Wildfire Risk Assessment

Table B.41 - Critical Facilities Exposed to Wildfire, Town of Indian Beach

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	2	$738,672
Total	**2**	**$738,672**

Source: Southern Wildfire Risk Assessment

Table B.42 - Critical Facilities Exposed to Wildfire, Town of Morehead City

Type	Critical Facility Count	Structure Value
Communications	3	$15,581,055
Energy	0	$0
Food, Hydration, Shelter	6	$24,832,467
Hazardous Materials	0	$0
Health and Medical	15	$1,244,860
Safety and Security	12	$31,850,009
Transportation	0	$0
Water Systems	8	$841,893
Total	**44**	**$74,350,284**

Source: Southern Wildfire Risk Assessment

Table B.43 - Critical Facilities Exposed to Wildfire, Newport

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	3	$11,509,807
Hazardous Materials	0	$0
Health and Medical	4	$0
Safety and Security	3	$470,228
Transportation	0	$0
Water Systems	4	$33,560
Total	**14**	**$12,013,595**

Source: Southern Wildfire Risk Assessment

Table B.44 - Critical Facilities Exposed to Wildfire, Town of Peletier

Type	Critical Facility Count	Structure Value
Communications	1	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**1**	**$0**

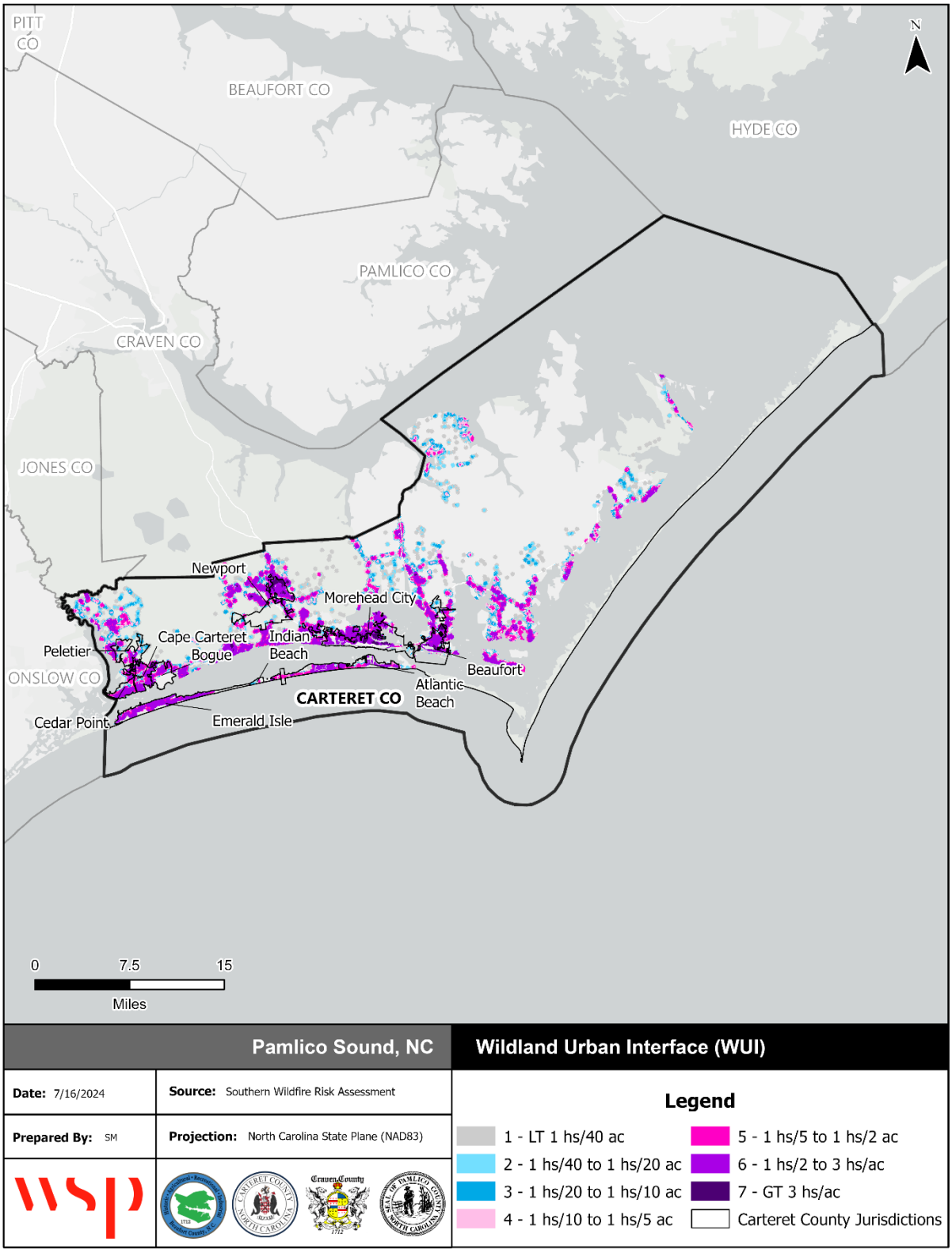
Source: Southern Wildfire Risk Assessment

Table B.45 - Critical Facilities Exposed to Wildfire, Pine Knoll Shores

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	3	$3,427,179
Transportation	0	$0
Water Systems	5	$7,207,230
Total	**8**	**$10,634,409**

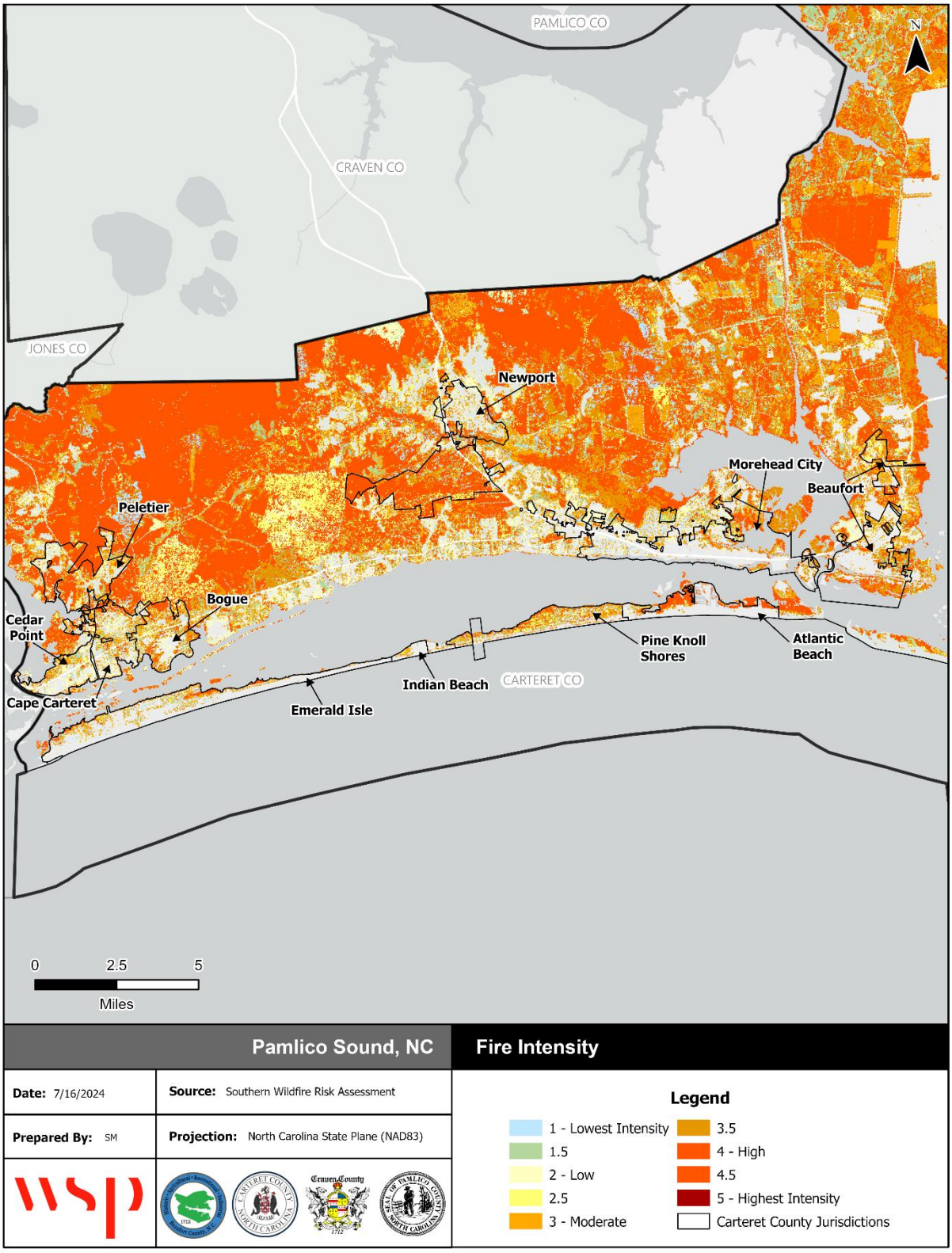
Source: Southern Wildfire Risk Assessment

Figure B.37 – Wildland Urban Interface, Carteret County



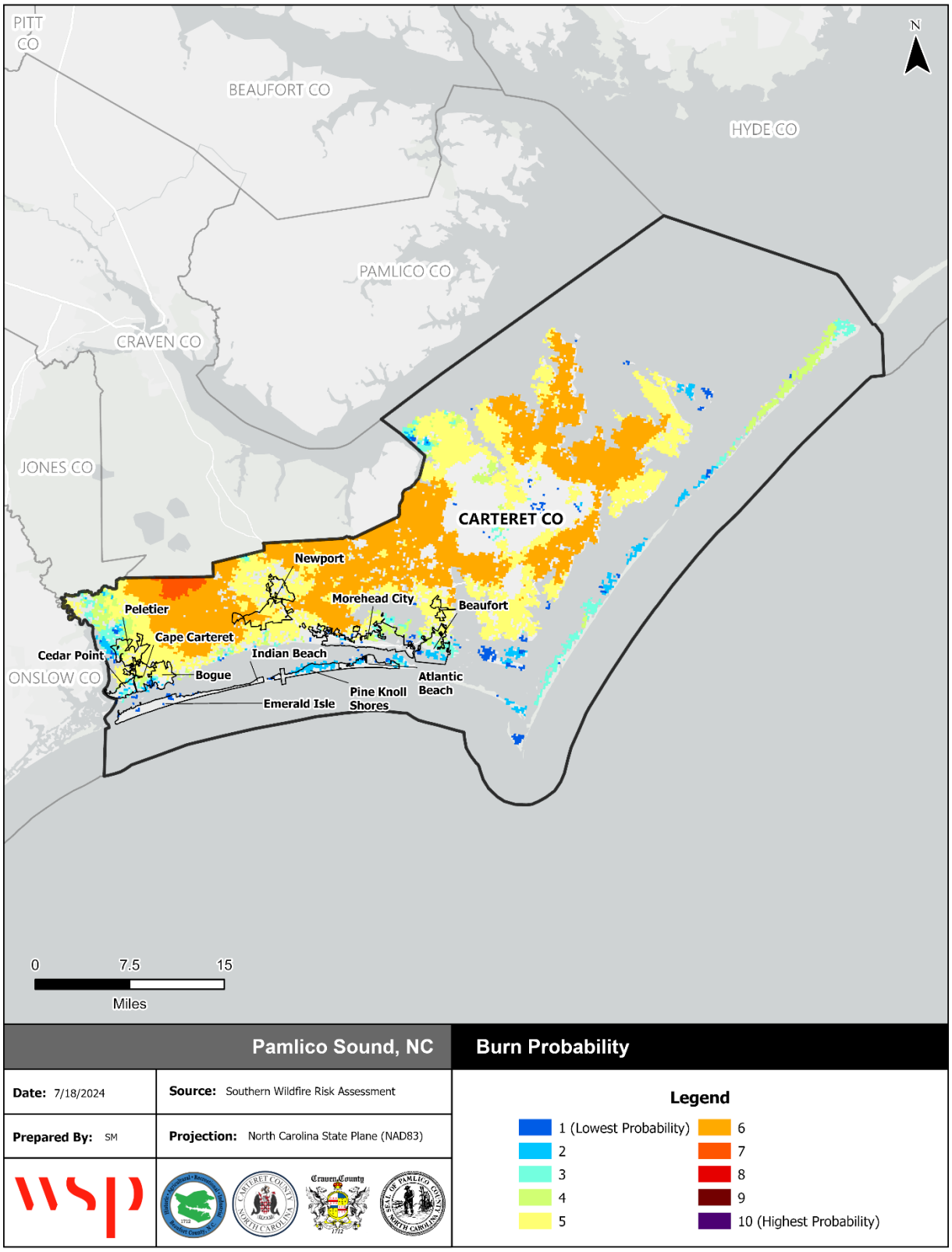
Source: Southern Wildfire Risk Assessment

Figure B.38 – Fire Intensity Scale, Carteret County



Source: Southern Wildfire Risk Assessment

Figure B.39 – Burn Probability, Carteret County



Source: Southern Wildfire Risk Assessment

B.3 MITIGATION STRATEGY

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA3	Annually review and maintain the County's Continuity of Operations Plan (COOP) to ensure ongoing government operations following a disaster event. The County, in conjunction with all participating municipal jurisdictions, will review this plan annually and update as deemed necessary.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	Med	3.2	ES	**Carteret County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	County Risk Management is working with County Departments to complete COOP update. County will review and update this plan annually. Beaufort, Cedar Point, and Pine Knoll Shores cooperate with the County's Continuity of Operations Plan.
CA4	Annually review and update the County's Emergency Operations Plan (EOP) to ensure compliance with all NCEM and NCOEMS procedures and policies. Through these updates, the County will work closely with all participating municipalities to ensure that all jurisdictions continue to be educated and prepared for activation of the EOP in the event of a disaster event.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	Med	3.2	ES	**Carteret County Emergency Services**	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County Emergency Services works closely with all participating municipalities to review and update the Emergency Operations Plan (EOP) annually. Beaufort and Pine Knoll Shores cooperate with the County's Emergency Operations Plan.
CA5	Maintain, and where necessary, install backup generators at all identified critical facilities. Additionally, County Emergency Services will evaluate the equipment on a regular basis to ensure it continues to meet operational demands at county facilities.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	High	1.2	PP	**Carteret County Emergency Services,** Independent Facility Operators Town Public Utilities	To Be Determined	GF, NCDPS, NCDOT, HMGP	Ongoing – next 5 years	Carry Forward	Carteret County Emergency Services evaluates all emergency generators on a regular basis to ensure operability. A new County radio system project is in progress. In Beaufort, permanent backup generators have been installed at the Town's Police Department, Fire Department, Public Works, Public Utilities, and Town Hall buildings, as well on most utility lift stations. Pine Knoll Shores evaluates all emergency generators on a regular basis to ensure operability

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA6	Maintain a contract with a qualified post-disaster recovery service provider. This contract will include the provision of essential services and equipment, including generators, and will include documentation required for reimbursement from FEMA/NCEM.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Severe Winter Weather, Earthquake, Wildfire, Dam & Levee Failure	Med	3.1	PP	**Carteret County Governing Board,** Municipal Governing Boards	To Be Determined	GF, HMGP	Other – Reviewed Annually	Carry Forward	Carteret County and Pine Knoll Shores maintain contractors for generators and storm cleanup. Beaufort maintains a contractor for storm debris removal. Cedar Point maintains contracts with two separate post-disaster recovery service providers. The current contracts were entered into in June 2024.
CA7	Hold a public information meeting (once annually) aimed at educating the public and elected officials about the jurisdictions' overall vulnerability to natural and man-made hazards, and the jurisdictions' hazard mitigation efforts.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	High	2.2	PIO	**Carteret County Emergency Services,** Carteret County Planning, Municipal Administrations	Staff Time	GF	1 Year	Carry Forward	Carteret County Emergency Services holds an annual hurricane expo prior to hurricane season. Beaufort hosts annual information meetings, most recently alongside the National Weather Service: Cedar Point held a public information meeting in August 2024 during a Board of Commissioners Work Session. Pine Knoll Shore Emergency Management holds a hazard mitigation conference at least annually. The Strategic Planning Committee routinely brings in subject matter experts to learn how to be more resilient against man-made and natural hazards.
CA8	Continue to maintain the County's Crisis Management System to efficiently deal with emergency situations. These efforts will involve training for officials and relevant staff regarding use of the program.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	4.2	ES	**Carteret County Emergency Services,** Carteret County Planning	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County Emergency Services provides annual training to officials and all relevant staff on the County's Crisis Management system. Carteret County conducts an annual EOC activation exercise.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA9	Meet annually with all electric service providers operating within the County prior to hurricane season, in preparation for the effects of severe weather, and will provide the preliminary planning steps required for effective post-disaster recovery.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Earthquake, Dam & Levee Failure	Med	4.2	ES	**Carteret County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS, Electric Service Providers	Other – meet annually	Carry Forward	Carteret County Emergency Services meets annually with electric service providers. Pine Knoll Shores continues to meet annually with Carteret Craven Electric Co-Op to address utility concerns and post-disaster recovery. Cedar Point held a telephone conference with electric service providers.
CA10	Maintain all property acquired within the Special Flood Hazard Area (SFHA) as undisturbed open space in perpetuity. Continue to proactively establish open space within the floodplain and floodway as HMGP grant funds become available to carry out this initiative.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricane & Coastal Hazards, Dam & Levee Failure	High	1.2	NRP	**Carteret County Planning,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County and Pine Knoll Shores will maintain property within the SFHA acquired with FMA or HMGP funding as undisturbed open space. Carteret County will continue to seek FMA/HMGP funding for open space preservation. Beaufort has not acquired any property within the SFHA with FMA or HMGP funding. Cedar Point actively protects its 56-acre park and is looking for other parcels to acquire with grant funds.
CA11	Integrate, when feasible, new greenway and public park improvements into comprehensive planning and capital improvement efforts (including coordination with the County's certified CAMA Land Use Plans).	Carteret County, Beaufort, Morehead City	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	1.2	P, SP	**Carteret County Parks and Recreation,** Carteret County Planning, Morehead City Parks and Recreation	To Be Determined	GF, NCDEQ	Other – as opportunities arise	Carry Forward	The County updated and adopted its CAMA LUP in 2021/22 and these items have been incorporated into the updated CAMA LUP. Beaufort's new Parks & Recreation Comprehensive Plan (2024), CAMA and Comprehensive Land Use Plan (2023), the Resilient Beaufort plan (2018) emphasize greenway and park establishment, expansion, and improvement. Pine Knoll Shores is currently updating its certified CAMA Land Use plan and pedestrian master plan this year and will incorporate these items into the updated plan.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA13	Review and update respective Flood Damage Prevention Ordinances as deemed necessary. Once annually, all jurisdictions will conduct a review to ensure that the current FDPO is compliant with all FEMA and NCEM mandates.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	1.2	PP	**Carteret County Planning, Municipal Administrations**	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County amended and updated its FDPO in 2020 and again in 2023 to align with the State's most recent edition of the Coastal Model Ordinance and to incorporate new Coastal A flood zone construction standards. The current adopted FDPO is in compliance with all State and Federal floodplain management requirements. Beaufort is beginning a comprehensive update to land development ordinances to create a new Unified Development Ordinance, which will include the integration and modernization of the Town's Flood Damage Prevention Ordinance in accordance with current best practices and guidance from FEMA and NCEM. Pine Knoll Shores has recently updated its flood protection ordinance. Cedar Point updated its Flood Damage Prevention Ordinance in preparation of new FEMA maps that took effect June 19, 2020. A subsequent review was made to determine compliance with NCGS 160-D.
CA14	Strive to maintain respective CRS ratings through implementation of a comprehensive floodplain management program.	Carteret County, Atlantic Beach, Beaufort, Cape Carteret, Cedar Point, Emerald Isle, Morehead City, Newport, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.2	P, PP	**Carteret County Planning, Municipal Administrations**	$15,000/ Staff Time	GF, NCDPS, HMGP, BRIC, UHMA	Ongoing – next 5 years	Carry Forward	Carteret County is now a CRS Class 9. County staff will continue to provide CRS recertification documentation on an annual basis and conduct credited activities to maintain this rating. Staff will continually look for ways to improve the CRS rating. Beaufort's Class 7 CRS rating is maintained through annual outreach and reporting efforts. Staff will work towards a class reduction at the next cycle visit. Pine Knoll Shores continues to participate in the CRS program will provide documentation to maintain class 6 CRS rating. Cedar Point actively seeks to maintain and improve its CRS rating.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA15	Maintain a map information service involving the following: (1) Provide information relating to Flood Insurance Rate Maps (FIRMs) to all inquirers, including a provision of information on whether a given property is located with a flood hazard area; (2) Provide information regarding the flood insurance purchase requirement; (3) Maintain historical and current FIRMs; (4) Advertise once annually in the local newspaper the availability of FIRMs; and (5) Provide information to inquirers about local floodplain management requirements.	Carteret County, Atlantic Beach, Beaufort, Cape Carteret, Cedar Point, Emerald Isle, Morehead City, Newport, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	2.2	PIO	**Carteret County Planning,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County and Pine Knoll Shores continue to provide a map information service to residents/visitors/ property owners/real estate agents and anyone else inquiring about FIRM information. Beaufort maintains paper FIRMs in Town Hall in the Planning & Inspections Department. The town tracks map changes, annexations, new subdivisions, LOMR/LOMAs, and other FIRM changes in digital and paper format. Digital versions are stored on the server, which is backed up to a cloud system. The town further maintains all paper FIRMs dating prior to 1999. Beaufort conferences with contractors, property owners, real estate agents, developers, and other interested parties regarding the FIRMs, flood insurance purchase requirement, and applicable floodplain management requirements. Cedar Point maintains both paper and digital (GIS and PDF) maps of the most recent FIRM.
CA16	Mail a notice annually to all property owners in an effort to educate citizens about dangers associated with flooding in low-lying coastal areas.	Carteret County, Atlantic Beach, Beaufort, Cape Carteret, Cedar Point, Emerald Isle, Morehead City, Newport, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	2.2	PIO	**Carteret County Planning,** Municipal Administrations	To Be Determined	GF, NCDPS	Other – Once Annually	Carry Forward	Carteret County mails all property owners a flood tips brochure each year with their tax bill regardless of flood zone. 100% of property owners receive this flood tips brochure. Additionally, property owners in Repetitive Loss Areas (RLAs) receive annual notification on their susceptibility to flooding and grant opportunities. Beaufort also provides information throughout the year in the Town's newsletter with the monthly water/sewer bill mailings.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA17	Make information regarding hazards and development regulations within floodplains available through: (1) Ensure that the local library maintains information relating to flooding and flood protection; (2) Provide a link on the county website to FEMA resources addressing flooding and flood protection; (3) Provide a link on all participating municipalities' websites to FEMA resources addressing flooding and flood protection, evacuation procedures, disaster preparedness, and post-disaster recovery; and (4) Provide website links to relevant hazard mitigation websites. (5) Provide information to local real estate agents.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	2.2	PIO	**Carteret County Planning,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County maintains links to numerous FEMA and NFIP resources on its Carteret County Flood Information website and emergency preparedness website. Beaufort staff annually confirms that flood information is maintained at the Beaufort Branch Carteret County Public Library; several links to relevant resources are found in the Hurricane Preparedness/Flood Information website and throughout the Town website; and information is provided to local real estate agents as part of Community Rating System outreach. Cedar Point and Pine Knoll Shores maintain links to FEMA resources on their websites.
CA18	Support the efforts of the Carteret County Local Emergency Planning Committee (LEPC) in their effort to address hazards associated with the storage of chemicals, noxious waste material and bulk fuel.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Hurricanes & Coastal Hazards, Flooding	Low	4.2	ES	**Carteret County LEPC**	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Carteret County is working on getting a more active LEPC. Staff from Pine Knoll Shores will continue to participate in the LEPC.
CA19	Continue to monitor water resources to mitigate the impacts of drought conditions. These efforts will include maintaining a local water shortage ordinance. This ordinance will be activated in coordination with all utility providers as the need arises.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Drought	Med	1.5	P, NRP	**Carteret County Planning,** Municipal Administrations	Staff Time	GF, NCDEQ	Other – As necessary	Carry Forward	Carteret County continually monitors water resources and maintains a water shortage ordinance. Beaufort's Public Utilities Department monitors water availability and has a water shortage ordinance for emergencies. Pine Knoll Shores continually monitors water resources. The town does not currently have a water shortage ordinance but will investigate this moving forward. Cedar Point Public Works Department tracks/reviews rainfall data.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA20	Collaborate to provide education and training to local government officials to broaden understanding of public policy relating to hazard mitigation.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	All Hazards	Low	4.2	PIO	**Carteret County Emergency Services,** Carteret County Administration, Municipal Administration	Staff Time	GF	Other - Annually	Carry Forward	County staff attend meetings of the Carteret County Floodplain Administrators group and support efforts to provide training to local government officials. The County employs two CFMs. Beaufort and Pine Knoll Shores staff participate in meetings of Carteret County's Floodplain Administrators group. Beaufort employs one CFM with another staff member training to become CFM by the end of 2025. Pine Knoll Shores employs two CFMs. Cedar Point seeks opportunities for education of officials.
CA21	Continue to proactively seek out grant funding through NCEM and FEMA for mitigation of repetitive loss properties (RLPs) and other high risk properties from future flooding events. The County will maintain a list of RLPs, and on an annual basis, will apply for funding for all structures that meet cost-benefit thresholds as defined by FEMA. Carteret County will assist all municipal jurisdictions in working through the structural mitigation grant funding process.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.1	PP	**Carteret County Planning Department,** Carteret County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS, HMGP, BRIC, UHMA	Ongoing – next 5 years	Carry Forward	Carteret County continues to aggressively seek out grant funding for elevating RLPs and SRLPs and is currently administering a grant program to rehabilitate and mitigate properties during recent hurricanes. The County also maintains an up-to-date list of all RLPs and SRLPs in the County. Beaufort provides information on available funding to property owners and provides assistance with the application process as possible. Pine Knoll Shores continues to aggressively seek grant funding for elevating RLPs. This is a particular challenge because Pine Knoll Shores generally is not favorable for grant opportunities. Cedar Point will be seeking participants from the Repetitive Loss List to assist with mitigation through the FMA program.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA22	Increase the availability of skilled contractors to perform needed work post hazard by: • Developing a partnership with major local contractors in selected areas (roofing, tree trimming, etc.), such that they will deploy resources and skilled contractors to affected areas as needed. • Creating local contractor retention plan (perhaps with incentives related to permits, commitments for County/City projects, a reduction in community college tuition, etc.) to reduce the flight of local skilled labor.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorms, Severe Winter Weather, Earthquake, Dam & Levee Failure	Med	2.2	PP	**Carteret County Planning Department,** Carteret County Board of Commissioners, Municipal Administrations	Staff Time	GF	2 to 3 years	Carry Forward	Carteret County has a team of licensed building inspectors that continually work with local contractors to streamline the building and debris removal process immediately after an emergency or disaster situation. Beaufort works with local and traveling contractors to ensure proper permitting and inspections are provided for post-hazard work.
CA23	Improve awareness regarding the intensity of natural hazard events as they materialize and subside by: • Establishing an emergency radio broadcast frequency that runs a recorded message pre- and post-hazard to communicate critical-time sensitive information. It could include things like routes/ bridges that are open or closed, weather/hazard forecasts, location of emergency shelters. • More fully utilizing County/Town websites to provide pre-hazard and post-hazard recovery information (debris pick up schedule, critical dates, forms, phone numbers, housing availability, etc.).	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Earthquake, Dam & Levee Failure	High	2.2	ES	**Carteret County Emergency Services,** Carteret County Board of Commissioners, Municipal Administrations	Staff Time	GF	2 to 3 years	Carry Forward	Beaufort provides access to a mass notification platform called Regroup to broadcast emergency messaging via email, text message/SMS, and voice call, with online signup. Beaufort utilizes social media platforms, “sunshine list” emails, and website posting for emergency messaging in addition to emergency alerts and press releases.
CA24	Continue to coordinate annually with the NC Forest Service to address the threat of wildfire throughout the County. These efforts will involve posting of the daily fire risk present within the County on the County website daily. Additionally, the County will distribute and make information available regarding County methods for mitigating fire hazards.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Wildfire	High	4.1	PP	**Carteret County Emergency Services,** Carteret County Board of Commissioners, Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	Other - Annually	Carry Forward	In Progress. Carteret County coordinates with NC Forest Service on wildfire mitigation and preparedness.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CA25	Conduct wildfire risk assessments in all participating communities, engage residents, and co-create individual mitigation action plans to protect people, property, and natural resources from wildland fire.	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Wildfire	Med	4.1	P, PP	**Carteret County Emergency Services,** Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	3-5 years	New	
CA26	Improve stormwater management planning and implement stormwater improvement projects.	Emerald Isle	Flooding, Hurricane & Coastal Hazards	High	1.3	SP	**Emerald Isle Planning Department**	TBD; will vary by project	GF, BRIC, HMGP, State grant funds, NCDEQ	3-5 years	New	
CA27	Support beach preservation efforts through the Carteret County Shoreline Protection Office, including stabilizing erosion hazard areas.	Carteret County, Emerald Isle	Flooding, Hurricane & Coastal Hazards	Med	1.3	SP	**Carteret County Shoreline Protection Office,** Emerald Isle Planning Department	TBD	Local funds	3-5 years	New	
CA28	Create or Update Community Wildfire Protection Plans in each fire district	Carteret County, Atlantic Beach, Beaufort, Bogue, Cape Carteret, Cedar Point, Emerald Isle, Indian Beach, Morehead City, Newport, Peletier, Pine Knoll Shores	Wildfire	Med	4.1	P, PIO	**Carteret County Staff,** NC Forest Service	To Be Determined	Grant Funds	3-5 years	New	

ANNEX C CRAVEN COUNTY

C.1 ASSET INVENTORY

Craven County and the HMPC provided a local inventory of critical facilities and community lifelines, which are a priority for mitigation planning and emergency management. Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. Table C.1 through Table C.9 provides a count of critical facilities by FEMA lifeline category by jurisdiction in Craven County. Figure C.1 through Figure C.9 show the locations of all critical facilities in Craven County and participating jurisdictions.

Table C.10 provides a detailed inventory of the critical facilities in Craven County, indicating each facility's FEMA lifeline category, flood zone, 1% annual chance flood depth, and vulnerability to storm surge, sea level rise, and wildfire. More information on hazard vulnerability is provided in the hazard profiles.

Table C.1 – Critical Facilities by Type, Unincorporated Craven County

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	74	$21,930,220
Hazardous Materials	0	$0
Health and Medical	4	$0
Safety and Security	33	$3,072,220
Transportation	0	$0
Water Systems	58	$29,551,810
Total	**169**	**$54,554,250**

Table C.2 – Critical Facilities by Type, City of Havelock

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	11	$0
Hazardous Materials	0	$0
Health and Medical	1	$0
Safety and Security	4	$2,029,100
Transportation	0	$0
Water Systems	5	$2,055,600
Total	**21**	**$4,084,700**

Table C.3 – Critical Facilities by Type, City of New Bern

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	14	$56,726,600
Hazardous Materials	0	$0
Health and Medical	27	$257,056,000
Safety and Security	11	$1,425,300
Transportation	0	$0
Water Systems	4	$0
Total	**56**	**$315,207,900**

Table C.4 – Critical Facilities by Type, Town of Bridgeton

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$0
Transportation	0	$0
Water Systems	4	$0
Total	**6**	**$0**

Table C.5 – Critical Facilities by Type, Town of Cove City

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$7,180
Transportation	0	$0
Water Systems	2	$0
Total	**4**	**$7,180**

Table C.6 – Critical Facilities by Type, Town of Dover

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$416,300
Transportation	0	$0
Water Systems	4	$405,730
Total	**5**	**$822,030**

Table C.7 – Critical Facilities by Type, Town of River Bend

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	1	$5,643,300
Safety and Security	3	$244,010
Transportation	0	$0
Water Systems	13	$347,150
Total	**17**	**$6,234,460**

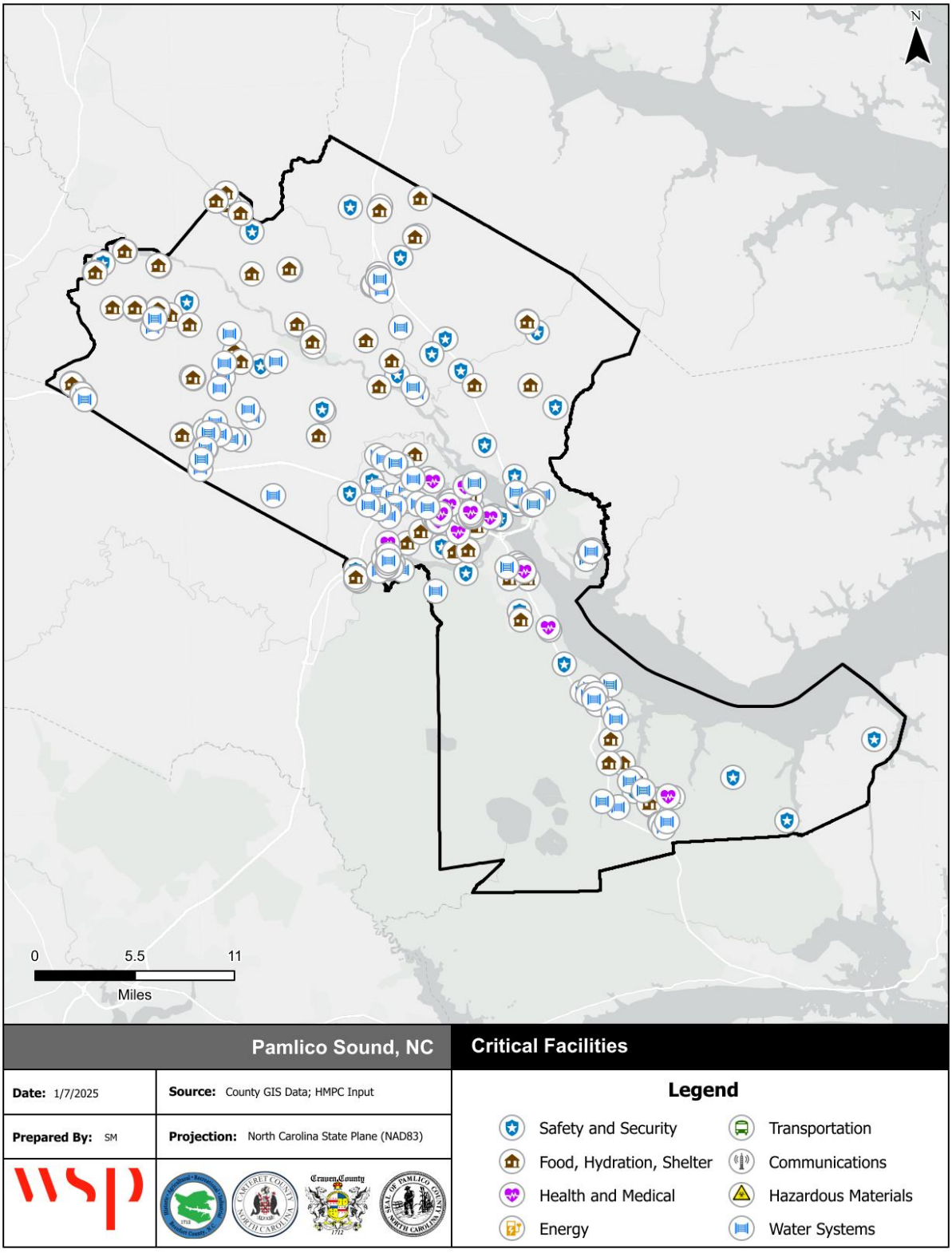
Table C.8 – Critical Facilities by Type, Town of Trent Woods

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$0
Transportation	0	$0
Water Systems	0	$0
Total	**3**	**$0**

Table C.9 – Critical Facilities by Type, Town of Vanceboro

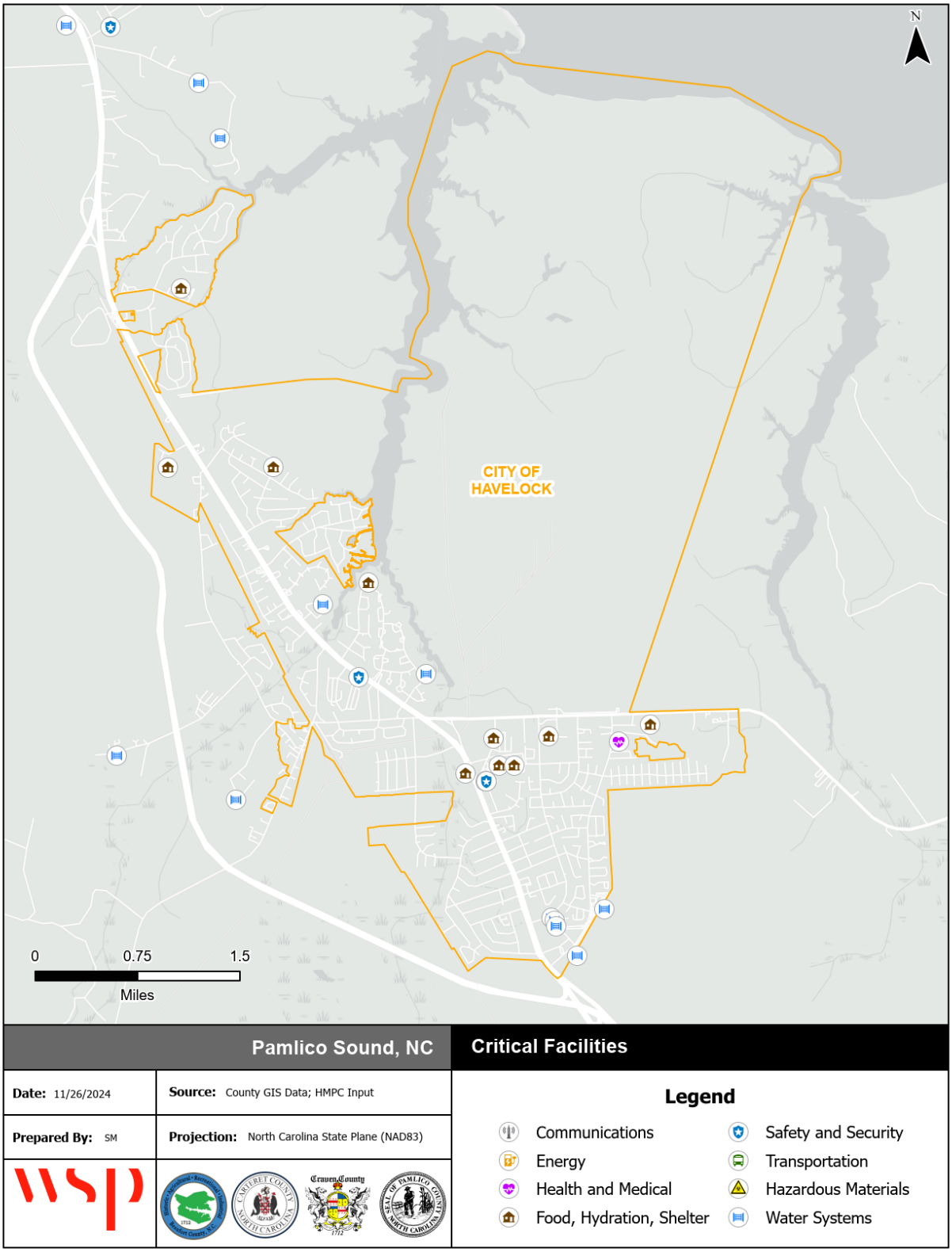
Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	1	$0
Safety and Security	2	$0
Transportation	0	$0
Water Systems	3	$0
Total	**7**	**$0**

Figure C.1 – Critical Facilities, Craven County



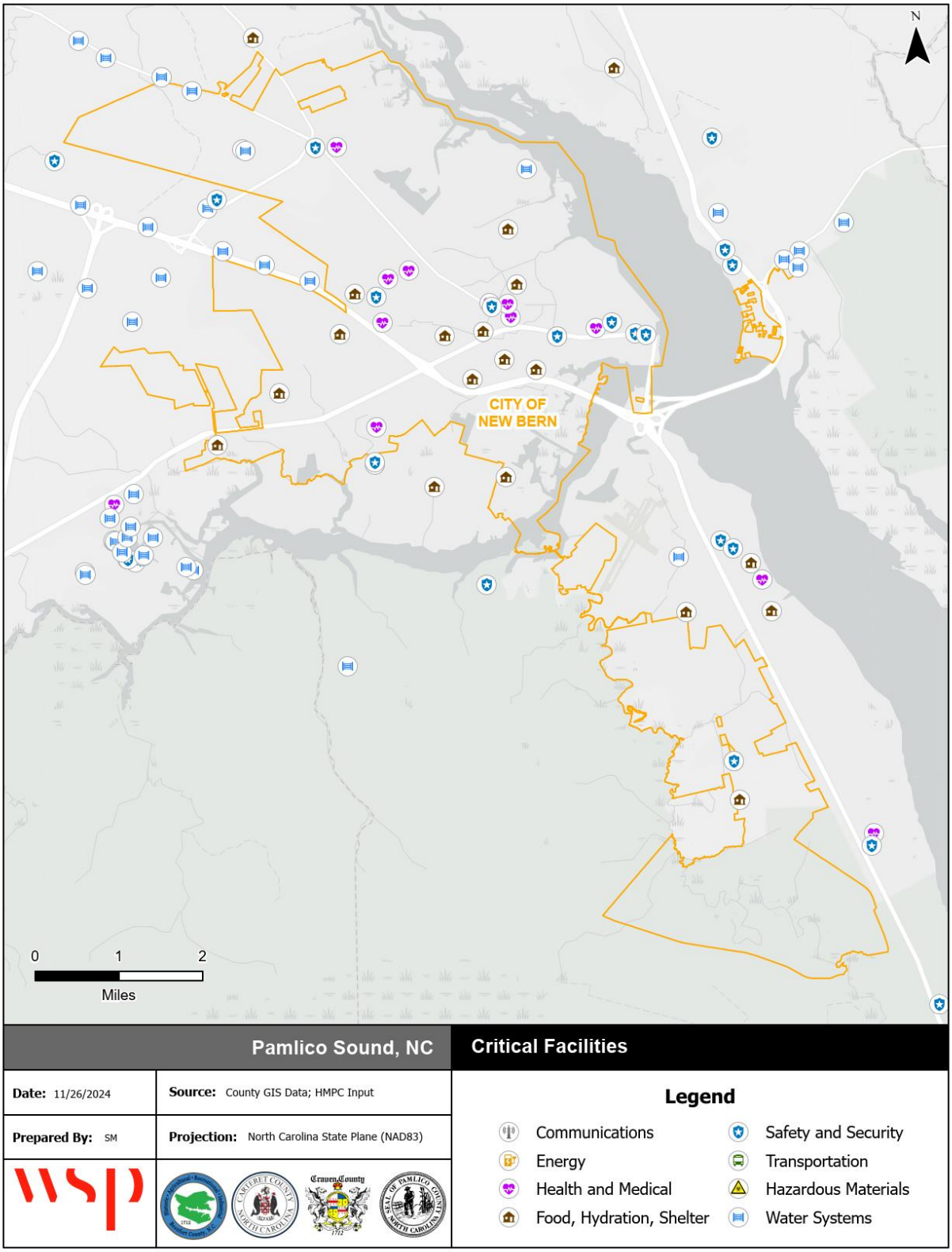
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure C.2 – Critical Facilities, City of Havelock



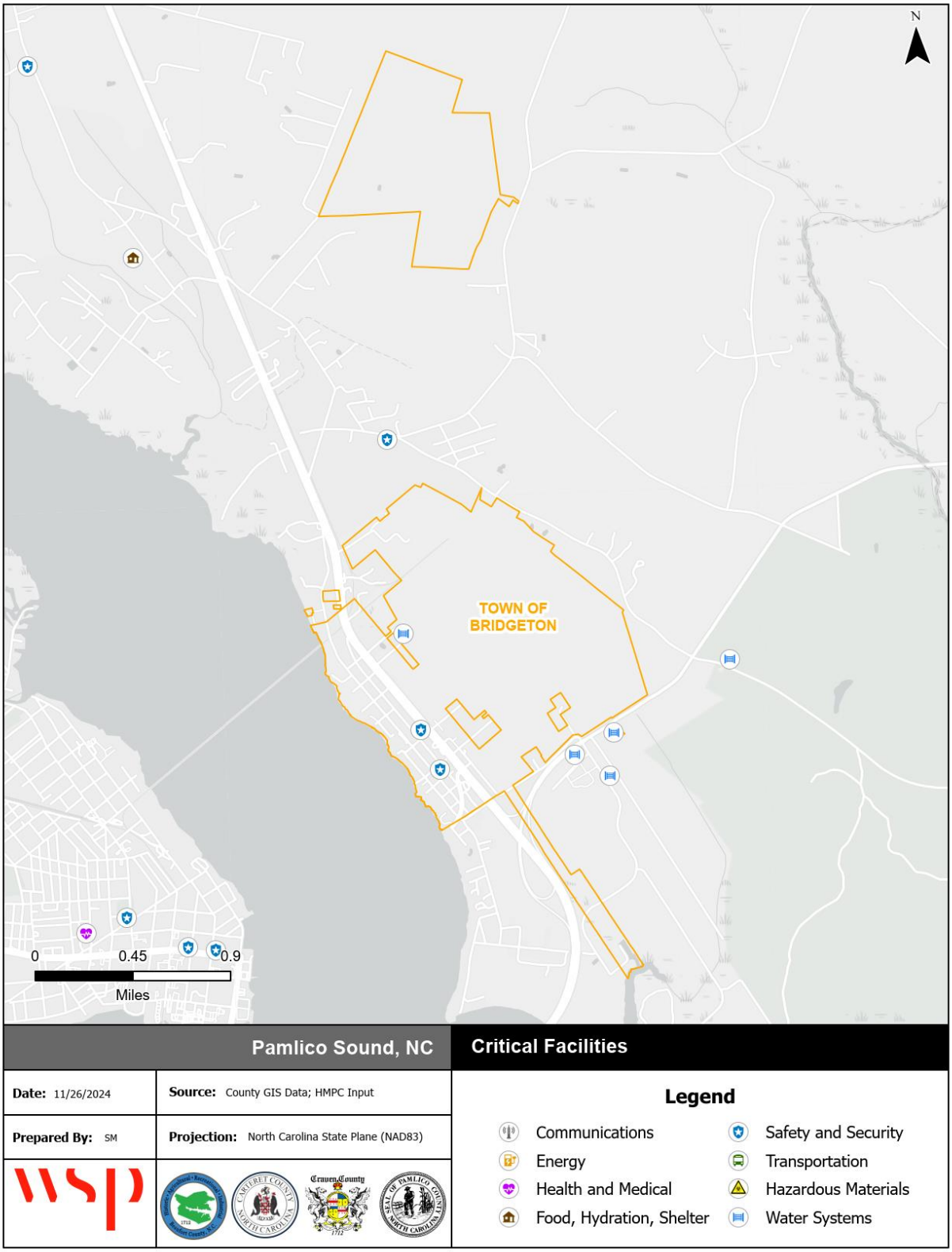
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure C.3 – Critical Facilities, City of New Bern



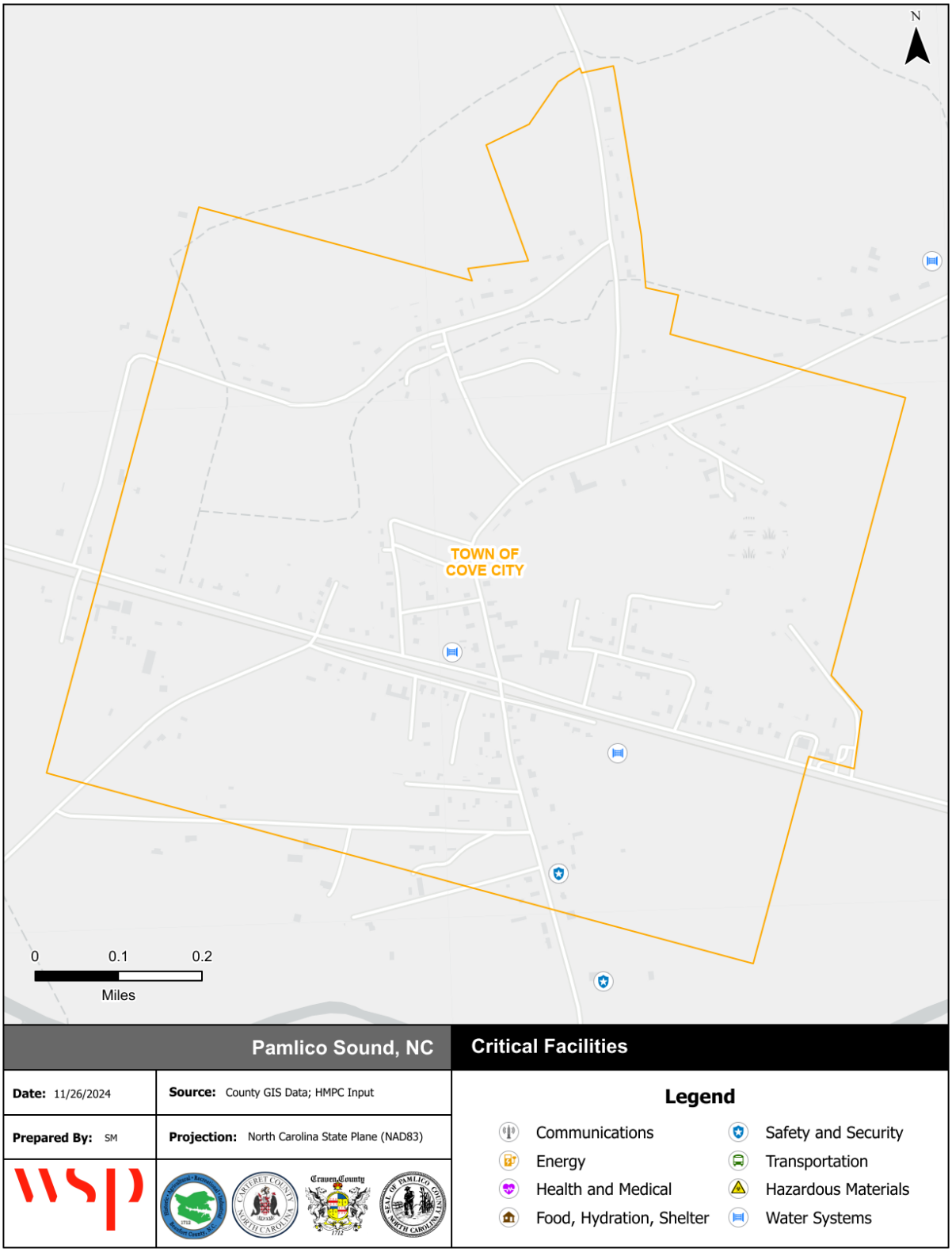
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure C.4 – Critical Facilities, Town of Bridgeton



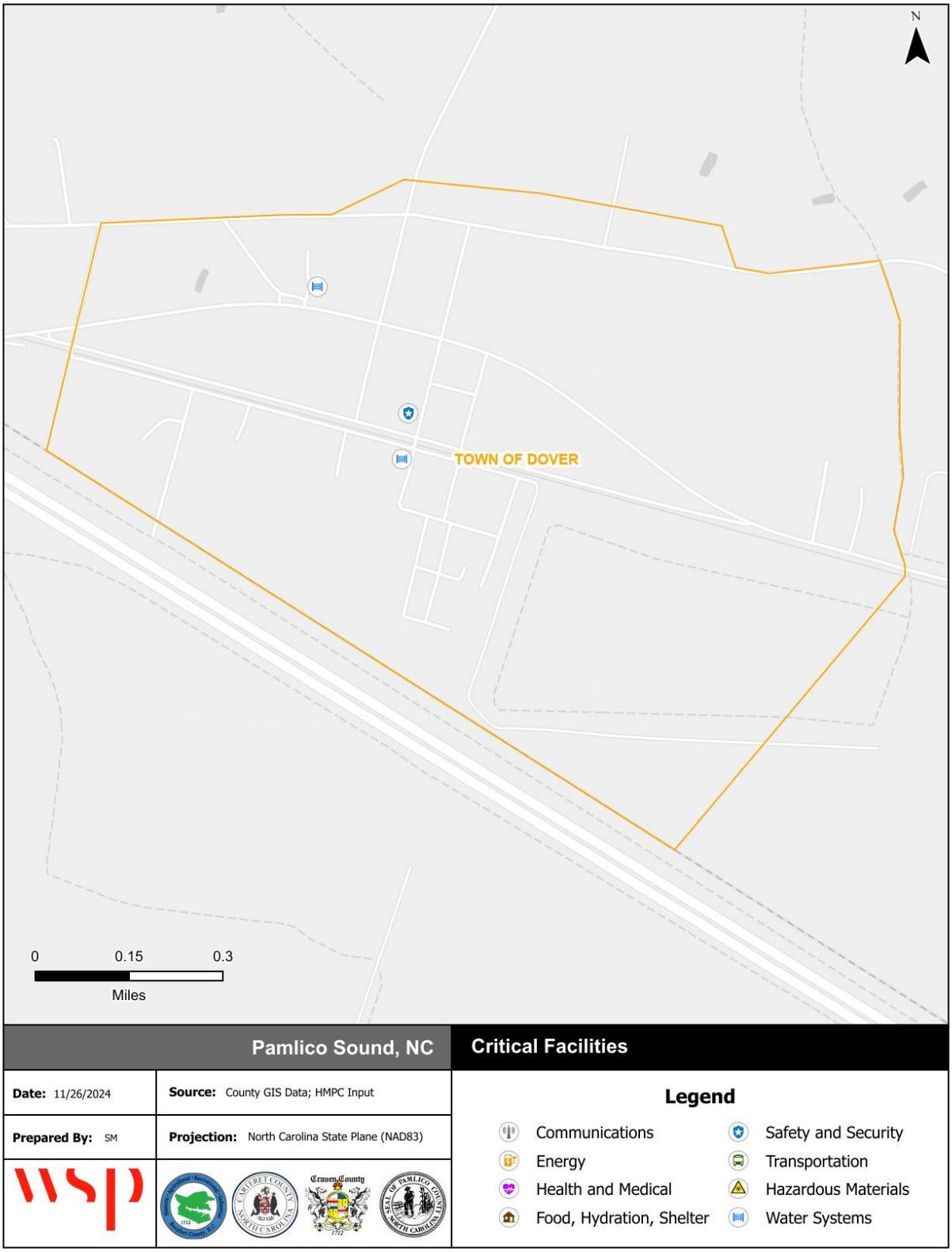
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure C.5 – Critical Facilities, Town of Cove City



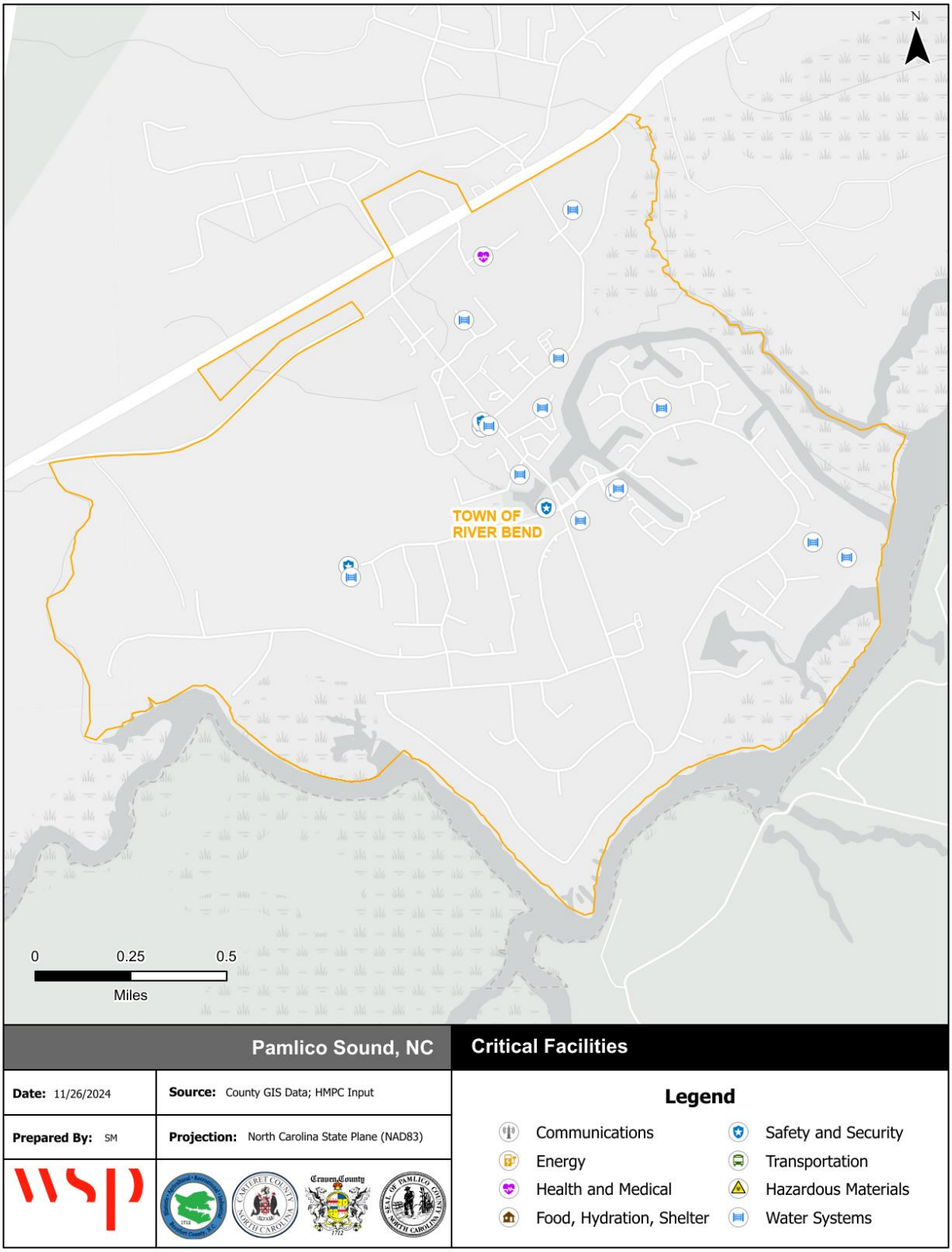
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure C.6 – Critical Facilities, Town of Dover



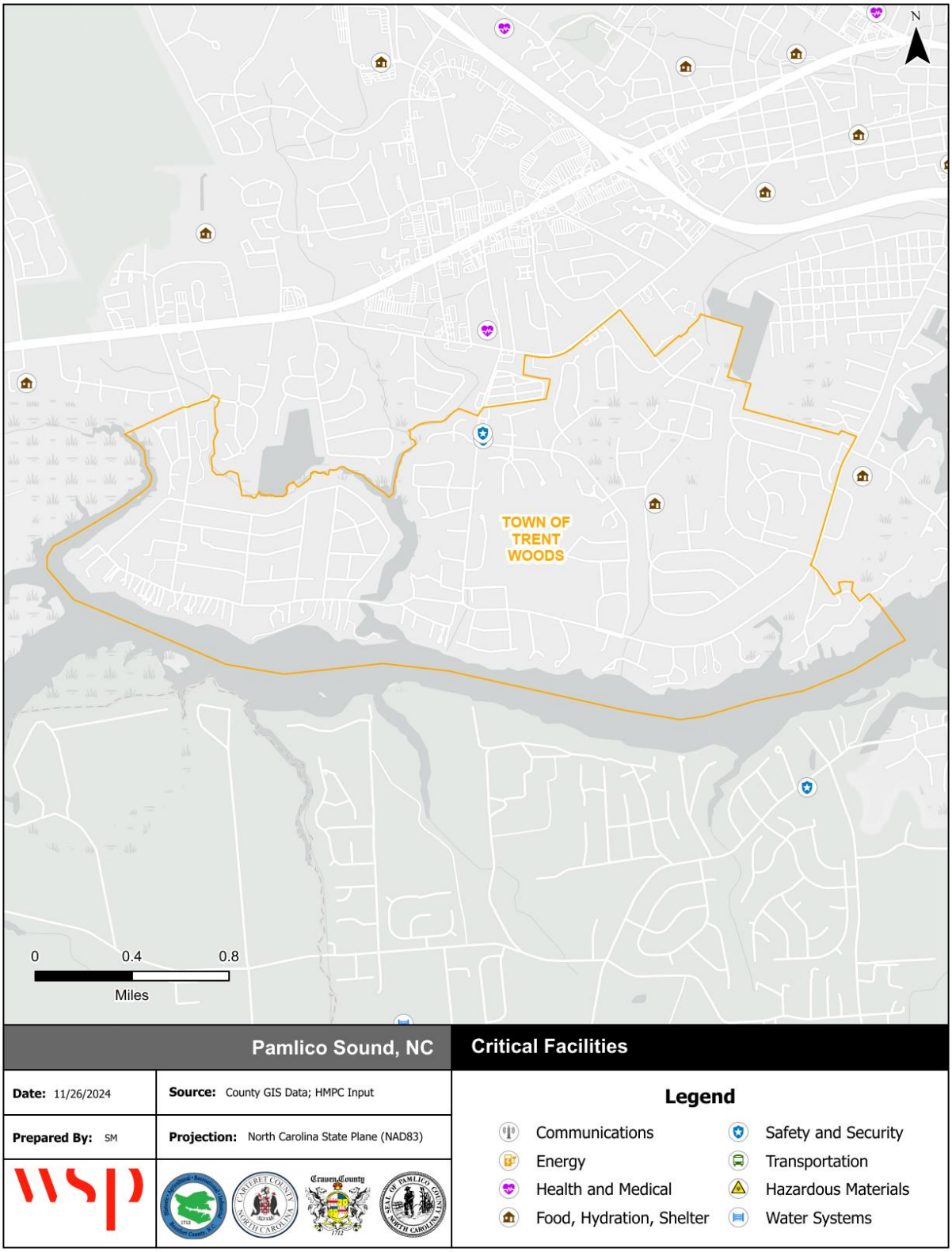
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure C.7 – Critical Facilities, Town of River Bend



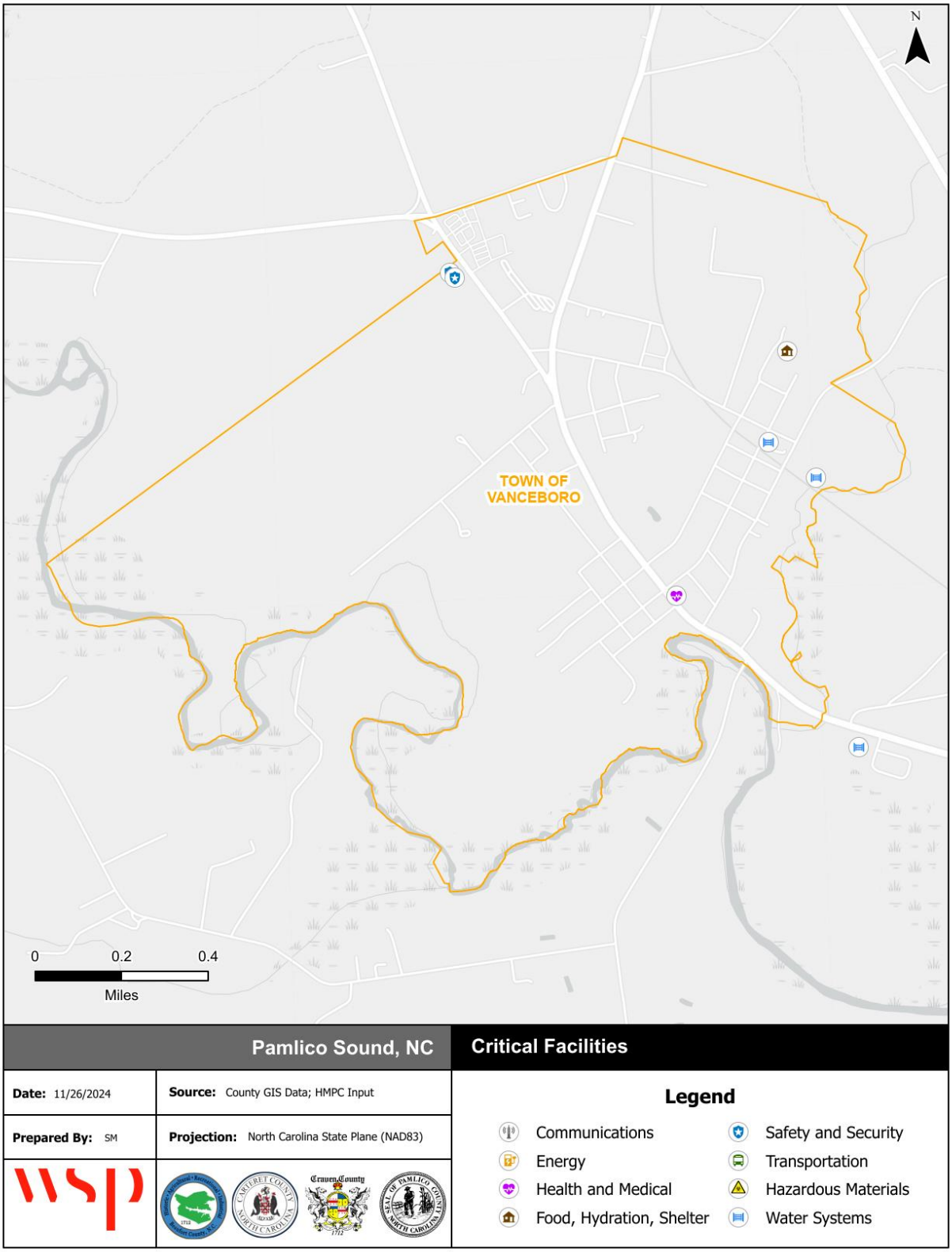
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure C.8 – Critical Facilities, Town of Trent Woods



Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure C.9 – Critical Facilities, Town of Vanceboro



Source: NCEM IRISK Database, HMPC input, GIS Analysis

Table C.10 – Craven County Critical Facilities Inventory

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Unincorporated Craven County										
Water Systems	Water Treatment Distribution	-	$138,210	X Unshaded	0.1	NA	5	Y	1	6
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	NA	-	5	0
Water Systems	Water Treatment Distribution	-	$108,310	X Unshaded	0.1	NA	NA	Y	0	0
Water Systems	Water Treatment Distribution	-	$87,060	AE	7.0	NA	NA	Y	0	5
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	NA	Y	4	0
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	NA	-	5	0
Water Systems	Water Treatment Distribution	-	$159,420	X Unshaded	0.1	NA	NA	-	0	4
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	NA	-	0	0
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	NA	-	4	8
Water Systems	Sewer Treatment	1610 Old Airport Road	$0	X Unshaded	0.1	NA	5	-	4	3
Water Systems	Sewer Treatment	Vanceboro WWTP	$5,540	AE	3.1	10	3	-	3	5
Water Systems	Sewer Treatment	Neuse River	$1,103,500	X Unshaded	0.1	NA	5	Y	5	4
Water Systems	Sewer Treatment	Stately Pines WWTP	$253,520	AE	6.7	3	4	Y	5	7
Water Systems	Public Water Supply	9479 Old US 70/ 1.4mi. E. Cove City	$0	X Unshaded	0.1	NA	NA	-	0	5
Water Systems	Public Water Supply	9830 Old US 70 8mi. E Cove City	$0	AE	0.1	NA	NA	Y	0	6
Water Systems	Public Water Supply	290-Trenton Rd. 1mi. S Cove City	$0	X Unshaded	0.1	NA	NA	Y	0	7
Water Systems	Public Water Supply	400 Trenton Rd	$0	X Unshaded	0.1	NA	NA	-	0	0
Water Systems	Public Water Supply	1555 NC 55 Hwy West	$0	X Unshaded	0.1	NA	NA	-	0	0
Water Systems	Public Water Supply	1815 NC 55 Hwy West	$0	X Unshaded	0.1	NA	NA	Y	0	3
Water Systems	Public Water Supply	100 S. Warren Road	$0	X Unshaded	0.1	NA	NA	-	0	0
Water Systems	Public Water Supply	200 N. Duffy Road	$0	X Unshaded	0.1	NA	NA	-	0	7
Water Systems	Public Water Supply	400 N. Duffy Road	$0	X Unshaded	0.1	NA	NA	-	5	5
Water Systems	Public Water Supply	520 N. Duffy Road	$0	X Unshaded	0.1	NA	NA	Y	5	6
Water Systems	Public Water Supply	500 N. Duffy Road	$0	X Unshaded	0.1	NA	NA	Y	5	2
Water Systems	Public Water Supply	600 N. Duffy Road	$0	X Unshaded	0.1	NA	NA	Y	4	8
Water Systems	Public Water Supply	460 N. Warren Road	$0	X Unshaded	0.1	NA	NA	-	5	7
Water Systems	Public Water Supply	400 N. Warren Road	$0	X Unshaded	0.1	NA	NA	-	5	8

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Water Supply	200 N. Warren Road	$0	X Unshaded	0.1	NA	NA	-	5	7
Water Systems	Public Water Supply	100 Mansfield Road	$0	X Unshaded	0.1	NA	NA	-	5	7
Water Systems	Public Water Supply	81 Beaman Road	$0	X Unshaded	0.1	NA	NA	-	4	3
Water Systems	Public Water Supply	Brown Blvd on east side of McCotter Canal	$0	X Unshaded	0.1	NA	5	Y	5	7
Water Systems	Public Water Supply	Access Rd 500 Ft SE of McCotter Blvd and US-70, 2500 Ft down access Rd	$0	X Unshaded	0.1	NA	NA	Y	5	7
Water Systems	Public Water Supply	2770 Wintergreen Road	$0	X Unshaded	0.1	NA	NA	-	0	5
Water Systems	Public Water Supply	750 Dover Road	$0	X Unshaded	0.1	NA	NA	Y	4	0
Water Systems	Public Water Supply	3270 Dover Ft Barnwell Rd (SR 1262)	$7,910	X Unshaded	0.1	NA	NA	-	1	4
Water Systems	Public Water Supply	7610 NC Hwy 55 W	$0	X Unshaded	0.1	NA	NA	-	1	4
Water Systems	Public Water Supply	2035 Wintergreen Road	$0	X Unshaded	0.1	NA	NA	-	0	4
Water Systems	Public Water Supply	3270 Dover Ft Barnwell Rd	$7,910	X Unshaded	0.1	NA	NA	-	1	4
Water Systems	Public Water Supply		$0	X Unshaded	0.1	NA	NA	-	0	4
Water Systems	Public Water Supply	2770 Wintergreen Road	$205,130	X Unshaded	0.1	NA	NA	-	0	0
Water Systems	Public Water Supply	750 Dover Road	$0	X Unshaded	0.1	NA	NA	Y	4	0
Water Systems	Public Water Supply	7610 NC Hwy 55 W	$0	AE	7.5	5	1	-	0	6
Water Systems	Public Water Supply	South end of MHP	$259,500	X Unshaded	0.1	NA	5	Y	5	5
Water Systems	Public Water Supply	South End of the Park on Left	$0	X Unshaded	0.1	NA	NA	Y	5	7
Water Systems	Public Water Supply	Sales Office across from Fairfield Harbor Front Gate	$0	AE	0.3	8	2	Y	2	5
Water Systems	Public Water Supply	Caracara Dr next to Golf	$0	X Unshaded	0.1	NA	3	Y	0	3
Water Systems	Public Water Supply	Storage & Pump Station; 575 Broadcreek Rd.	$239,600	X Unshaded	0.1	NA	3	Y	0	5
Water Systems	Public Water Supply	South Side of Filter Plant	$13,488,100	X Shaded	0.1	NA	3	-	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Water Supply	West Side of Property Front of the cafe	$0	X Unshaded	0.1	NA	NA	-	5	7
Water Systems	Public Water Supply	Behind Region Office Bldg	$13,488,100	AE	0.1	NA	3	Y	1	5
Water Systems	Water - Flanner's Beach #3	6440 E US Hwy 70	$0	X Unshaded	0.1	NA	NA	Y	5	7
Water Systems	Water - Flanner's Beach #2	304 Flanner's Beach Rd	$0	X Unshaded	0.1	NA	NA	Y	5	4
Water Systems	Water - Well Flanner's Beach #4	6620 E US Hwy 70	$0	X Unshaded	0.1	NA	NA	-	5	7
Water Systems	Water - Well Flanner's Beach #5	105 Robertson Ln	$0	X Unshaded	0.1	NA	NA	Y	5	7
Water Systems	Water - Well Stately Pines Road #2	6940 E US Hwy 70	-	X Unshaded	0.1	NA	NA	Y	5	0
Water Systems	Water - Well Stately Pines Road #3	6730 E US Hwy 70	$0	X Unshaded	0.1	NA	NA	Y	5	7
Water Systems	Water - Well Lewis Farm Road #1	460 Lewis Farm Rd	$0	X Unshaded	0.1	NA	5	Y	5	0
Water Systems	Water - Potable Water Treatment Plant	280 Mill Dam Rd	$0	X Unshaded	0.1	NA	NA	-	0	0
Safety & Security	Law Enforcement - Craven County Sheriffs Department / Craven County Jail	1100 Clarks Rd	$0	X Unshaded	0.1	NA	NA	-	0	0
Safety & Security	Law Enforcement - Craven County Detention Center Work Release	Alligator Road	$0	X Unshaded	0.1	NA	NA	-	5	3
Safety & Security	Law Enforcement - United States Forest Service - Croatan National Forest Croatan Ranger District	141 East Fisher Avenue	$0	X Unshaded	0.1	NA	NA	Y	5	6
Safety & Security	Law Enforcement - North Carolina State Highway Patrol Troop A District Vi	1001 Downey Dr	$0	X Unshaded	0.1	NA	NA	-	5	7
Safety & Security	Fire Stations - Tri-Community Volunteer Fire District	589 Broad Creek Road	$313,400	X Unshaded	0.1	NA	3	Y	3	0
Safety & Security	Fire Stations - Fort Barnwell Volunteer Fire Department	102 William Pearce Road	$157,200	X Unshaded	0.1	NA	NA	Y	2	5
Safety & Security	Fire Stations - Little Swift Creek Volunteer Fire Department	320 Macedonia Church Road	$100	X Unshaded	0.1	NA	NA	Y	3	0
Safety & Security	Fire Stations - Fort Barnwell Volunteer Fire Department	9327 State Highway 55 West	$777,100	X Unshaded	0.1	NA	NA	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	Fire Stations - Vanceboro Rural Volunteer Fire Department	3425 River Road	$95,000	AE	1.5	10	2	Y	0	6
Safety & Security	Fire Stations - Harlow Volunteer Fire Department	801 Ferry Road	$0	X Unshaded	0.1	NA	4	Y	6	5
Safety & Security	Fire Stations - Number 9 Township Volunteer Fire Department	2431 Asbury Road	$0	X Unshaded	0.1	NA	NA	Y	3	0
Safety & Security	Fire Stations - Harlow Volunteer Fire Department	5161 Adams Creek Road	$37,100	X Unshaded	0.1	10	2	Y	5	0
Safety & Security	Fire Stations - Number 7 Township Volunteer Fire Department	1705 Old Cherry Point Rd	$0	X Unshaded	0.1	NA	NA	Y	0	0
Safety & Security	Fire Stations - Vanceboro Rural Volunteer Fire Department	201 Oak Grove Road	$0	X Unshaded	0.1	NA	NA	Y	0	8
Safety & Security	Fire Stations - Little Swift Creek Volunteer Fire Department	761 Antioch Road	$0	AE	0.8	NA	3	Y	0	0
Safety & Security	Fire Stations - Number 7 Township Volunteer Fire Department	4530 Old Cherry Point Road	$63,220	X Unshaded	0.1	NA	NA	Y	0	3
Safety & Security	Fire Stations - Number 7 Township Volunteer Fire Department	1815 Brices Creek Road	$296,900	AE	1.5	8	2	Y	5	0
Safety & Security	Fire Stations - Number 9 Township Volunteer Fire Department	3783 State Highway 55 West	$159,600	X Unshaded	0.1	NA	NA	-	4	5
Safety & Security	Fire Stations - Vanceboro Rural Volunteer Fire Department	4080 Nc 118	$732,410	X Unshaded	0.1	NA	NA	-	0	6
Safety & Security	Fire Stations - Tri-Community Volunteer Fire District	651 Truitt Road	$55,500	X Unshaded	0.1	NA	NA	Y	5	3
Safety & Security	Fire Stations - North Carolina Division Of Forest Resources District 4 - Craven County	690 Weyerhaeuser Road	$104,600	X Unshaded	0.1	NA	4	-	1	5
Safety & Security	Fire Stations - Little Swift Creek Volunteer Fire Department - Main Station	4580 US Highway 17 North	$0	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	Fire Stations - Township Six Fire Department	109 Carolina Pines Boulevard	$2,020	X Unshaded	0.1	NA	NA	Y	5	3
Safety & Security	Fire Stations - Little Swift Creek Volunteer Fire Department	2580 Aurora Road	$41,470	X Unshaded	0.1	NA	NA	Y	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Safety & Security	Fire Stations - Tri-Community Volunteer Fire District - Main Station	200 Saint Delights Church Roa	$0	X Unshaded	0.1	NA	5	Y	2	0
Safety & Security	Fire Stations - Harlowe Volunteer Fire Department	3930 State Highway 101	$0	X Unshaded	0.1	NA	3	-	6	6
Safety & Security	Fire Stations - Cove City Fire and Rescue Incorporated	425 South Main Street	$0	X Unshaded	0.1	NA	NA	Y	1	5
Safety & Security	Fire Stations - West of New Bern Volunteer Fire Department	102 Industrial Drive	$120,100	X Unshaded	0.1	NA	NA	-	5	3
Safety & Security	Fire Stations - Rhems Volunteer Fire Department	5860 US Highway 17 South	$0	X Unshaded	0.1	NA	NA	-	0	3
Safety & Security	EMS - New Bern Craven County Rescue Squad	3835 State Highway 55 West	$0	X Unshaded	0.1	NA	NA	-	4	0
Safety & Security	EMS - Fort Barnwell Rescue Squad	9334 State Highway 55 West	$82,500	X Shaded	0.1	NA	NA	Y	1	0
Safety & Security	EMS - Number 7 Township Rescue Squad Incorporated	1906 Old Cherry Point Road	$34,000	X Unshaded	0.1	NA	NA	Y	4	0
Safety & Security	EMS - Rhems Volunteer Fire Department	5860 US Highway 17 South	$0	X Unshaded	0.1	NA	NA	-	0	3
Health & Medical	Medical Facilities - Continuum Home Care of New Bern	2600 Old Cherry Point Road	-	X Unshaded	0.1	NA	NA	Y	4	0
Health & Medical	Medical Facilities - JW Home Care	244 Staten Road	-	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Barbara Bolling Flynn Assisted Living Facility	4522 Old Cherry Point Road	-	X Unshaded	0.1	NA	NA	Y	5	0
Health & Medical	Medical Facilities - Britthaven of New Bern	2600 Old Cherry Point Road	-	X Unshaded	0.1	NA	NA	Y	4	0
Food, Hydration, Shelter	Swine Lagoons	-	$380,010	X Unshaded	0.1	NA	NA	-	0	7
Food, Hydration, Shelter	Swine Lagoons	-	$54,550	X Unshaded	0.1	NA	4	-	4	0
Food, Hydration, Shelter	Swine Lagoons	-	$239,400	X Unshaded	0.1	NA	NA	-	0	3
Food, Hydration, Shelter	Swine Lagoons	-	$415,900	X Unshaded	0.1	NA	NA	-	2	5
Food, Hydration, Shelter	Swine Lagoons	-	$379,810	X Unshaded	0.1	NA	NA	-	2	0
Food, Hydration, Shelter	Swine Lagoons	-	$203,830	X Unshaded	0.1	NA	NA	-	4	6
Food, Hydration, Shelter	Swine Lagoons	-	$103,980	AE	0.5	NA	3	-	1	4

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Swine Lagoons - Carson Jones (Neuse 2 Farm)	-	$103,980	X Shaded	0.1	NA	3	-	1	4
Food, Hydration, Shelter	Swine Lagoons	-	$407,400	X Unshaded	0.1	NA	NA	-	1	3
Food, Hydration, Shelter	Swine Lagoons	-	$183,100	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$157,260	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$402,900	X Unshaded	0.1	NA	NA	-	0	3
Food, Hydration, Shelter	Swine Lagoons	-	$469,870	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	NA	Y	3	4
Food, Hydration, Shelter	Swine Lagoons	-	$2,121,000	X Unshaded	0.1	NA	NA	-	2	0
Food, Hydration, Shelter	Swine Lagoons	-	$17,250	X Unshaded	0.1	NA	NA	Y	5	8
Food, Hydration, Shelter	Swine Lagoons	-	$242,640	X Unshaded	0.1	NA	NA	-	0	3
Food, Hydration, Shelter	Swine Lagoons	-	$172,930	AE	1.7	NA	4	-	1	6
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	NA	Y	3	6
Food, Hydration, Shelter	Swine Lagoons	-	$319,160	X Unshaded	0.1	NA	NA	-	1	0
Food, Hydration, Shelter	Swine Lagoons	-	$182,660	X Unshaded	0.1	NA	5	-	0	6
Food, Hydration, Shelter	Swine Lagoons	-	$1,070,670	X Unshaded	0.1	NA	NA	-	2	4
Food, Hydration, Shelter	Swine Lagoons	-	$14,370	X Unshaded	0.1	NA	NA	-	0	2
Food, Hydration, Shelter	Swine Lagoons	-	$206,840	AE	0.1	NA	NA	-	0	6
Food, Hydration, Shelter	Swine Lagoons	-	$14,400	AE	4.4	NA	3	-	1	4
Food, Hydration, Shelter	Swine Lagoons	-	$380,010	X Unshaded	0.1	NA	NA	-	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$415,900	X Unshaded	0.1	NA	NA	-	2	0
Food, Hydration, Shelter	Swine Lagoons	-	$379,810	AE	1.1	NA	NA	-	1	3

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Swine Lagoons	-	$157,260	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$157,260	X Unshaded	0.1	NA	NA	-	0	5
Food, Hydration, Shelter	Swine Lagoons	-	$157,260	X Unshaded	0.1	NA	NA	-	0	4
Food, Hydration, Shelter	Swine Lagoons	-	$469,870	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	NA	-	3	4
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	NA	-	3	4
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	NA	-	3	4
Food, Hydration, Shelter	Swine Lagoons	-	$242,640	X Unshaded	0.1	NA	NA	-	0	7
Food, Hydration, Shelter	Swine Lagoons	-	$14,370	X Unshaded	0.1	NA	NA	-	0	2
Food, Hydration, Shelter	Swine Lagoons	-	$475,230	X Unshaded	0.1	NA	NA	-	1	7
Food, Hydration, Shelter	Public Schools - West Craven High	2600 Streets Ferry Road	$0	X Shaded	0.1	NA	3	-	1	0
Food, Hydration, Shelter	Public Schools - Brinson Memorial Elementary	319 Neuse Forest Avenue	$0	X Unshaded	0.1	NA	NA	Y	0	0
Food, Hydration, Shelter	Public Schools - James W Smith Elementary	150 Koonce Town Road	$0	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Public Schools - West Craven Middle	515 NW Craven Mid School Rd	$0	X Unshaded	0.1	NA	4	Y	0	0
Food, Hydration, Shelter	Non-Public Schools - New Bern Christian Academy	2911 Old Cherry Point Rd.	-	X Unshaded	0.1	NA	NA	Y	5	0
Food, Hydration, Shelter	Non-Public Schools - Strait Path Academy	4111 Dover Fort Barnwell Rd	-	X Unshaded	0.1	NA	NA	-	1	0
Food, Hydration, Shelter	Non-Public Schools - Swift Creek Mennonite School	1283 Honolulu Road	-	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Animal Farms	-	$402,900	X Unshaded	0.1	NA	NA	-	0	5
Food, Hydration, Shelter	Animal Farms	-	$172,930	AE	2.9	NA	4	-	1	0
Food, Hydration, Shelter	Animal Farms	-	$415,900	X Unshaded	0.1	NA	NA	-	2	0
Food, Hydration, Shelter	Animal Farms	-	$0	X Unshaded	0.1	NA	NA	Y	3	7

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Animal Farms	-	$406,420	X Unshaded	0.1	NA	4	-	1	0
Food, Hydration, Shelter	Animal Farms	-	$407,400	X Unshaded	0.1	NA	NA	-	1	0
Food, Hydration, Shelter	Animal Farms	-	$183,100	X Unshaded	0.1	NA	5	-	0	0
Food, Hydration, Shelter	Animal Farms	-	$203,830	X Unshaded	0.1	NA	NA	-	4	6
Food, Hydration, Shelter	Animal Farms	-	$17,250	X Unshaded	0.1	NA	NA	-	5	7
Food, Hydration, Shelter	Animal Farms - Pig Paradise	-	$0	X Unshaded	0.1	NA	NA	-	3	4
Food, Hydration, Shelter	Animal Farms - Wood Brothers Farming	-	$242,640	X Unshaded	0.1	NA	NA	-	5	4
Food, Hydration, Shelter	Animal Farms - Neuse #1 & Neuse #2	-	$103,980	AE	2.7	NA	3	Y	1	0
Food, Hydration, Shelter	Animal Farms - Moss Hill Farm	-	$103,980	AE	5.5	10	2	-	1	6
Food, Hydration, Shelter	Animal Farms - Alum Springs L.L.C.	-	$1,070,670	X Unshaded	0.1	NA	NA	-	2	6
Food, Hydration, Shelter	Animal Farms - Countryside Farm	-	$182,660	X Unshaded	0.1	NA	NA	-	0	3
Food, Hydration, Shelter	Animal Farms - Cedar Springs Farm	-	$14,370	X Unshaded	0.1	NA	NA	-	0	5
Food, Hydration, Shelter	Animal Farms - Allen Unruh Farm	-	$546,860	X Shaded	0.1	NA	4	-	0	5
Food, Hydration, Shelter	Animal Farms - Faison Smith Farms, Inc. #2	-	$475,230	X Unshaded	0.1	NA	NA	-	1	3
Food, Hydration, Shelter	Animal Farms - Creekside Farms	-	$206,840	AE	0.1	NA	NA	-	0	6
Food, Hydration, Shelter	Animal Farms - TRC Farms, Inc.	-	$319,160	X Unshaded	0.1	NA	NA	-	1	0
Food, Hydration, Shelter	Animal Farms - Askin Boar Stud	-	$469,870	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Animal Farms - Oakwood Sow Farm	-	$2,121,000	X Unshaded	0.1	NA	NA	-	2	0
Food, Hydration, Shelter	Animal Farms - McLawhorn Livestock Farm Inc	-	$157,260	X Unshaded	0.1	NA	NA	-	4	0
Food, Hydration, Shelter	Animal Farms - Sand Ridge Farms, Inc	-	$1,603,530	X Unshaded	0.1	NA	NA	-	5	0
Food, Hydration, Shelter	Animal Farms - Shady Branch Farms, LLC Palmetto	-	$379,810	X Unshaded	0.1	NA	NA	-	2	4

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Animal Farms - Shady Branch Farms, LLC Maul Swamp	-	$380,010	X Unshaded	0.1	NA	NA	-	0	6
Food, Hydration, Shelter	Animal Farms - David Stocks Farm LLC	-	$239,400	X Unshaded	0.1	NA	NA	-	0	5
Food, Hydration, Shelter	Non-Public Schools - Calvary Baptist Church School High School Campus	950 Washington Post Rd	$389,700	X Unshaded	0.1	NA	5	Y	0	0
Food, Hydration, Shelter	Non-Public Schools - Riverside Leadership Academy	1955 Old Airport Road	-	X Unshaded	0.1	NA	5	-	5	3
City of Havelock										
Water Systems	Water Treatment Distribution	-	$685,200	X Unshaded	0.1	NA	5	Y	5	0
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	4	Y	5	0
Water Systems	Sewer Treatment	City Of Havelock WWT	$0	X Unshaded	0.1	NA	2	Y	5	0
Water Systems	Public Water Supply	Brown Blvd @ WTP	$685,200	X Unshaded	0.1	NA	5	Y	5	0
Water Systems	Public Water Supply	Brown Blvd @ WTP Near Elev Tank	$685,200	X Unshaded	0.1	NA	5	Y	5	0
Safety & Security	Law Enforcement - City of Havelock Police Department	2 Governmental Avenue	$0	X Unshaded	0.1	NA	5	-	0	0
Safety & Security	Fire Stations - Township Six Fire Department	313 US Hwy 70 West	$2,029,100	X Unshaded	0.1	NA	4	Y	0	0
Safety & Security	Fire Stations - Havelock Fire and Rescue	2 Governmental Avenue	$0	X Unshaded	0.1	NA	5	-	0	0
Safety & Security	EMS - Havelock Fire And Rescue	2 Governmental Avenue	$0	X Unshaded	0.1	NA	5	-	0	0
Health & Medical	Medical Facilities - Britthaven of Havelock	110 McCotter Blvd.	-	X Unshaded	0.1	NA	NA	Y	0	0
Food, Hydration, Shelter	Public Schools - Arthur W Edwards Elementary	200 Education Lane	$0	X Unshaded	0.1	NA	NA	Y	5	0
Food, Hydration, Shelter	Public Schools - W Jesse Gurganus Elementary	535 Hwy 70 W	$0	X Unshaded	0.1	NA	NA	-	6	0
Food, Hydration, Shelter	Public Schools - Roger R Bell Elementary	804 Fontana Boulevard	$0	X Unshaded	0.1	NA	NA	Y	5	0
Food, Hydration, Shelter	Public Schools - Tucker Creek Middle	200 Sermons Boulevard	$0	X Unshaded	0.1	NA	NA	Y	5	0
Food, Hydration, Shelter	Public Schools - Graham A Barden Elementary	200 Cedar Drive	$0	X Unshaded	0.1	NA	5	Y	5	0
Food, Hydration, Shelter	Public Schools - Havelock Middle School	201 Cunningham Boulevard	$0	X Unshaded	0.1	NA	5	-	0	0
Food, Hydration, Shelter	Public Schools - Havelock High	101 Webb Boulevard	$0	X Unshaded	0.1	NA	NA	Y	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Public Schools - Havelock Elementary School	102 Middle School Lane	$0	X Unshaded	0.1	NA	5	Y	0	0
Food, Hydration, Shelter	Public Schools - Early College EAST High	305 Cunningham Blvd	$0	X Unshaded	0.1	NA	5	-	0	0
Food, Hydration, Shelter	Non-Public Schools - Annunciation Catholic School	246 E. Main Street	-	X Unshaded	0.1	NA	5	-	0	1
Food, Hydration, Shelter	Non-Public Schools - Newport Christian Academy	8125 Highway 70 E.	-	X Unshaded	0.1	NA	3	Y	0	0
City of New Bern										
Water Systems	Sewer Treatment	307 Glenburnie Drive	$0	X Unshaded	0.1	NA	5	Y	0	0
Water Systems	Public Water Supply	1131 NC 55 Hwy West	$0	X Unshaded	0.1	NA	NA	-	0	0
Water Systems	Public Water Supply	521 NC 55 Hwy West	$0	X Unshaded	0.1	NA	NA	-	5	5
Water Systems	Water - Water Treatment Plant New Bern WTP	521 NC 55 Hwy West	$0	X Unshaded	0.1	NA	NA	-	5	5
Safety & Security	Law Enforcement - United States Marshals Service - New Bern	413-415 Middle Street	$844,100	X Unshaded	0.1	NA	3	-	0	0
Safety & Security	Law Enforcement - City of New Bern Police Department	601 George Street	$0	X Unshaded	0.1	NA	3	-	0	0
Safety & Security	Fire Stations - New Bern Fire Rescue Department Station 2	800 West Thurman Road	$0	X Unshaded	0.1	NA	5	Y	0	5
Safety & Security	Fire Stations - New Bern Fire Rescue Department Station 4	3101 Elizabeth Avenue	$290,600	X Unshaded	0.1	NA	NA	Y	0	1
Safety & Security	Fire Stations - West of New Bern Volunteer Fire Department	108 Wanda Avenue	$0	X Unshaded	0.1	NA	NA	Y	0	0
Safety & Security	Fire Stations - New Bern Fire Rescue Department Station 1	1401 Neuse Boulevard	$0	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	EMS - New Bern Fire Rescue Department Station 2	800 West Thurman Road	$0	X Unshaded	0.1	NA	5	Y	0	5
Safety & Security	EMS - New Bern Fire Rescue Department Station 4	3101 Elizabeth Avenue	$290,600	X Unshaded	0.1	NA	NA	Y	0	1
Safety & Security	EMS - New Bern Fire Rescue Department Station 1	1401 Neuse Boulevard	$0	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	EMS - Craven Regional Emergency Medical Services	2000 Neuse Boulevard	$0	X Unshaded	0.1	NA	3	-	1	0
Safety & Security	Emergency Operation Center - Craven County Emergency Management	406 Craven St	$0	X Shaded	0.1	10	2	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Health & Medical	Medical Facilities - Craven Cardiac Rehabilitation Program	1300 Helen Avenue	-	X Unshaded	0.1	NA	4	-	1	0
Health & Medical	Medical Facilities - Little Shepherd Family Care	605 West Street	-	X Unshaded	0.1	NA	3	-	0	0
Health & Medical	Medical Facilities - Rose Gardens	2701 Amhurst Road	-	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - CareFocus	2507-G Neuse Blvd.	-	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Carolina Home Medical, Inc.	2117 South Glenburnie Road	-	X Unshaded	0.1	NA	5	-	1	3
Health & Medical	Medical Facilities - Craven County DSS	2818 Neuse Blvd.	-	X Unshaded	0.1	NA	4	Y	0	0
Health & Medical	Medical Facilities - Craven County Health Dept. Home Health-Hospice Agen	2818 Neuse Boulevard	-	X Unshaded	0.1	NA	4	Y	0	0
Health & Medical	Medical Facilities - Craven Medical Supply	2500 Trent Road	-	X Unshaded	0.1	NA	3	Y	0	0
Health & Medical	Medical Facilities - Deliverance Interim Health Care Services, Inc.	2003 Neuse Blvd., Suite 202	-	X Unshaded	0.1	NA	4	-	1	0
Health & Medical	Medical Facilities - Johnson's Home Care	790 Cardinal Road	-	X Unshaded	0.1	NA	NA	-	0	0
Health & Medical	Medical Facilities - Kights Medical Corp.	2117 South Glenburnie Road	-	X Unshaded	0.1	NA	5	-	1	3
Health & Medical	Medical Facilities - Long Life Home Care	1200 Simmons Street	-	X Unshaded	0.1	NA	5	Y	0	0
Health & Medical	Medical Facilities - Our House, Home Care Services, Inc.	2807 Neuse Blvd, Suite # 10	-	X Unshaded	0.1	NA	4	Y	0	0
Health & Medical	Medical Facilities - Professional Nursing Service, Inc.	1425 Glenburnie Road, Unit 5	-	X Unshaded	0.1	NA	NA	-	0	0
Health & Medical	Medical Facilities - Venicare of New Bern, Inc.	727 Professional Drive	-	X Unshaded	0.1	NA	4	-	0	0
Health & Medical	Medical Facilities - Village Plus 'A Catered Living Program'	2701 Amhurst Blvd.	-	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - Alterra Sterling House of New Bern	1336 South Glenburnie Road	-	X Unshaded	0.1	NA	NA	-	0	0
Health & Medical	Medical Facilities - Carebridge Assisted Living Community	2915 Brunswick Avenue	$7,056,000	X Unshaded	0.1	NA	NA	Y	1	0
Health & Medical	Medical Facilities - Good Shepherd Home for the Aged	603 West Street	-	X Unshaded	0.1	NA	3	-	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Health & Medical	Medical Facilities - Homeplace of New Bern	1309 McCarthy Blvd.	-	X Unshaded	0.1	NA	5	-	0	0
Health & Medical	Medical Facilities - Magnolia Place of New Bern	3407 Oak Road	-	X Shaded	0.1	NA	2	Y	1	0
Health & Medical	Medical Facilities - Rose Manor Suites at Berne Village	2701 Amhurst Boulevard	-	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - The Berne Village Inn	2701 Amhurst Boulevard	-	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - Craven Regional Medical Center	2000 Neuse Blvd	-	X Unshaded	0.1	NA	3	-	1	0
Health & Medical	Medical Facilities - Bayview Nursing Center	3003 Kensington Park Drive	-	X Unshaded	0.1	NA	NA	Y	0	0
Health & Medical	Medical Facilities - New Bern Healthcare Center, Inc.	836 Hospital Drive	$125,000,000	X Unshaded	0.1	NA	3	-	1	0
Health & Medical	Medical Facilities - Two Rivers Healthcare Center	1303 Health Drive	$125,000,000	X Unshaded	0.1	NA	3	Y	1	0
Food, Hydration, Shelter	Public Schools - Ben D Quinn Elementary	4275 M L King Jr Boulevard	$0	X Unshaded	0.1	NA	NA	Y	4	0
Food, Hydration, Shelter	Public Schools - Grover C Fields Middle	2000 M L King Jr Boulevard	$3,500,000	X Unshaded	0.1	NA	5	-	0	0
Food, Hydration, Shelter	Public Schools - H J MacDonald Middle	3127 Elizabeth Avenue	$0	X Unshaded	0.1	NA	NA	Y	0	0
Food, Hydration, Shelter	Public Schools - J T Barber Elementary	1700 Cobb Street	$0	AE	2.4	9	2	Y	1	0
Food, Hydration, Shelter	Public Schools - New Bern High	4200 Academic Drive	$0	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Public Schools - Oaks Road Academy	2811 Oaks Road	$0	AE	0.3	10	2	-	1	0
Food, Hydration, Shelter	Public Schools - Trent Park Elementary	2500 Educational Drive	$0	X Unshaded	0.1	NA	5	Y	0	0
Food, Hydration, Shelter	Public Schools - Bridgeton Elementary	230 Branch Canal Road	$2,441,500	AE	2.8	NA	3	-	1	1
Food, Hydration, Shelter	Public Schools - Craven Early College High	800 College Court	$50,785,100	X Unshaded	0.1	NA	NA	-	0	0
Food, Hydration, Shelter	Public Schools - Creekside Elementary	2790 Landscape Drive	$0	X Unshaded	0.1	NA	5	-	5	2
Food, Hydration, Shelter	Non-Public Schools - Calvary Baptist Church School Elementary Campus	1821 Rhem Ave	$0	X Unshaded	0.1	NA	5	Y	0	0
Food, Hydration, Shelter	Non-Public Schools - Epiphany School of Global Studies	2301 Trent Road	-	X Unshaded	0.1	NA	4	Y	0	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Food, Hydration, Shelter	Non-Public Schools - St. Paul Catholic Education Ctr	3007 Country Club Road	-	X Unshaded	0.1	NA	3	Y	1	1
Food, Hydration, Shelter	Non-Public Schools - Temple Christian Academy	1500 Kingdom Way	$0	X Unshaded	0.1	NA	3	Y	0	5
Town of Bridgeton										
Water Systems	Sewer Treatment	Bridgeton WWTP	$0	AE	1.6	8	2	Y	0	2
Water Systems	Public Water Supply	WTP 560 Hwy 55 East	$0	X Shaded	0.1	NA	2	-	1	6
Water Systems	Public Water Supply	1500' W Of Plant on NC 55	$0	X Shaded	0.1	NA	2	Y	1	0
Water Systems	Public Water Supply	410 Galloway Rd	$0	X Shaded	0.1	NA	2	-	1	4
Safety & Security	Fire Stations - Tri-Community Volunteer Fire District	408 Bridge Street	$0	X Shaded	0.1	10	2	Y	0	0
Safety & Security	EMS - Bridgeton Rescue Squad	717 North US Highway 17	$0	X Shaded	0.1	NA	2	Y	0	0
Town of Cove City										
Water Systems	Water Treatment Distribution	-	$0	X Unshaded	0.1	NA	NA	Y	0	0
Water Systems	Public Water Supply	124 East Railroad St Cove City	$0	X Unshaded	0.1	NA	NA	Y	0	3
Safety & Security	Fire Stations - Cove City Rescue Squad	417 South Main Street	$3,590	X Unshaded	0.1	NA	NA	Y	0	0
Safety & Security	EMS - Cove City Rescue Squad	417 South Main Street	$3,590	X Unshaded	0.1	NA	NA	Y	0	0
Town of Dover										
Water Systems	Water Treatment Distribution	-	$384,600	X Unshaded	0.1	NA	NA	Y	0	0
Water Systems	Water Treatment Distribution	-	-	X Unshaded	0.1	NA	NA	Y	4	0
Water Systems	Public Water Supply	Oak Street	-	X Unshaded	0.1	NA	NA	Y	0	0
Water Systems	Public Water Supply	Main St	$21,130	X Unshaded	0.1	NA	NA	Y	4	0
Safety & Security	Fire Stations - Dover Volunteer Fire Department	107 North Main Street	$416,300	X Unshaded	0.1	NA	NA	Y	4	3
Town of River Bend										
Water Systems	Public Water Supply	52 Shoreline Dr	$9,150	X Shaded	0.1	10	2	Y	0	1
Water Systems	Public Water Supply	30 Quarterdeck Townes	$0	AE	0.1	9	2	Y	0	0
Water Systems	Public Water Supply	27 Shoreline Drive	$36,700	X Unshaded	0.1	NA	3	Y	0	0
Water Systems	Public Sewer Treatment - River Bend WWTP	102 Gull Pointe	$700	AE	0.8	8	1	Y	0	1
Water Systems	Public Water Supply - RB Water Tower	29 Shoreline Dr.	$300,600	X Unshaded	0.1	NA	4	Y	0	0
Water Systems	Public Water Supply - RB Water Tower	1411 Plantation Dr.	$0	X Unshaded	0.1	NA	5	Y	0	5

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Sewer - Lift Station 2	112 Starboard Dr.	-	AE	4.9	5	1	Y	3	2
Water Systems	Public Sewer - Lift Station 3	23 Quarterdeck Townes	$0	AE	1.6	8	2	Y	0	0
Water Systems	Public Sewer - Lift Station 4	26B Masters Court Dr.	-	X Unshaded	0.1	NA	4	Y	0	0
Water Systems	Public Sewer - Lift Station 5	107 Wakefield Dr.	-	X Unshaded	0.1	NA	4	Y	5	3
Water Systems	Public Sewer - Lift Station 6	200 Bayswater Court	-	AE	0.3	10	2	Y	3	0
Water Systems	Public Sewer - Lift Station 7	43 Pier Pointe	$0	X Shaded	0.1	NA	2	Y	0	0
Water Systems	Public Sewer - Lift Station 8	140 Pirates Rd.	-	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	Law Enforcement - Town of River Bend Police Department	45 Shoreline Dr	$0	X Shaded	0.1	10	2	Y	3	0
Safety & Security	Fire Stations - Rhems Volunteer Fire Department	25 Shoreline Drive	$36,700	X Unshaded	0.1	NA	3	Y	0	0
Safety & Security	Public Works - RB Public Works Facility	1504 Plantation Dr.	$207,310	X Unshaded	0.1	NA	NA	Y	0	5
Health & Medical	Medical Facilities - Christian Care of New Bern	104 Efird Boulevard	$5,643,300	X Unshaded	0.1	NA	3	Y	0	0
Town of Trent Woods										
Safety & Security	Law Enforcement - City of Trent Woods Police Department	912 Country Club Drive	$0	X Unshaded	0.1	NA	4	Y	0	0
Safety & Security	Fire Stations - West of New Bern Volunteer Fire Department	900 Chelsea Road	$0	X Unshaded	0.1	NA	4	Y	0	0
Food, Hydration, Shelter	Public Schools - A.H. Bangert Elementary	3712 Canterbury Road	$0	X Unshaded	0.1	NA	3	Y	0	0
Town of Vanceboro										
Water Systems	Water Treatment Distribution	-	-	X Unshaded	0.1	NA	5	Y	1	0
Water Systems	Public Water Supply	Farm Life Ave	$0	X Unshaded	0.1	NA	NA	Y	1	0
Water Systems	Public Water Supply	Mill Road	$0	X Shaded	0.1	NA	4	Y	1	3
Safety & Security	Fire Stations - Vanceboro Rural Volunteer Fire Department	375 NC 43 Hwy	$0	X Unshaded	0.1	NA	5	Y	3	0
Safety & Security	EMS - Vanceboro Rescue Squad	375 NC 43 Hwy	$0	X Unshaded	0.1	NA	5	Y	3	0
Health & Medical	Medical Facilities - Wilson's Home Care	7914 Main Street	-	X Unshaded	0.1	NA	5	Y	3	0
Food, Hydration, Shelter	Public Schools – Vanceboro Farm Life Elementary	2000 Farm Life Avenue	$10,000,000	X Unshaded	0.1	NA	NA	Y	3	0

C.2 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level within Craven County. The hazards included in this section are flood and wildfire.

C.2.1 FLOODING

Table C.11 details the acreage of Craven County's total area by jurisdiction and flood zone on the Effective DFIRM. Per this assessment, at over 68 percent, the Town of Bridgeton has the largest portion of its land area within the mapped 1%-annual-chance floodplain. At least 30 percent of the total land area in New Bern, River Bend, Trent Woods, and Vanceboro all fall within the Special Flood Hazard Area. Neither Cove City nor Dover have any land in the high or moderate risk flood zone. Overall, 23 percent of the county's total land area falls within this floodplain.

Table C.11 – Flood Zone Acreage by Jurisdiction, Craven County

Flood Zone	Acreage	Percent of Total (%)
Town of Bridgeton		
Zone AE	839.1	67.7
Zone VE	8.2	0.7
Zone X (500-year)	69.2	5.6
Zone X Unshaded	322.1	26.0
Total	**1,239**	--
Town of Cove City		
Zone X Unshaded	421.8	100.0
Total	**421.8**	--
Town of Dover		
Zone X Unshaded	610.9	100.0
Total	**610.9**	--
City of Havelock		
Zone AE	1,468.7	12.7
Zone AO	1.1	0.01
Zone VE	239.5	2.1
Zone X (500-year)	222.3	1.9
Zone X (unshaded)	9,602.2	83.3
Total	**11,534**	--
City of New Bern		
Zone AE	5,739.8	30.8
Zone VE	499.3	2.7
Zone X (500-year)	949.2	5.1
Zone X (unshaded)	11,425.2	61.3
Open Water	37.3	0.2
Total	**18,651**	--

Flood Zone	Acreage	Percent of Total (%)
Town of River Bend		
Zone AE	581.3	35.6
Zone VE	22.5	1.4
Zone X (500-year)	63.2	3.9
Zone X (unshaded)	964.4	59.1
Total	**1,631**	--
Town of Trent Woods		
Zone AE	652.8	30.1
Zone VE	41.2	1.9
Zone X (500-year)	222.6	10.2
Zone X (unshaded)	1,255.9	57.8
Total	**2,173**	--
Town of Vanceboro		
Zone AE	348.9	31.1
Zone X (500-year)	55.2	4.9
Zone X (unshaded)	718.8	64.0
Total	**1,123**	--
Unincorporated Craven County		
Zone A	19,340.1	4.2
Zone AE	74,290.0	16.2
Zone AO	0.3	0.0
Zone VE	10,112.8	2.2
Zone X(500-year)	13,117.5	2.9
Zone X (unshaded)	320,430.8	70.1
Open Water	19,939.2	4.4
Total	**457,231**	--

Source: FEMA Effective DFIRM

Figure C.10 through Figure C.18 reflect the effective mapped flood hazard zones for all jurisdictions that have land in the Special Flood Hazard Area in Craven County, and Figure C.19 through Figure C.27 display the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table C.12 provides building counts and values for critical facilities by flood zone in Craven County and incorporated jurisdictions.

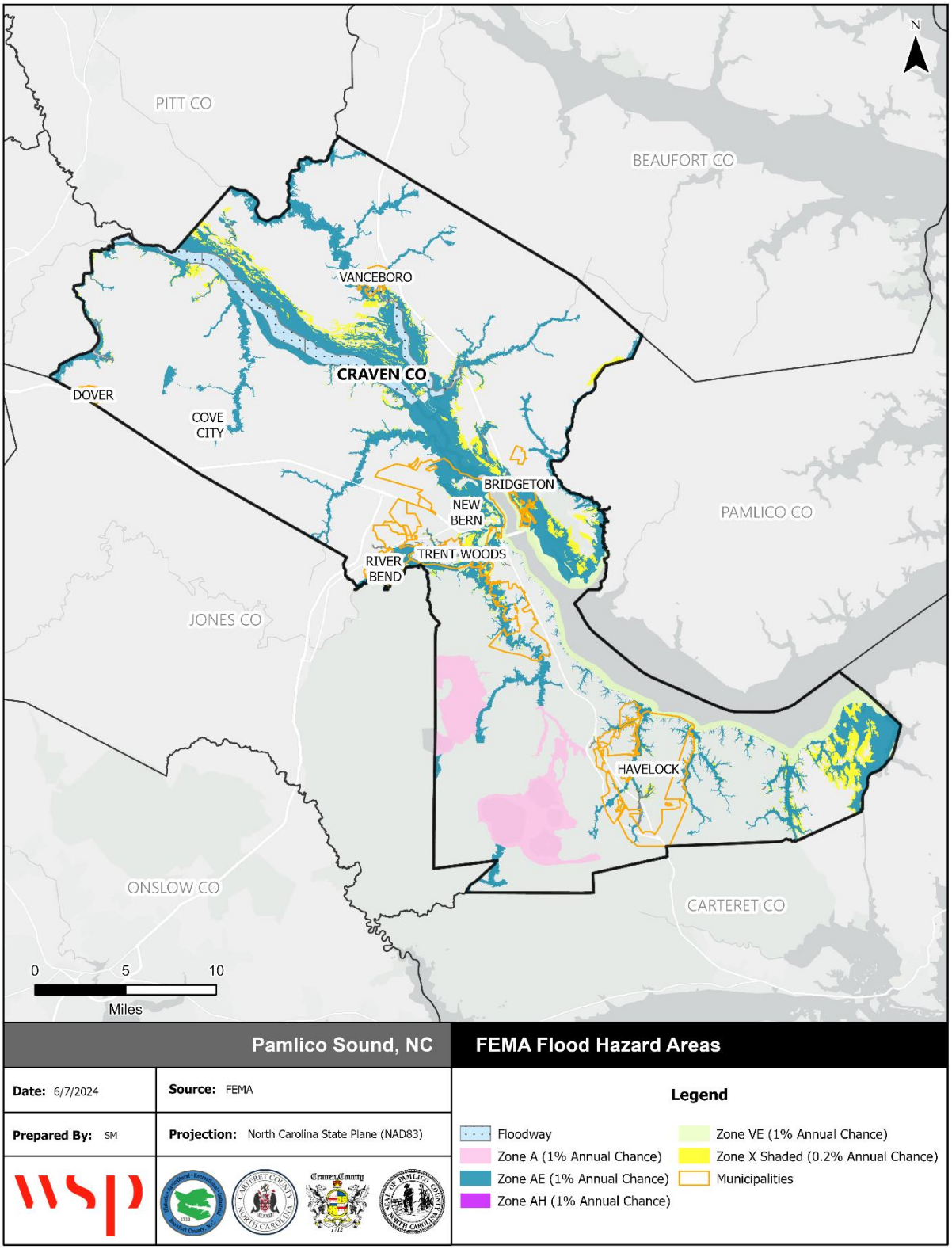
Table C.12 – Critical Facilities Exposed to Flooding, Craven County

Flood Zone	Critical Facility Count	Structure Value
Town of Bridgeton		
Zone AE	1	$0
Zone X (500-year)	5	$0
Total	**6**	**$0**
Town of Cove City		
Zone X (unshaded)	4	$7,180
Total	**4**	**$7,180**
Town of Dover		
Zone X (unshaded)	5	$822,030
Total	**5**	**$822,030**

Flood Zone	Critical Facility Count	Structure Value
City of Havelock		
Zone X (unshaded)	20	$4,084,700
Total	**20**	**$4,084,700**
City of New Bern		
Zone AE	1	$2,441,500
Zone X (500-year)	2	$0
Zone X (unshaded)	51	$312,766,400
Total	**56**	**$315,207,900**
Town of River Bend		
Zone AE	5	$700
Zone X (500-year)	3	$9,150
Zone X (unshaded)	9	$6,224,610
Total	**17**	**$6,234,460**
Town of Trent Woods		
Zone X (unshaded)	3	$0
Total	**3**	**$0**
Town of Vanceboro		
Zone X (unshaded)	7	$10,000,000
Total	**7**	**$10,000,000**
Unincorporated Craven County		
Zone AE	19	$15,691,810
Zone X (500-year)	5	$14,221,440
Zone X (unshaded)	145	$24,641,000
Total	**169**	**$54,554,250**

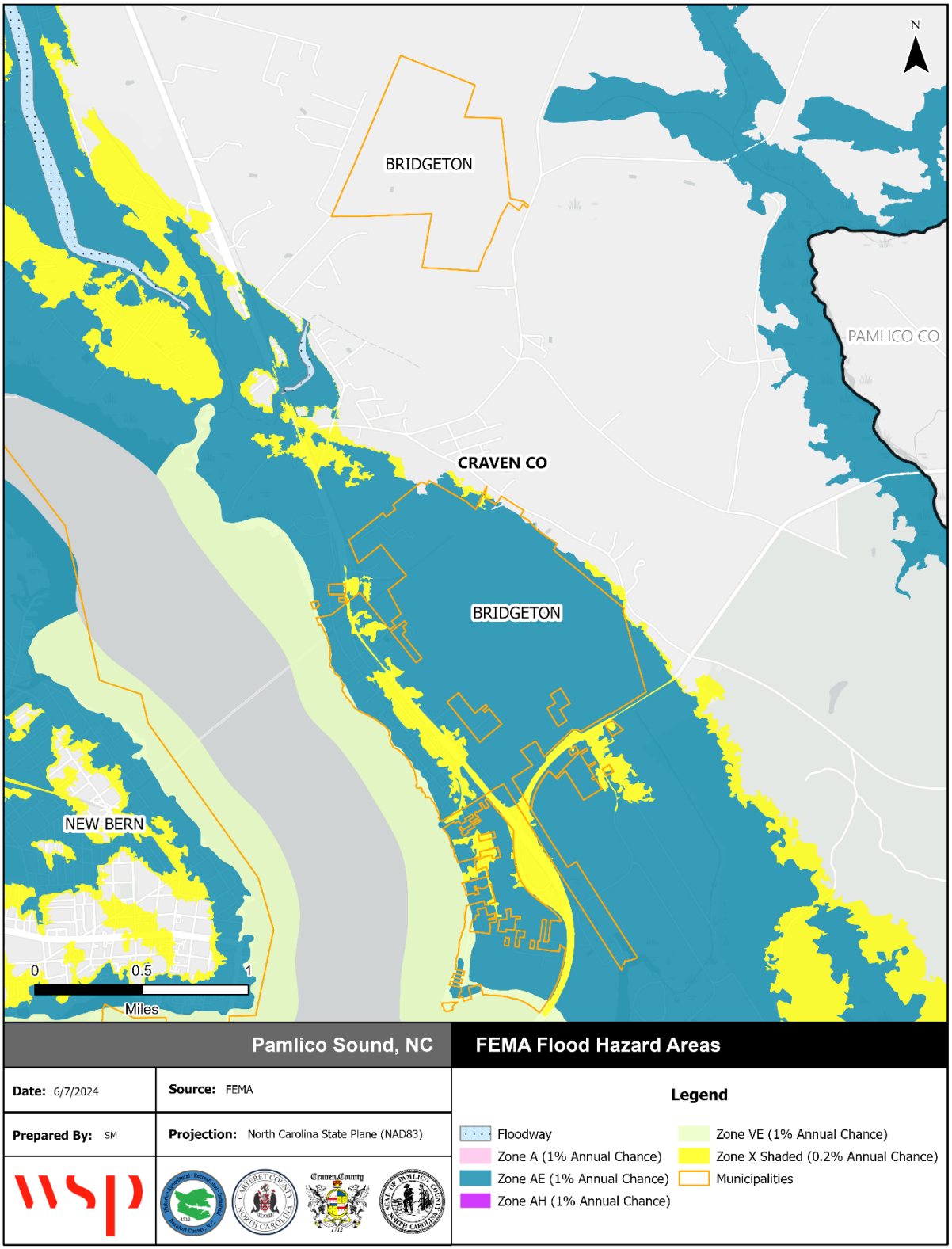
Source: FEMA Effective FIRM

Figure C.10 – FEMA Flood Hazard Areas, Unincorporated Craven County



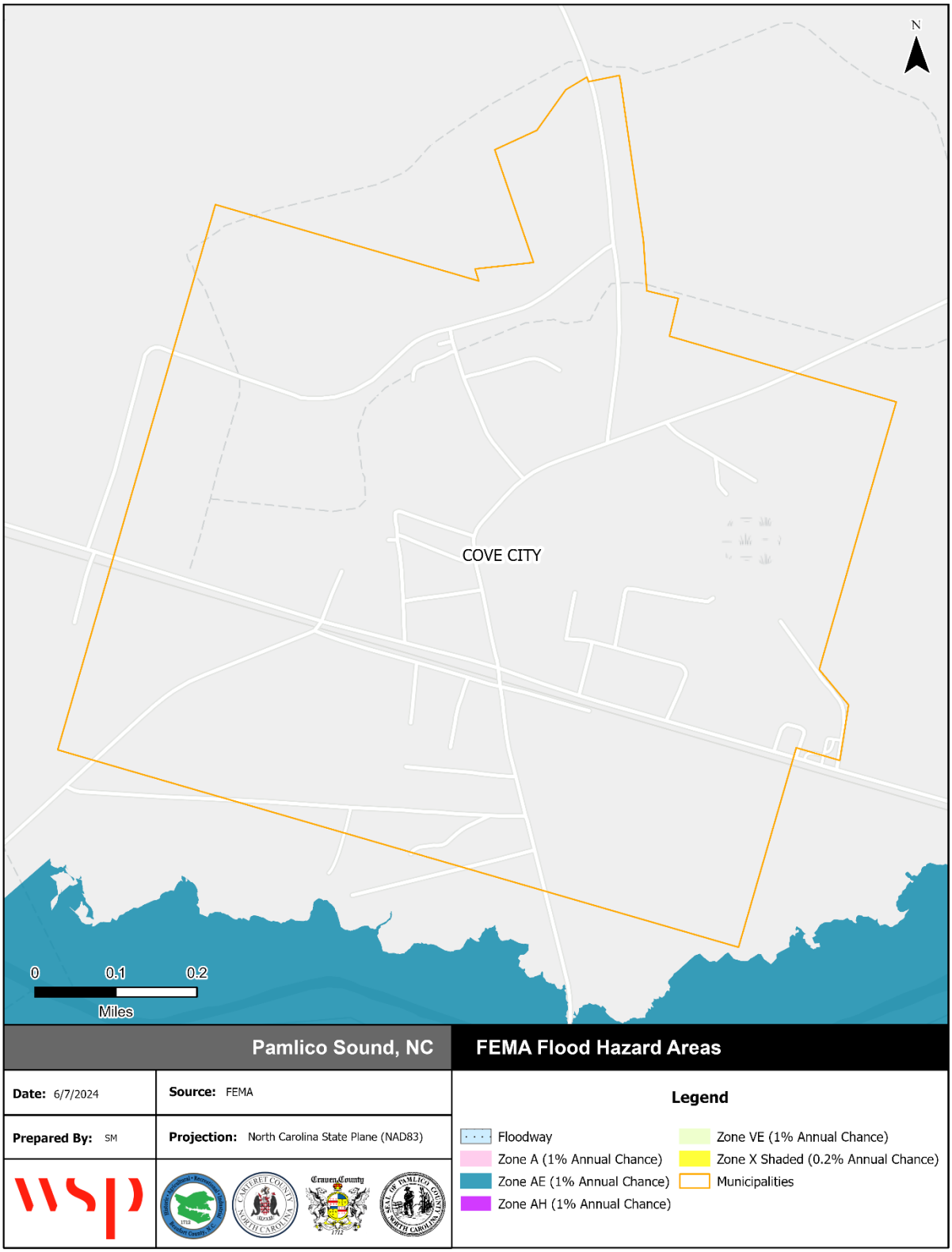
Source: FEMA Effective DFIRM

Figure C.11 – FEMA Flood Hazard Areas, Town of Bridgeton



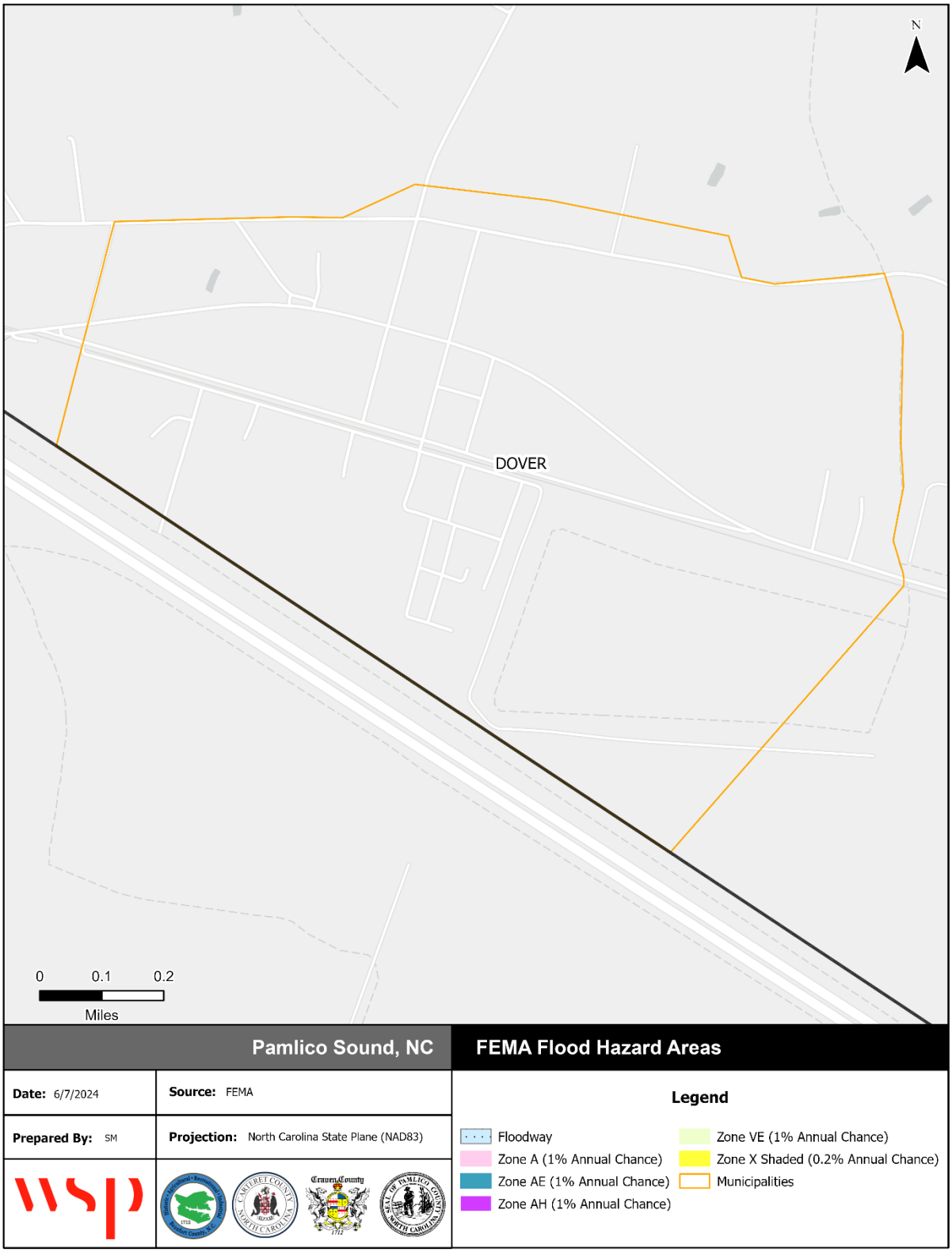
Source: FEMA Effective DFIRM

Figure C.12 – FEMA Flood Hazard Areas, Town of Cove City



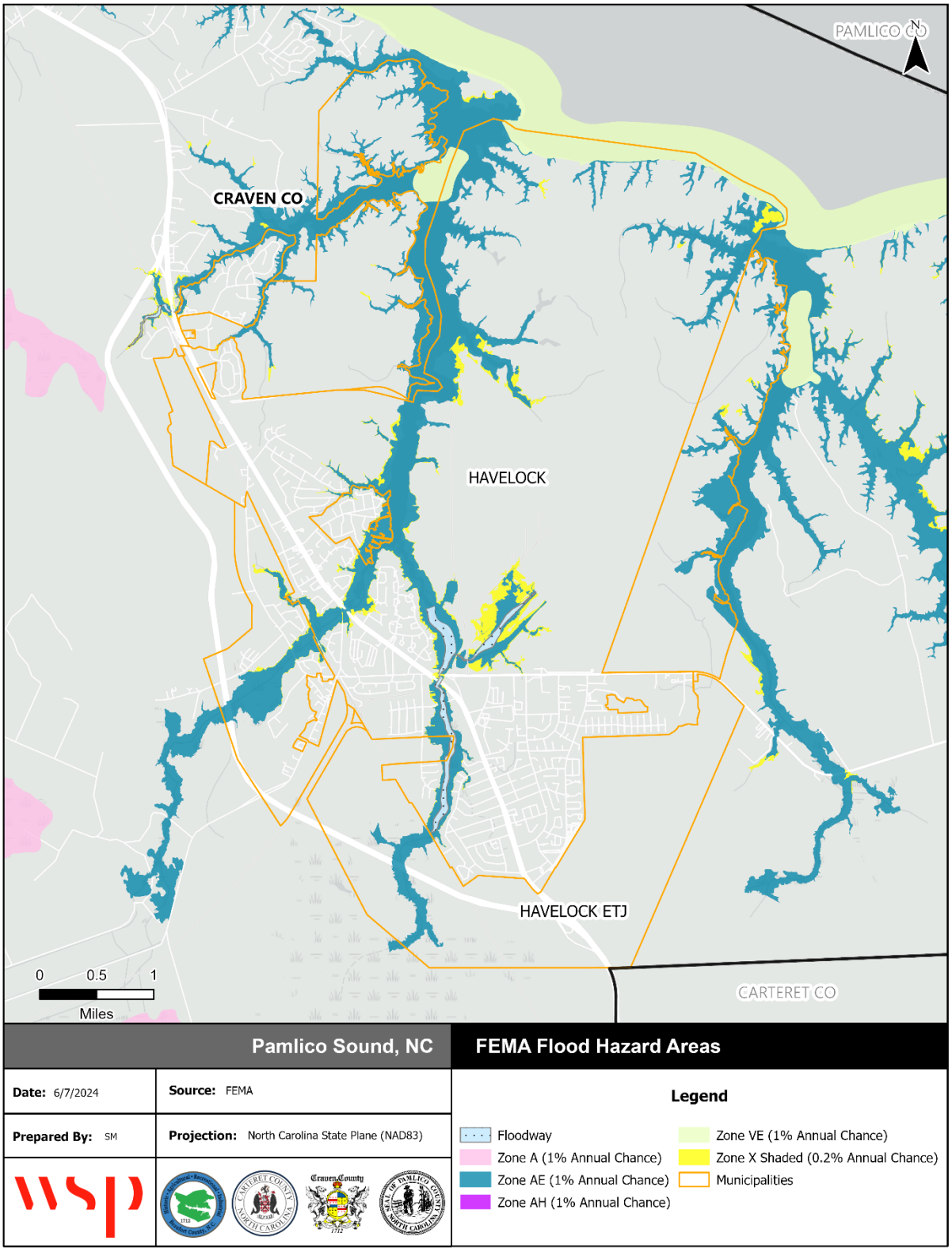
Source: FEMA Effective DFIRM

Figure C.13 – FEMA Flood Hazard Areas, Town of Dover



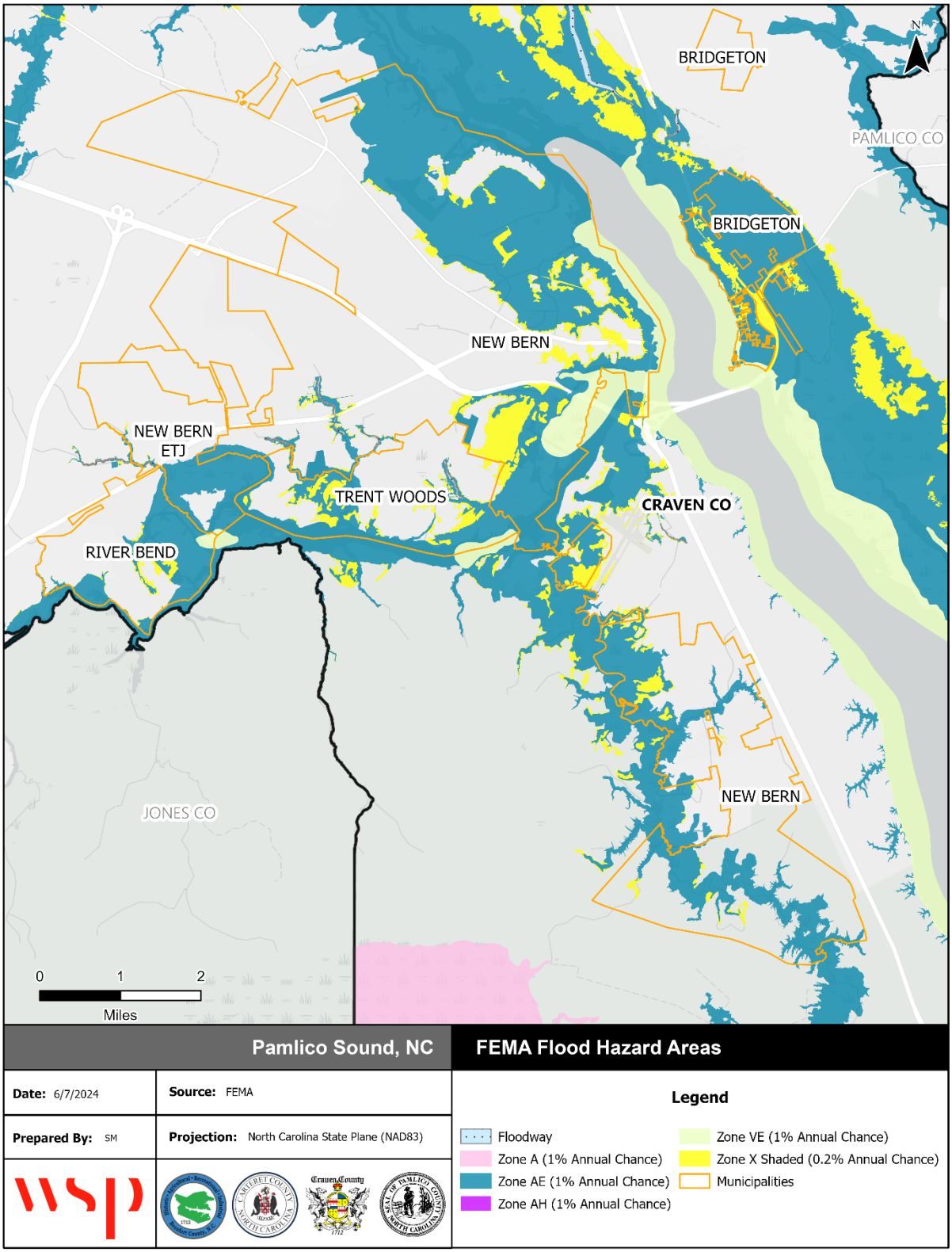
Source: FEMA Effective DFIRM

Figure C.14 – FEMA Flood Hazard Areas, City of Havelock



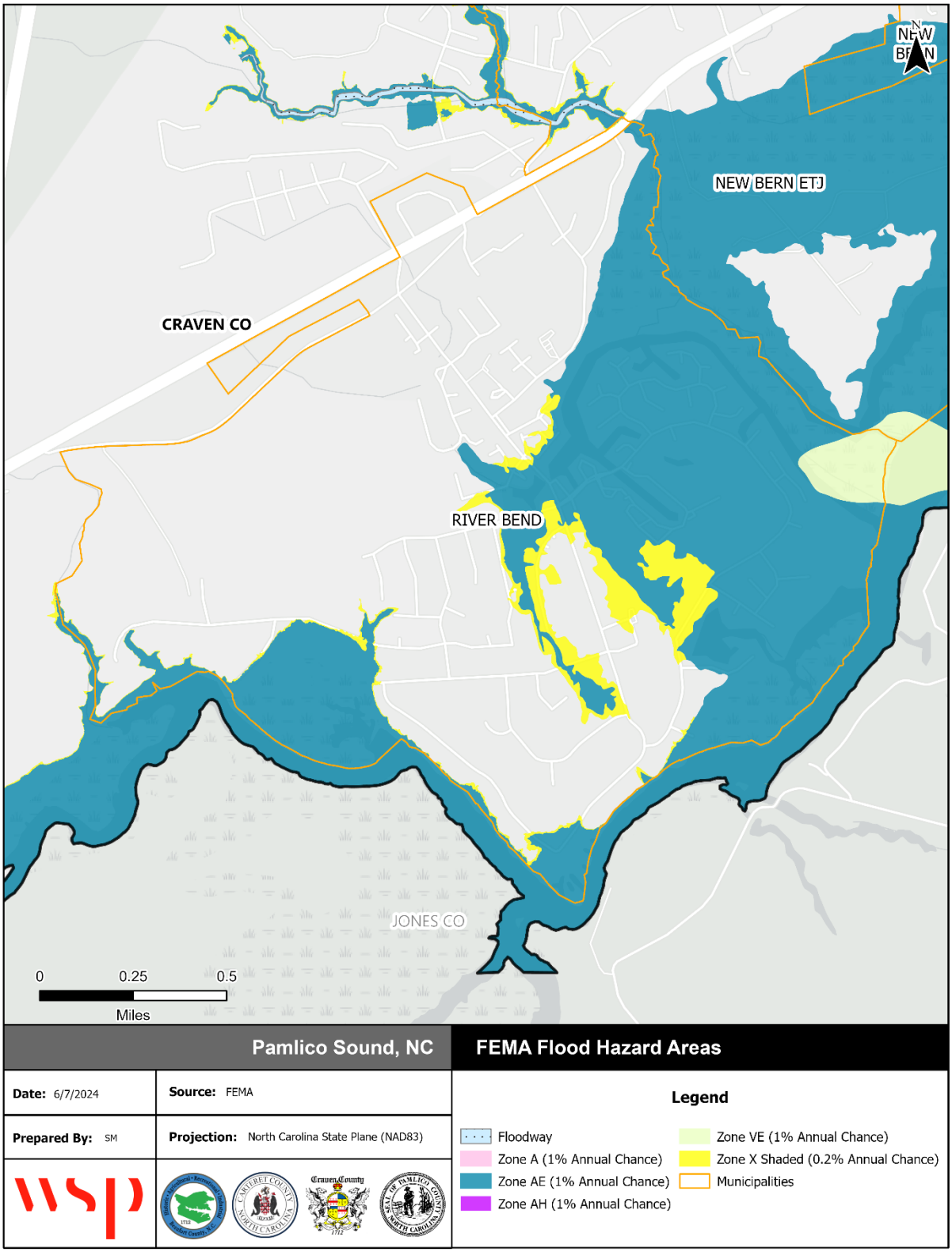
Source: FEMA Effective DFIRM

Figure C.15 – FEMA Flood Hazard Areas, City of New Bern



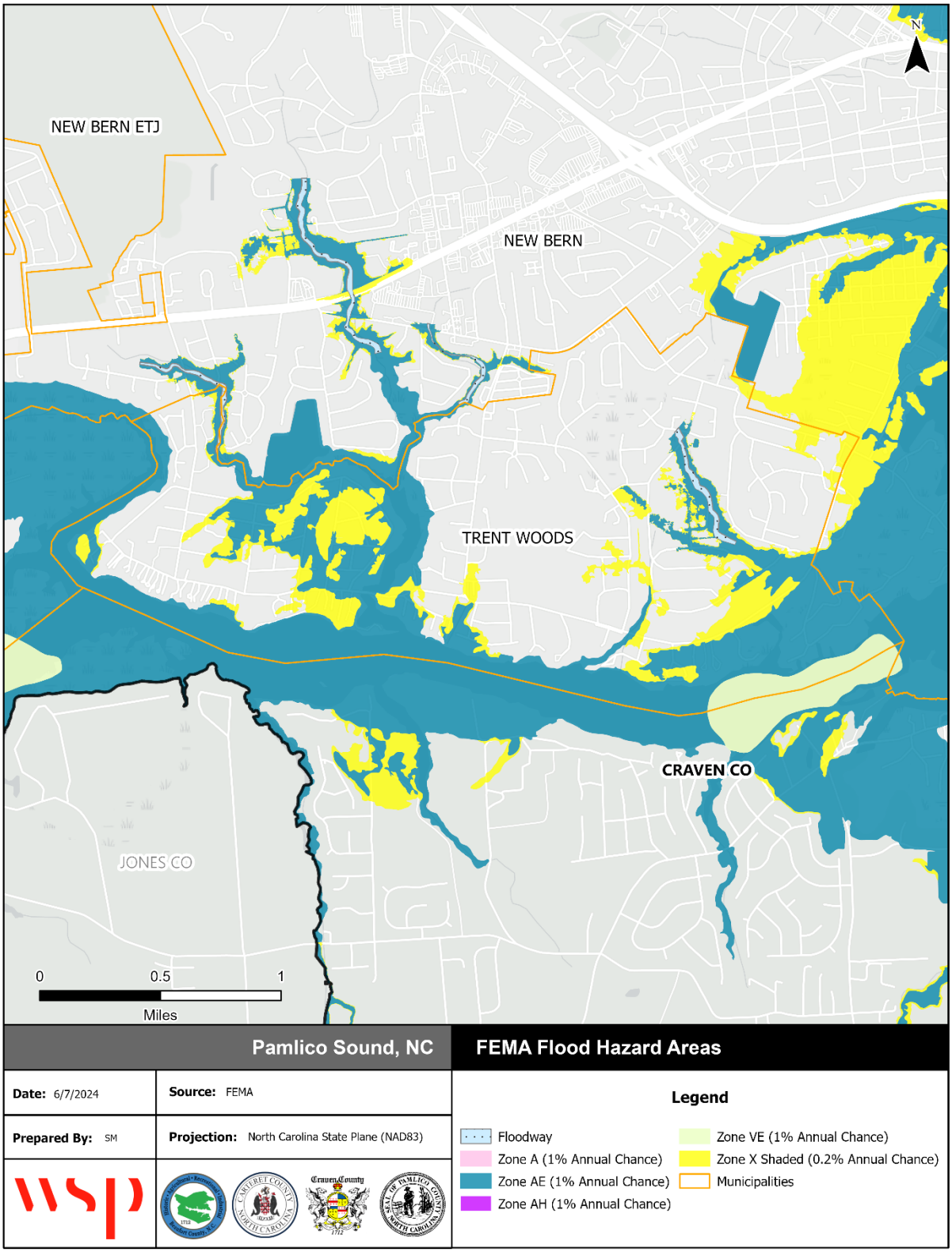
Source: FEMA Effective DFIRM

Figure C.16 – FEMA Flood Hazard Areas, Town of River Bend



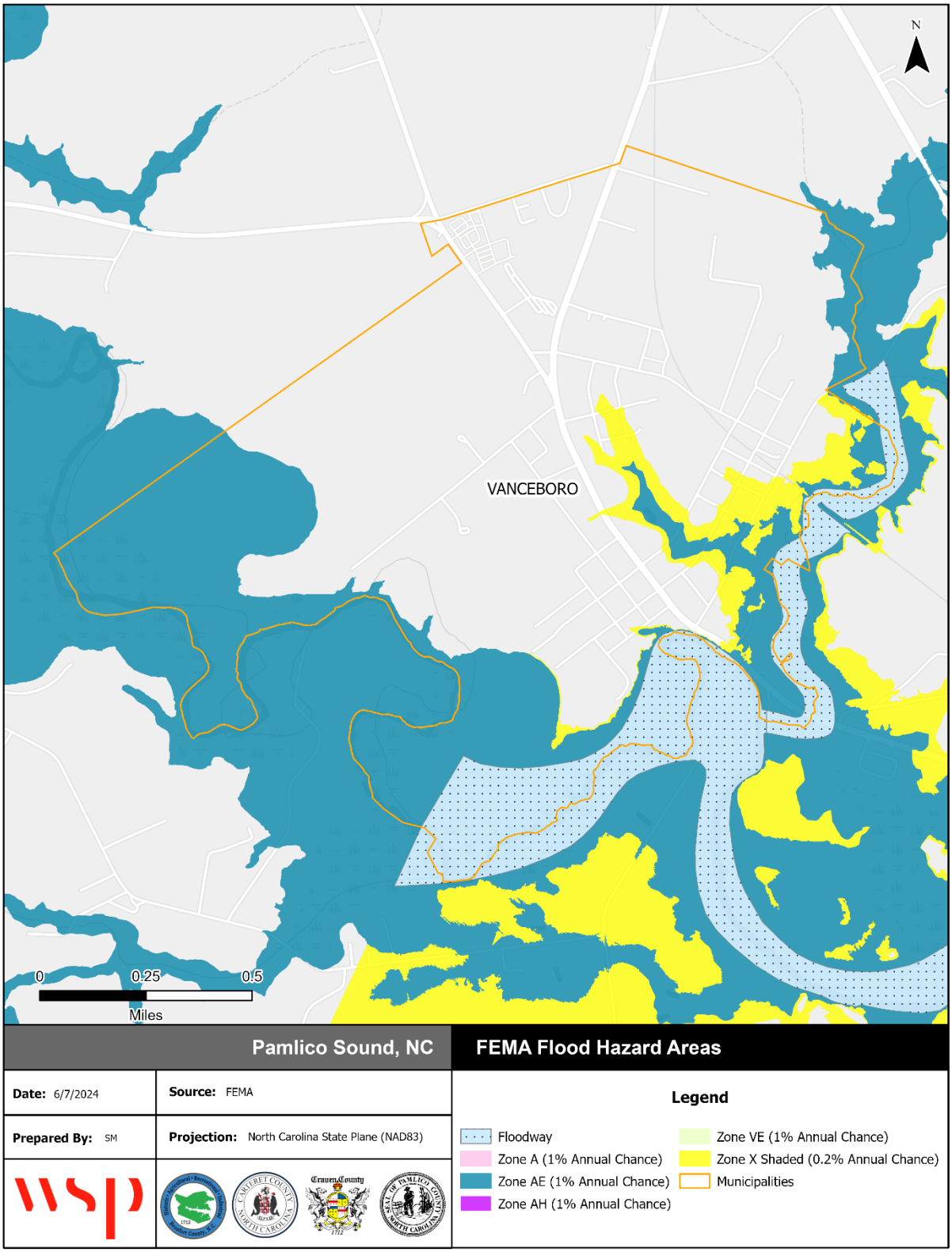
Source: FEMA Effective DFIRM

Figure C.17 – FEMA Flood Hazard Areas, Town of Trent Woods



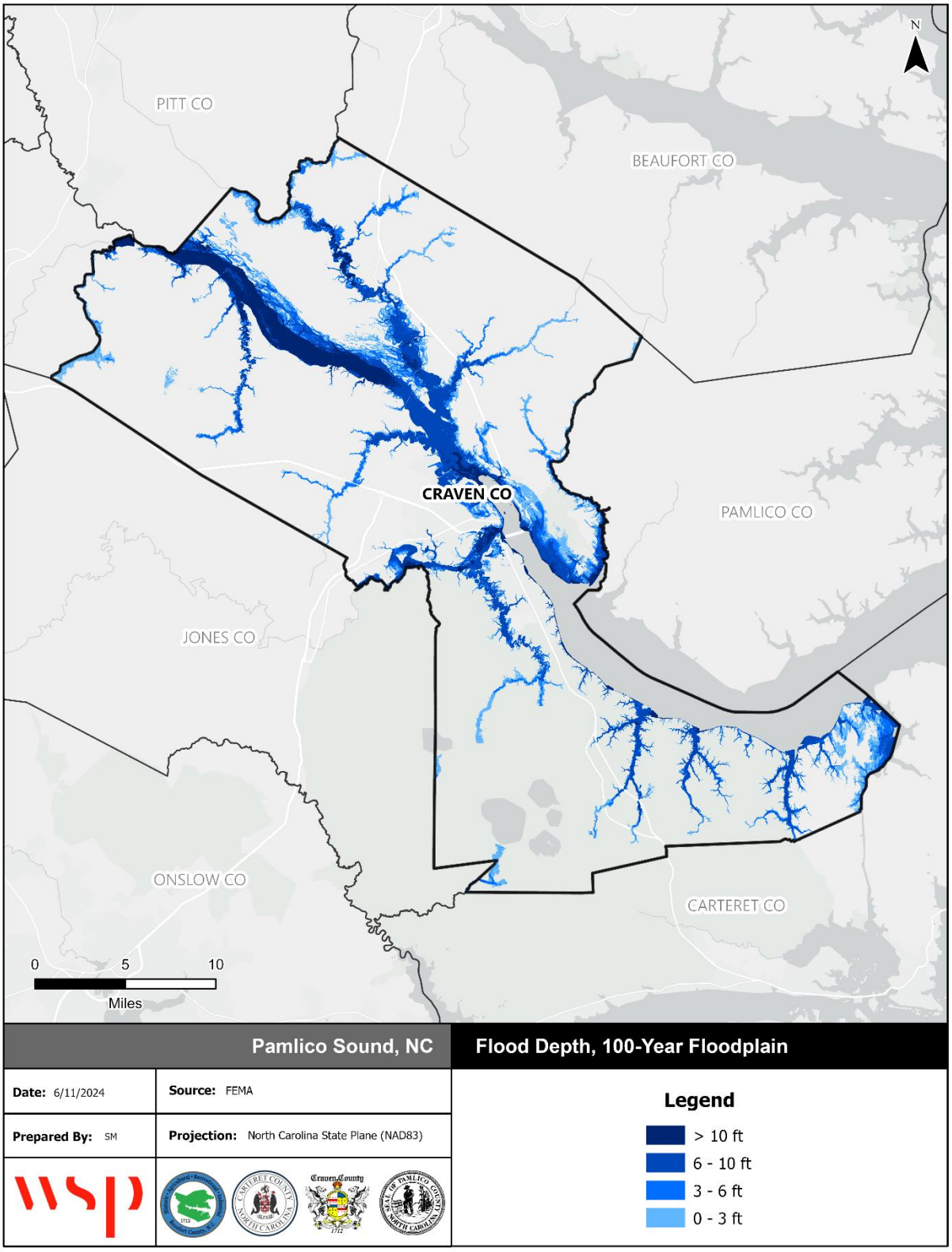
Source: FEMA Effective DFIRM

Figure C.18 – FEMA Flood Hazard Areas, Town of Vanceboro



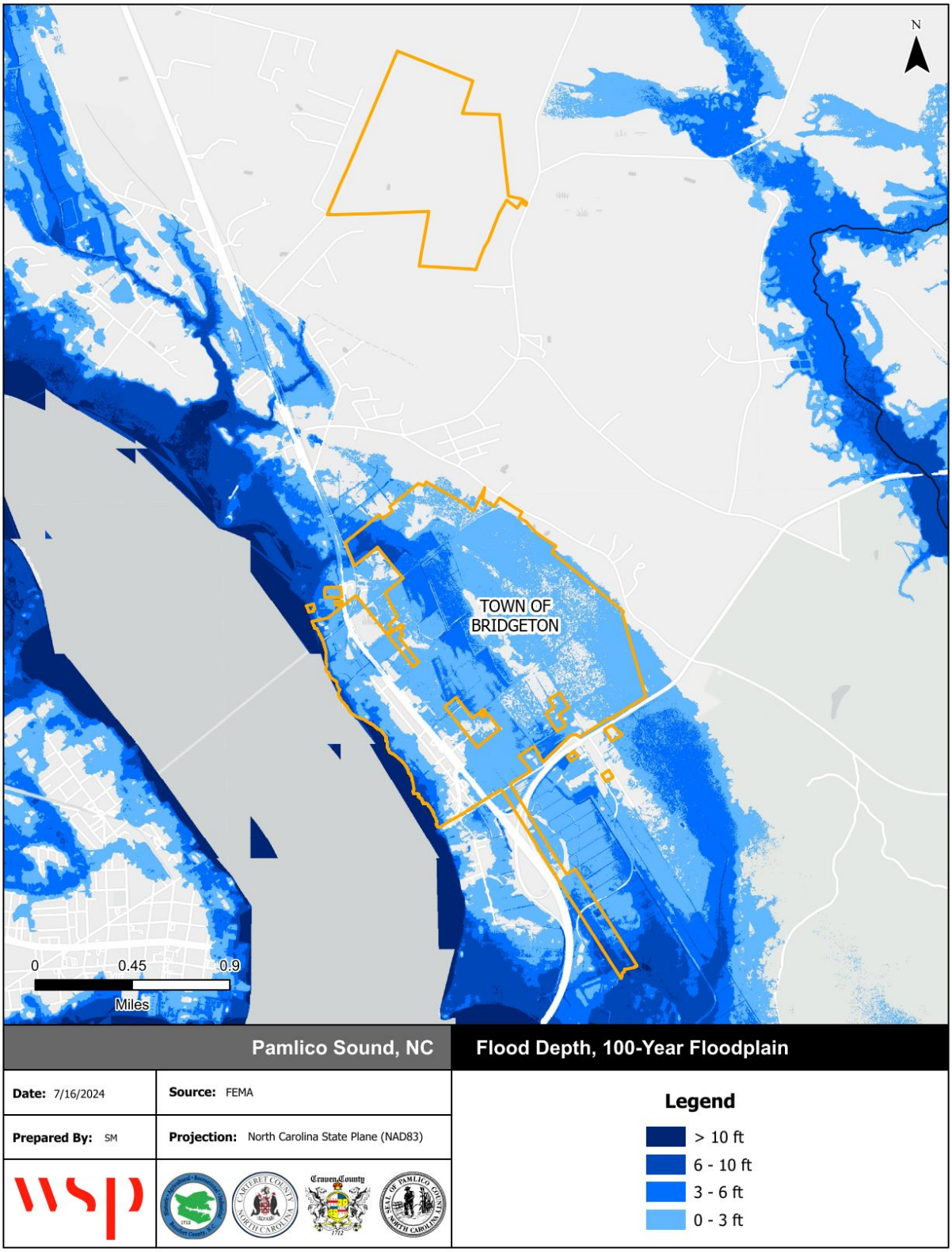
Source: FEMA Effective DFIRM

Figure C.19 – Flood Depth, 1%-Annual-Chance Floodplain, Unincorporated Craven County



Source: FEMA Effective DFIRM

Figure C.20 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Bridgeton

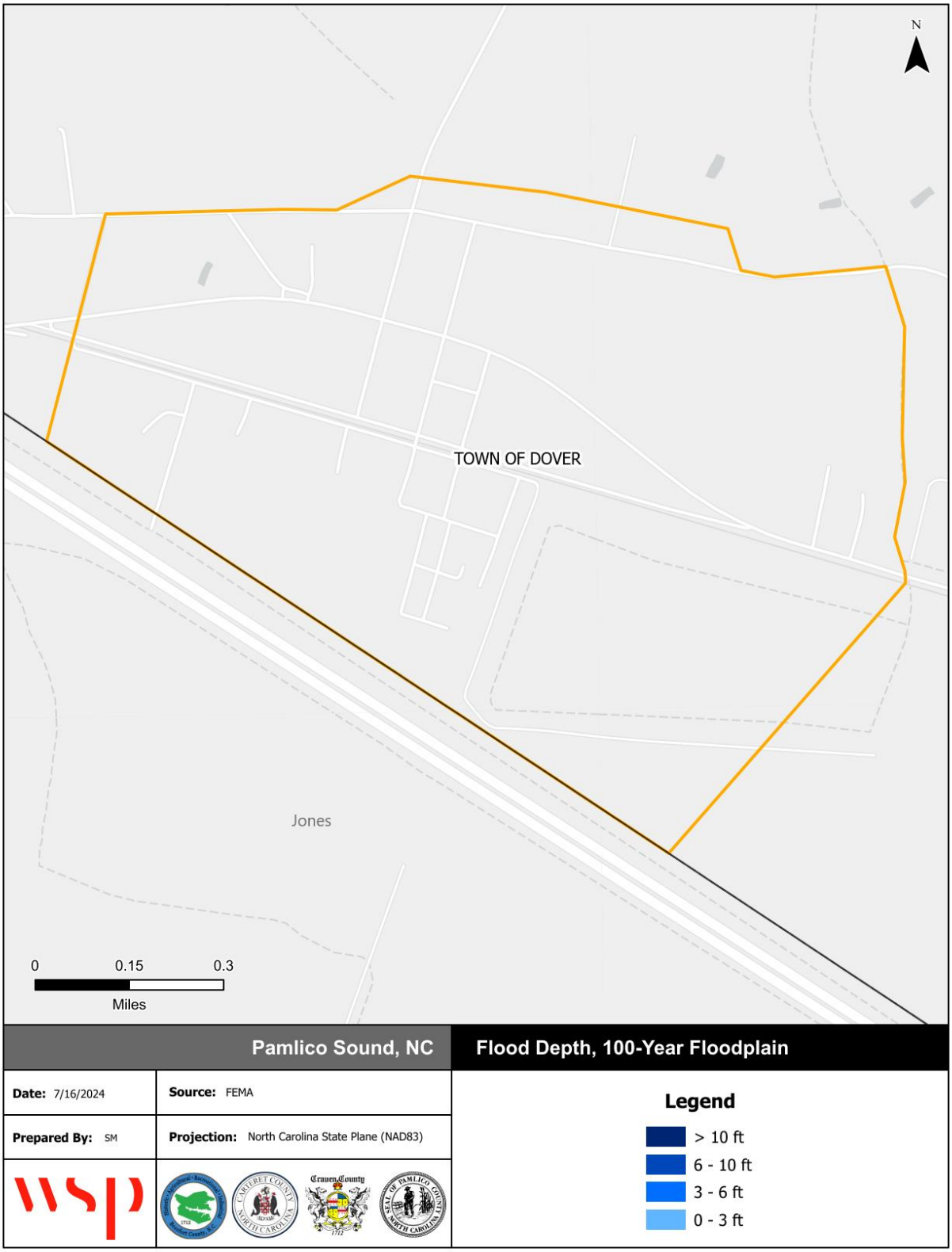


Source: FEMA Effective DFIRM

Figure C.21 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Cove City

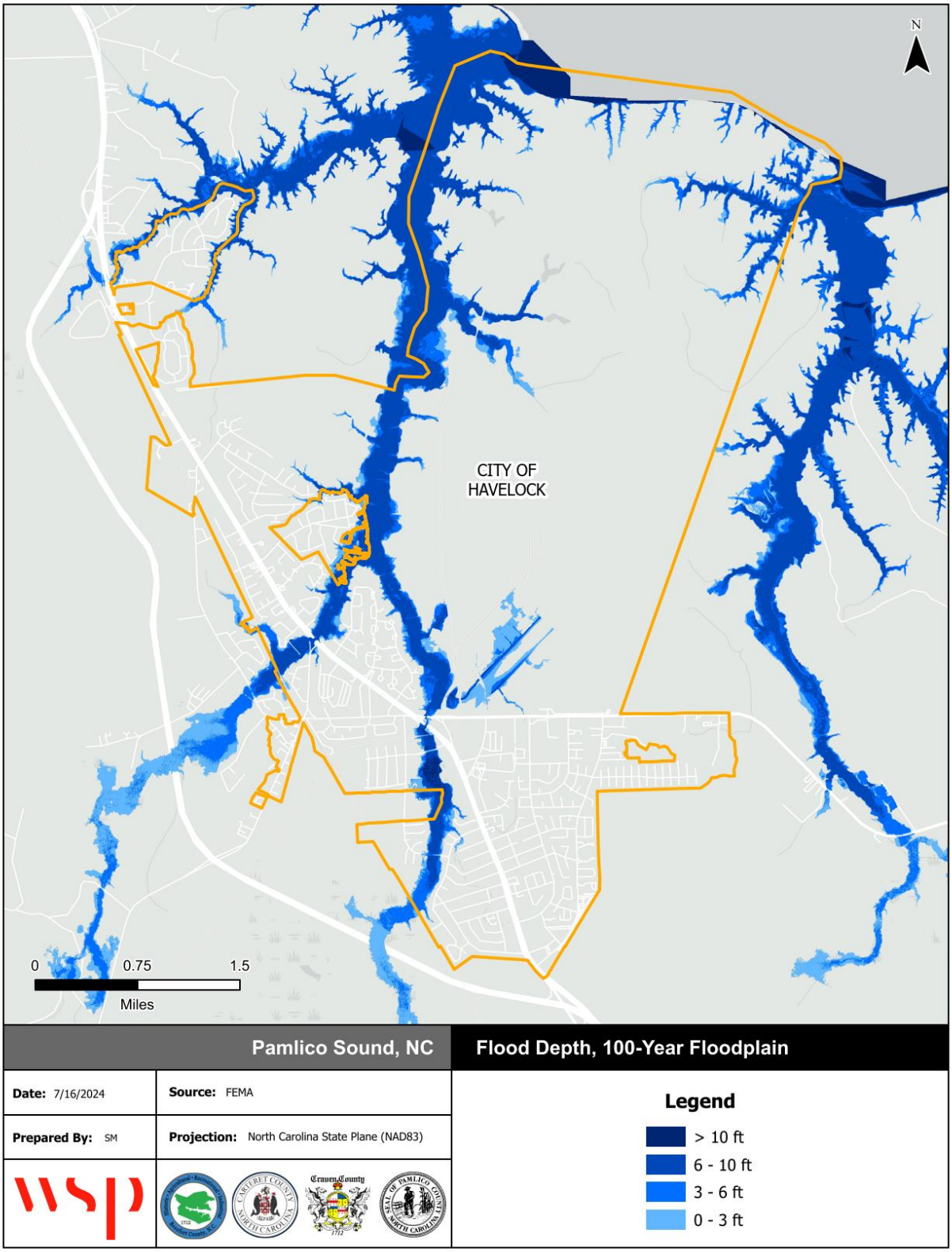
Source: FEMA Effective DFIRM

Figure C.22 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Dover



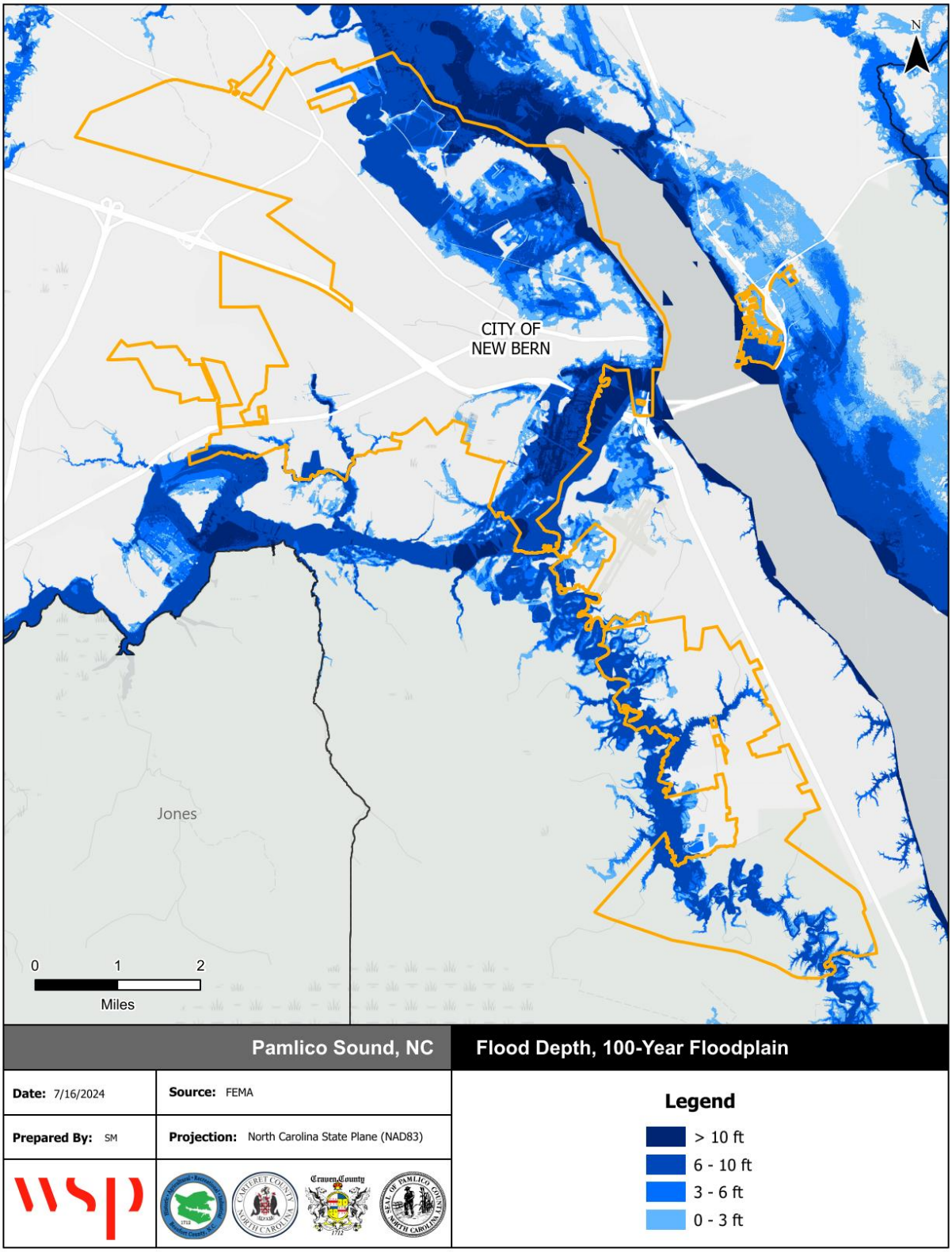
Source: FEMA Effective DFIRM

Figure C.23 – Flood Depth, 1%-Annual-Chance Floodplain, City of Havelock



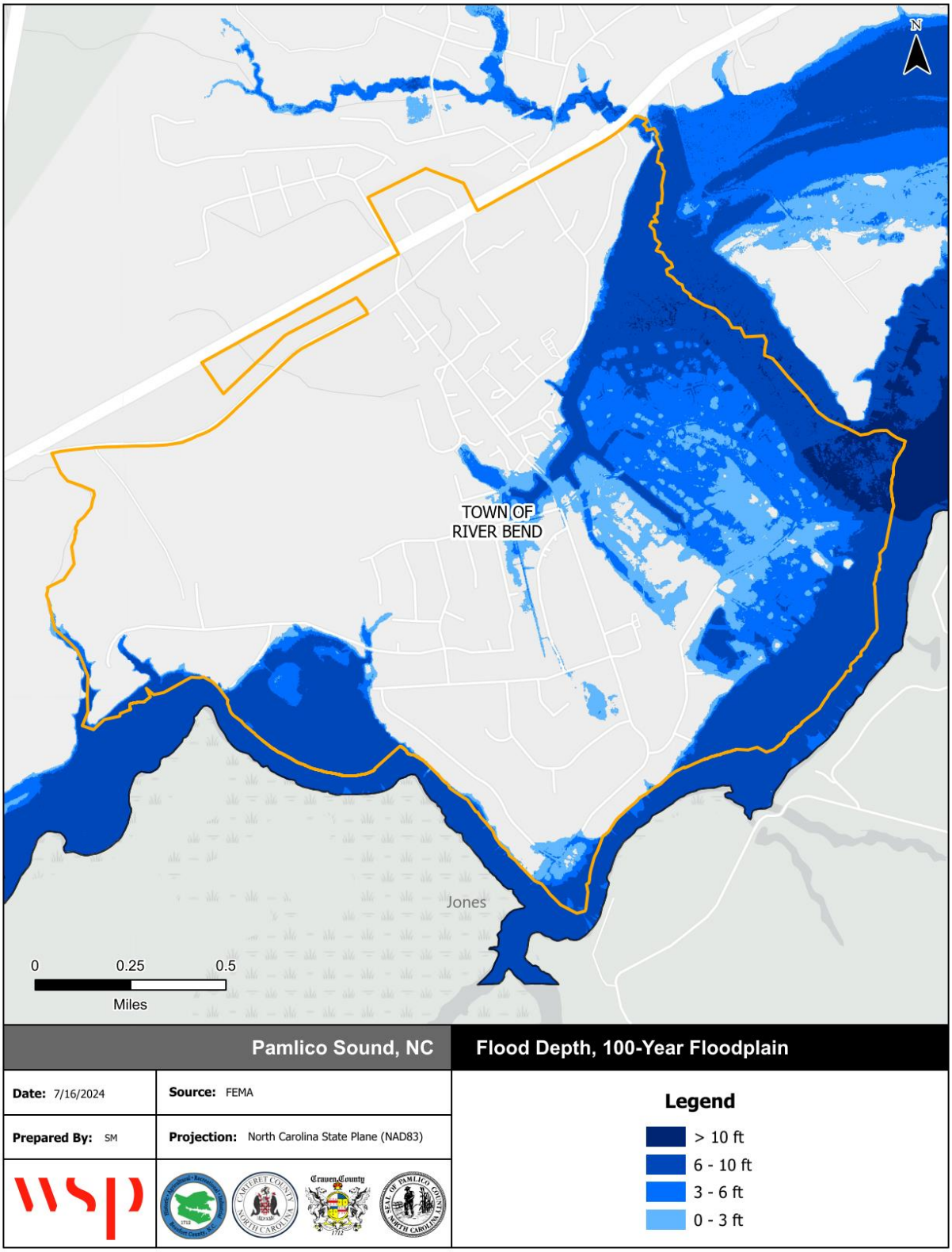
Source: FEMA Effective DFIRM

Figure C.24 – Flood Depth, 1%-Annual-Chance Floodplain, City of New Bern



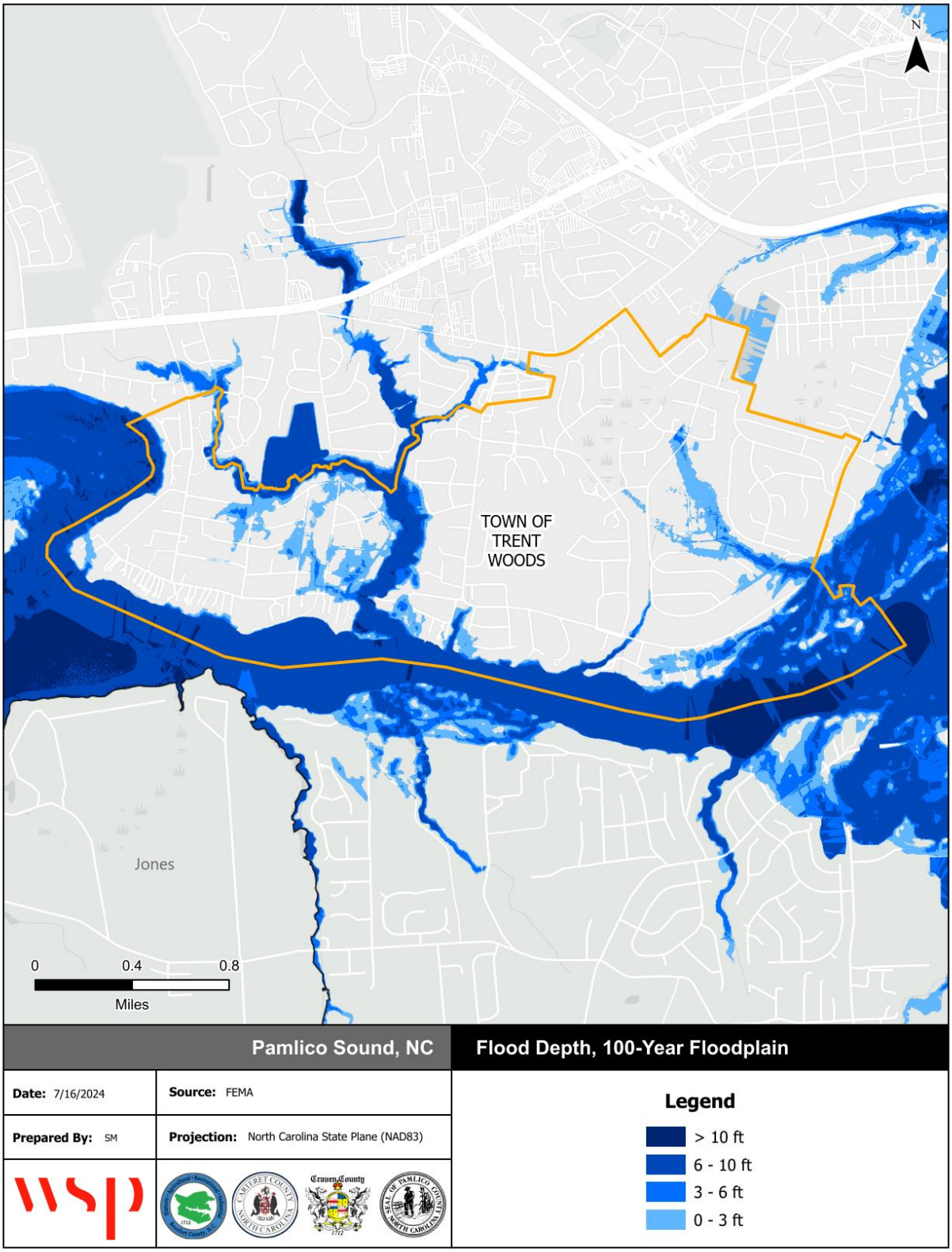
Source: FEMA Effective DFIRM

Figure C.25 – Flood Depth, 1%-Annual-Chance Floodplain, Town of River Bend



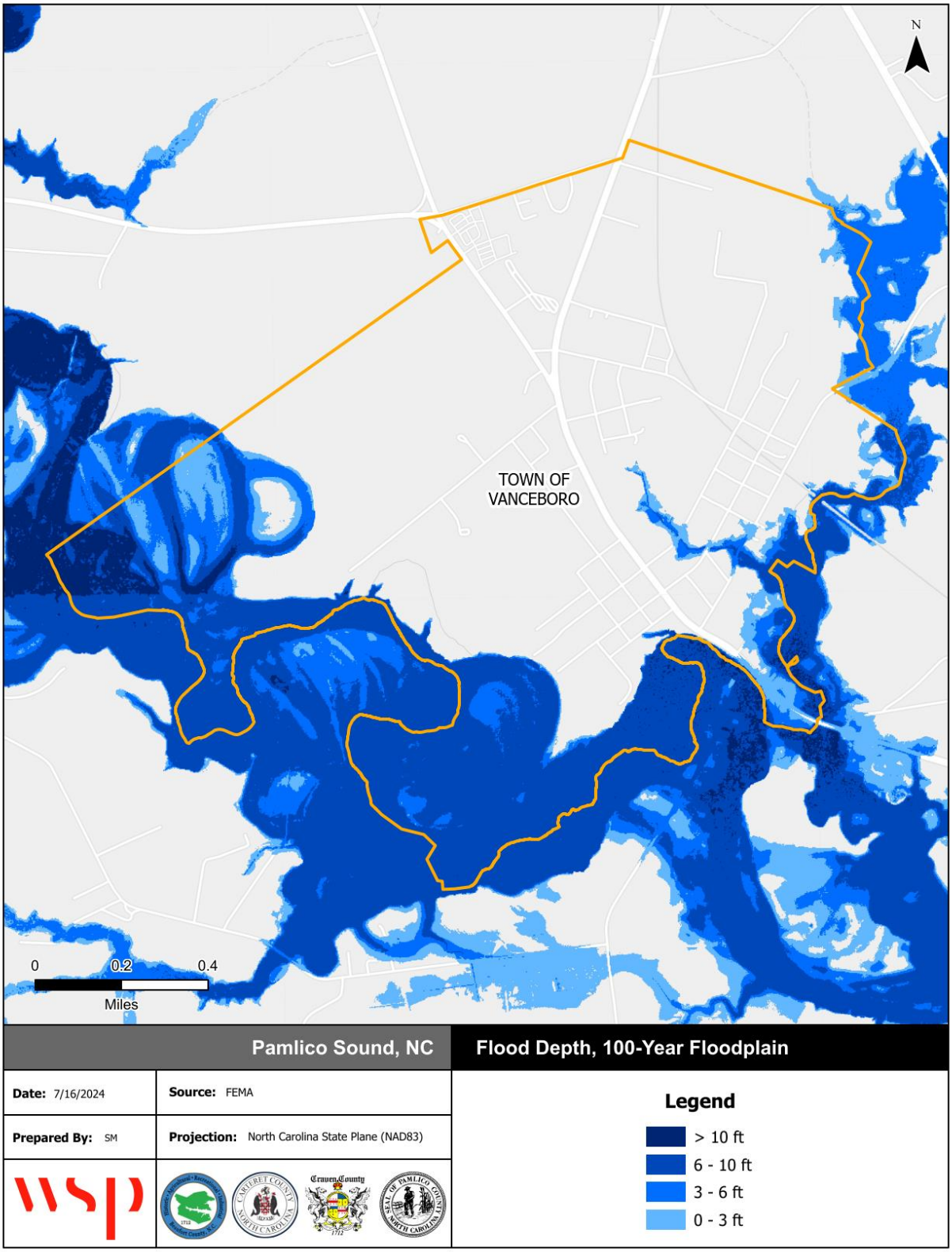
Source: FEMA Effective DFIRM

Figure C.26 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Trent Woods



Source: FEMA Effective DFIRM

Figure C.27 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Vanceboro



Source: FEMA Effective DFIRM

C.2.1.1 *FLOOD INSURANCE DATA*

The following tables reflect NFIP emergency and regular entry dates as well as policy and claims data for Craven County and incorporated categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table C.13 – NFIP Program Entry Dates

Community	Emergency Entry Date	Regular Entry Date
Craven County (Unincorporated Area)	October 19, 1973	May 4, 1987
Town of Bridgeton	October 19, 1973	May 4, 1987
Town of Cove City	August 12, 2002	July 2, 2004
Town of Dover	N/A	May 29, 2007
City of Havelock	June 20, 1975	May 4, 1987
City of New Bern	December 11, 1973	June 1, 1978
Town of River Bend	August 5, 1981	August 19, 1986
Town of Trent Woods	May 4, 1987	May 4, 1987
Town of Vanceboro	October 19, 1973	August 4, 1988

Table C.14 – NFIP Policy and Claims Data by Structure Type

Structure Type	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Craven County Unincorporated Area					
Single Family	1,580	$1,166,756	$466,585,000	2,648	$94,007,652.08
2-4 Family	103	$30,795	$18,759,000	189	$5,852,787.21
All Other Residential	115	$20,993	$17,309,000	39	$3,370,994.76
Non-Residential	36	$41,792	$9,375,000	51	$2,376,383.10
Total	**1,834**	**$1,260,336**	**$512,028,000**	**2,927**	**$105,607,817.15**
Town of Bridgeton					
Single Family	59	$45,081	$13,790,000	101	$2,963,811.23
2-4 Family	2	$1,789	$600,000	8	$272,986.44
All Other Residential	2	$1,042	$240,000	1	$0.00
Non-Residential	7	$9,473	$2,115,000	5	$152,498.82
Total	**70**	**$57,385**	**$16,745,000**	**115**	**$3,389,296.49**
Town of Cove City					
Single Family	1	$612	$210,000	-	-
2-4 Family	0	$0	$0	-	-
All Other Residential	0	$0	$0	-	-
Non-Residential	0	$0	$0	-	-
Total	1	$612	$210,000	0	$0.00
Town of Dover					
Single Family	1	$392	$140,000	1	$1,010.53
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	0	$0	$0	0	$0.00
Total	**1**	**$392**	**$140,000**	**1**	**$1,010.53**

Structure Type	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
City of Havelock					
Single Family	186	$111,352	$51,623,000	152	$4,389,021.21
2-4 Family	3	$1,056	$436,000	0	$0.00
All Other Residential	8	$6,370	$3,737,000	4	$250,128.11
Non-Residential	10	$12,315	$3,458,000	6	$486,410.42
Total	**207**	**$131,093**	**$59,254,000**	**162**	**$5,125,559.74**
City of New Bern					
Single Family	1,166	$752,607	$309,254,000	1,532	$52,689,947.87
2-4 Family	61	$29,638	$11,764,000	76	$2,477,224.84
All Other Residential	172	$58,612	$37,256,000	86	$2,560,828.48
Non-Residential	78	$126,804	$35,148,000	132	$10,772,654.37
Total	**1,477**	**$967,661**	**$393,422,000**	**1,826**	**$68,500,655.56**
Town of River Bend					
Single Family	370	$366,575	$100,475,000	792	$41,067,037.25
2-4 Family	14	$9,174	$2,924,000	23	$861,525.29
All Other Residential	0	$0	$0	4	$131,641.61
Non-Residential	3	$2,366	$189,000	2	$378,287.88
Total	**387**	**$378,115**	**$103,588,000**	**821**	**$42,438,492.03**
Town of Trent Woods					
Single Family	290	$245,661	$91,224,000	255	$13,932,687.44
2-4 Family	1	$131	$100,000	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	6	$7,075	$2,129,000	3	$9,296.57
Total	**297**	**$252,867**	**$93,453,000**	**258**	**$13,941,984.01**
Town of Vanceboro					
Single Family	3	$2,200	$463,000	1	$3,323.29
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	1	$2,828	$380,000	0	$0.00
Total	**4**	**$5,028**	**$843,000**	**1**	**$3,323.29**

Source: FEMA Community Information System, accessed January 2025

Table C.15 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Craven County Unincorporated Area					
A01-30 & AE Zones	1,239	$882,074	$323,048,000	2,598	$100,237,796.97
A Zones	1	$767	$277,000	35	$917,970.98
B, C & X Zone					
Standard	594	$377,495	$188,703,000	34	$876,173.58
Preferred	0	$0	$0	196	$3,580,672.96
Total	**1,834**	**$1,260,336**	**$512,028,000**	**2,863**	**$105,612,614.49**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Bridgeton					
A01-30 & AE Zones	54	$45,522	$12,403,000	109	$3,067,435.09
B, C & X Zone					
Standard	16	$11,863	$4,342,000	1	$60,000.00
Preferred	0	$0	$0	5	$261,861.40
Total	**70**	**$57,385**	**$16,745,000**	**115**	**$3,389,296.49**
Town of Cove City					
B, C & X Zone					
Standard	1	$612	$210,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**1**	**$612**	**$210,000**	**0**	**$0.00**
Town of Dover					
B, C & X Zone					
Standard	1	$392	$140,000	1	$1,010.53
Preferred	0	$0	$0	0	$0.00
Total	**1**	**$392**	**$140,000**	**1**	**$1,010.53**
City of Havelock					
A01-30 & AE Zones	19	$19,747	$5,604,000	54	$2,401,243.09
A Zones	0	$0	$0	2	$9,980.65
B, C & X Zone					
Standard	188	$111,346	$53,650,000	13	$601,677.73
Preferred	0	$0	$0	90	$2,112,658.27
Total	**207**	**$131,093**	**$59,254,000**	**159**	**$5,125,559.74**
City of New Bern					
A01-30 & AE Zones	818	$581,670	$200,819,000	1,620	$63,772,196.37
V01-30 & VE Zones	0	$0	$0	9	$97,007.73
B, C & X Zone					
Standard	659	$385,991	$192,603,000	36	$1,558,329.37
Preferred	0	$0	$0	147	$3,024,942.49
Total	**1,477**	**$967,661**	**$393,422,000**	**1,813**	**$68,452,475.96**
Town of River Bend					
A01-30 & AE Zones	295	$313,636	$76,133,000	781	$41,278,407.69
A Zones	0	$0	$0	1	$197.57
B, C & X Zone					
Standard	92	$64,479	$27,455,000	12	$752,091.47
Preferred	0	$0	$0	22	$400,891.41
Total	**387**	**$378,115**	**$103,588,000**	**816**	**$42,431,588.14**
Town of Trent Woods					
A01-30 & AE Zones	145	$145,178	$41,778,000	208	$12,704,614.39
A Zones	1	$837	$500,000	2	$16,609.82
B, C & X Zone					
Standard	151	$106,852	$51,175,000	11	$574,515.02
Preferred	0	$0	$0	37	$646,244.78
Total	**297**	**$252,867**	**$93,453,000**	**258**	**$13,941,984.01**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Vanceboro					
A01-30 & AE Zones	3	$2,200	$463,000	0	$0.00
A Zones	0	$0	$0	1	$3,323.29
B, C & X Zone					
Standard	1	$2,828	$380,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**4**	**$5,028**	**$843,000**	**1**	**$3,323.29**

Source: FEMA Community Information System, accessed January 2025

Table C.16 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Craven County Unincorporated Area					
A01-30 & AE Zones	435	$280,398	$93,649,000	1,252	$45,649,402.27
A Zones	0	$0	$0	24	$825,512.44
B, C & X Zone	198	$132,134	$59,536,000	122	$2,231,254.47
Standard	198	$132,134	$59,536,000	24	$339,151.27
Preferred	0	$0	$0	99	$1,892,103.20
Total	**633**	**$412,532**	**$153,185,000**	**1,398**	**$48,706,169.18**
Town of Bridgeton					
A01-30 & AE Zones	37	$31,706	$7,802,000	88	$2,709,299.30
B, C & X Zone	12	$9,285	$3,309,000	5	$308,530.80
Standard	12	$9,285	$3,309,000	1	$60,000.00
Preferred	0	$0	$0	4	$248,530.80
Total	**49**	**$40,991**	**$11,111,000**	**93**	**$3,017,830.10**
Town of Cove City					
B, C & X Zone	1	$612	$210,000	0	$0.00
Standard	1	$612	$210,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**1**	**$612**	**$210,000**	**0**	**$0.00**
Town of Dover					
B, C & X Zone	1	$392	$140,000	1	$1,010.53
Standard	1	$392	$140,000	1	$1,010.53
Preferred	0	$0	$0	0	$0.00
Total	**1**	**$392**	**$140,000**	**1**	**$1,010.53**
City of Havelock					
A01-30 & AE Zones	11	$11,274	$2,701,000	43	$1,553,605.13
A Zones	0	$0	$0	2	$9,980.65
B, C & X Zone	108	$65,539	$30,695,000	82	$2,086,034.89
Standard	108	$65,539	$30,695,000	13	$601,677.73
Preferred	0	$0	$0	69	$1,484,357.16
Total	**119**	**$76,813**	**$33,396,000**	**127**	**$3,649,620.67**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
City of New Bern					
A01-30 & AE Zones	305	$251,828	$66,625,000	1,050	$36,639,661.20
V01-30 & VE Zones	0	$0	$0	9	$97,007.73
B, C & X Zone	266	$164,378	$66,617,000	108	$2,365,911.07
Standard	266	$164,378	$66,617,000	28	$787,486.89
Preferred	0	$0	$0	80	$1,578,424.18
Total	**571**	**$416,206**	**$133,242,000**	**1,168**	**$39,102,580.00**
Town of River Bend					
A01-30 & AE Zones	196	$208,540	$46,949,000	525	$27,701,211.14
A Zones	0	$0	$0	1	$197.57
B, C & X Zone	50	$36,358	$14,638,000	16	$544,282.79
Standard	50	$36,358	$14,638,000	6	$381,852.73
Preferred	0	$0	$0	9	$162,430.06
Total	**246**	**$244,898**	**$61,587,000**	**542**	**$28,245,691.50**
Town of Trent Woods					
A01-30 & AE Zones	94	$99,907	$25,548,000	154	$9,871,534.97
A Zones	1	$837	$500,000	2	$16,609.82
B, C & X Zone	99	$72,899	$33,349,000	37	$1,067,761.41
Standard	99	$72,899	$33,349,000	11	$574,515.02
Preferred	0	$0	$0	26	$493,246.39
Total	**194**	**$173,643**	**$59,397,000**	**193**	**$10,955,906.20**
Town of Vanceboro					
A01-30 & AE Zones	2	$1,441	$229,000	0	$0.00
A Zones	0	$0	$0	1	$3,323.29
Total	**2**	**$1,441**	**$229,000**	**1**	**$3,323.29**

Source: FEMA Community Information System, accessed January 2025

Table C.17 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Craven County Unincorporated Area					
A01-30 & AE Zones	804	$601,676	$229,399,000	1,346	$54,588,394.70
A Zones	1	$767	$277,000	11	$92,458.54
B, C & X Zone	396	$245,361	$129,167,000	106	$2,003,730.34
Standard	396	$245,361	$129,167,000	10	$537,022.31
Preferred	0	$0	$0	97	$1,688,569.76
Total	**1,201**	**$847,804**	**$358,843,000**	**1,463**	**$56,684,583.58**
Town of Bridgeton					
A01-30 & AE Zones	17	$13,816	$4,601,000	21	$358,135.79
B, C & X Zone	4	$2,578	$1,033,000	1	$13,330.60
Standard	4	$2,578	$1,033,000	0	$0.00
Preferred	0	$0	$0	1	$13,330.60
Total	**21**	**$16,394**	**$5,634,000**	**22**	**$371,466.39**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Cove City					
B, C & X Zone	0	$0	$0	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**0**	**$0**	**$0**	**0**	**$0.00**
Town of Dover					
B, C & X Zone	0	$0	$0	0	$0.00
Standard	0	$0	$0	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**0**	**$0**	**$0**	**0**	**$0.00**
City of Havelock					
A01-30 & AE Zones	8	$8,473	$2,903,000	11	$847,637.96
B, C & X Zone	80	$45,807	$22,955,000	21	$628,301.11
Standard	80	$45,807	$22,955,000	0	$0.00
Preferred	0	$0	$0	21	$628,301.11
Total	**88**	**$54,280**	**$25,858,000**	**32**	**$1,475,939.07**
City of New Bern					
A01-30 & AE Zones	513	$329,842	$134,194,000	570	$27,132,535.17
B, C & X Zone	393	$221,613	$125,986,000	75	$2,217,360.79
Standard	393	$221,613	$125,986,000	8	$770,842.48
Preferred	0	$0	$0	67	$1,446,518.31
Total	**906**	**$551,455**	**$260,180,000**	**645**	**$29,349,895.96**
Town of River Bend					
A01-30 & AE Zones	99	$105,096	$29,184,000	256	$13,577,196.55
B, C & X Zone	42	$28,121	$12,817,000	19	$608,700.09
Standard	42	$28,121	$12,817,000	6	$370,238.74
Preferred	0	$0	$0	13	$238,461.35
Total	**141**	**$133,217**	**$42,001,000**	**275**	**$14,185,896.64**
Town of Trent Woods					
A01-30 & AE Zones	51	$45,271	$16,230,000	54	$2,833,079.42
B, C & X Zone	52	$33,953	$17,826,000	11	$152,998.39
Standard	52	$33,953	$17,826,000	0	$0.00
Preferred	0	$0	$0	11	$152,998.39
Total	**103**	**$79,224**	**$34,056,000**	**65**	**$2,986,077.81**
Town of Vanceboro					
A01-30 & AE Zones	1	$759	$234,000	0	$0.00
B, C & X Zone	1	$2,828	$380,000	0	$0.00
Standard	1	$2,828	$380,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**2**	**$3,587**	**$614,000**	**0**	**$0.00**

Source: FEMA Community Information System, accessed January 2025

C.2.2 WILDFIRE

Table C.18 summarizes the acreage in Craven County that falls within the Wildland Urban Interface (WUI), categorized by housing density. Areas in the WUI are those where development may intermix with flammable vegetation. Over 68 percent of Craven County is not included in the WUI.

Table C.18 – Wildland Urban Interface Acreage, Craven County

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*338,191*	*68.34%*
	LT 1hs/40ac	46,750	9.45%
	1hs/40ac to 1hs/20ac	21,824	4.41%
	1hs/20ac to 1hs/10ac	25,212	5.09%
	1hs/10ac to 1hs/5ac	19,740	3.99%
	1hs/5ac to 1hs/2ac	19,336	3.91%
	1hs/2ac to 3hs/1ac	22,838	4.61%
	GT 3hs/1ac	1,008	0.20%
	Total	**494,899**	**100%**

Source: Southern Wildfire Risk Assessment

Figure C.28 depicts the WUI for Craven County and all participating jurisdictions. Figure C.29 through Figure C.31 detail the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure C.32 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Potential fire intensity is highest in the unincorporated areas of Craven County, particularly in the southwestern and northeastern corners of the county as well as south of the Neuse River between Cove City and New Bern. Burn probability is highest in the southwestern corner of the county, and in much of unincorporated areas, it is moderate. Burn probability is low in most incorporated areas. While the southwest corner of the county has both high potential fire intensity and a high burn probability, this area is located outside of the WUI, so a fire here would not likely threaten human life or property.

Table C.19 through Table C.27 provides the count and estimated value of all structures that intersect with areas of unincorporated Craven County and participating jurisdictions that are rated moderate to high on the WUI Risk Index. Table C.28 through Table C.36 provides building counts and values for critical facilities by FEMA lifeline that are located in areas rated moderate to high on the WUI Risk Index.

Table C.19 - Structures at Risk to Moderate-High WUI Risk Index, Unincorporated Craven County

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	379	$15,639,575.00	$15,639,575.00	$31,279,150.00
Commercial	586	$212,042,648.00	$212,042,648.00	$424,085,296.00
Education	19	$60,950,482.00	$60,950,482.00	$121,900,964.00
Government	50	$22,227,956.00	$22,227,956.00	$44,455,912.00
Industrial	38	$6,413,815.00	$9,620,722.50	$16,034,537.50
Religious	132	$130,213,965.00	$130,213,965.00	$260,427,930.00
Residential	15,946	$1,452,610,249.00	$726,305,124.50	$2,178,915,373.50
Total	**17,150**	**$1,900,098,690.00**	**$950,049,345.00**	**$2,850,148,035.00**

Source: Southern Wildfire Risk Assessment

Table C.20 - Structures at Risk to Moderate-High WUI Risk Index, City of Havelock

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	4	$170,230.00	$170,230.00	$340,460.00
Commercial	312	$199,387,415.00	$199,387,415.00	$398,774,830.00
Education	18	$137,802,880.00	$137,802,880.00	$275,605,760.00
Government	56	$453,094,387.00	$453,094,387.00	$906,188,774.00
Industrial	9	$3,363,328.00	$5,044,992.00	$8,408,320.00
Religious	31	$27,665,874.00	$27,665,874.00	$55,331,748.00
Residential	4,407	$426,850,544.00	$213,425,272.00	$640,275,816.00
Total	**4,837**	**$1,248,334,658.00**	**$624,167,329.00**	**$1,872,501,987.00**

Source: Southern Wildfire Risk Assessment

Table C.21 - Structures at Risk to Moderate-High WUI Risk Index, City of New Bern

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	14	$390,972.00	$390,972.00	$781,944.00
Commercial	725	$212,259,307.00	$212,259,307.00	$424,518,614.00
Education	21	$97,353,685.00	$97,353,685.00	$194,707,370.00
Government	55	$167,675,327.00	$167,675,327.00	$335,350,654.00
Industrial	50	$20,138,252.00	$30,207,378.00	$50,345,630.00
Religious	73	$137,874,285.00	$137,874,285.00	$275,748,570.00
Residential	9,893	$1,227,171,453.00	$613,585,726.50	$1,840,757,179.50
Total	**10,831**	**$1,862,863,281.00**	**$931,431,640.50**	**$2,794,294,921.50**

Source: Southern Wildfire Risk Assessment

Table C.22 - Structures at Risk to Moderate-High WUI Risk Index, Town of Bridgeton

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	1	$393,800.00	$393,800.00	$787,600.00
Commercial	61	$65,853,044.00	$65,853,044.00	$131,706,088.00
Education	1	$361,104.00	$361,104.00	$722,208.00
Government	2	$590,085.00	$590,085.00	$1,180,170.00
Industrial	5	$345,471.00	$518,206.50	$863,677.50
Religious	5	$877,876.00	$877,876.00	$1,755,752.00
Residential	197	$12,718,871.00	$6,359,435.50	$19,078,306.50
Total	**272**	**$81,140,251.00**	**$40,570,125.50**	**$121,710,376.50**

Source: Southern Wildfire Risk Assessment

Table C.23 - Structures at Risk to Moderate-High WUI Risk Index, Town of Cove City

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	2	$7,920.00	$7,920.00	$15,840.00
Commercial	26	$943,758.00	$943,758.00	$1,887,516.00
Education	0	$0	$0	$0
Government	5	$1,205,763.00	$1,205,763.00	$2,411,526.00
Industrial	0	$0	$0	$0
Religious	5	$5,634,301.00	$5,634,301.00	$11,268,602.00
Residential	222	$9,549,850.00	$4,774,925.00	$14,324,775.00
Total	**260**	**$17,341,592.00**	**$8,670,796.00**	**$26,012,388.00**

Source: Southern Wildfire Risk Assessment

Table C.24 - Structures at Risk to Moderate-High WUI Risk Index, Town of Dover

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	5	$60,050,001.00	$60,050,001.00	$120,100,002.00
Education	0	$0	$0	$0
Government	6	$1,625,599.00	$1,625,599.00	$3,251,198.00
Industrial	0	$0	$0	$0
Religious	5	$2,801,571.00	$2,801,571.00	$5,603,142.00
Residential	205	$9,401,543.00	$4,700,771.50	$14,102,314.50
Total	**221**	**$73,878,714.00**	**$36,939,357.00**	**$110,818,071.00**

Source: Southern Wildfire Risk Assessment

Table C.25 - Structures at Risk to Moderate-High WUI Risk Index, Town of River Bend

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	17	$3,793,819.00	$3,793,819.00	$7,587,638.00
Education	0	$0	$0	$0
Government	1	$30,850.00	$30,850.00	$61,700.00
Industrial	0	$0	$0	$0
Religious	2	$2,137,172.00	$2,137,172.00	$4,274,344.00
Residential	1,467	$191,440,156.00	$95,720,078.00	$287,160,234.00
Total	**1,487**	**$197,401,997.00**	**$98,700,998.50**	**$296,102,995.50**

Source: Southern Wildfire Risk Assessment

Table C.26 - Structures at Risk to Moderate-High WUI Risk Index, Town of Trent Woods

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	19	$19,286,468.00	$19,286,468.00	$38,572,936.00
Education	6	$11,400,878.00	$11,400,878.00	$22,801,756.00
Government	3	$3,068,688.00	$3,068,688.00	$6,137,376.00
Industrial	2	$2,641,886.00	$3,962,829.00	$6,604,715.00
Religious	12	$17,954,736.00	$17,954,736.00	$35,909,472.00
Residential	1,845	$328,214,689.00	$164,107,344.50	$492,322,033.50
Total	**1,887**	**$382,567,345.00**	**$191,283,672.50**	**$573,851,017.50**

Source: Southern Wildfire Risk Assessment

Table C.27 - Structures at Risk to Moderate-High WUI Risk Index, Town of Vanceboro

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	4	$12,670.00	$12,670.00	$25,340.00
Commercial	71	$128,849,834.00	$128,849,834.00	$257,699,668.00
Education	15	$23,419,930.00	$23,419,930.00	$46,839,860.00
Government	4	$2,008,514.00	$2,008,514.00	$4,017,028.00
Industrial	0	$0	$0	$0
Religious	10	$5,698,342.00	$5,698,342.00	$11,396,684.00
Residential	362	$24,110,248.00	$12,055,124.00	$36,165,372.00
Total	**466**	**$184,099,538.00**	**$92,049,769.00**	**$276,149,307.00**

Source: Southern Wildfire Risk Assessment

Table C.28 - Critical Facilities Exposed to Wildfire, Unincorporated Craven County

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	9	$510,930
Hazardous Materials	0	$0
Health and Medical	4	$0
Safety and Security	22	$1,955,510
Transportation	0	$0
Water Systems	28	$15,677,800
Total	**63**	**$18,144,240**

Source: Southern Wildfire Risk Assessment

Table C.29 - Critical Facilities Exposed to Wildfire, City of Havelock

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	7	$0
Hazardous Materials	0	$0
Health and Medical	1	$0
Safety and Security	1	$2,029,100
Transportation	0	$0
Water Systems	5	$2,055,600
Total	**14**	**$4,084,700**

Source: Southern Wildfire Risk Assessment

Table C.30 - Critical Facilities Exposed to Wildfire, City of New Bern

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	8	$0
Hazardous Materials	0	$0
Health and Medical	14	$132,056,000
Safety and Security	8	$581,200
Transportation	0	$0
Water Systems	1	$0
Total	**31**	**$132,637,200**

Source: Southern Wildfire Risk Assessment

Table C.31 - Critical Facilities Exposed to Wildfire, Town of Bridgeton

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$0
Transportation	0	$0
Water Systems	2	$0
Total	**4**	**$0**

Source: Southern Wildfire Risk Assessment

Table C.32 - Critical Facilities Exposed to Wildfire, Town of Cove City

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$7,180
Transportation	0	$0
Water Systems	2	$0
Total	**4**	**$7,180**

Source: Southern Wildfire Risk Assessment

Table C.33 - Critical Facilities Exposed to Wildfire, Town of Dover

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$416,300
Transportation	0	$0
Water Systems	4	$405,730
Total	**5**	**$822,030**

Source: Southern Wildfire Risk Assessment

Table C.34 - Critical Facilities Exposed to Wildfire, Town of River Bend

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	1	$5,643,300
Safety and Security	3	$244,010
Transportation	0	$0
Water Systems	13	$347,150
Total	**17**	**$6,234,460**

Source: Southern Wildfire Risk Assessment

Table C.35 - Critical Facilities Exposed to Wildfire, Town of Trent Woods

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$0
Transportation	0	$0
Water Systems	0	$0
Total	**3**	**$0**

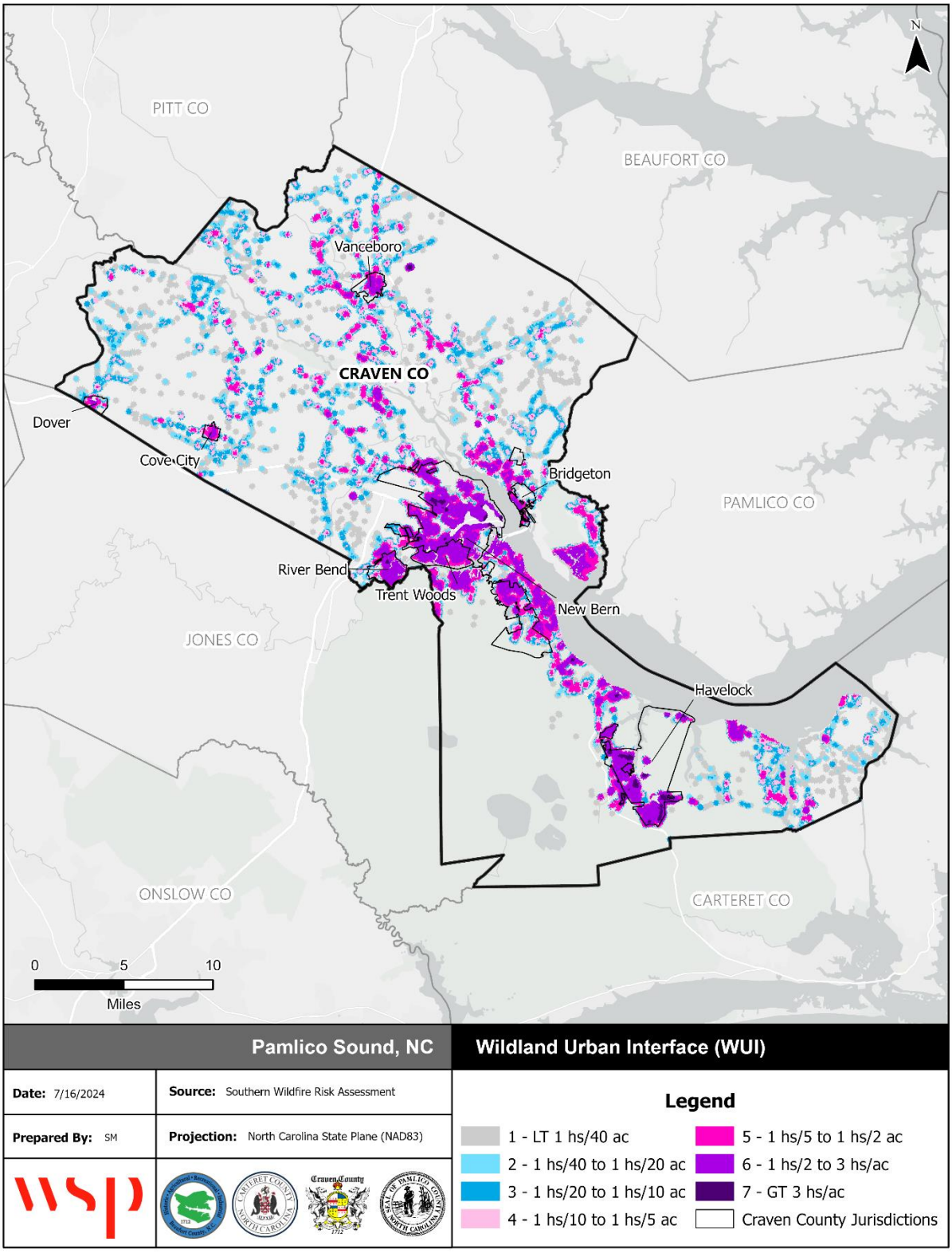
Source: Southern Wildfire Risk Assessment

Table C.36 - Critical Facilities Exposed to Wildfire, Town of Vanceboro

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$10,000,000
Hazardous Materials	0	$0
Health and Medical	1	$0
Safety and Security	2	$0
Transportation	0	$0
Water Systems	3	$0
Total	**7**	**$10,000,000**

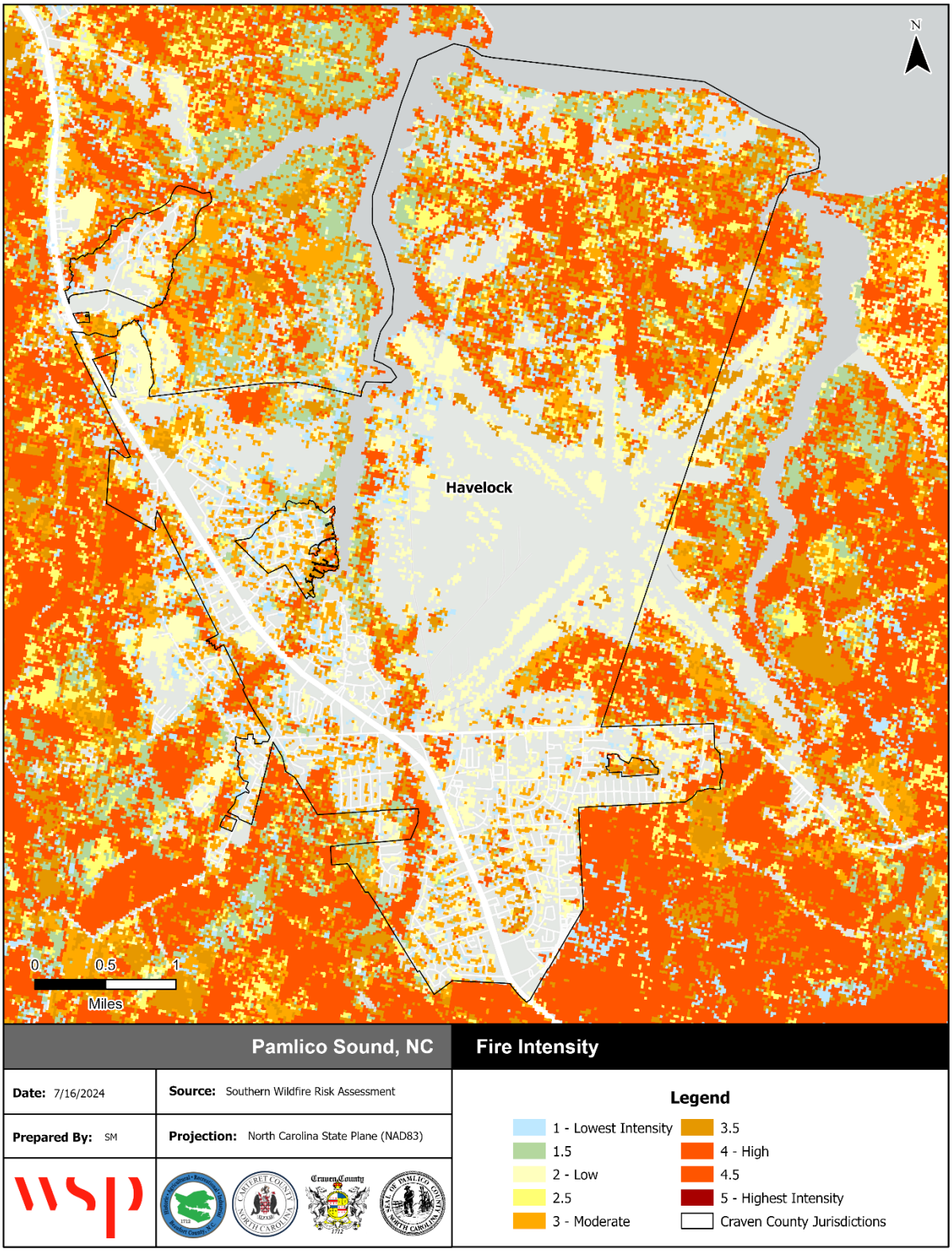
Source: Southern Wildfire Risk Assessment

Figure C.28 – Wildland Urban Interface, Craven County



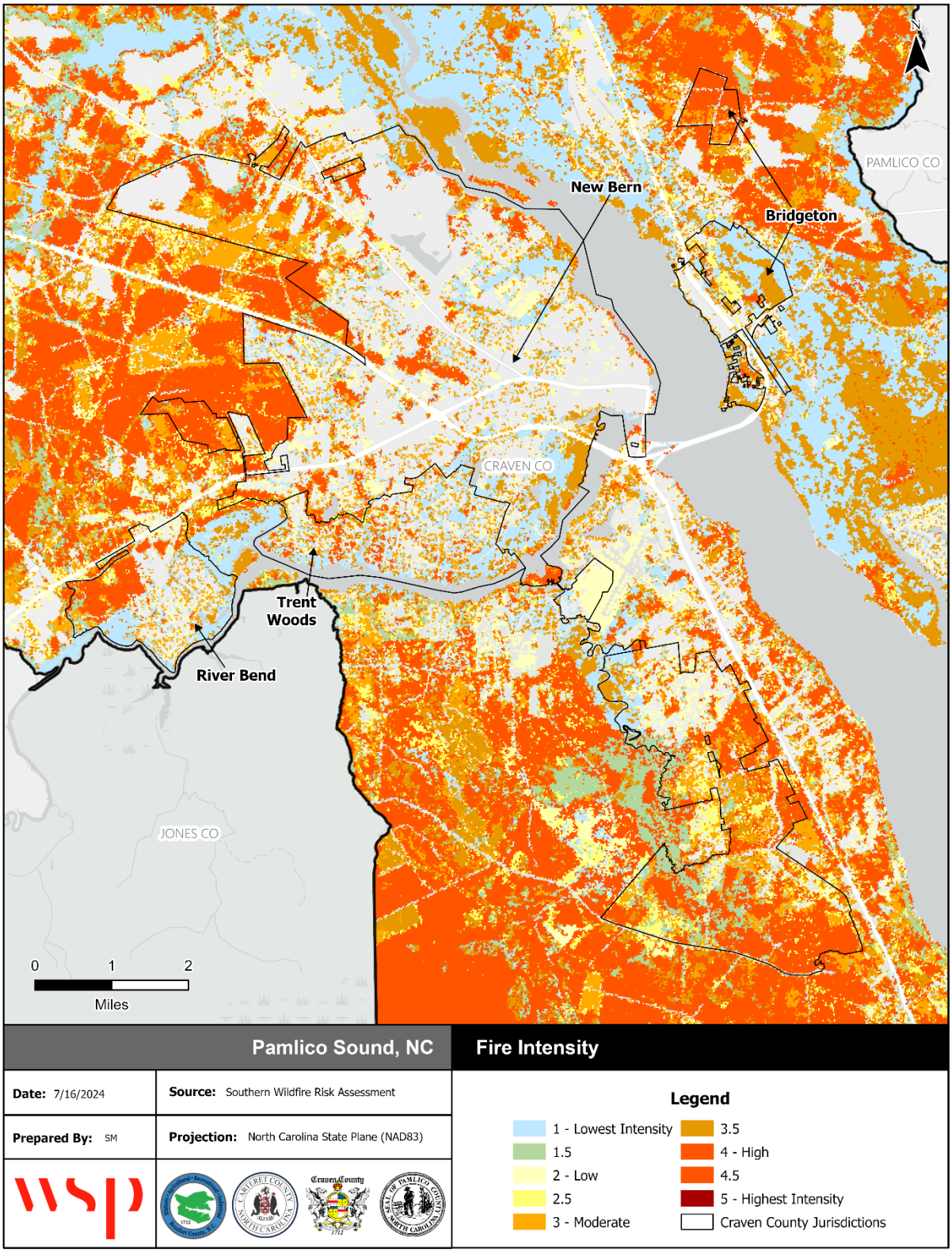
Source: Southern Wildfire Risk Assessment

Figure C.29 – Fire Intensity Scale, Craven County (Detail 1)



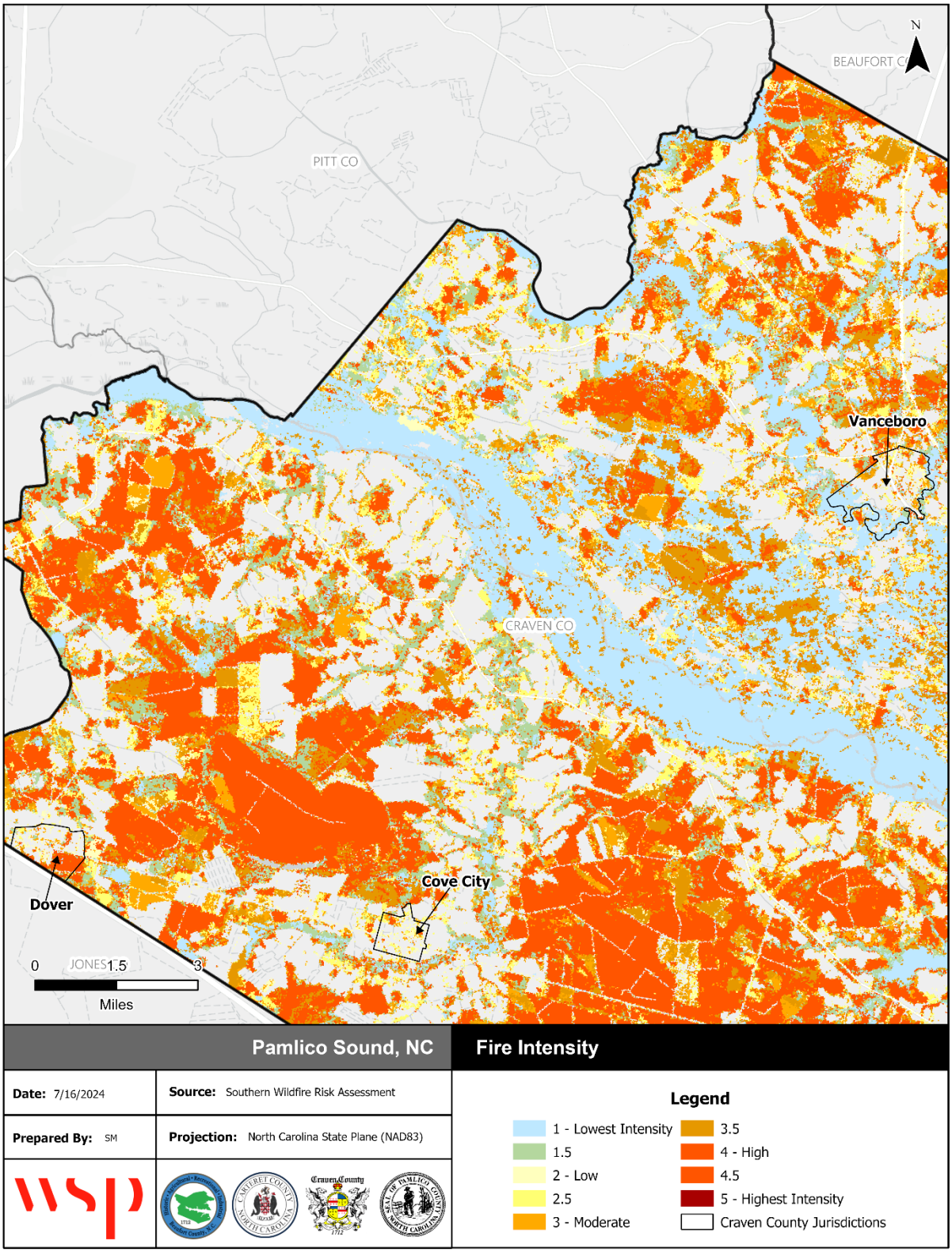
Source: Southern Wildfire Risk Assessment

Figure C.30 – Fire Intensity Scale, Craven County (Detail 2)



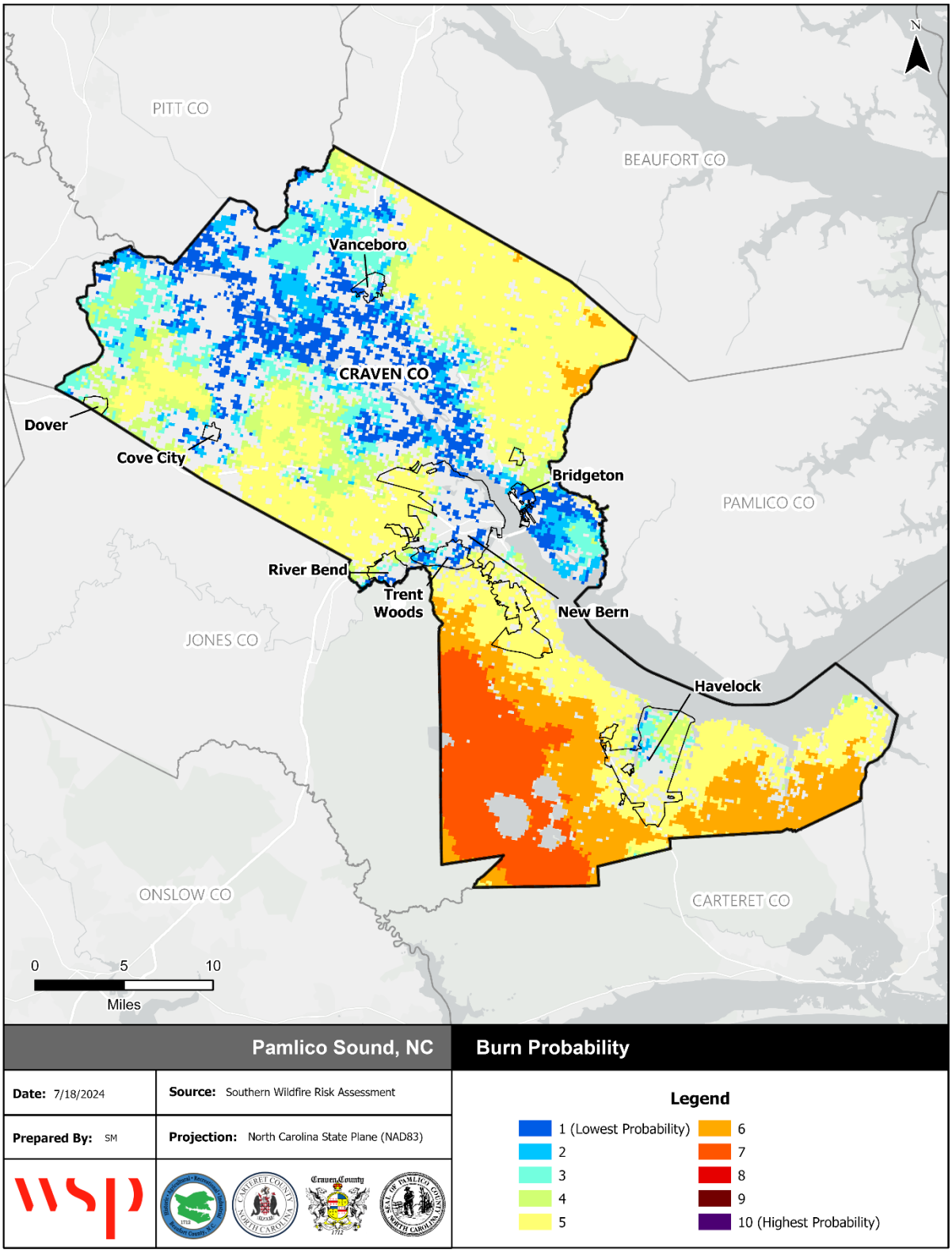
Source: Southern Wildfire Risk Assessment

Figure C.31 – Fire Intensity Scale, Craven County (Detail 3)



Source: Southern Wildfire Risk Assessment

Figure C.32 – Burn Probability, Craven County



Source: Southern Wildfire Risk Assessment

C.3 MITIGATION STRATEGY

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR1	Review respective Comprehensive Land Use Plans annually to ensure that the Future Land Use Map adequately delineates portions of the community deemed unsuitable for development due to existing environmental conditions. This effort will also involve the identification of potential drainage easements and open space areas that will positively affect drainage conditions within areas documented as stormwater/flooding hot spots. Additionally, the County will attempt to identify portions of the County susceptible to wildfire damage.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure, Wildfire	Med	1.3	P	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDCM, NCDPS, Other	2 to 3 years	Carry Forward	In Progress. Craven County, as well as participating municipal jurisdictions, will consider updating the County's Comprehensive land Use Plan over the next three fiscal years.
CR2	Review respective Flood Damage Prevention Ordinances to assess whether any revisions and/or updates have been mandated by FEMA or NCEM. Additionally, jurisdictions will consider whether regulatory options are available to provide for more effective floodplain management.	Craven County, Bridgeton, Cove City, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	3.1	P	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS	Other – Review annually	Carry Forward	Implementation is ongoing as needed. Craven County, and all participating municipal jurisdictions, will review their respective Flood Damage Prevention Ordinances annually, or as directed by NCDPS. Auto adopt of map changes has been incorporated within the Craven County Flood Damage Prevention Ordinance.
CR3	Continue to support NCDEQ in efforts to enforce the Neuse River Basinwide Water Quality Management Rules.	Craven County, Havelock, New Bern, River Bend, Trent Woods	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Low	1.3	NRP	**Craven County Planning Department,** Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	These rules are currently being enforced. Changes in standards will coincide with amendments established by NCDEQ.
CR4	Consider the data and recommendations outlined within this plan when preparing updates to respective Capital Improvements Plans. All recommendations regarding capital expenditures will focus on siting infrastructure and public facilities outside of the Flood Hazard Area.	Craven County, New Bern, River Bend, Havelock	All Hazards	Med	1.3	SP	**Craven County Board of Commissioners,** Municipal Elected Boards	Staff Time	GF	Other – review annually with budget preparation	Carry Forward	Craven County, New Bern, River Bend and Havelock establish capital outlay for infrastructure projects through their respective Capital Improvements Plans. This will continue to occur in line with annual budget preparation.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR5	Continue to proactively seek out grant funding through NCEM and FEMA for mitigation of repetitive loss properties (RLP's) from future flooding events. The County will maintain a list of RLP's, and on an annual basis, will apply for funding for all structures that meet cost-benefit thresholds as defined by FEMA. Craven County will assist all municipal jurisdictions in working through the structural mitigation grant funding process.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.1	PP	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF, NCDPS, HMGP, BRIC, UHMA	Ongoing – as needed	Carry Forward	Craven County in coordination with all participating municipal jurisdictions will utilize annual as well as post disaster funding to treat repetitive loss properties through elevation, acquisition/demolition, or reconstruction.
CR6	Continue to expand upon the County's Emergency Notification System available to all residents. Craven County Emergency Services will coordinate with all municipal jurisdictions regarding registration.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	High	2.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time, $30,000	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County utilizes, and will continue to employ, the CODE RED Emergency Alert System to notify residents of the status of natural hazard events.
CR7	Consider all of the data, information, maps and recommendations outlined throughout this plan when siting for the development of all new critical facilities.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure, Wildfire	Med	1.3	PP	**Craven County Board of Commissioners,** Municipal Elected Boards	To Be Determined	GF, NCDPS, FEMA, USDA	Ongoing – as needed	Carry Forward	Mitigation measures will be considered any time development or relocation of any County or Municipal facility (critical) takes place.
CR8	Develop a formal system and plan for evaluating and assessing the availability and effectiveness of all critical facilities outlined within this plan. Craven County will coordinate with NCEM, American Red Cross, local animal shelters, local care homes, etc., in making determinations related to need and capacity required in the event of a disaster.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	High	2.1	P	**Craven County Emergency Services,** Craven County Board of Commissioners, Municipal Elected Boards	Staff Time	GF, NCDPS, American Red Cross	Ongoing – Next 5 years	Carry Forward	Craven County in coordination with all participating municipal jurisdictions, will work through this exercise annually, as well as following the effects of a natural hazard event through the corrective action planning process.
CR9	In conjunction with annual EOP updates, determine if access to all critical facilities is readily available in the event of a flooding event. Careful consideration should be given to localized flooding issues that may restrict access along limited access thoroughfares. Where access issues are identified, the County will establish a plan for alternative transportation.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County EOP is reviewed annually and updated as necessary.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR10	Continue to maintain the County's Continuity of Operations Plan (COP). This effort will include an annual update addressing risk management, service retention, alternative staffing procedures and recovery checklist for each County department.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	Med	3.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County COP is reviewed annually and updated as necessary.
CR11	Review and update the County Emergency Operations Plan (EOP) on an annual basis. This update will involve coordination with all municipalities to ensure that all emergency contacts are accurate.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	Med	3.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County EOP is reviewed annually and updated as necessary.
CR12	Continue to coordinate annually with the NC Forest Service to address the threat of wildfire throughout the County. These efforts will involve posting of the daily fire risk present within the County on the County website daily. Additionally, the County will distribute and make information available regarding County methods for mitigating fire hazards.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Wildfire	High	4.1	PP	**Craven County Emergency Services,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	Other - Annually	Carry Forward	In Progress. Craven County, with the assistance of the North Carolina Forest Service, are now working in partnership to develop Fire Wise tactics to implement within the County.
CR13	Work to expand upon the County's Special Medical Needs Registry (SMNR). The SMNR is available to all County residents. Effective participation will require close cooperation between County ES and local government staff members. All jurisdictions will work to advertise the availability of this service within their respective communities. It should be noted that applicants must be approved once application is made. Application alone does not result in guaranteed emergency service.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	Med	2.2	ES	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF	Ongoing – over next five years	Carry Forward	The County will work with participating municipal jurisdictions to advertise, maintain, and expand upon the County's special needs registry.
CR14	Continue to maintain the County's Local Emergency Planning Committee (LEPC) focused on monitoring the presence and proliferation of hazard materials throughout the County. The LEPC and County staff will continue to monitor these materials as submitted.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Hurricanes & Coastal Hazards, Flooding	Med	4.2	ES	**Craven County LEPC**	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County Emergency Management will coordinate and maintain the County LEPC with representation from all participating municipalities.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR15	Maintain information on the County website relating to evacuation and sheltering. Emergency information on the website will include: evacuation routes, sheltering, delays and closures, pet sheltering options, and special needs information.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	High	2.2	PIO	**Craven County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County maintains this information on the County's website and will continue to do so through the planning period.
CR16	Continue to provide detailed information regarding properties located within flood hazard areas as outlined under CRS Manual Section 322.a through 322.g.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	3.2	PP	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	Craven County, Havelock, New Bern, and River Bend will continue to implement all activities defined under their respective CRS programs. Other Craven County municipalities will consider joining the program through implementation of this plan.
CR17	Continue to maintain a library of materials focused on educating citizens, builders, realtors and developers about the dangers associated with floodplain development. This information will also provide material outlining sound techniques for floodplain development and floodproofing of existing structures. The County will also maintain staff educated in these issues to work with prospective builders.	Craven County, Havelock, New Bern, River Bend	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	2.2	PIO, PP	**Craven County Planning Department,** Craven County Board of Commissioners, Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	This activity is carried out by the County for the benefit of all Citizens including all participating municipal jurisdictions.
CR18	Maintain a contract with a qualified post-disaster recovery service provider. This contract will include the provision of essential services and equipment, including generators, and will include documentation required for reimbursement from FEMA/NCEM.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	Med	1.1	PP	**Craven County Board of Commissioners,** Municipal Governing Boards	To Be Determined	GF, NCDPS	Other – Review Annually	Carry Forward	Craven County, and all participating municipal jurisdictions, maintains a contractor for generators and storm cleanup.
CR19	Maintain reciprocal mutual aid agreements with all neighboring communities in an effort to ensure adequate fire protection throughout the County. Additionally, all jurisdictions will provide preventive maintenance efforts to ensure the fire hydrants and equipment are working properly.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	High	4.2	ES	**Craven County Emergency Services,** Municipal Administrations, Volunteer Fire Departments	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County Emergency Services maintains mutual aid agreements with neighboring communities and updates them annually.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR20	Work to implement all strategies outlined within the Hurricane Matthew Resilient Redevelopment Plan.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	3.1	P	**Craven County Board of Commissioners,** Municipal Governing Boards	To Be Determined	GF, NCDPS, FEMA, NCDCM, USDA, NCDEQ, NCDOT	Ongoing – next 5 years	Carry Forward	Craven County continues to utilize the Hurricane Matthew Resilient Redevelopment Plan to seek funding opportunities for items identified within this plan.
CR21	Continue to proactively seek out grant funding through NCEM and FEMA for mitigation of Craven County Schools and other critical facilities that involves general public usage during and after disaster events (such as generators, structural modifications, etc.) which would make structures more resilient during future storms and natural hazard events.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure, Earthquake	High	2.1	SP	**Craven County Planning Department,** Craven County Administration, Municipal Administrations	Based on need and availability of funding	GF, FEMA, NCDPS	Ongoing – next 5 years	Carry Forward	Craven County monitors and applies for grant funding as the need arises and/or funding becomes available. The County has currently applied for FMA funding and will continue to utilize funding when available to improve the resiliency of County Critical Facilities.
CR22	Craven County will purchase a flood barrier system that will be installed around the Bryan Well site to protect the electrical and SCADA systems from further flood damage	Craven County	Flooding, Hurricanes & Coastal Hazards	High	3.1	PP	**Craven County Water Department,** Craven County Manager's Office, Craven County Planning Department, Eastern Carolina Council of Governments, Management Consultant, Engineering Consultant	To Be Determined	BRIC, Local Funding	2026	New	Applied for funding in 2023. Will continue to pursue funding for implementation.
CR25	Consider historical and cultural preservation opportunities when applying for federal grants	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	All Hazards	Med	2.2	PP	**Craven County Planning Department**	Based on need and availability of funding	FEMA, NCDPS	Ongoing-Next 5 years	New	Cultural resources are impacted by climate change. In partnership with the National Conference of State Historic Preservation and the National Park Service, new tools are being developed to help guide managing historic structures.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
CR26	Work to create drainage maps within all areas of the County that are outside regularly maintained NCDOT right of ways to help address localized drainage issues that often lead to flood damage to homes, land, crops and other structures within the County. Craven County will seek out any grant funding that may assist in the maintenance of drainage ditches, blueline streams or other tributaries that convey water to the river.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes and Costal Hazards, Dam Failure, Levee Failure, Tsunamis	Med	1.3	SP	**Craven County Planning Department, Craven County Soil and Water Conservation**	Based on need and availability of funding	GF, FEMA, NCDPS, Other	Ongoing-Next 5 years	New	Common flooding issues can be attributed to lack of maintenance to the existing drainage system. Often maintenance exceeds landowner capability to correct.
CR27	Integration of environmentally friendly flood control measures will be implemented where necessary, such as the installation of living shorelines, marsh sills, flood barriers etc. to protect environmentally sensitive areas and maintain the natural floodplain.	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Flooding, Hurricanes and Costal Hazards, Dam Failure, Levee Failure, Tsunamis	Med	1.2	NRP	**Craven County Planning Department, Craven County Soil and Water Conservation**	Based on need and availability of funding	GF, FEMA, NCDPS, Other	Ongoing – as needed	New	Craven County will seek out funding opportunities to help reestablish shorelines and floodplain lost to natural disasters or other means of degradation through environmentally friendly methods and techniques.
CR28	Create or Update Community Wildfire Protection Plans in each fire district	Craven County, Bridgeton, Cove City, Dover, Havelock, New Bern, River Bend, Trent Woods, Vanceboro	Wildfire	Med	4.1	P, PIO	**Craven County Staff,** NC Forest Service	To Be Determined	Grant Funds	3-5 years	New	
CR29	Conduct Curbside Rapid Wildfire Risk Assessments within fire spread distance of the Croatan National Forest.	Craven County, Havelock, New Bern	Wildfire	High	4.1	P	**Local fire departments, NC Forest Service, Croatan Area Fireshed Partnership**	To Be Determined	Grant funds	1-2 years	New	

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
NB1	The City of New Bern will procure services to complete a flood study assessing the effectiveness of stormwater culverts running under railroad embankments and designing system improvements that will reduce flooding impacts on surrounding properties	New Bern	Flooding, Hurricanes & Coastal Hazards	High	3.1	SP	**City of New Bern,** Citizens Advocating Resiliency and Education (C.A.R.E.), American Flood Coalition, Duffyfield Residents' Council, Historic Dryborough Neighborhood Association, Sound Rivers, NC Coastal Federation, The North Carolina Railroad Company, Norfolk Southern Railway Company	To Be Determined	BRIC, Local Funding	2026	New	Applied for funding in 2023. Will continue to pursue funding for implementation.
TW1	Trent Woods will begin implementation of its Stormwater Management Plan by completing a comprehensive investigation of existing storm drainage capacity and as necessary, upsizing existing culverts, rehabilitating channels through dredging, expanding the capacity of existing ditches, and enhancing performance through the creation of infiltration ditches	Trent Woods	Flooding, Hurricanes & Coastal Hazards	High	3.1	SP	**Town of Trent Woods,** Golden LEAF Foundation, NC DEQ Stormwater Division, State Legislature, Eastern Carolina Council of Government, Management Consultant, Engineering Consultant	To Be Determined	BRIC, Local Funding	2026	New	Applied for funding in 2023. Will continue to pursue funding for implementation.
RB1	Construct new road through Northwest Quadrant Area, connecting Plantation Drive to Old Pollocksville Road to serve as additional ingress/egress route during flood events that block the primary and other access roads.	River Bend	Flooding, Hurricane & Coastal Hazards, Dam & Levee Failure	High	4.2	ES	**River Bend Town Council**	$2,000,000	GF, FEMA, NCDPS, Town	Ongoing – next 5 years	New	
RB2	Relocate Water Wells #1 & #2 and Water Treatment Plants #1 & #2 outside of the 100-year floodplain.	River Bend	Flooding, Hurricane & Coastal Hazards	High	1.1	PP	**River Bend Town Council**	$18,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Mitigation Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
RB3	Flood Mitigation at Wastewater Treatment Plant by raising top of structures to above base flood elevation and plus 2' freeboard where possible.	River Bend	Flooding, Hurricane & Coastal Hazards	High	1.1	PP	**River Bend Town Council**	$5,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	
RB4	Relocate Wastewater Treatment Plant outside of the 100-year floodplain.	River Bend	Flooding, Hurricane & Coastal Hazards	Low	1.1	PP	**River Bend Town Council**	$60,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	
RB5	Floodproof sewer lift stations in floodplain	River Bend	Flooding, Hurricane & Coastal Hazards	Med	1.1.	PP	**River Bend Town Council**	$1,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	
RB6	Improve Stormwater Drainage System Capacity in flood hazard areas	River Bend	Flooding, Hurricane & Coastal Hazards	High	1.3	SP	**River Bend Town Council**	$4,000,000	GF, FEMA, Town, NCDEQ	Ongoing – next 5 years	New	

ANNEX D PAMLICO COUNTY

D.1 ASSET INVENTORY

Pamlico County and the HMPC provided a local inventory of critical facilities and community lifelines, which are a priority for mitigation planning and emergency management. Lifelines are the most fundamental services in the community that, when stabilized, enable all other aspects of society to function. Table D.1 through Table D.10 provide a count of critical facilities by FEMA lifeline category by jurisdiction in Pamlico County. Figure D.1through Figure D.10 shows the locations of all critical facilities within Pamlico County and participating jurisdictions. Note that no critical facilities were identified in the Towns of Mesic or Minnesott Beach.

Table D.11 provides a detailed inventory of the critical facilities in Pamlico County, indicating each facility's FEMA lifeline category, flood zone, 1% annual chance flood depth, and vulnerability to storm surge, sea level rise, and wildfire. More information on hazard vulnerability is provided in the hazard profiles.

Table D.1 – Critical Facilities by Type, Unincorporated Pamlico County

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	5	$111,500
Hazardous Materials	0	$0
Health and Medical	3	$281,582
Safety and Security	7	$1,324,873
Transportation	0	$0
Water Systems	8	$5,329,605
Total	**23**	**$7,047,560**

Table D.2 – Critical Facilities by Type, Town of Alliance

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	4	$202,522
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**4**	**$202,522**

Table D.3 – Critical Facilities by Type, Town of Arapahoe

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$86,136
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$106,590
Transportation	0	$0
Water Systems	0	$0
Total	**3**	**$192,726**

Table D.4 – Critical Facilities by Type, Town of Bayboro

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	3	44,227,837
Hazardous Materials	0	$0
Health and Medical	1	$312,390
Safety and Security	5	$10,019,222
Transportation	0	$0
Water Systems	2	$115,821
Total	**11**	**$54,675,270**

Table D.5 – Critical Facilities by Type, Town of Grantsboro

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	3	$614
Safety and Security	1	$5,906
Transportation	0	$0
Water Systems	0	$0
Total	**5**	**$6,520**

Table D.6 – Critical Facilities by Type, Town of Mesic

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**0**	**$0**

Table D.7 – Critical Facilities by Type, Town of Minnesott Beach

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**0**	**$0**

Table D.8 – Critical Facilities by Type, Town of Oriental

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$209,027
Transportation	0	$0
Water Systems	2	$177,274
Total	**3**	**$386,301**

It was noted that in addition to the identified facilities in the Town of Oriental, the Town also considers the jetty at the head of Raccoon Creek and the restored shoreline at Whittaker Pointe to be critical infrastructure, as these lands are natural assets that protect the town from erosion, water, and wave energy.

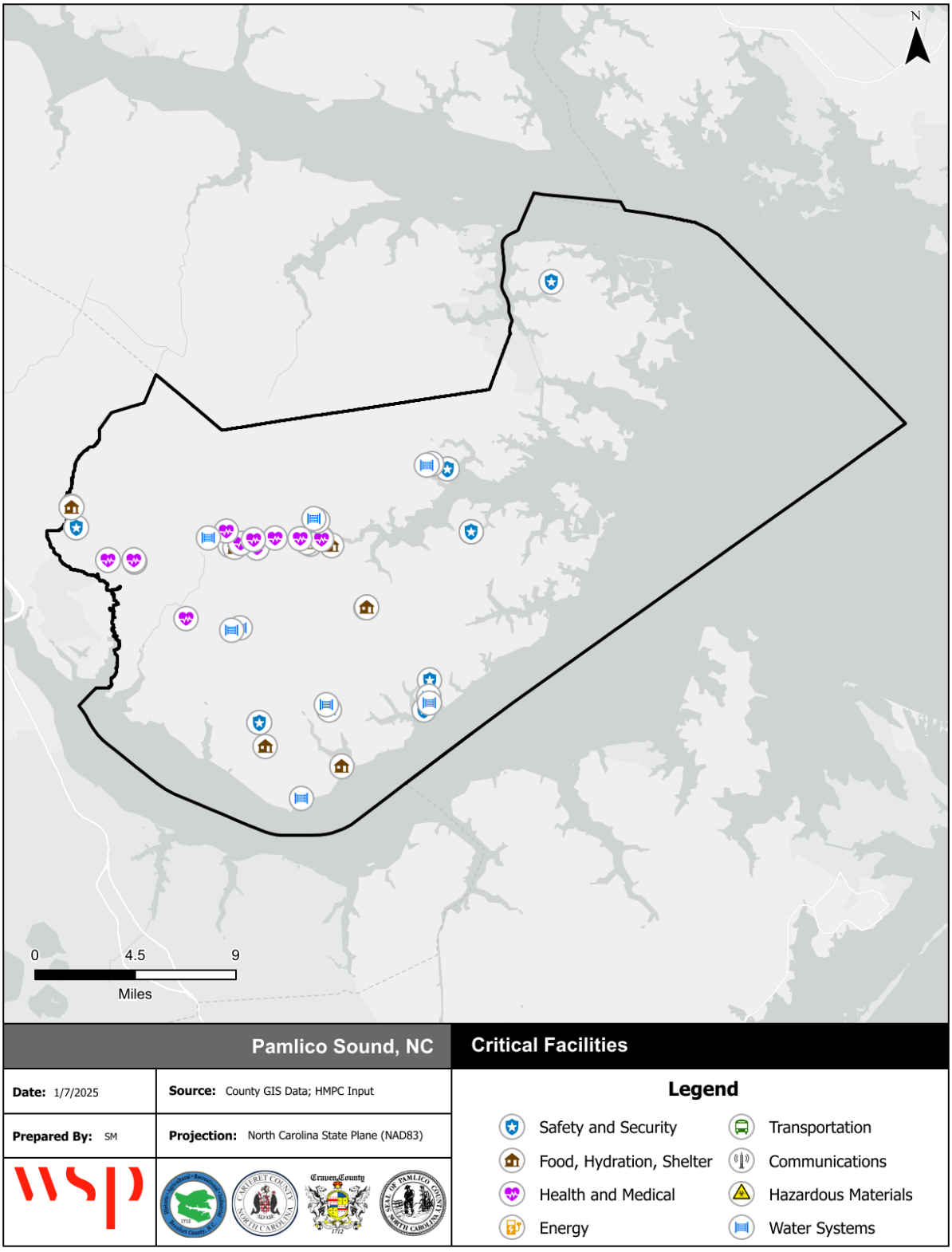
Table D.9 – Critical Facilities by Type, Town of Stonewall

Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$4,352,375
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**1**	**$4,352,375**

Table D.10 – Critical Facilities by Type, Town of Vandemere

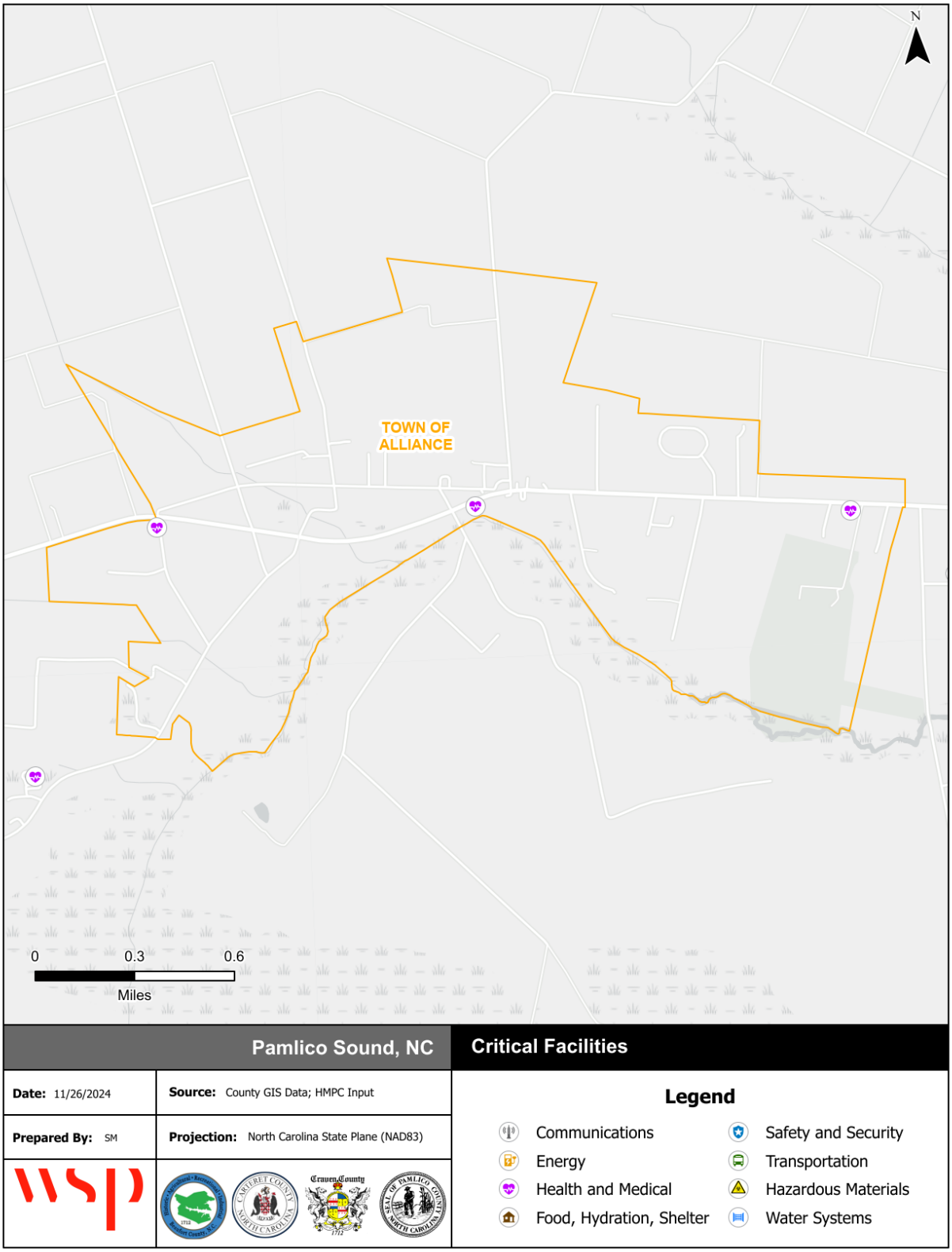
Facility Type	Count of Facility Type	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$220,270
Transportation	0	$0
Water Systems	0	$0
Total	**1**	**$220,270**

Figure D.1 – Critical Facilities, Pamlico County



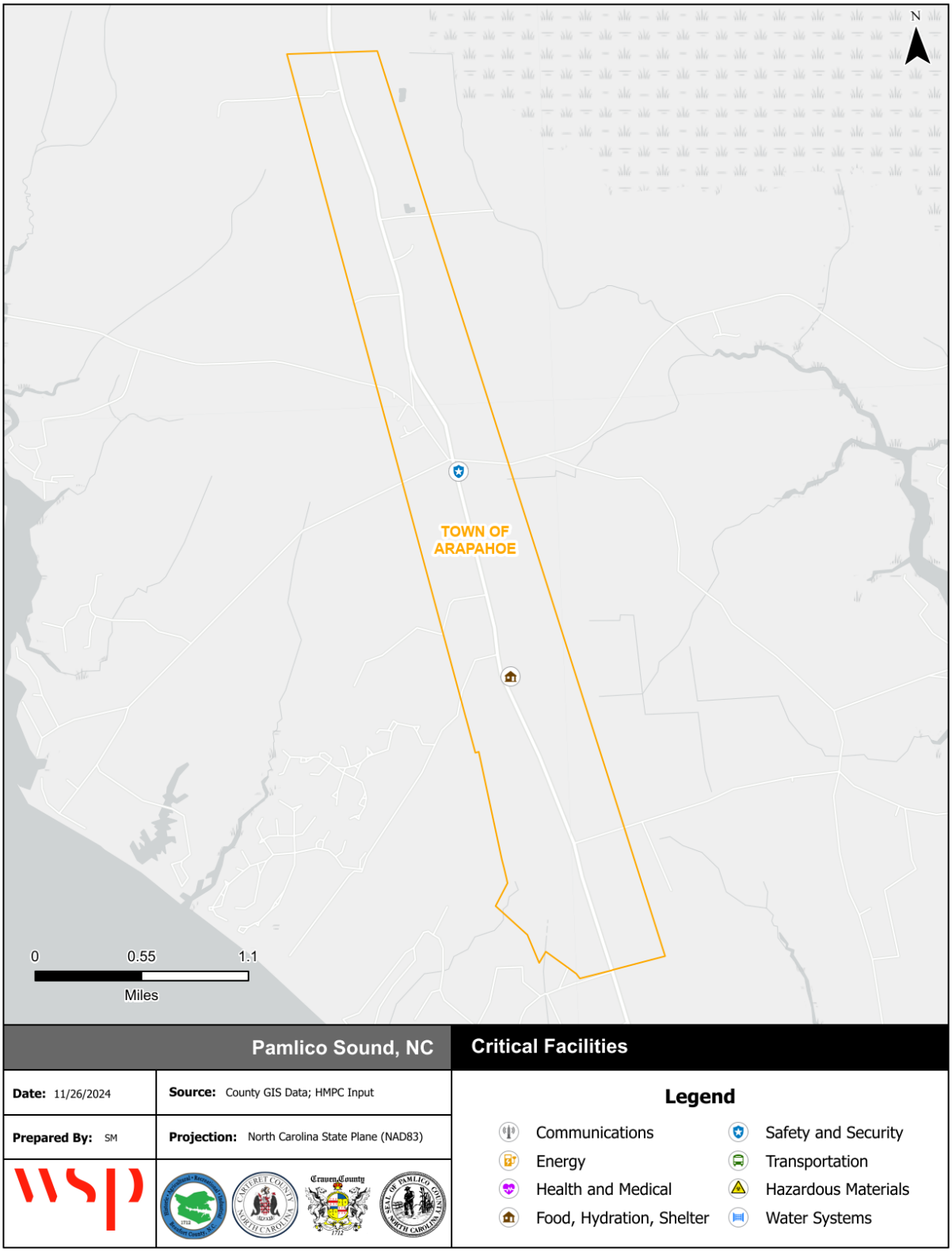
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure D.2 – Critical Facilities, Town of Alliance



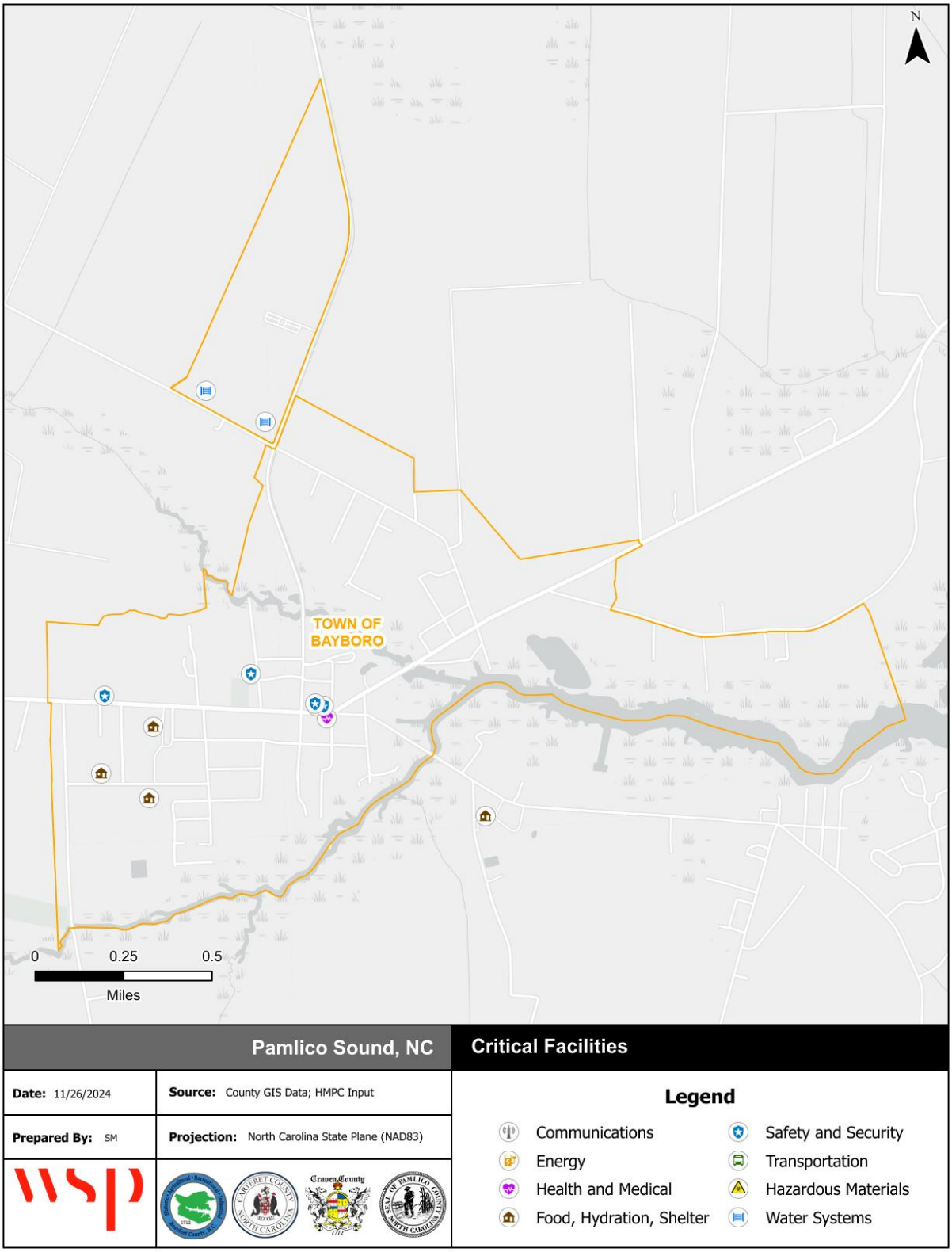
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure D.3 – Critical Facilities, Town of Arapahoe



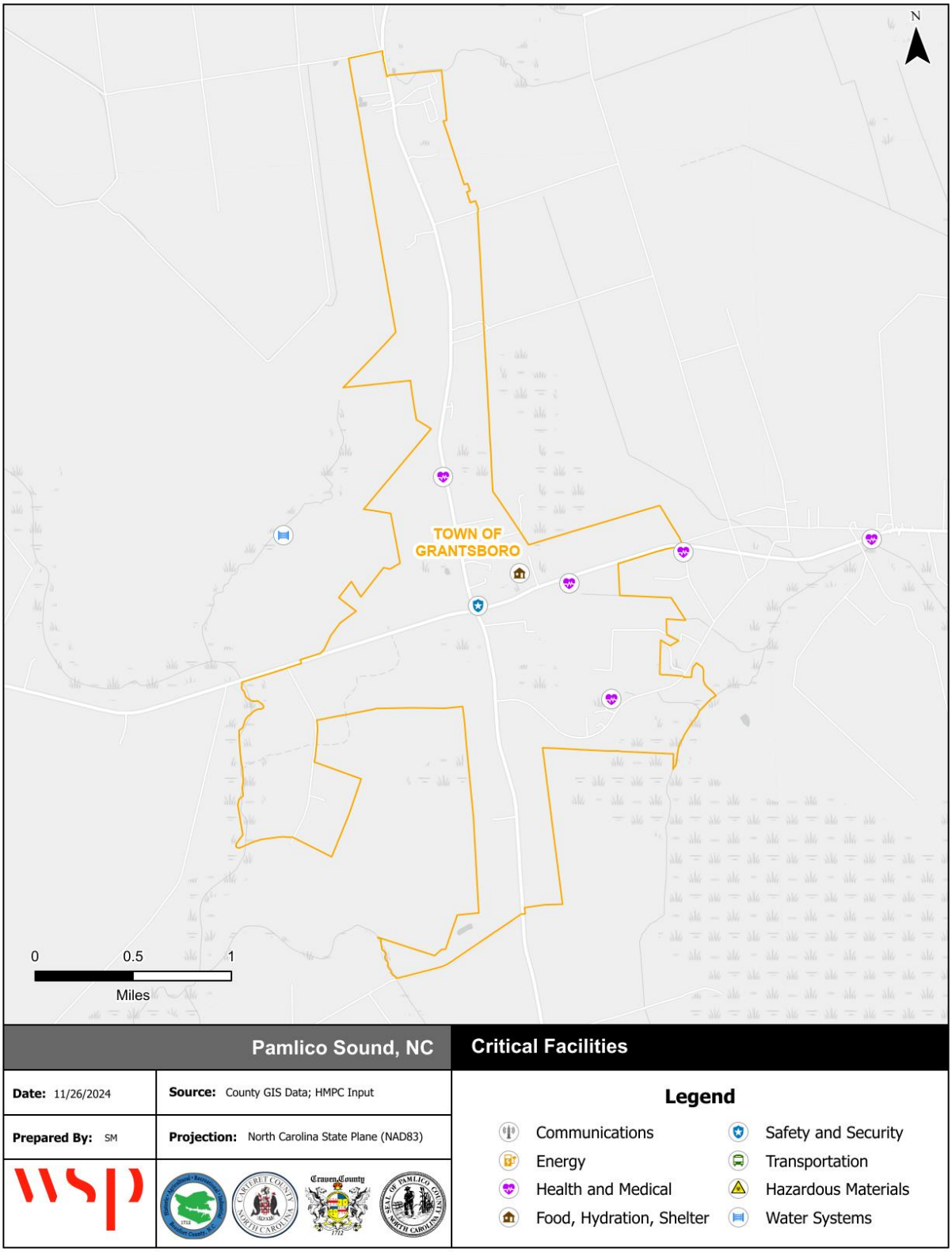
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure D.4 – Critical Facilities, Town of Bayboro



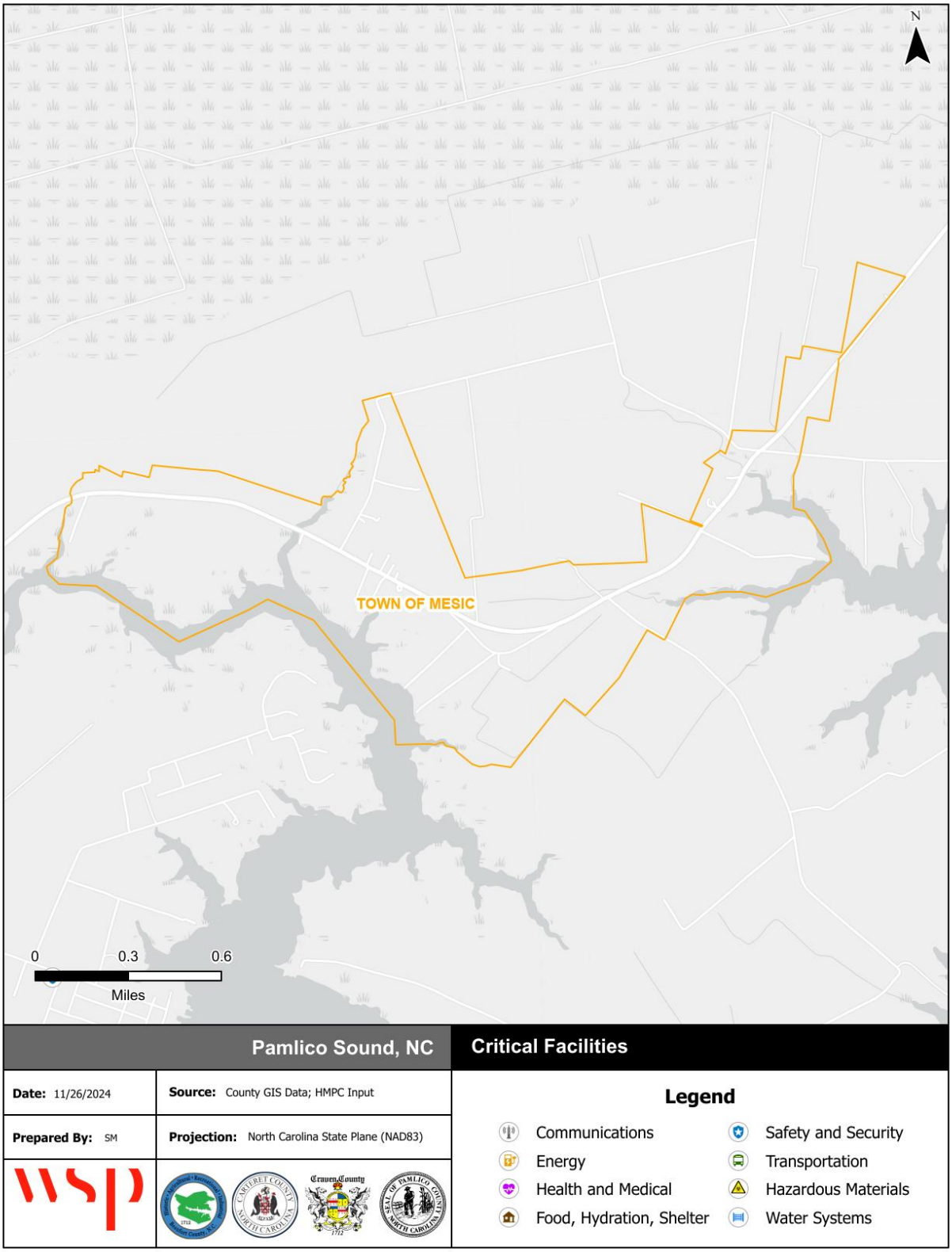
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure D.5 – Critical Facilities, Town of Grantsboro



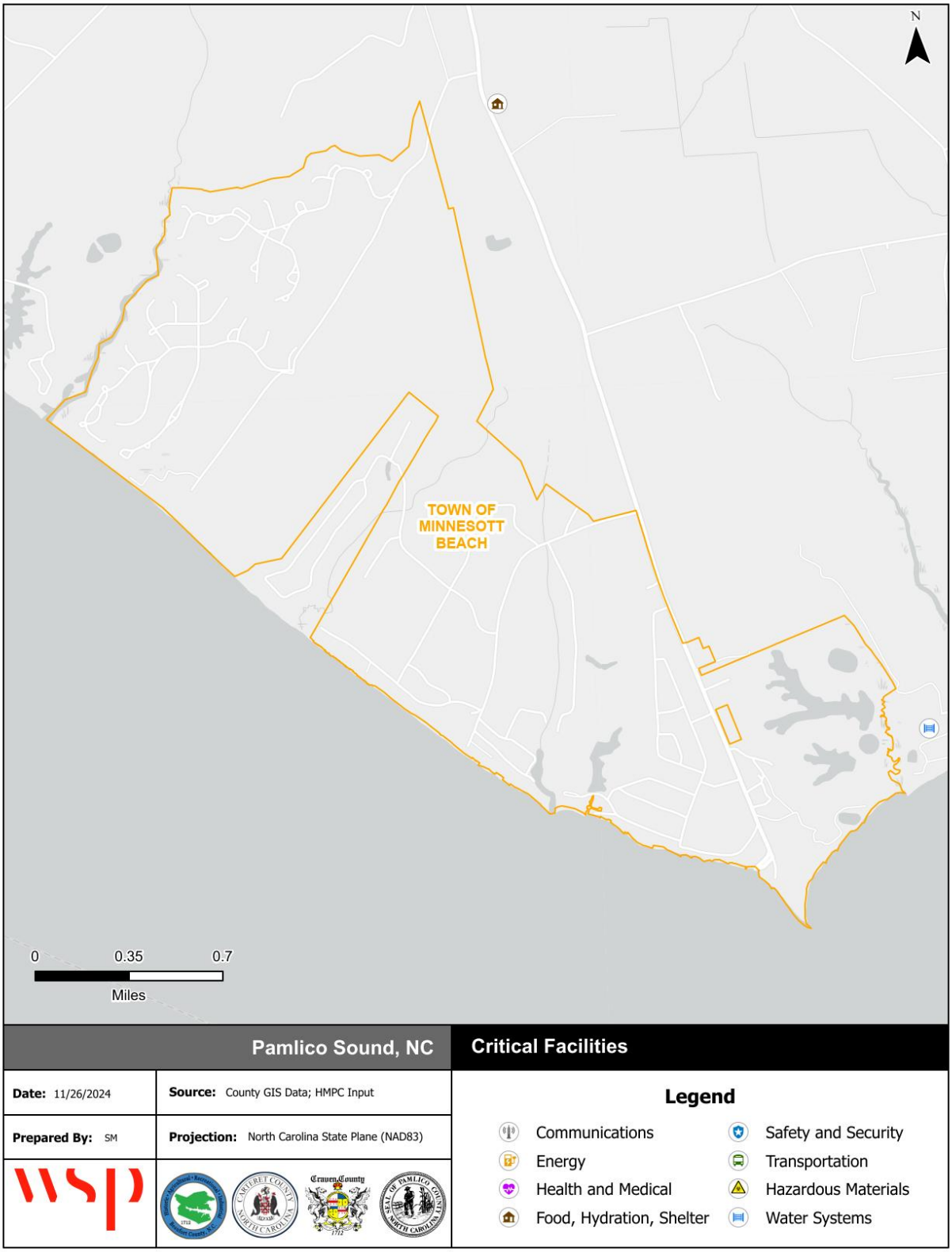
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure D.6 – Critical Facilities, Town of Mesic



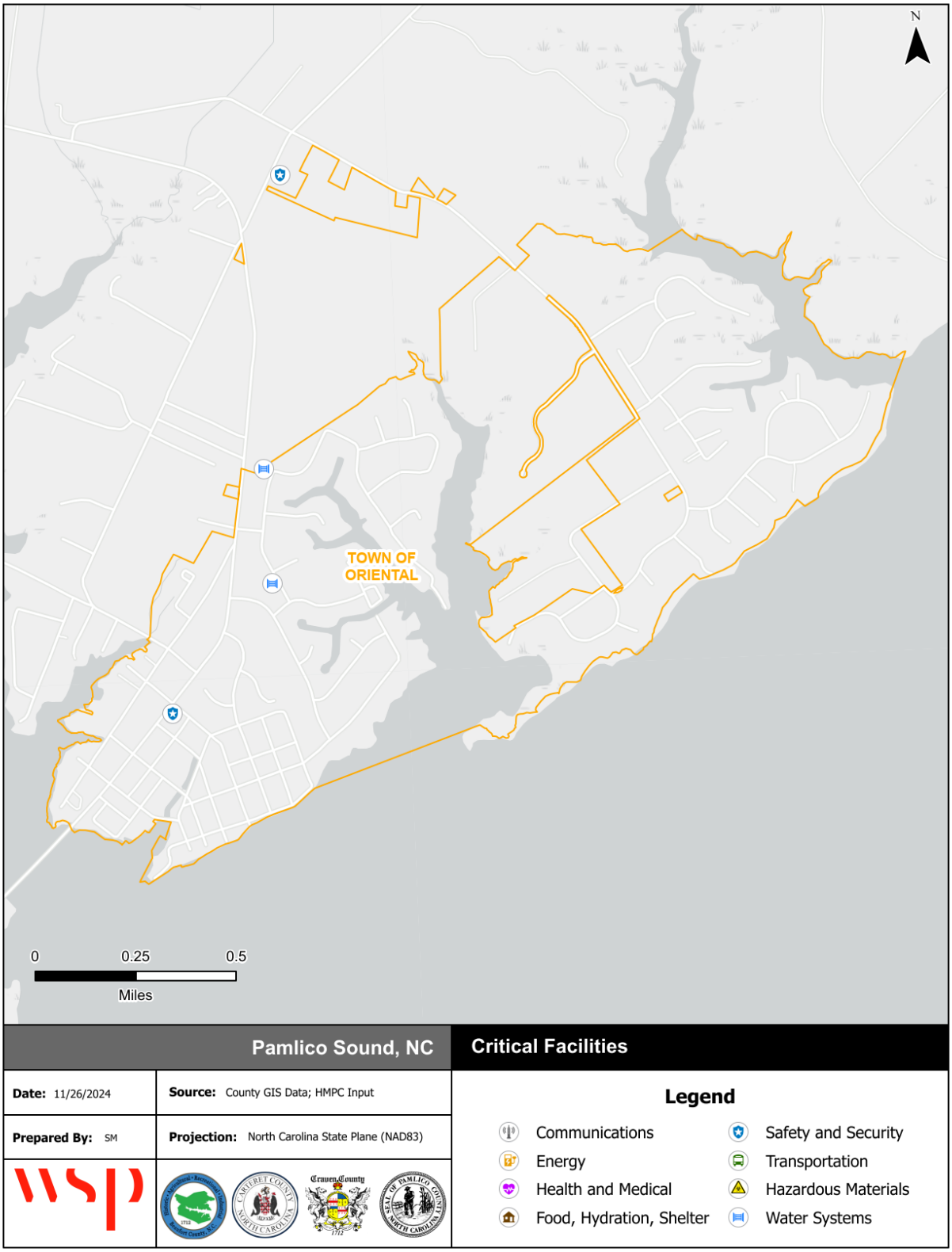
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure D.7 – Critical Facilities, Town of Minnesott Beach



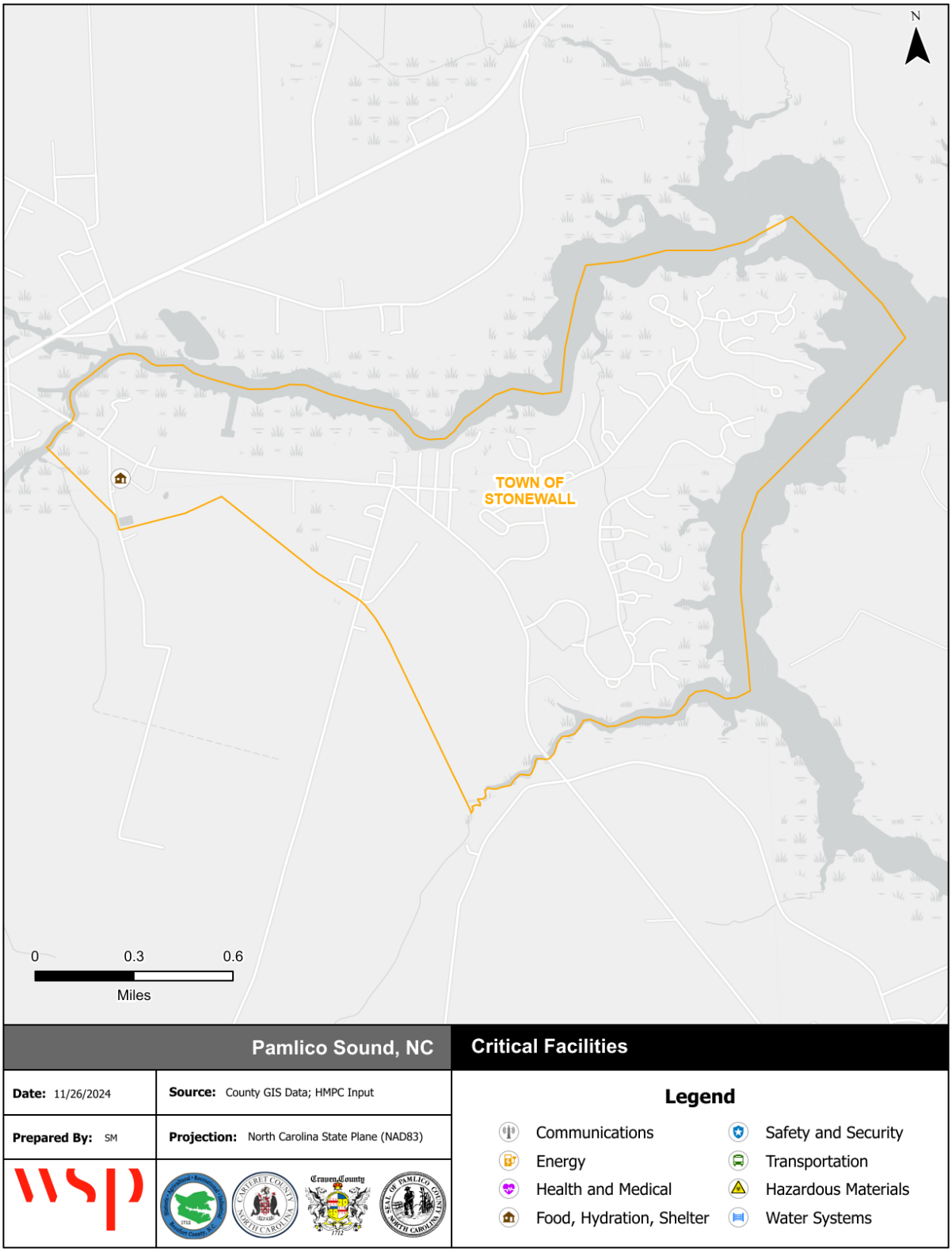
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure D.8 – Critical Facilities, Town of Oriental



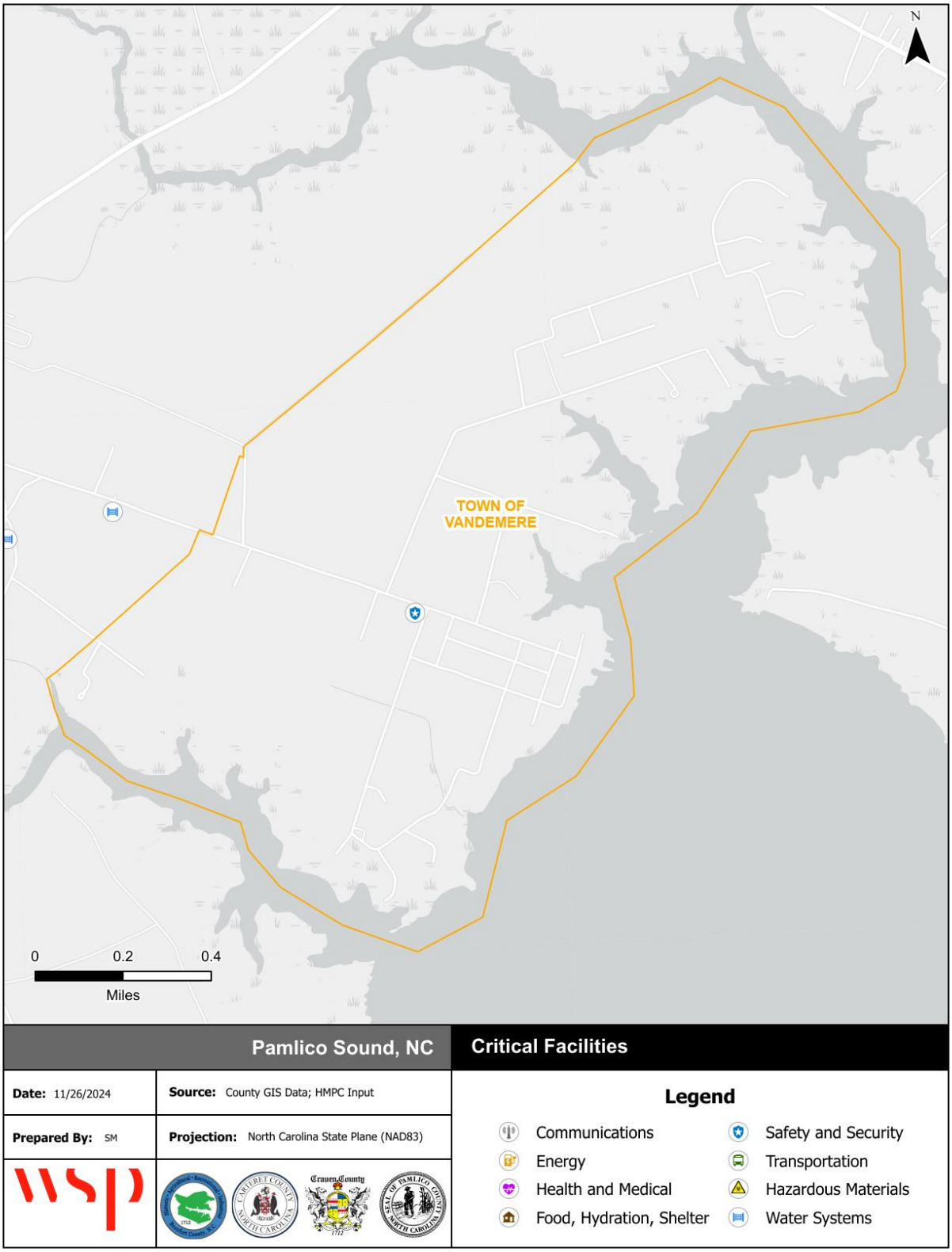
Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure D.9 – Critical Facilities, Town of Stonewall



Source: NCEM IRISK Database, HMPC input, GIS Analysis

Figure D.10 – Critical Facilities, Town of Vandemere



Source: NCEM IRISK Database, HMPC input, GIS Analysis

Table D.11 – Pamlico County Critical Facilities Inventory

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Unincorporated Pamlico County										
Water Systems	Public Water Supply	NC 306 S At WTP Site	$266,402	X Unshaded	0.1	NA	NA	Y	0	5
Water Systems	Public Water Supply	SR 1100 Near Nc 306 South	$2,240	X Unshaded	0.1	NA	NA	Y	6	2
Water Systems	Public Water Supply	SR 1005 (Kershaw Rd) WTP Elev Tank On Site	$1,777,972	X Unshaded	0.1	NA	3	-	5	5
Water Systems	Public Water Supply	SR 1005(Kershaw Rd) WTP-1500 North of Plant	$1,777,972	X Unshaded	0.1	NA	3	-	0	4
Water Systems	Public Water Supply	NC 307 @ WTP-Elev Tank On Site	$342,750	X Unshaded	0.1	9	2	Y	0	2
Water Systems	Public Water Supply	NC 304 Near Cash's Corner	$342,750	X Unshaded	0.1	8	2	Y	1	1
Water Systems	Public Water Supply	NE of Health Center	$352,732	X Unshaded	0.1	NA	3	Y	2	7
Water Systems	Public Water Supply		$466,787	X Unshaded	0.1	NA	NA	-	5	6
Safety & Security	Fire Stations - Southeast Pamlico Volunteer Fire Department Incorporated	6389 Straight Road	$417,019	X Shaded	0.1	9	2	-	0	5
Safety & Security	Fire Stations - Reelsboro Fire Department Incorporated	105 Holland Avenue	$164,607	X Unshaded	0.1	NA	NA	-	5	5
Safety & Security	Fire Stations - Olympia Volunteer Fire Department	394 Olympia Road	$46,368	X Unshaded	0.1	NA	NA	Y	5	0
Safety & Security	Fire Stations - Florence-Whortonsville Volunteer Fire Department Incorporated	5208 Florence Road	$266,136	X Shaded	0.1	8	2	Y	5	0
Safety & Security	Fire Stations - Goose Creek Island Volunteer Fire Department	5212 Lowland Road	$0	AE	2.9	3	1	-	0	5
Safety & Security	EMS - Reelsboro Fire Department Incorporated	105 Holland Avenue	$164,607	X Unshaded	0.1	NA	NA	-	5	5
Safety & Security	EMS - Florence-Whortonsville Volunteer Fire Department Incorporated	5208 Florence Road	$266,136	X Shaded	0.1	8	2	Y	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Health & Medical	Medical Facilities - Pine Haven Home Health Care Services, Inc.		$149,090	X Unshaded	0.1	NA	NA	Y	5	3
Health & Medical	Medical Facilities - The Gardens of Pamlico		-	X Unshaded	0.1	NA	NA	Y	5	0
Health & Medical	Medical Facilities - Holland Drive Home		$132,492	X Unshaded	0.1	NA	NA	Y	5	0
Food, Hydration, Shelter	Swine Lagoons	-	$55,750	X Unshaded	0.1	NA	NA	-	3	5
Food, Hydration, Shelter	Swine Lagoons	-	$0	X Unshaded	0.1	NA	3	-	6	0
Food, Hydration, Shelter	Non-Public Schools - Gateway Christian Academy	PO Box 116	-	X Unshaded	0.1	10	3	Y	0	0
Food, Hydration, Shelter	Animal Farms - Dunn's Hog Farm	-	$55,750	X Unshaded	0.1	NA	NA	-	3	4
Food, Hydration, Shelter	Animal Farms - Spruill Pig Paradise	-	$0	X Unshaded	0.1	NA	2	-	6	4
Town of Alliance										
Health & Medical	Medical Facilities - Continuum Home Care of Pamlico		-	X Unshaded	0.1	NA	2	Y	2	0
Health & Medical	Medical Facilities - Neuse Center for MH/DD/SAS		$107,686	X Unshaded	0.1	NA	3	Y	4	0
Health & Medical	Medical Facilities - TASC/CJP-Pamlico		$0	X Unshaded	0.1	10	2	Y	0	0
Health & Medical	Medical Facilities - Britthaven of Pamlico		$94,836	X Unshaded	0.1	NA	3	Y	5	0
Town of Arapahoe										
Safety & Security	Fire Stations - Arapahoe Volunteer Fire Department Incorporated	8233 State Highway 306 South	$53,295	X Unshaded	0.1	NA	NA	Y	5	0
Safety & Security	EMS - Arapahoe Volunteer Fire Department Incorporated	8233 State Highway 306 South	$53,295	X Unshaded	0.1	NA	NA	Y	5	0
Food, Hydration, Shelter	Public Schools - Arapahoe Charter School	9005 NC Hwy 306 S	$86,136	X Unshaded	0.1	NA	NA	Y	0	0
Town of Bayboro										
Water Systems	Public Water Supply	Mill Pond Rd Near Prison on SR 1002	$114,533	X Unshaded	0.1	NA	2	-	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Water Systems	Public Water Supply	Mill Pond Rd Near Prison on SR 1002	$1,288	X Unshaded	0.1	NA	2	Y	5	5
Safety & Security	Law Enforcement - Pamlico County Sheriffs Department	200 Main Street	$3,021,369	X Unshaded	0.1	NA	2	Y	5	0
Safety & Security	Fire Stations - Triangle Volunteer Fire Department Incorporated	202 North 4th Street	$111,594	X Unshaded	0.1	10	2	-	0	4
Safety & Security	EMS - Pamlico Rescue Squad	Main Street	$412,317	X Unshaded	0.1	10	2	-	5	2
Safety & Security	Emergency Operation Center - Pamlico County Emergency Management Agency	200 Main Street	$3,452,573	X Unshaded	0.1	10	2	Y	5	0
Safety & Security	Emergency Operation Center - Pamlico County EOC-Alternate	202 Main Street	$3,021,369	X Unshaded	0.1	NA	2	Y	5	0
Health & Medical	Medical Facilities - Pamlico County Department of Social Services		$312,390	X Unshaded	0.1	NA	2	Y	5	0
Food, Hydration, Shelter	Public Schools - Fred A Anderson Elementary	515 Anderson Drive	$22,050,231	X Unshaded	0.1	NA	2	-	5	6
Food, Hydration, Shelter	Public Schools - Pamlico County High	601 Main Street	$22,050,231	X Unshaded	0.1	NA	2	Y	5	0
Food, Hydration, Shelter	Public Schools - Pamlico County Primary	323 Neals Creek Road	$127,375	X Unshaded	0.1	NA	2	-	0	0
Town of Grantsboro										
Safety & Security	Fire Stations - Grantsboro-Silverhill Volunteer Fire Department and Emergency Services Incorporated	35 State Highway 306	$5,906	X Unshaded	0.1	NA	NA	-	5	6
Health & Medical	Medical Facilities - In Home Aide Care, Inc.		$0	X Unshaded	0.1	NA	3	Y	5	0
Health & Medical	Medical Facilities - Hospice of Pamlico County, Inc.		$0	X Unshaded	0.1	NA	3	Y	5	0
Health & Medical	Medical Facilities - Pamlico County Group Home		$614	X Unshaded	0.1	NA	NA	Y	5	0
Food, Hydration, Shelter	Non-Public Schools - Pamlico Christian Academy	P.O. Box 68	-	X Unshaded	0.1	NA	NA	Y	5	0

FEMA Lifeline	Facility Type	Address	Structure Value	Flood Zone	Flood Depth	Min. Sea Level Rise	Min. Storm Surge Cat.	High WUIRI?	Burn Probability	Fire Intensity
Town of Oriental										
Water Systems	Public Water Supply	WTP at the Intersection Gilgo St @ Windward Dr WTP	$176,168	X Unshaded	0.1	9	2	Y	5	6
Water Systems	Public Water Supply	Gilgo St @ Woman's Club Bldg	$1,106	X Unshaded	0.1	10	2	Y	0	7
Safety & Security	Law Enforcement - Oriental Police Department	509 Church Street	$209,027	X Unshaded	0.1	9	2	Y	0	0
Town of Stonewall										
Food, Hydration, Shelter	Public Schools - Pamlico County Middle	15526 NC Hwy 55	$4,352,375	X Shaded	0.1	8	2	-	0	0
Town of Vandemere										
Safety & Security	Fire Stations - Vandemere Fire Department Incorporated	1042 Pennsylvania Avenue	$220,270	X Shaded	0.1	8	2	Y	0	3

D.2 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level within Pamlico County. The hazards included in this section are flood and wildfire.

D.2.1 FLOODING

Table D.12 details the acreage of Pamlico County's total area by jurisdiction and flood zone on the Effective DFIRM. Per this assessment, at 94.3 percent, the Town of Mesic has the largest portion of its land area within the mapped 1%-annual-chance floodplain. Over 60 percent of the total land area in Stonewall and Vandemere, falls within the Special Flood Hazard Area. Arapahoe falls entirely outside the SFHA. Overall, nearly 41 percent of the county's total area falls within the SFHA.

Table D.12 – Flood Zone Acreage by Jurisdiction, Pamlico County

Flood Zone	Acreage	Percent of Total (%)
Town of Alliance		
Zone AE	259.6	20.7
Zone X (500-year)	111.7	8.9
Zone X Unshaded	882.7	70.4
Total	**1,254**	--
Town of Arapahoe		
Zone X Unshaded	1,768.8	100.00
Total	**1,768.8**	--
Town of Bayboro		
Zone AE	431.7	38.0
Zone X (500-year)	142.2	12.5
Zone X Unshaded	563.6	49.5
Total	**1,138**	--
Town of Grantsboro		
Zone AE	103.2	4.4
Zone X (500-Year)	21.0	0.9
Zone X (unshaded)	2,241.1	94.7
Total	**2,365**	--
Town of Mesic		
Zone AE	783.4	94.3
Zone X (500-Year)	47.1	5.7
Total	**831**	--
Town of Minnesott Beach		
Zone AE	158.0	7.0
Zone AO	2.2	0.1
Zone VE	21.0	0.9
Zone X (500-year)	2.8	0.1
Zone X (unshaded)	2,076.2	91.9
Total	**2,260**	--

Flood Zone	Acreage	Percent of Total (%)
Town of Oriental		
Zone AE	331.0	32.7
Zone VE	63.3	6.2
Zone X (500-year)	406.8	40.2
Zone X (unshaded)	211.8	20.9
Total	**1,013**	--
Town of Stonewall		
Zone AE	780.2	61.0
Zone X (500-year)	147.1	11.5
Zone X (unshaded)	351.6	27.5
Total	**1,279**	--
Town of Vandemere		
Zone AE	912.3	78.9
Zone VE	74.0	6.4
Zone X (500-Year)	155.1	13.4
Zone X (unshaded)	14.9	1.3
Total	**1,156**	
Unincorporated Pamlico County		
Zone AE	95,157.2	27.5
Zone AO	28.0	0.008
Zone VE	14,029.1	4.1
Zone X (500-Year)	15,200.9	4.4
Zone X (unshaded)	113,007.3	32.7
Open Water	108,391.8	31.3
Total	**345,814**	

Source: FEMA Effective DFIRM

Figure D.11 through Figure D.20 reflect the effective mapped flood hazard zones for all jurisdictions with land in the Special Flood Hazard Area in Pamlico County, and Figure D.21 through Figure D.30 display the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

Table D.13 provides building counts and values for critical facilities by flood zone in Pamlico County and incorporated jurisdictions.

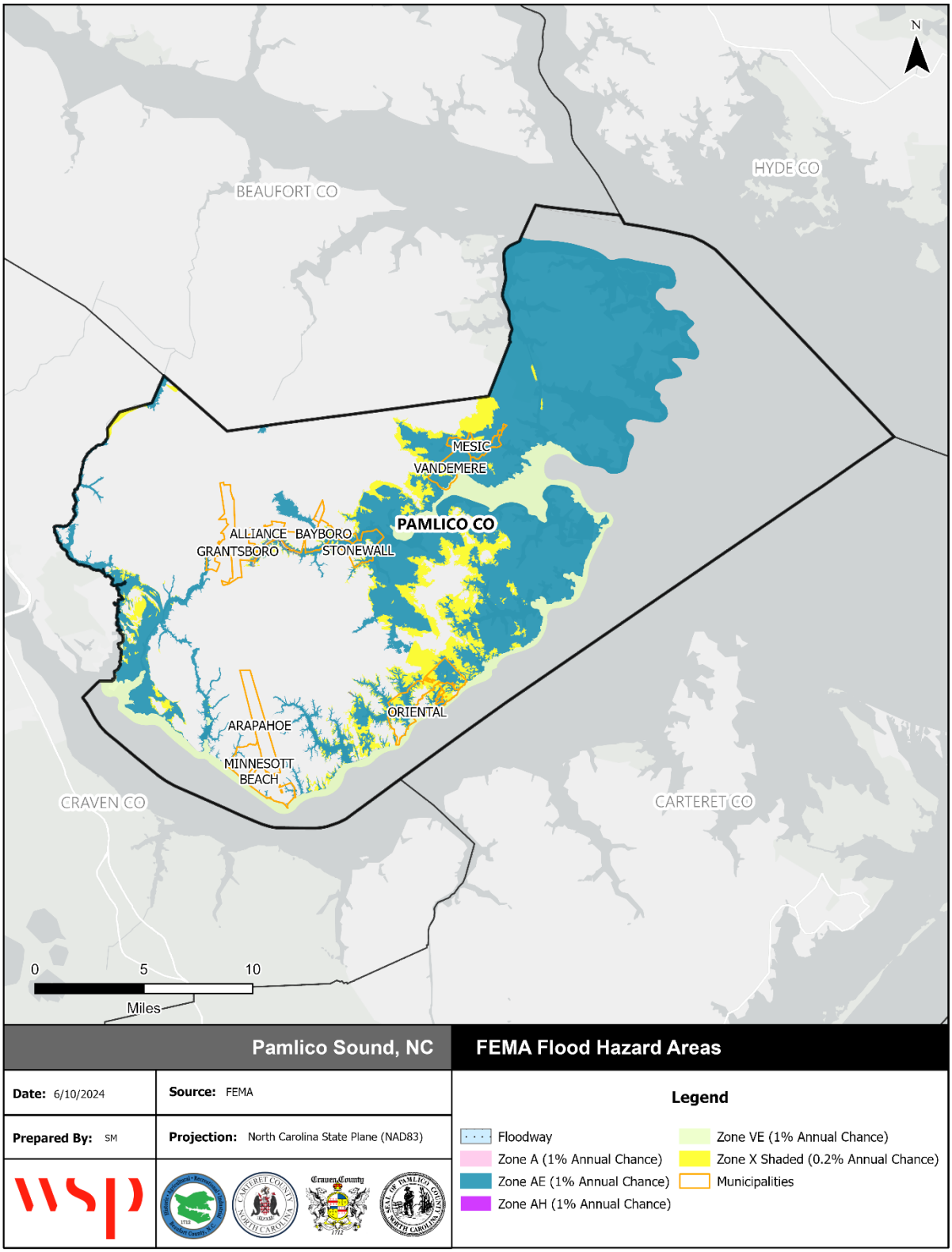
Table D.13 – Critical Facilities Exposed to Flooding, Pamlico County

Flood Zone	Critical Facility Count	Structure Value
Town of Alliance		
Zone X (unshaded)	4	$202522
Total	**4**	**$202522**
Town of Arapahoe		
Zone X (unshaded)	3	$192,726
Total	**3**	**$192,726**
Town of Bayboro		
Zone X (unshaded)	11	$54,675,270
Total	**11**	**$54,675,270**

Flood Zone	Critical Facility Count	Structure Value
Town of Grantsboro		
Zone X (unshaded)	5	$6,520
Total	**5**	**$6,520**
Town of Oriental		
Zone X (unshaded)	3	$386,301
Total	**3**	**$386,301**
Town of Stonewall		
Zone X (500-year)	1	$4,352,375
Total	**1**	**$4,352,375**
Town of Vandermere		
Zone X (500-year)	1	$220,270
Total	**1**	**$220,270**
Unincorporated Pamlico County		
Zone AE	1	$0
Zone X (500-year)	3	$949,291
Zone X (unshaded)	19	$6,098,269
Total	**23**	**$7,047,560**

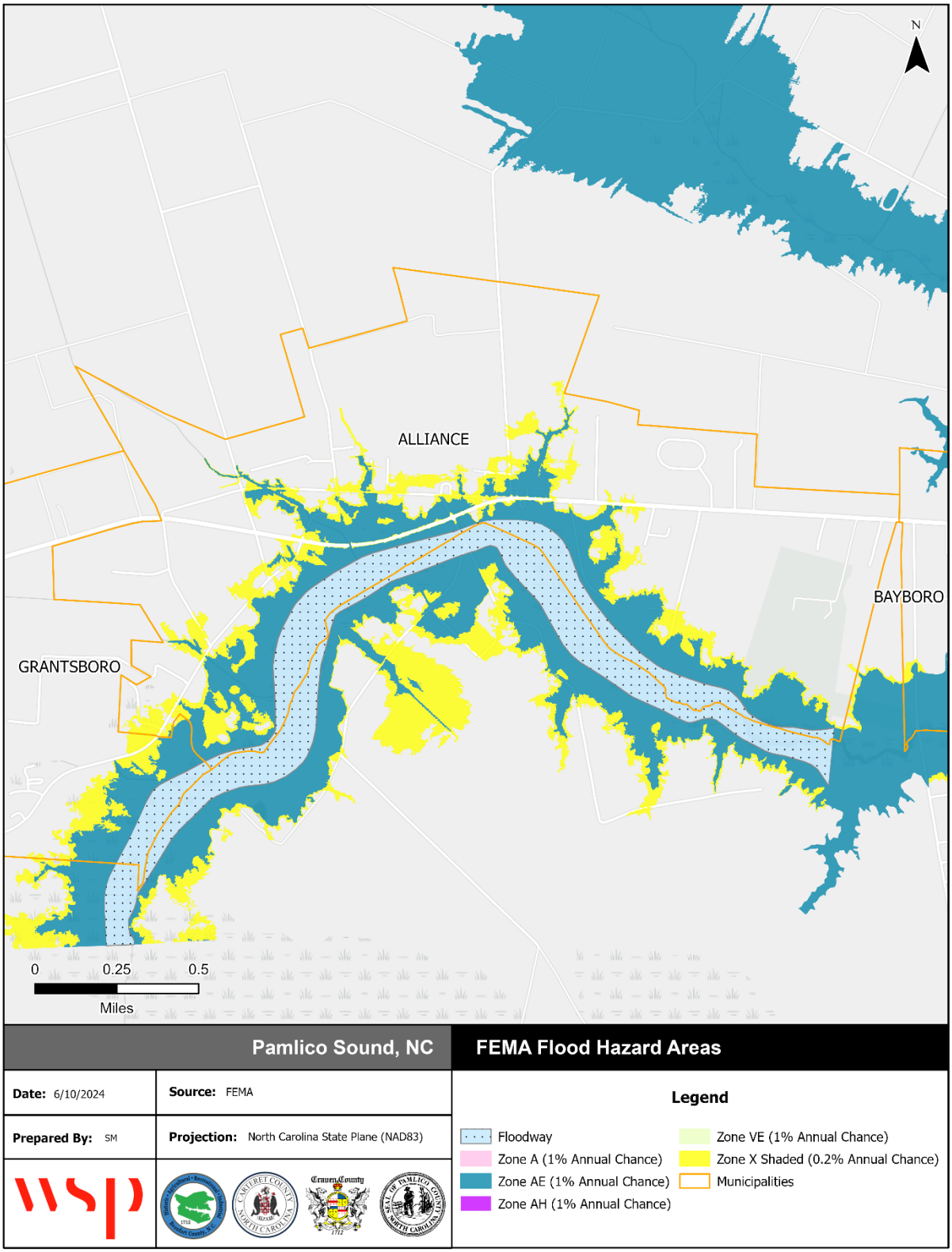
Source: FEMA Effective FIRM

Figure D.11 – FEMA Flood Hazard Areas, Unincorporated Pamlico County



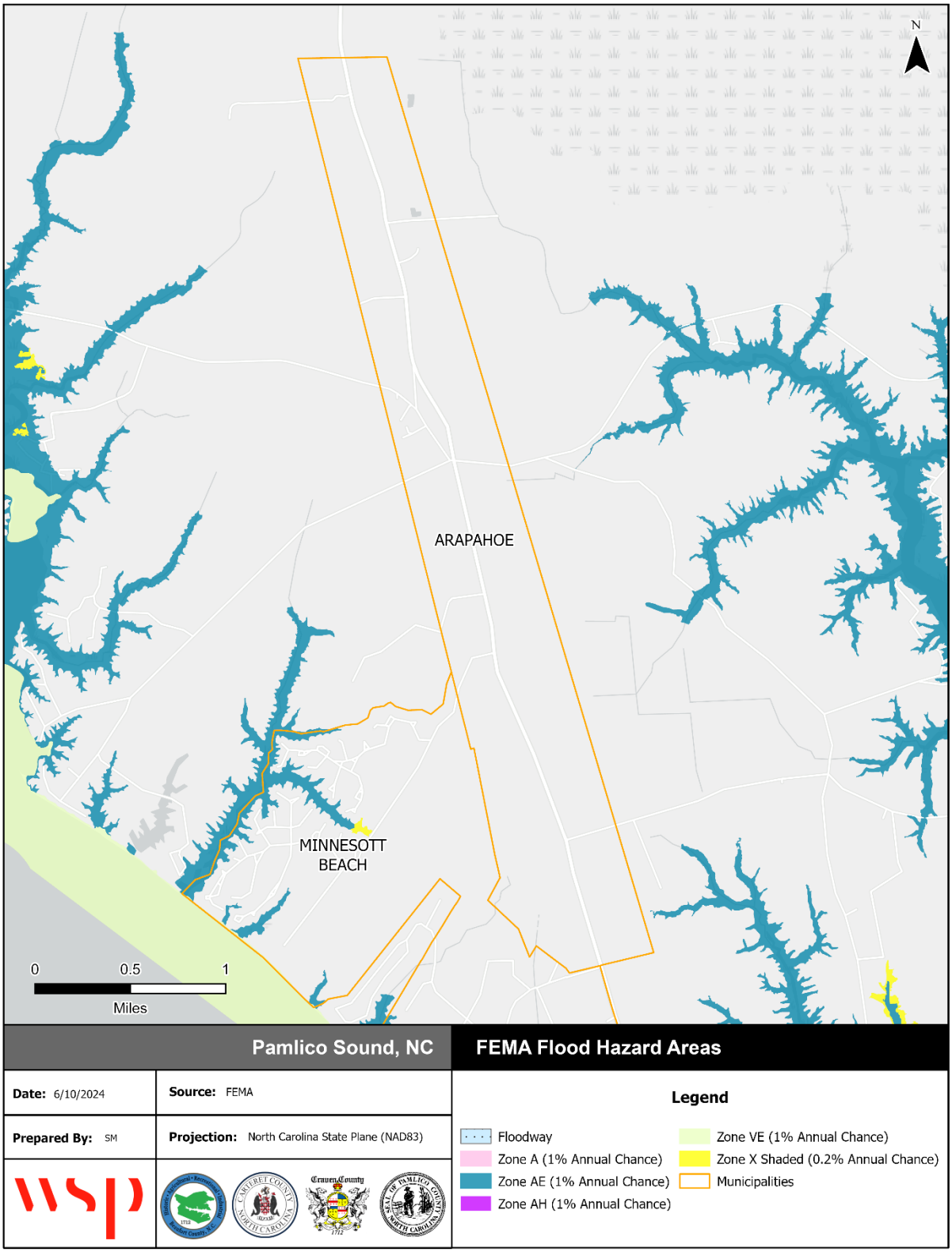
Source: FEMA Effective DFIRM

Figure D.12 – FEMA Flood Hazard Areas, Town of Alliance



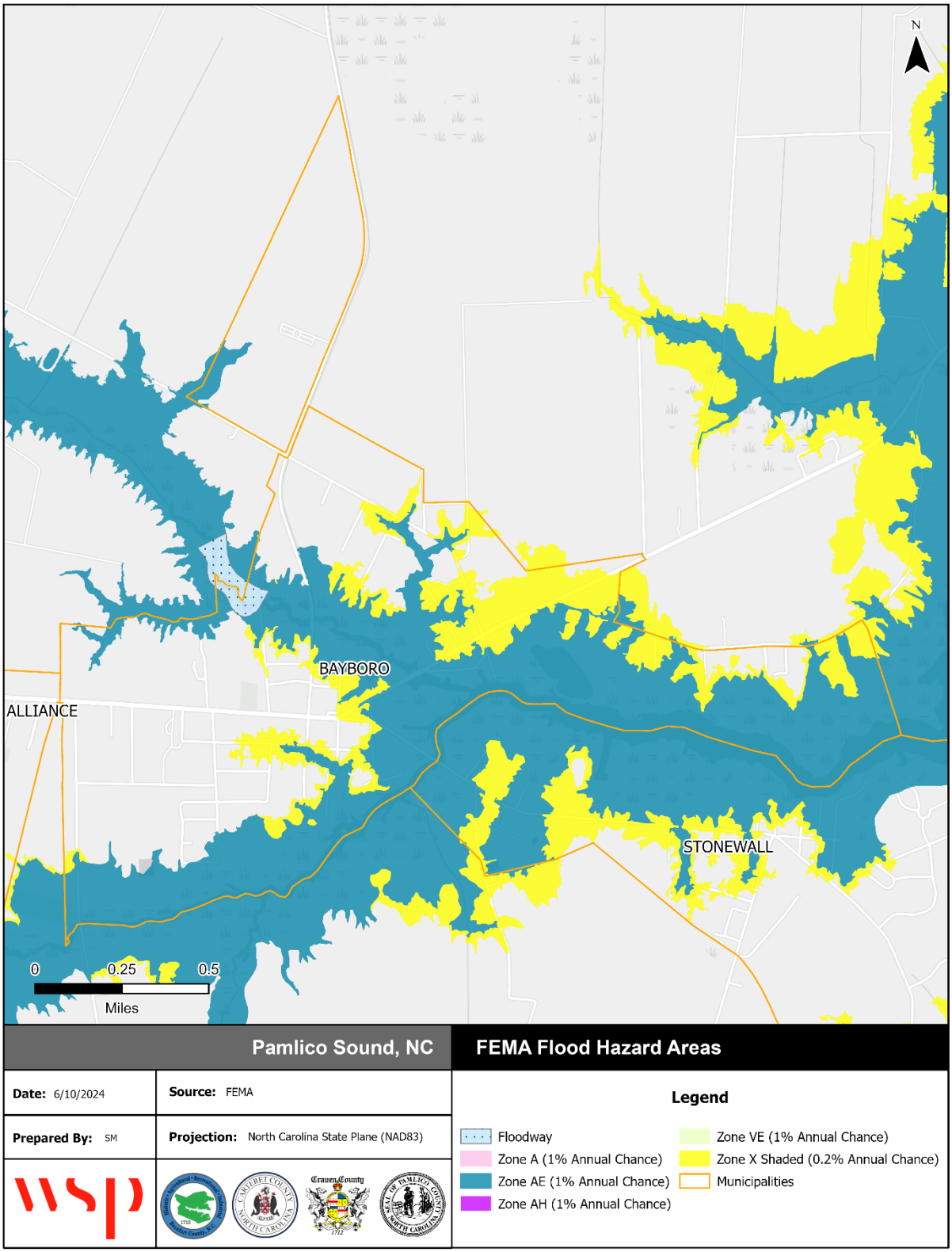
Source: FEMA Effective DFIRM

Figure D.13 – FEMA Flood Hazard Area, Town of Arapahoe



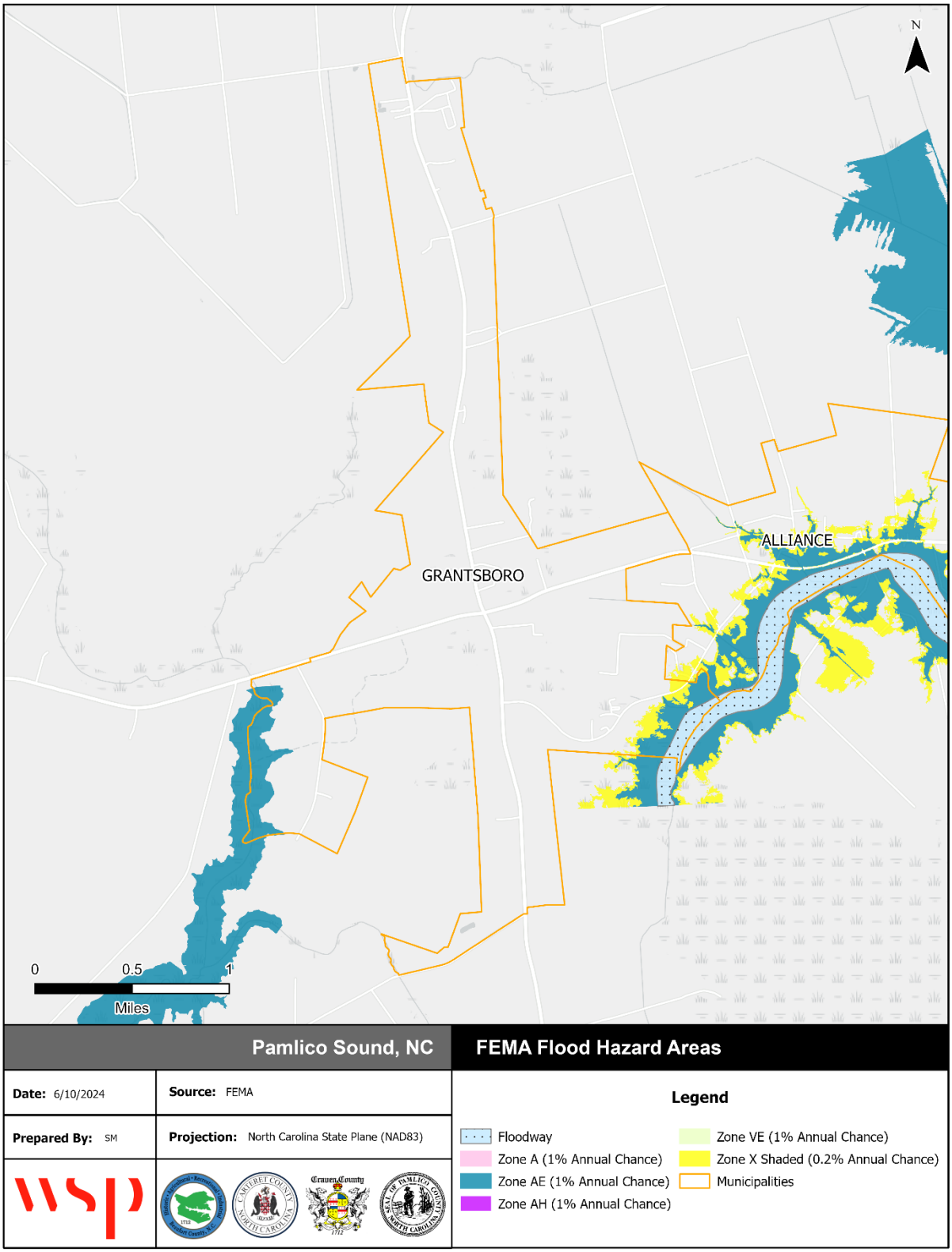
Source: FEMA Effective FIRM

Figure D.14 – FEMA Flood Hazard Areas, Town of Bayboro



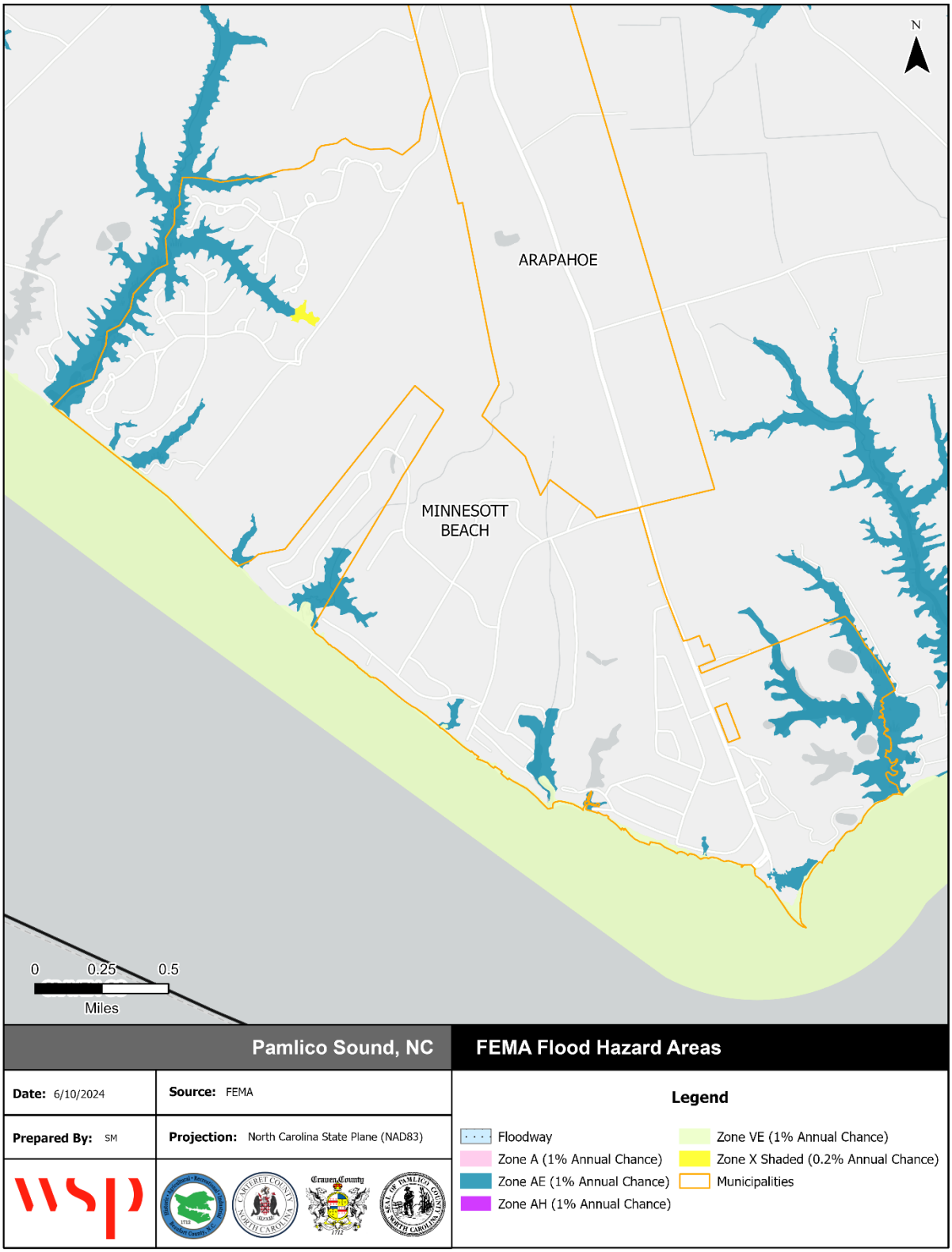
Source: FEMA Effective DFIRM

Figure D.15 – FEMA Flood Hazard Areas, Town of Grantsboro



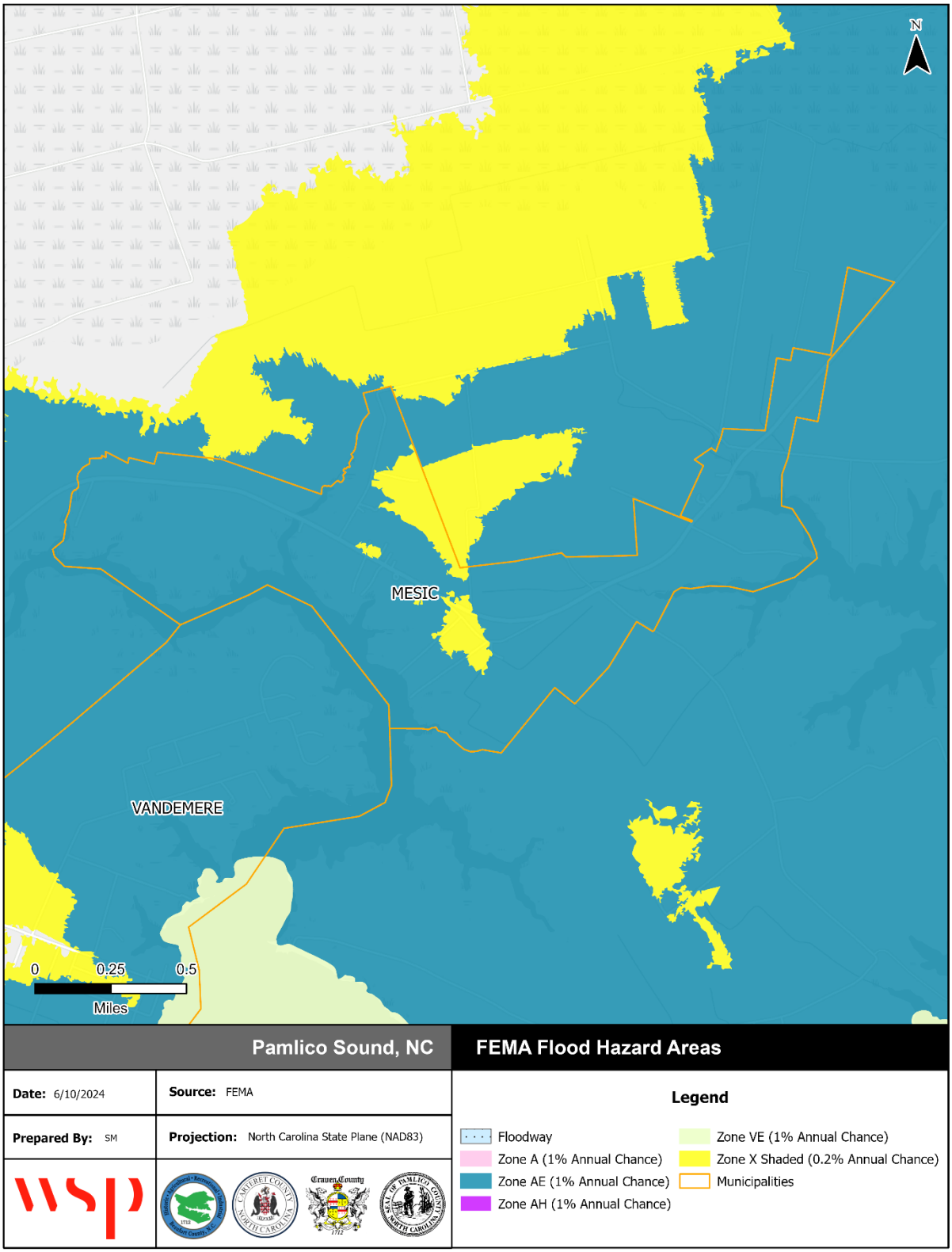
Source: FEMA Effective DFIRM

Figure D.16 – FEMA Flood Hazard Areas, Town of Minnesott Beach



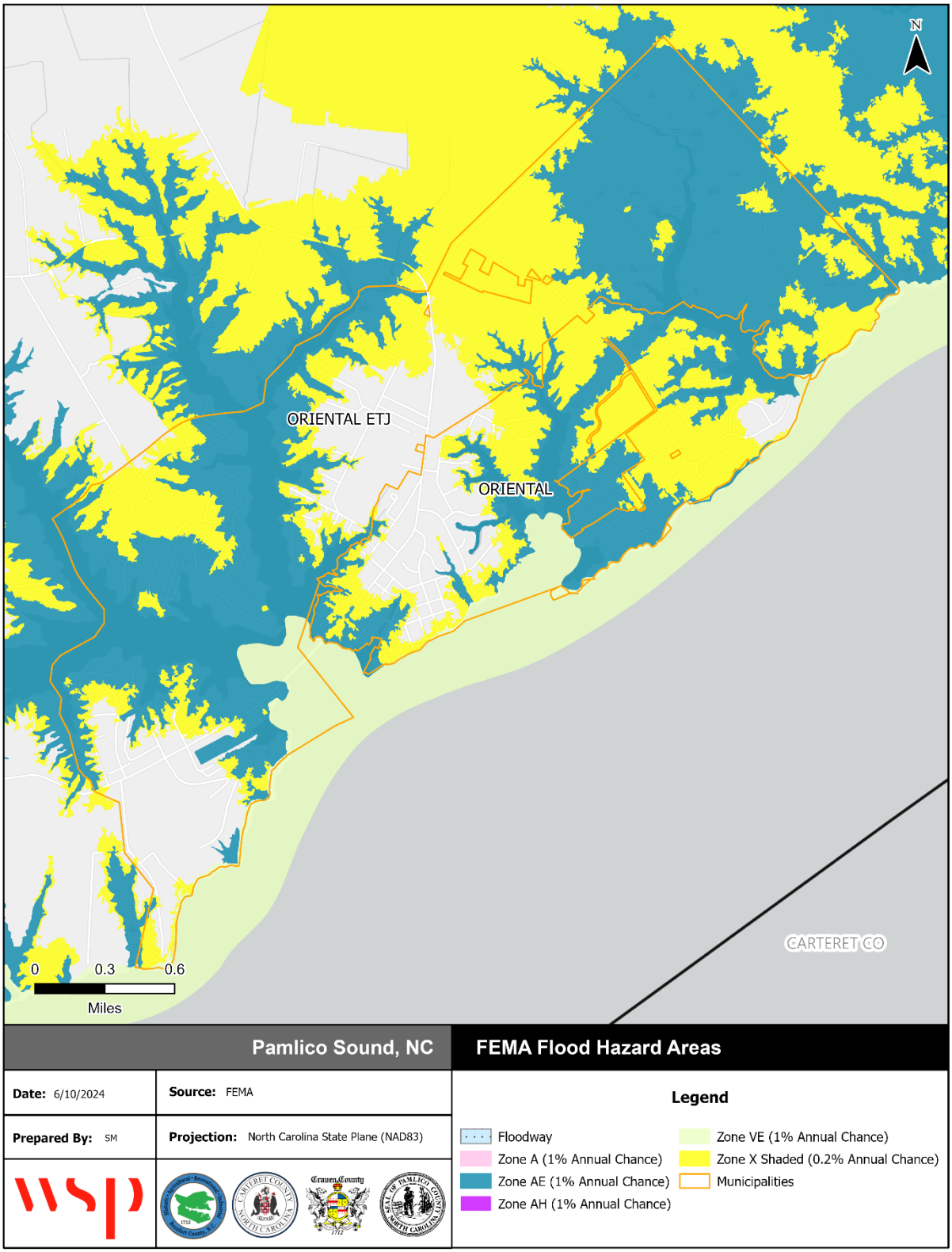
Source: FEMA Effective DFIRM

Figure D.17 – FEMA Flood Hazard Areas, Town of Mesic



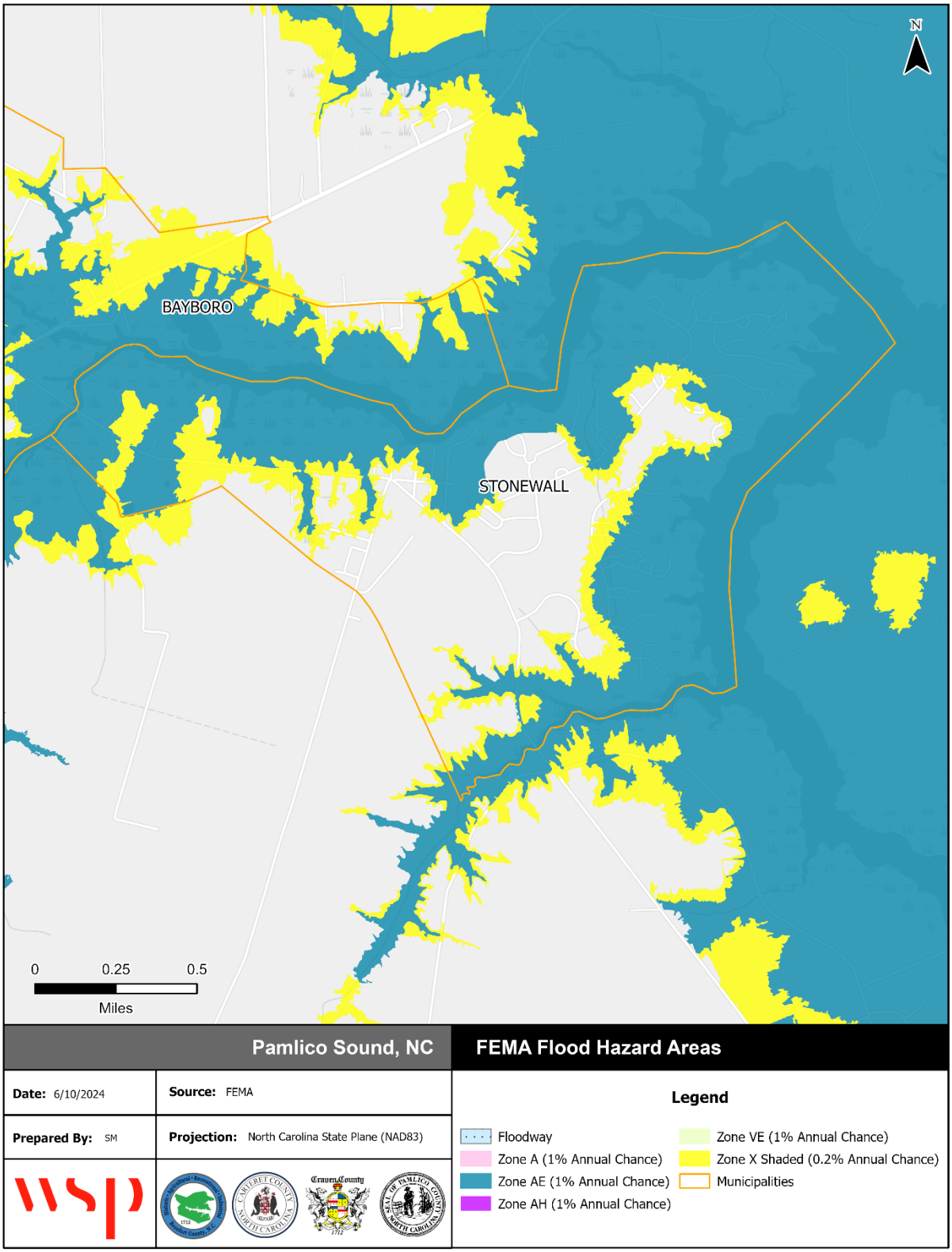
Source: FEMA Effective DFIRM

Figure D.18 – FEMA Flood Hazard Areas, Town of Oriental



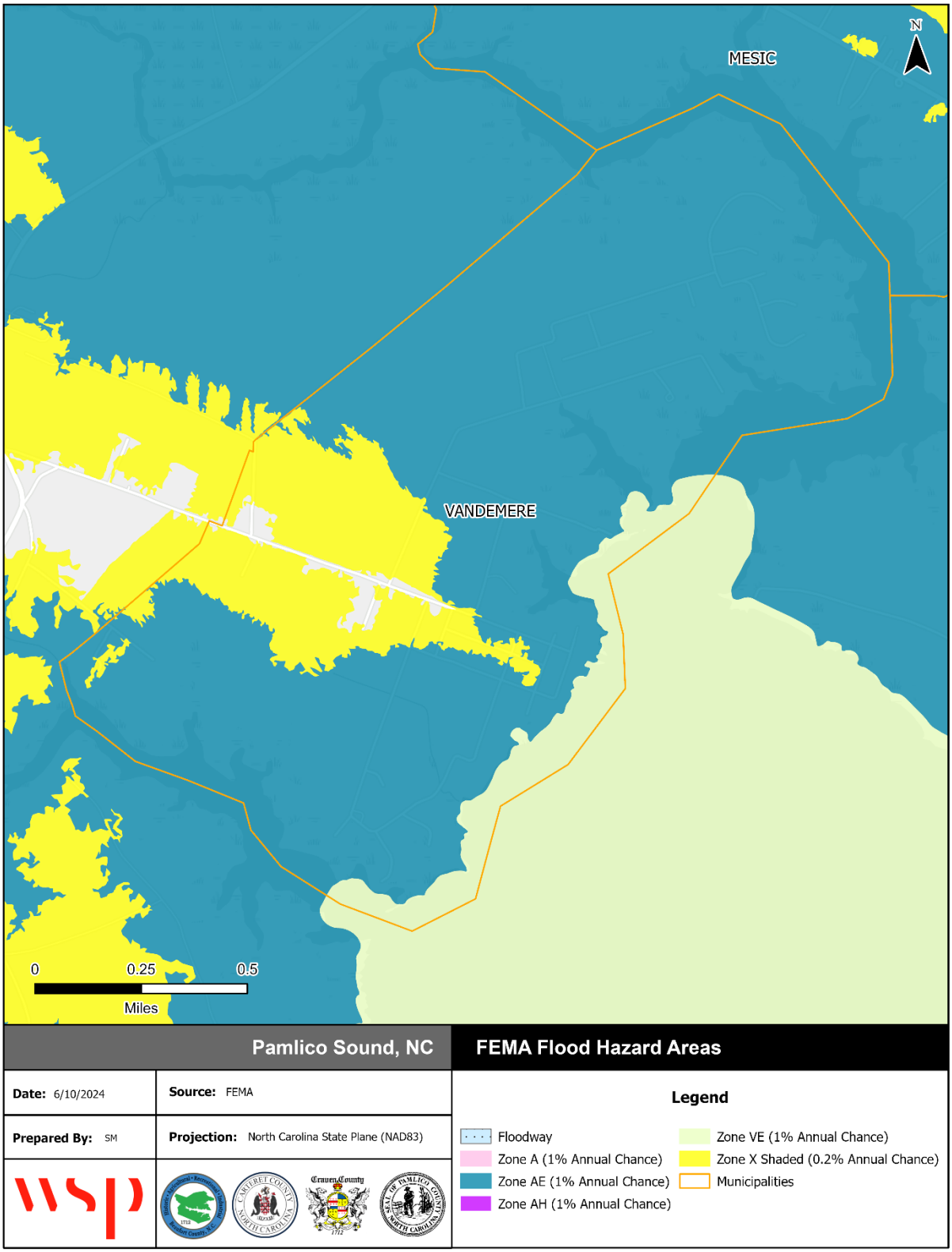
Source: FEMA Effective DFIRM

Figure D.19 – FEMA Flood Hazard Areas, Town of Stonewall



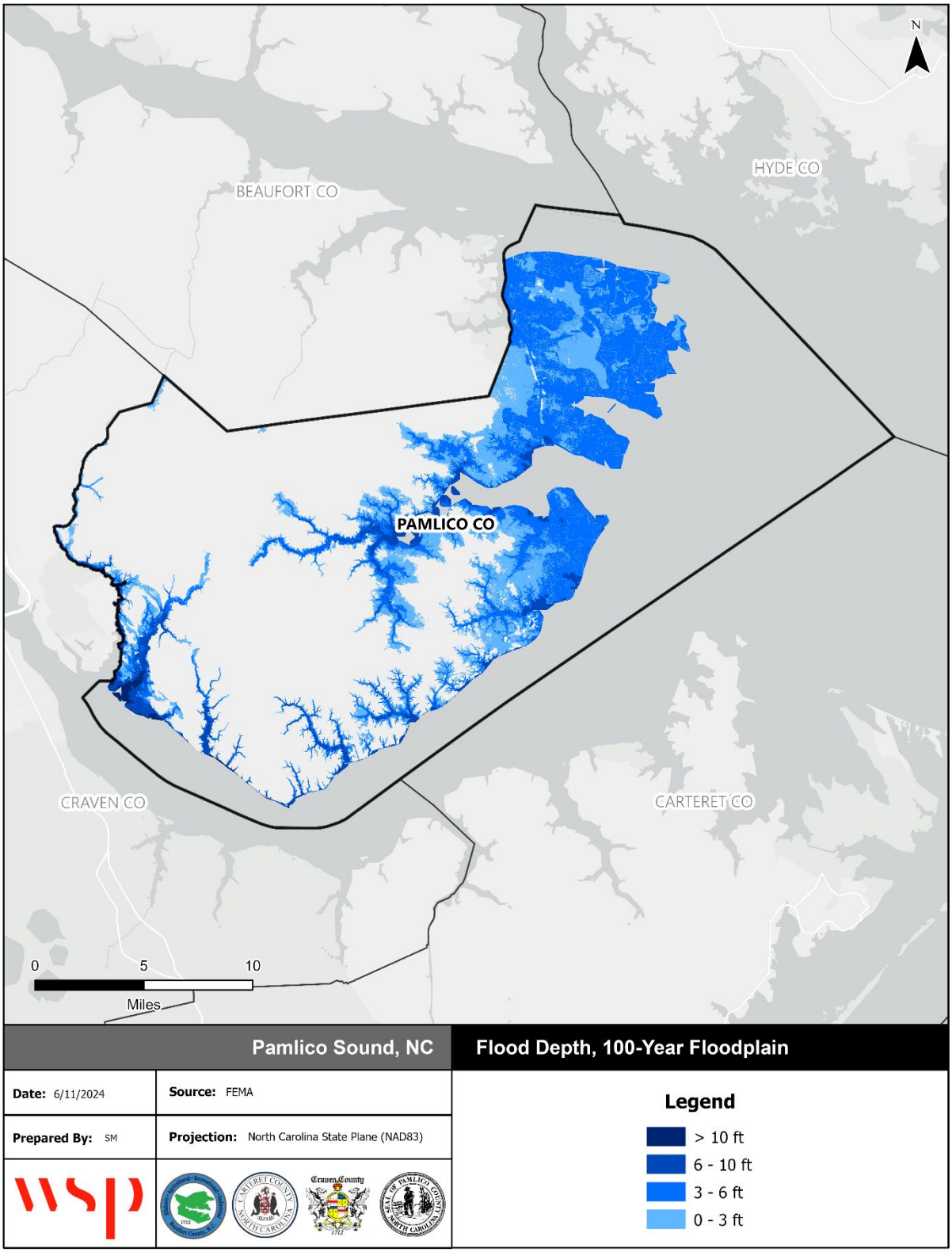
Source: FEMA Effective DFIRM

Figure D.20 – FEMA Flood Hazard Areas, Town of Vandemere



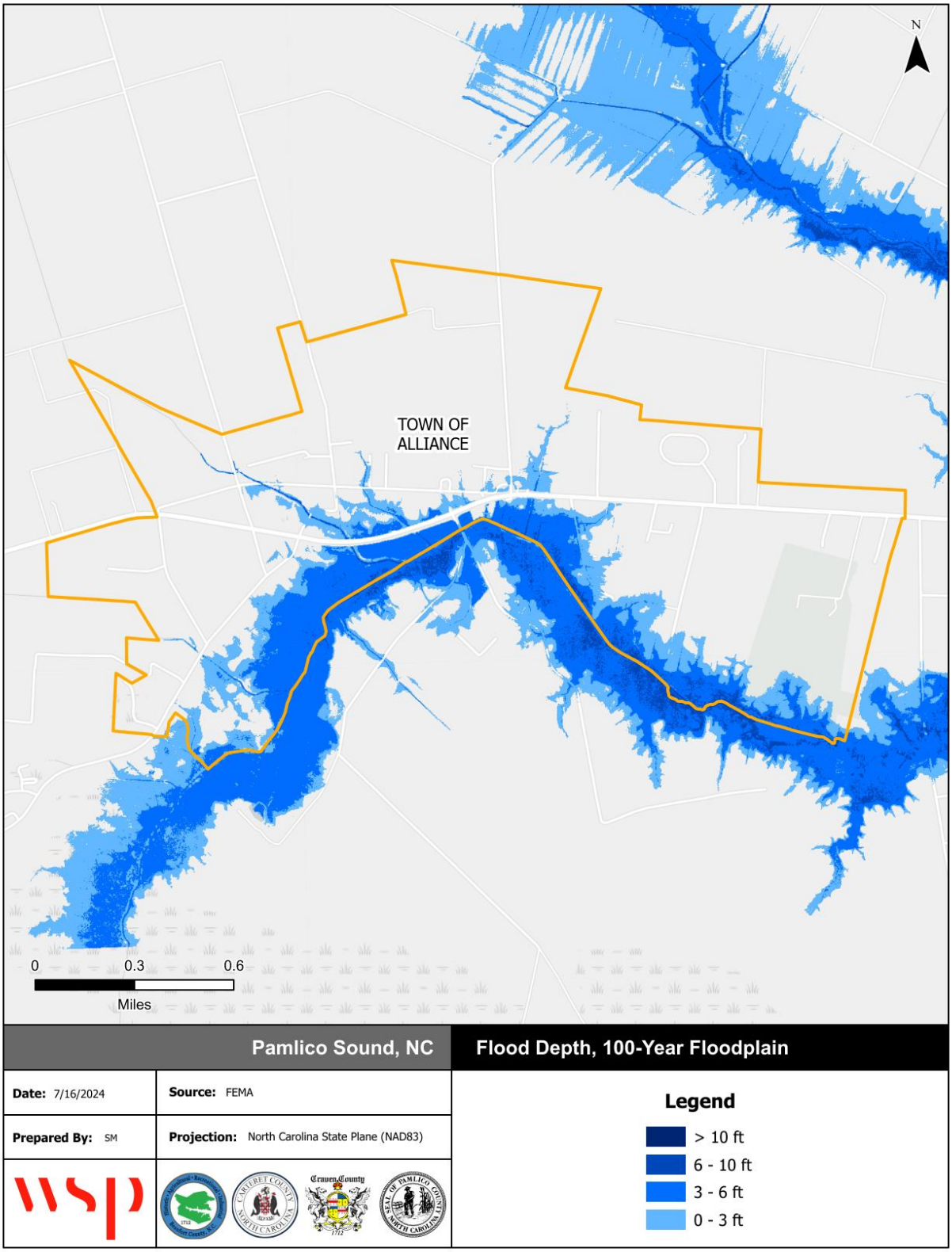
Source: FEMA Effective DFIRM

Figure D.21 – Flood Depth, 1%-Annual-Chance Floodplain, Unincorporated Pamlico County



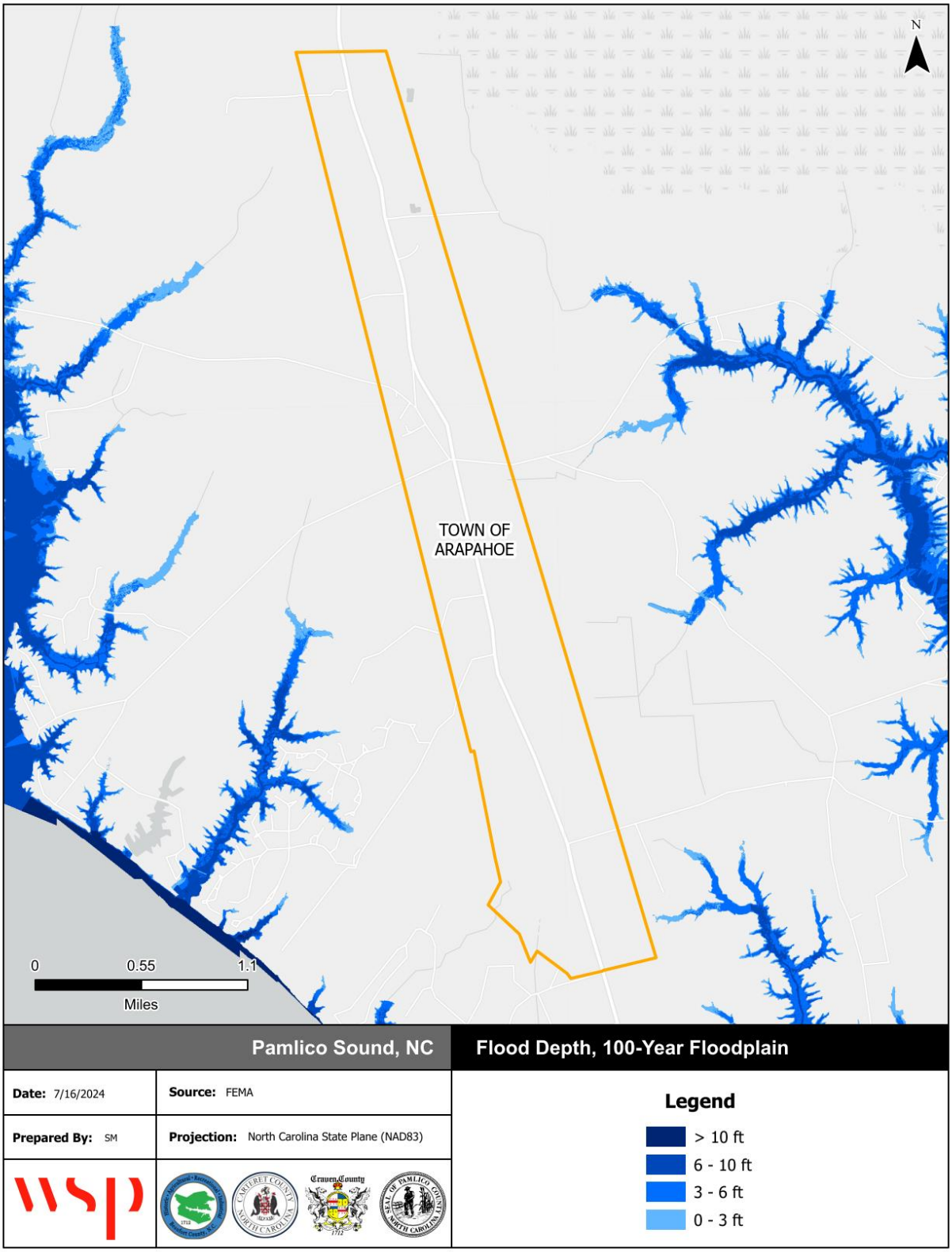
Source: FEMA Effective DFIRM

Figure D.22 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Alliance



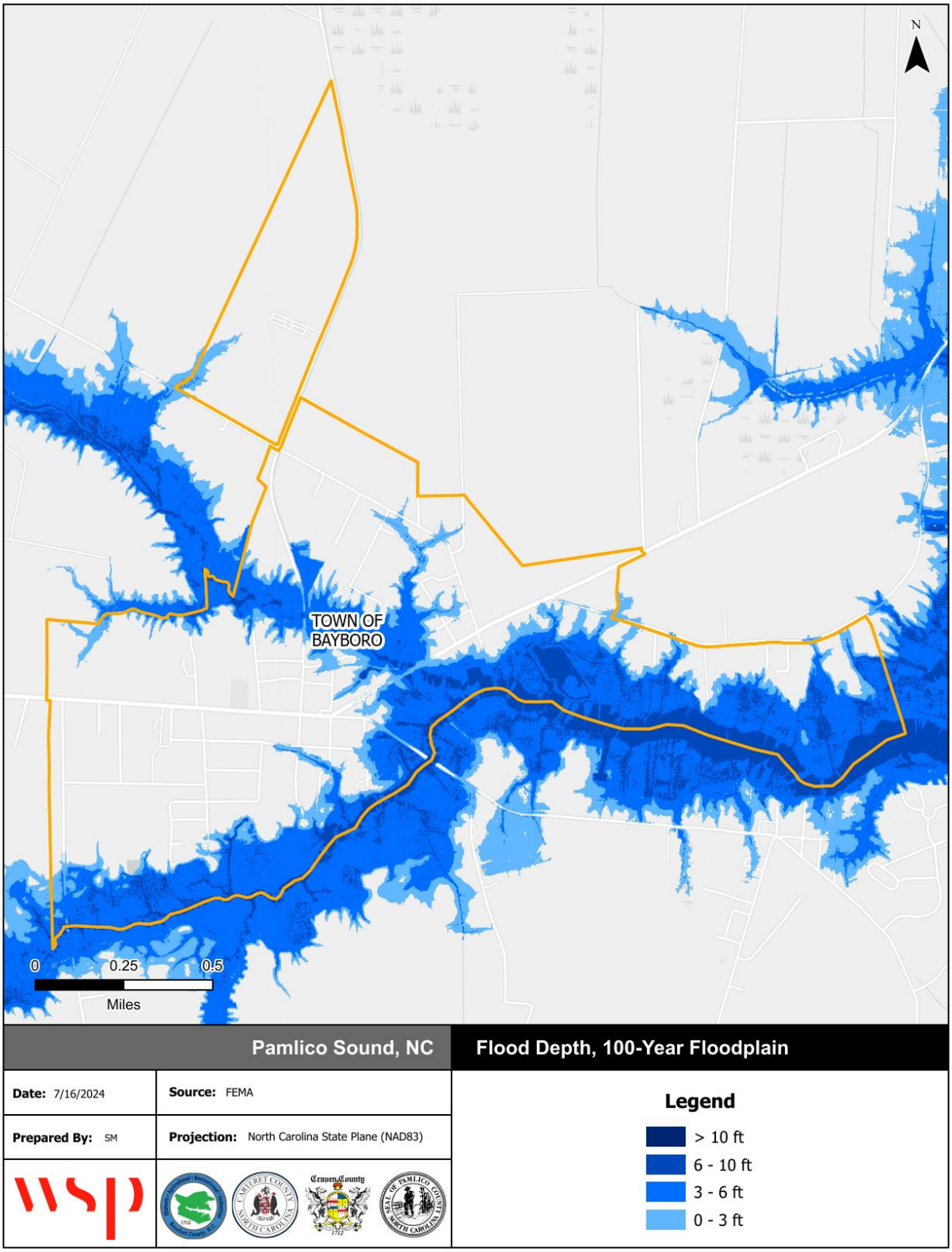
Source: FEMA Effective DFIRM

Figure D.23 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Arapahoe



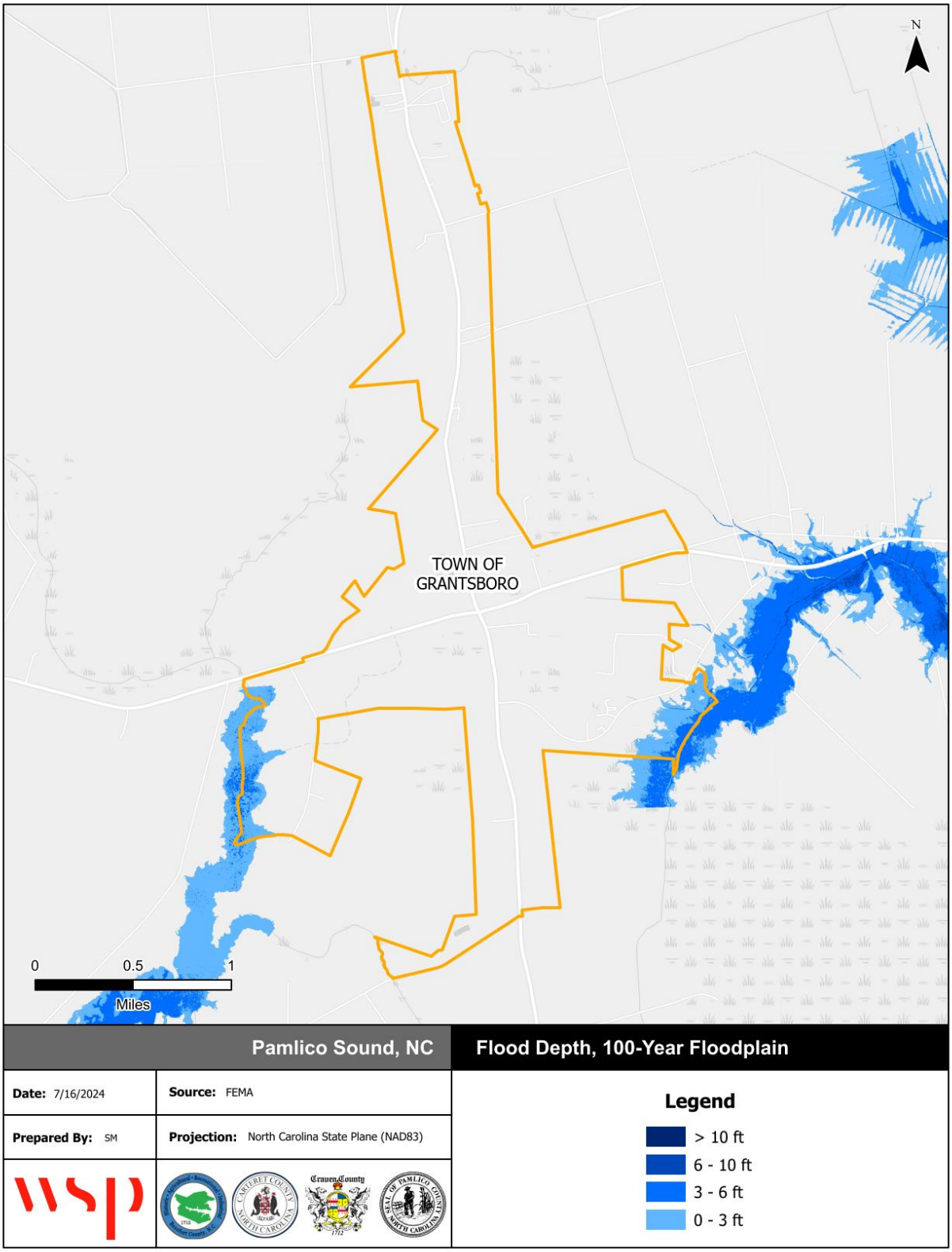
Source: FEMA Effective FIRM

Figure D.24 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Bayboro



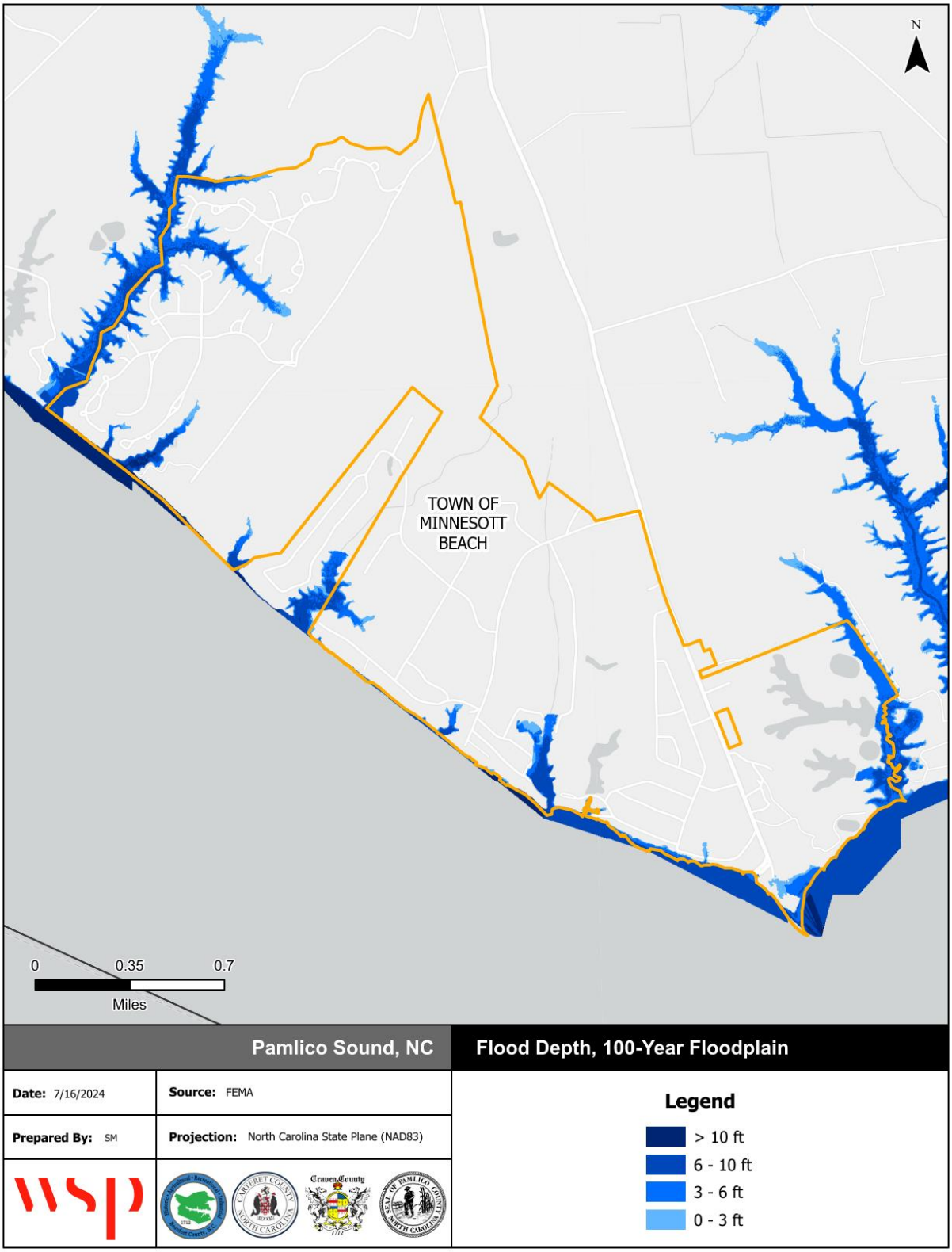
Source: FEMA Effective DFIRM

Figure D.25 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Grantsboro



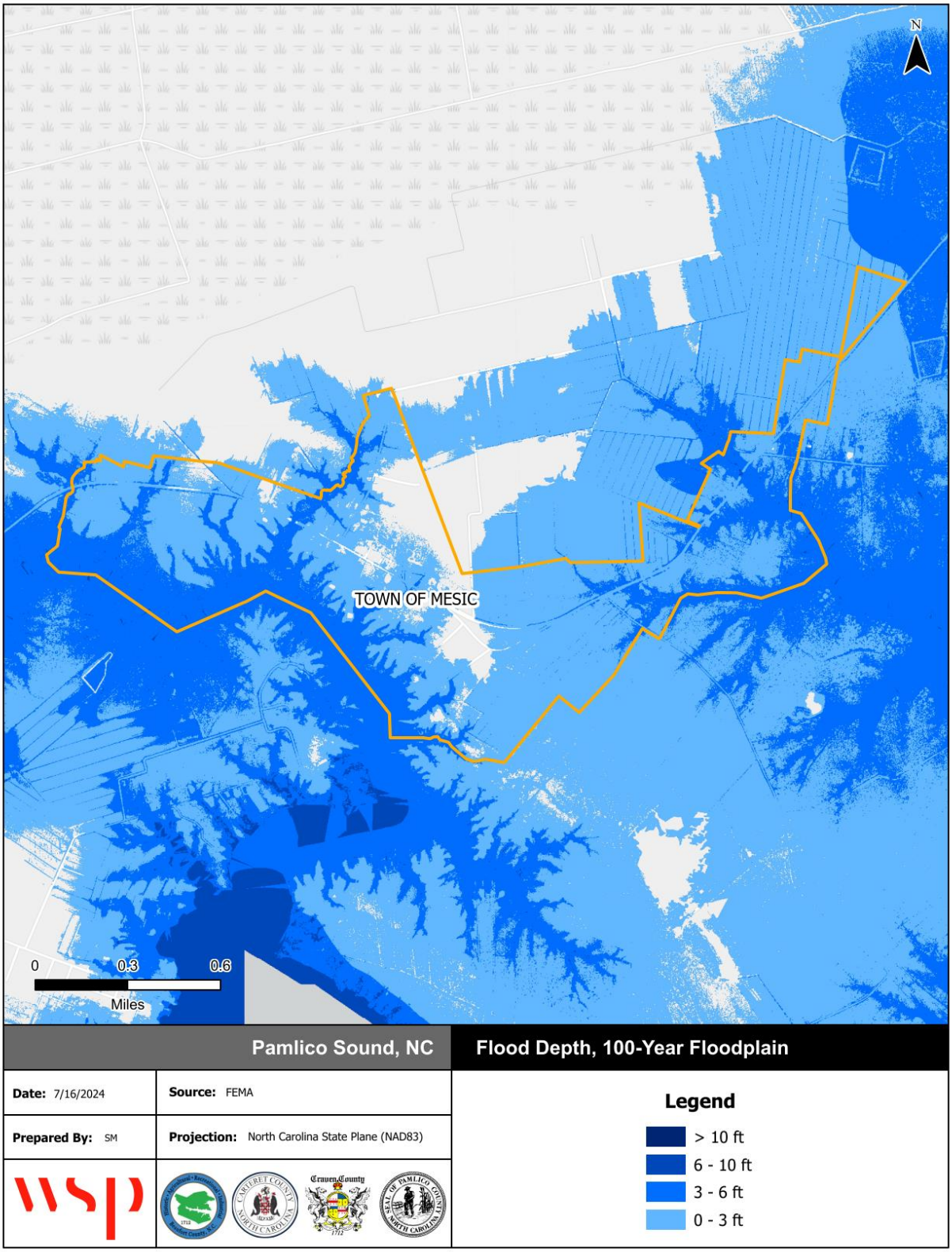
Source: FEMA Effective DFIRM

Figure D.26 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Minnesott Beach



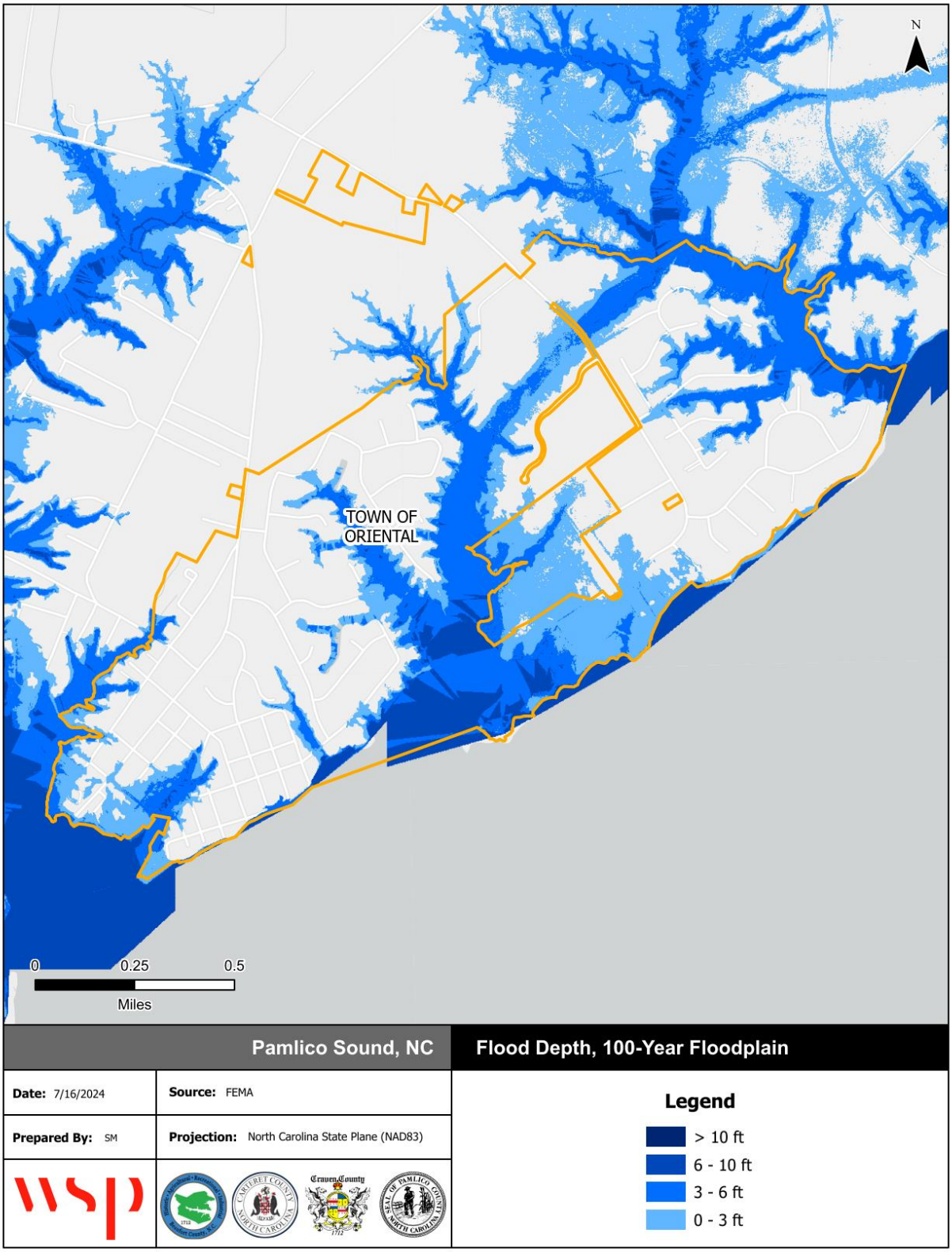
Source: FEMA Effective DFIRM

Figure D.27 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Mesic



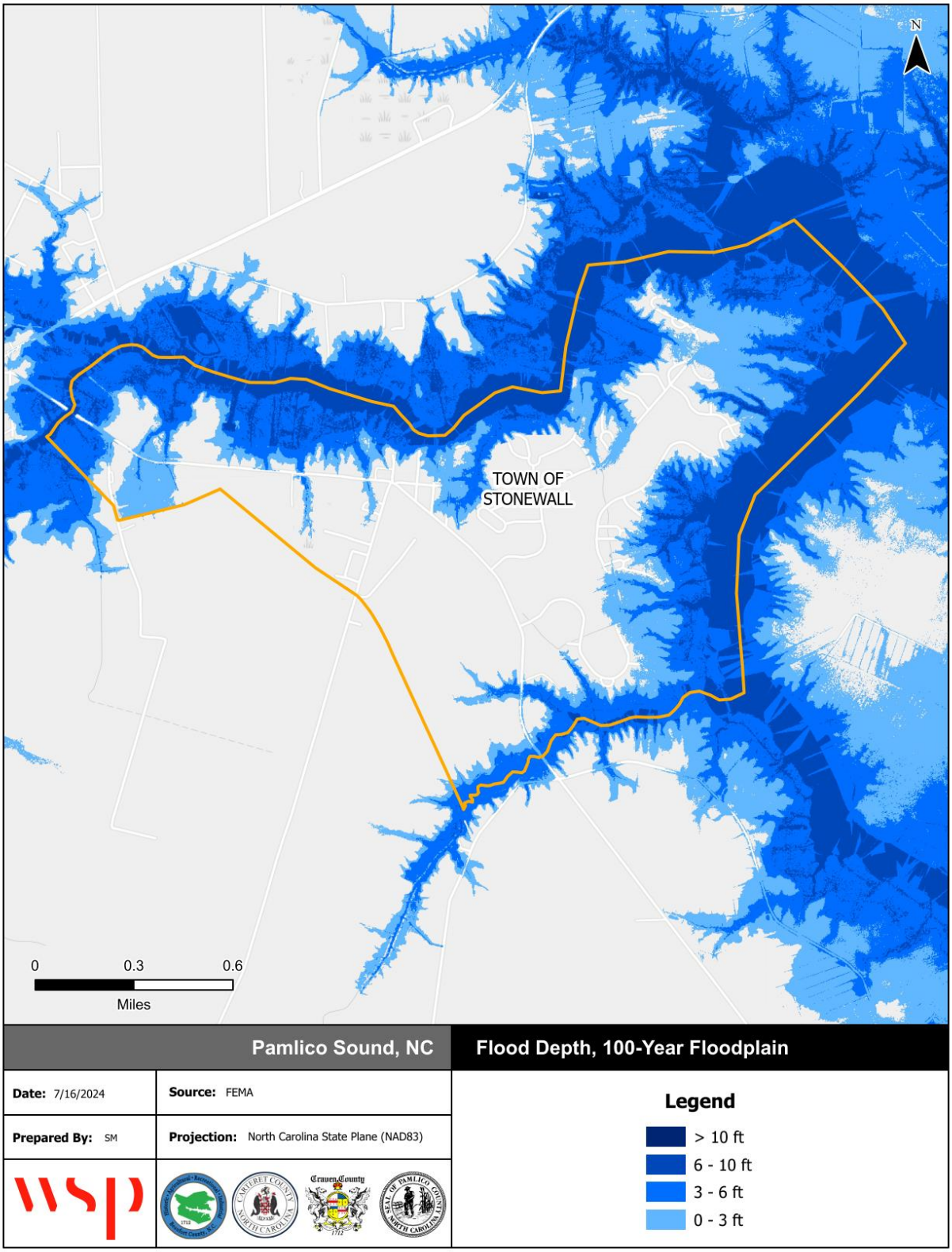
Source: FEMA Effective DFIRM

Figure D.28 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Oriental



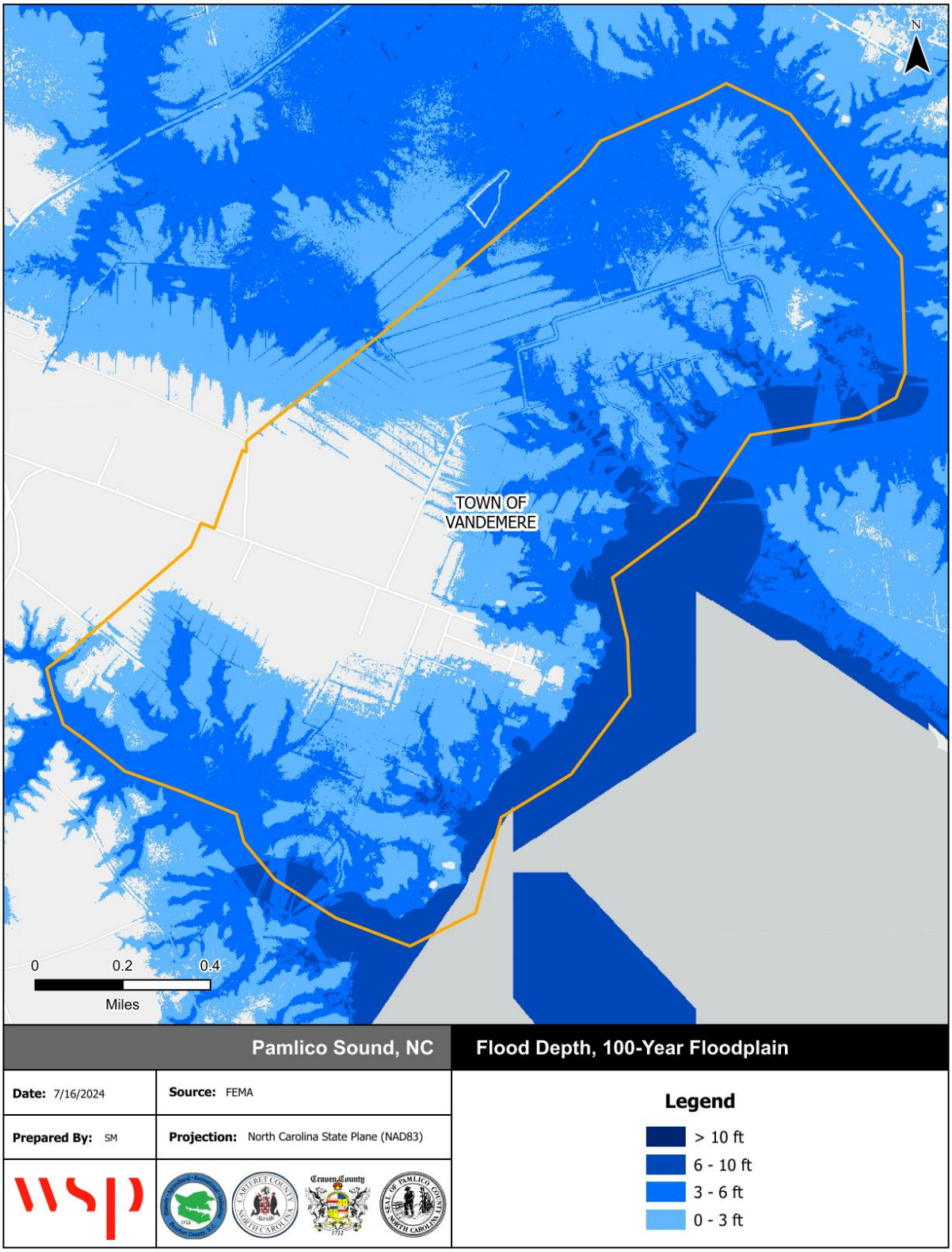
Source: FEMA Effective DFIRM

Figure D.29 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Stonewall



Source: FEMA Effective DFIRM

Figure D.30 – Flood Depth, 1%-Annual-Chance Floodplain, Town of Vandemere



Source: FEMA Effective DFIRM

D.2.1.1 *FLOOD INSURANCE DATA*

The following tables reflect NFIP emergency and regular entry dates as well as policy and claims data for Pamlico County and incorporated categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table D.14 – NFIP Program Entry Dates

Community	Emergency Entry Date	Regular Entry Date
Pamlico County (Unincorporated Area)	May 17, 1973	September 4, 1985
Town of Alliance	November 9, 1977	August 5, 1985
Town of Arapahoe	N/A	Not Participating
Town of Bayboro	May 17, 1973	December 4, 1985
Town of Grantsboro	N/A	Not Participating
Town of Mesic	N/A	September 4, 1985
Town of Minnesott Beach	September 23, 1985	September 23, 1985
Town of Oriental	May 17, 1973	December 4, 1985
Town of Stonewall	May 17, 1973	December 4, 1985
Town of Vandemere	May 17, 1973	December 4, 1985

Table D.15 – NFIP Policy and Claims Data by Structure Type

Structure Type	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Pamlico County Unincorporated Area					
Single Family	864	$567,709	$224,380,000	2,396	$52,651,856.60
2-4 Family	2	$1,443	$556,000	5	$42,453.14
All Other Residential	7	$2,883	$1,305,000	6	$87,157.77
Non-Residential	19	$32,385	$5,721,000	81	$4,027,416.17
Total	**892**	**$604,420**	**$231,962,000**	**2,488**	**$56,808,883.68**
Town of Alliance					
Single Family	6	$3,168	$1,410,000	3	$15,591.92
2-4 Family	1	$620	$210,000	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	3	$5,216	$2,025,000	0	$0.00
Total	**10**	**$9,004**	**$3,645,000**	**3**	**$15,591.92**
Town of Bayboro					
Single Family	18	$11,562	$3,919,000	63	$1,196,336.30
2-4 Family	0	$0	$0	1	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	3	$2,504	$1,386,000	2	$88,822.27
Total	**21**	**$14,066**	**$5,305,000**	**66**	**$1,285,158.57**
Town of Mesic					
Single Family	32	$18,355	$6,139,000	50	$1,713,580.66
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	1	$2,913	$226,000	1	$141,065.68
Total	**33**	**$21,268**	**$6,365,000**	**51**	**$1,854,646.34**

Structure Type	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Minnesott Beach					
Single Family	15	$9,704	$5,066,000	14	$97,923.18
2-4 Family	1	$531	$250,000	1	$7,101.19
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	0	$0	$0	0	$0.00
Total	**16**	**$10,235**	**$5,316,000**	**15**	**$105,024.37**
Town of Oriental					
Single Family	475	$357,147	$140,470,000	1,328	$27,913,602.54
2-4 Family	30	$10,631	$6,032,000	21	$371,576.85
All Other Residential	46	$19,917	$9,573,000	25	$827,152.63
Non-Residential	29	$77,840	$10,097,000	120	$6,222,822.22
Total	**580**	**$465,535**	**$166,172,000**	**1,494**	**$35,335,154.24**
Town of Stonewall					
Single Family	8	$5,208	$1,722,000	31	$486,613.44
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	0	$0.00
Non-Residential	2	$2,727	$293,000	5	$834,493.14
Total	**10**	**$7,935**	**$2,015,000**	**36**	**$1,321,106.58**
Town of Vandemere					
Single Family	44	$31,277	$9,187,000	179	$5,162,454.12
2-4 Family	0	$0	$0	0	$0.00
All Other Residential	0	$0	$0	2	$20,000.00
Non-Residential	2	$1,706	$272,000	24	$1,323,262.51
Total	**46**	**$32,983**	**$9,459,000**	**205**	**$6,505,716.63**

Source: FEMA Community Information System, accessed January 2025

Table D.16 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Pamlico County Unincorporated Area					
A01-30 & AE Zones	801	$540,108	$207,054,000	2,273	$52,592,116.68
A Zones	5	$6,167	$1,224,000	74	$1,948,779.43
V01-30 & VE Zones	2	$1,136	$214,000	4	$102,524.80
B, C & X Zone					
Standard	83	$56,309	$23,190,000	32	$779,175.07
Preferred	0	$0	$0	60	$1,249,015.97
Total	**891**	**$603,720**	**$231,682,000**	**2,443**	**$56,671,611.95**
Town of Alliance					
A01-30 & AE Zones	4	$1,772	$710,000	3	$15,591.92
B, C & X Zone					
Standard	6	$7,232	$2,935,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**10**	**$9,004**	**$3,645,000**	**3**	**$15,591.92**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Bayboro					
A01-30 & AE Zones	15	$10,170	$3,742,000	58	$1,189,477.01
B, C & X Zone					
Standard	6	$3,896	$1,563,000	2	$2,995.44
Preferred	0	$0	$0	6	$92,686.12
Total	**21**	**$14,066**	**$5,305,000**	**66**	**$1,285,158.57**
Town of Mesic					
A01-30 & AE Zones	32	$20,562	$6,015,000	51	$1,854,646.34
B, C & X Zone					
Standard	1	$706	$350,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**33**	**$21,268**	**$6,365,000**	**51**	**$1,854,646.34**
Town of Minnesott Beach					
A01-30 & AE Zones	2	$1,304	$600,000	11	$96,736.56
B, C & X Zone					
Standard	14	$8,931	$4,716,000	1	$0.00
Preferred	0	$0	$0	3	$8,287.81
Total	**16**	**$10,235**	**$5,316,000**	**15**	**$105,024.37**
Town of Oriental					
A01-30 & AE Zones	426	$331,828	$119,479,000	1,366	$32,636,507.39
B, C & X Zone					
Standard	154	$133,707	$46,693,000	47	$909,368.70
Preferred	0	$0	$0	84	$1,888,756.88
Total	**580**	**$465,535**	**$166,172,000**	**1,497**	**$35,434,632.97**
Town of Stonewall					
A01-30 & AE Zones	8	$5,651	$1,528,000	33	$1,261,976.95
B, C & X Zone					
Standard	2	$2,284	$487,000	0	$0.00
Preferred	0	$0	$0	3	$59,129.63
Total	**10**	**$7,935**	**$2,015,000**	**36**	**$1,321,106.58**
Town of Vandemere					
A01-30 & AE Zones	44	$31,941	$9,097,000	201	$6,434,984.54
B, C & X Zone					
Standard	2	$1,042	$362,000	4	$70,732.09
Preferred	0	$0	$0	0	$0.00
Total	**46**	**$32,983**	**$9,459,000**	**205**	**$6,505,716.63**

Source: FEMA Community Information System, accessed January 2025

Table D.17 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Pamlico County Unincorporated Area					
A01-30 & AE Zones	170	$124,252	$35,934,000	984	$28,522,589.95
A Zones	1	$919	$316,000	48	$1,052,830.35
V01-30 & VE Zones	1	$769	$187,000	1	$102,297.40
B, C & X Zone	33	$22,015	$7,876,000	47	$1,247,103.36
Standard	33	$22,015	$7,876,000	27	$668,824.40
Preferred	0	$0	$0	21	$586,415.46
Total	**205**	**$147,955**	**$44,313,000**	**1,080**	**$30,924,821.06**
Town of Alliance					
A01-30 & AE Zones	1	$592	$66,000	2	$13,503.17
B, C & X Zone	3	$1,676	$725,000	0	$0.00
Standard	3	$1,676	$725,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**4**	**$2,268**	**$791,000**	**2**	**$13,503.17**
Town of Bayboro					
A01-30 & AE Zones	8	$5,663	$1,831,000	37	$831,702.93
B, C & X Zone	4	$2,780	$1,143,000	7	$95,681.56
Standard	4	$2,780	$1,143,000	1	$2,995.44
Preferred	0	$0	$0	6	$92,686.12
Total	**12**	**$8,443**	**$2,974,000**	**44**	**$927,384.49**
Town of Mesic					
A01-30 & AE Zones	16	$11,462	$2,975,000	25	$1,068,190.45
Total	**16**	**$11,462**	**$2,975,000**	**25**	**$1,068,190.45**
Town of Minnesott Beach					
A01-30 & AE Zones	1	$531	$250,000	6	$80,532.96
B, C & X Zone	5	$3,092	$1,731,000	1	$0.00
Standard	5	$3,092	$1,731,000	0	$0.00
Preferred	0	$0	$0	1	$0.00
Total	**6**	**$3,623**	**$1,981,000**	**7**	**$80,532.96**
Town of Oriental					
A01-30 & AE Zones	116	$127,720	$32,336,000	550	$16,421,902.41
B, C & X Zone	61	$54,063	$17,785,000	81	$1,720,553.00
Standard	61	$54,063	$17,785,000	30	$448,613.19
Preferred	0	$0	$0	52	$1,278,837.55
Total	**177**	**$181,783**	**$50,121,000**	**631**	**$18,142,455.41**
Town of Stonewall					
A01-30 & AE Zones	5	$3,603	$862,000	28	$1,175,328.30
B, C & X Zone	2	$2,284	$487,000	0	$0.00
Standard	2	$2,284	$487,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**7**	**$5,887**	**$1,349,000**	**28**	**$1,175,328.30**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Vandemere					
A01-30 & AE Zones	16	$13,471	$2,820,000	135	$4,473,586.44
B, C & X Zone	2	$1,042	$362,000	0	$0.00
Standard	2	$1,042	$362,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**18**	**$14,513**	**$3,182,000**	**135**	**$4,473,586.44**

Source: FEMA Community Information System, accessed January 2025

Table D.18 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Pamlico County Unincorporated Area					
A01-30 & AE Zones	631	$415,856	$171,120,000	1,289	$24,069,526.73
A Zones	4	$5,248	$908,000	26	$895,949.08
V01-30 & VE Zones	1	$367	$27,000	3	$227.40
B, C & X Zone	50	$34,294	$15,314,000	43	$730,532.07
Standard	50	$34,294	$15,314,000	5	$110,350.67
Preferred	0	$0	$0	39	$662,600.51
Total	**686**	**$455,765**	**$187,369,000**	**1,361**	**$25,696,235.28**
Town of Alliance					
A01-30 & AE Zones	3	$1,180	$644,000	1	$2,088.75
B, C & X Zone	3	$5,556	$2,210,000	0	$0.00
Standard	3	$5,556	$2,210,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**6**	**$6,736**	**$2,854,000**	**1**	**$2,088.75**
Town of Bayboro					
A01-30 & AE Zones	7	$4,507	$1,911,000	21	$357,774.08
B, C & X Zone	2	$1,116	$420,000	1	$0.00
Standard	2	$1,116	$420,000	1	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**9**	**$5,623**	**$2,331,000**	**22**	**$357,774.08**
Town of Mesic					
A01-30 & AE Zones	16	$9,100	$3,040,000	26	$786,455.89
B, C & X Zone	1	$706	$350,000	0	$0.00
Standard	1	$706	$350,000	0	$0.00
Preferred	0	$0	$0	0	$0.00
Total	**17**	**$9,806**	**$3,390,000**	**26**	**$786,455.89**
Town of Minnesott Beach					
A01-30 & AE Zones	1	$773	$350,000	5	$16,203.60
B, C & X Zone	9	$5,839	$2,985,000	3	$8,287.81
Standard	9	$5,839	$2,985,000	1	$0.00
Preferred	0	$0	$0	2	$8,287.81
Total	**10**	**$6,612**	**$3,335,000**	**8**	**$24,491.41**

Flood Zone	Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Town of Oriental					
A01-30 & AE Zones	310	$204,108	$87,143,000	816	$16,214,604.98
B, C & X Zone	93	$79,644	$28,908,000	47	$978,093.85
Standard	93	$79,644	$28,908,000	17	$460,755.51
Preferred	0	$0	$0	32	$609,919.33
Total	**403**	**$283,752**	**$116,051,000**	**863**	**$17,192,698.83**
Town of Stonewall					
A01-30 & AE Zones	3	$2,048	$666,000	5	$86,648.65
B, C & X Zone	0	$0	$0	3	$59,129.63
Standard	0	$0	$0	0	$0.00
Preferred	0	$0	$0	3	$59,129.63
Total	**3**	**$2,048**	**$666,000**	**8**	**$145,778.28**
Town of Vandemere					
A01-30 & AE Zones	28	$18,470	$6,277,000	66	$1,961,398.10
B, C & X Zone	0	$0	$0	4	$70,732.09
Standard	0	$0	$0	4	$70,732.09
Preferred	0	$0	$0	0	$0.00
Total	**28**	**$18,470**	**$6,277,000**	**70**	**$2,032,130.19**

Source: FEMA Community Information System, accessed January 2025

D.2.2 WILDFIRE

Table D.19 summarizes the acreage in Pamlico County that falls within the Wildland Urban Interface (WUI), categorized by housing density. Areas in the WUI are those where development may intermix with flammable vegetation. Over 81 percent of Pamlico County is not included in the WUI.

Table D.19 – Wildland Urban Interface Acreage, Pamlico County

	Housing Density	Total Acreage	Percent of Total Acreage
	Not in WUI	*294,564*	*81.32%*
	LT 1hs/40ac	22,806	6.30%
	1hs/40ac to 1hs/20ac	14,561	4.02%
	1hs/20ac to 1hs/10ac	11,991	3.31%
	1hs/10ac to 1hs/5ac	9,321	2.57%
	1hs/5ac to 1hs/2ac	6,530	1.80%
	1hs/2ac to 3hs/1ac	2,420	0.67%
	GT 3hs/1ac	47	0.01%
	Total	**362,240**	**100%**

Source: Southern Wildfire Risk Assessment

Figure D.31 depicts the WUI for Pamlico County and all participating jurisdictions. Figure D.32 and Figure D.33 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure D.34 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Potential fire intensity is highest in the unincorporated Pamlico County, particularly in the northwest corner and southcentral portion of the county as well as along the northern border with Beaufort County. Burn probability is highest in the northwestern corner and along the northern border of the county. While the unincorporated area along the northern border and in the northwestern corner of the county has both high potential fire intensity and a high burn probability, much of this area is located outside of the WUI, so a fire here might not pose as high a risk to human settlement and the built environment.

Table D.20 through Table D.29 provides the count and estimated value of all structures that intersect with areas of unincorporated Pamlico County and participating jurisdictions that are rated moderate to high on the WUI Risk Index. Table D.30 through Table D.39 provides building counts and values for critical facilities by FEMA lifeline that are located in areas rated moderate to high on the WUI Risk Index.

Table D.20 – Structures at Risk to Moderate-High WUI Risk Index, Unincorporated Pamlico County

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	53	$1,685,335.00	$1,685,335.00	$3,370,670.00
Commercial	142	$8,333,452.00	$8,333,452.00	$16,666,904.00
Education	0	$0	$0	$0
Government	3	$486,874.00	$486,874.00	$973,748.00
Industrial	25	$3,218,376.00	$4,827,564.00	$8,045,940.00
Religious	30	$4,410,062.00	$4,410,062.00	$8,820,124.00
Residential	3,691	$189,134,128.00	$94,567,064.00	$283,701,192.00
Total	**3,944**	**$207,268,227.00**	**$103,634,113.50**	**$310,902,340.50**

Source: Southern Wildfire Risk Assessment

Table D.21 – Structures at Risk to Moderate-High WUI Risk Index, Town of Alliance

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	60	$5,416,376.00	$5,416,376.00	$10,832,752.00
Education	2	$8,881.00	$8,881.00	$17,762.00
Government	8	$10,534,250.00	$10,534,250.00	$21,068,500.00
Industrial	1	$85,044.00	$127,566.00	$212,610.00
Religious	4	$411,719.00	$411,719.00	$823,438.00
Residential	323	$14,617,246.00	$7,308,623.00	$21,925,869.00
Total	**398**	**$31,073,516.00**	**$15,536,758.00**	**$46,610,274.00**

Source: Southern Wildfire Risk Assessment

Table D.22 – Structures at Risk to Moderate-High WUI Risk Index, Town of Arapahoe

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	22	$1,251,715.00	$1,251,715.00	$2,503,430.00
Education	4	$265,545.00	$265,545.00	$531,090.00
Government	3	$382,850.00	$382,850.00	$765,700.00
Industrial	4	$49,623.00	$74,434.50	$124,057.50
Religious	6	$1,440,522.00	$1,440,522.00	$2,881,044.00
Residential	345	$11,663,939.00	$5,831,969.50	$17,495,908.50
Total	**384**	**$15,054,194.00**	**$7,527,097.00**	**$22,581,291.00**

Source: Southern Wildfire Risk Assessment

Table D.23 – Structures at Risk to Moderate-High WUI Risk Index, Town of Bayboro

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	8	$501,871.00	$501,871.00	$1,003,742.00
Commercial	50	$6,318,124.00	$6,318,124.00	$12,636,248.00
Education	10	$6,303,991.00	$6,303,991.00	$12,607,982.00
Government	7	$27,302,675.00	$27,302,675.00	$54,605,350.00
Industrial	2	$49,459.00	$74,188.50	$123,647.50
Religious	7	$1,606,203.00	$1,606,203.00	$3,212,406.00
Residential	345	$14,171,148.00	$7,085,574.00	$21,256,722.00
Total	**429**	**$56,253,471.00**	**$28,126,735.50**	**$84,380,206.50**

Source: Southern Wildfire Risk Assessment

Table D.24 – Structures at Risk to Moderate-High WUI Risk Index, Town of Grantsboro

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	29	$8,379,429.00	$8,379,429.00	$16,758,858.00
Education	0	$0	$0	$0
Government	4	$10,290,295.00	$10,290,295.00	$20,580,590.00
Industrial	0	$0	$0	$0
Religious	10	$1,252,590.00	$1,252,590.00	$2,505,180.00
Residential	461	$11,824,380.00	$5,912,190.00	$17,736,570.00
Total	**504**	**$31,746,694.00**	**$15,873,347.00**	**$47,620,041.00**

Source: Southern Wildfire Risk Assessment

Table D.25 – Structures at Risk to Moderate-High WUI Risk Index, Town of Mesic

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	2	$80,183.00	$80,183.00	$160,366.00
Commercial	6	$71,482.00	$71,482.00	$142,964.00
Education	0	$0	$0	$0
Government	1	$88,180.00	$88,180.00	$176,360.00
Industrial	1	$19,309.00	$28,963.50	$48,272.50
Religious	3	$231,146.00	$231,146.00	$462,292.00
Residential	132	$5,544,558.00	$2,772,279.00	$8,316,837.00
Total	**145**	**$6,034,858.00**	**$3,017,429.00**	**$9,052,287.00**

Source: Southern Wildfire Risk Assessment

Table D.26 – Structures at Risk to Moderate-High WUI Risk Index, Town of Minnesott Beach

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	9	$1,311,497.00	$1,311,497.00	$2,622,994.00
Education	0	$0	$0	$0
Government	0	$0	$0	$0
Industrial	0	$0	$0	$0
Religious	1	$455,840.00	$455,840.00	$911,680.00
Residential	300	$30,161,889.00	$15,080,944.50	$45,242,833.50
Total	**310**	**$31,929,226.00**	**$15,964,613.00**	**$47,893,839.00**

Source: Southern Wildfire Risk Assessment

Table D.27 – Structures at Risk to Moderate-High WUI Risk Index, Town of Oriental

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	2	$15,951.00	$15,951.00	$31,902.00
Commercial	50	$5,210,051.00	$5,210,051.00	$10,420,102.00
Education	0	$0	$0	$0
Government	6	$1,317,752.00	$1,317,752.00	$2,635,504.00
Industrial	2	$230,508.00	$345,762.00	$576,270.00
Religious	5	$1,335,401.00	$1,335,401.00	$2,670,802.00
Residential	608	$71,648,285.00	$35,824,142.50	$107,472,427.50
Total	**673**	**$79,757,948.00**	**$39,878,974.00**	**$119,636,922.00**

Source: Southern Wildfire Risk Assessment

Table D.28 – Structures at Risk to Moderate-High WUI Risk Index, Town of Stonewall

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	2	$37,016.00	$37,016.00	$74,032.00
Commercial	15	$435,319.00	$435,319.00	$870,638.00
Education	0	$0	$0	$0
Government	0	$0	$0	$0
Industrial	2	$3,186.00	$4,779.00	$7,965.00
Religious	3	$309,885.00	$309,885.00	$619,770.00
Residential	136	$4,189,448.00	$2,094,724.00	$6,284,172.00
Total	**158**	**$4,974,854.00**	**$2,487,427.00**	**$7,462,281.00**

Source: Southern Wildfire Risk Assessment

Table D.29 – Structures at Risk to Moderate-High WUI Risk Index, Town of Vandemere

Occupancy	Structures at Risk	Structure Value	Estimated Content Value	Total Value
Agriculture	0	$0	$0	$0
Commercial	2	$92,649.00	$92,649.00	$185,298.00
Education	0	$0	$0	$0
Government	4	$348,299.00	$348,299.00	$696,598.00
Industrial	1	$79,723.00	$119,584.50	$199,307.50
Religious	7	$448,751.00	$448,751.00	$897,502.00
Residential	151	$7,165,914.00	$3,582,957.00	$10,748,871.00
Total	**165**	**$8,135,336.00**	**$4,067,668.00**	**$12,203,004.00**

Source: Southern Wildfire Risk Assessment

Table D.30 – Critical Facilities Exposed to Wildfire, Unincorporated Pamlico County

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	3	$281,582
Safety and Security	3	$578,640
Transportation	0	$0
Water Systems	5	$1,306,874
Total	**12**	**$2,167,096**

Source: Southern Wildfire Risk Assessment

Table D.31 – Critical Facilities Exposed to Wildfire, Town of Alliance

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	4	$202,522
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**4**	**$202,522**

Source: Southern Wildfire Risk Assessment

Table D.32 – Critical Facilities Exposed to Wildfire, Town of Arapahoe

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$86,136
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	2	$106,590
Transportation	0	$0
Water Systems	0	$0
Total	**3**	**$192,726**

Source: Southern Wildfire Risk Assessment

Table D.33 – Critical Facilities Exposed to Wildfire, Town of Bayboro

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$22,050,231
Hazardous Materials	0	$0
Health and Medical	1	$312,390
Safety and Security	3	$9,495,311
Transportation	0	$0
Water Systems	1	$1,288
Total	**6**	**$31,859,220**

Source: Southern Wildfire Risk Assessment

Table D.34 – Critical Facilities Exposed to Wildfire, Town of Grantsboro

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	1	$0
Hazardous Materials	0	$0
Health and Medical	3	$614
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	4	$614

Source: Southern Wildfire Risk Assessment

Table D.35 – Critical Facilities Exposed to Wildfire, Town of Mesic

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**0**	**$0**

Source: Southern Wildfire Risk Assessment

Table D.36 – Critical Facilities Exposed to Wildfire, Town of Minnesott Beach

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**0**	**$0**

Source: Southern Wildfire Risk Assessment

Table D.37 – Critical Facilities Exposed to Wildfire, Town of Oriental

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	1	$209,027
Transportation	0	$0
Water Systems	2	$177,274
Total	**3**	**$386,301**

Source: Southern Wildfire Risk Assessment

Table D.38 – Critical Facilities Exposed to Wildfire, Town of Stonewall

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	$0
Safety and Security	0	$0
Transportation	0	$0
Water Systems	0	$0
Total	**0**	**$0**

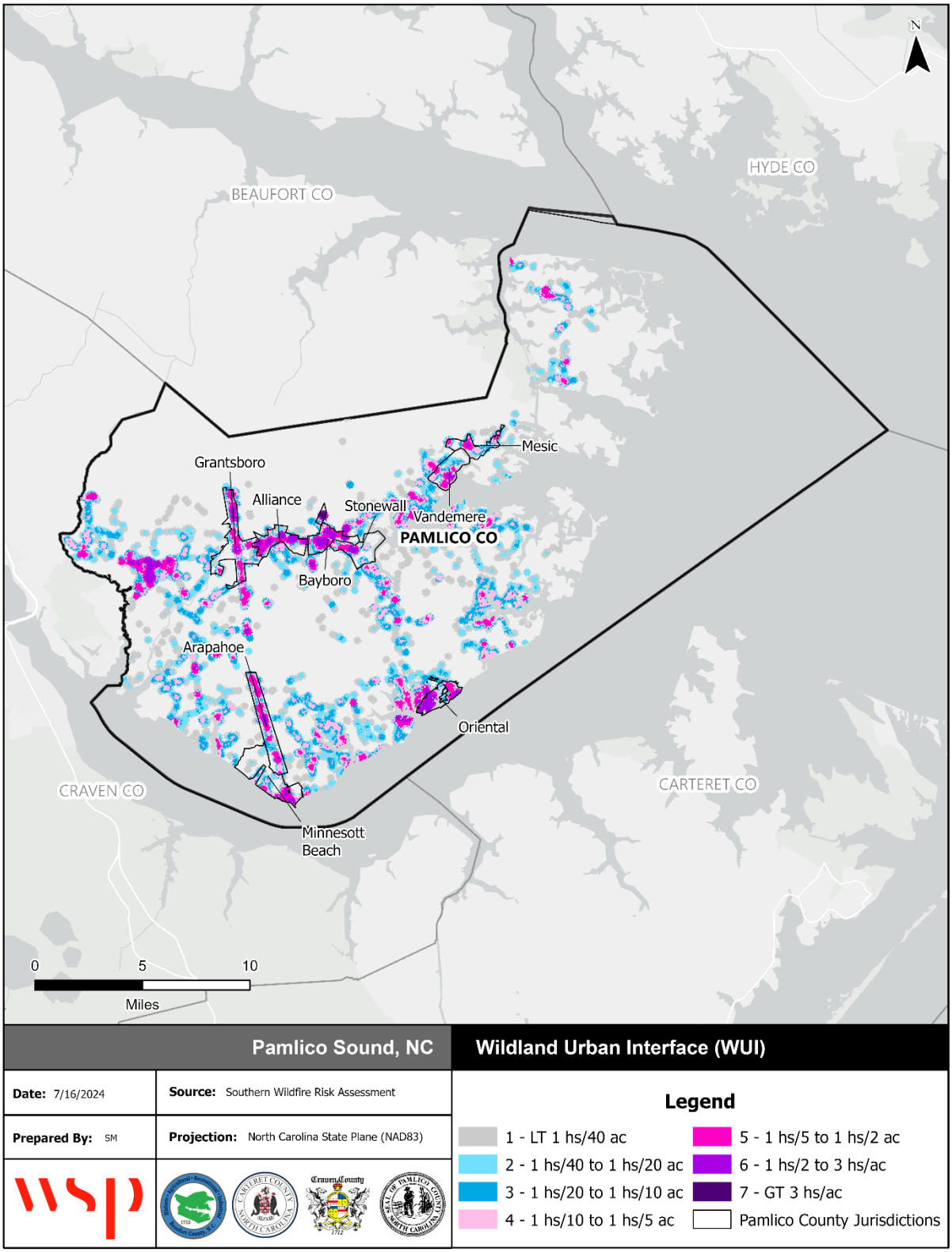
Source: Southern Wildfire Risk Assessment

Table D.39 – Critical Facilities Exposed to Wildfire, Town of Vandemere

Type	Critical Facility Count	Structure Value
Communications	0	$0
Energy	0	$0
Food, Hydration, Shelter	0	$0
Hazardous Materials	0	$0
Health and Medical	0	40
Safety and Security	1	$220,270
Transportation	0	$0
Water Systems	0	$0
Total	**1**	**$220,270**

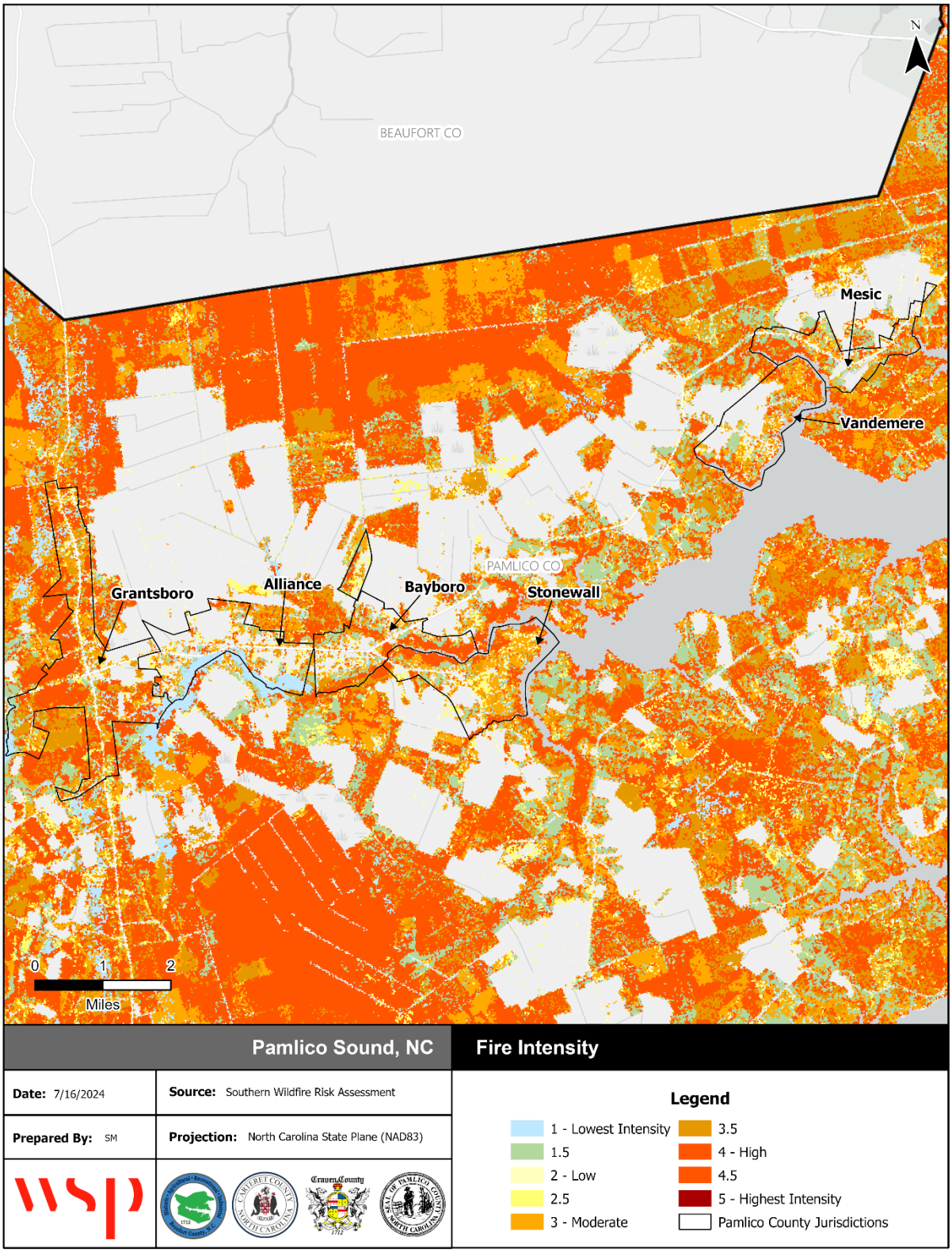
Source: Southern Wildfire Risk Assessment

Figure D.31 – Wildland Urban Interface, Pamlico County



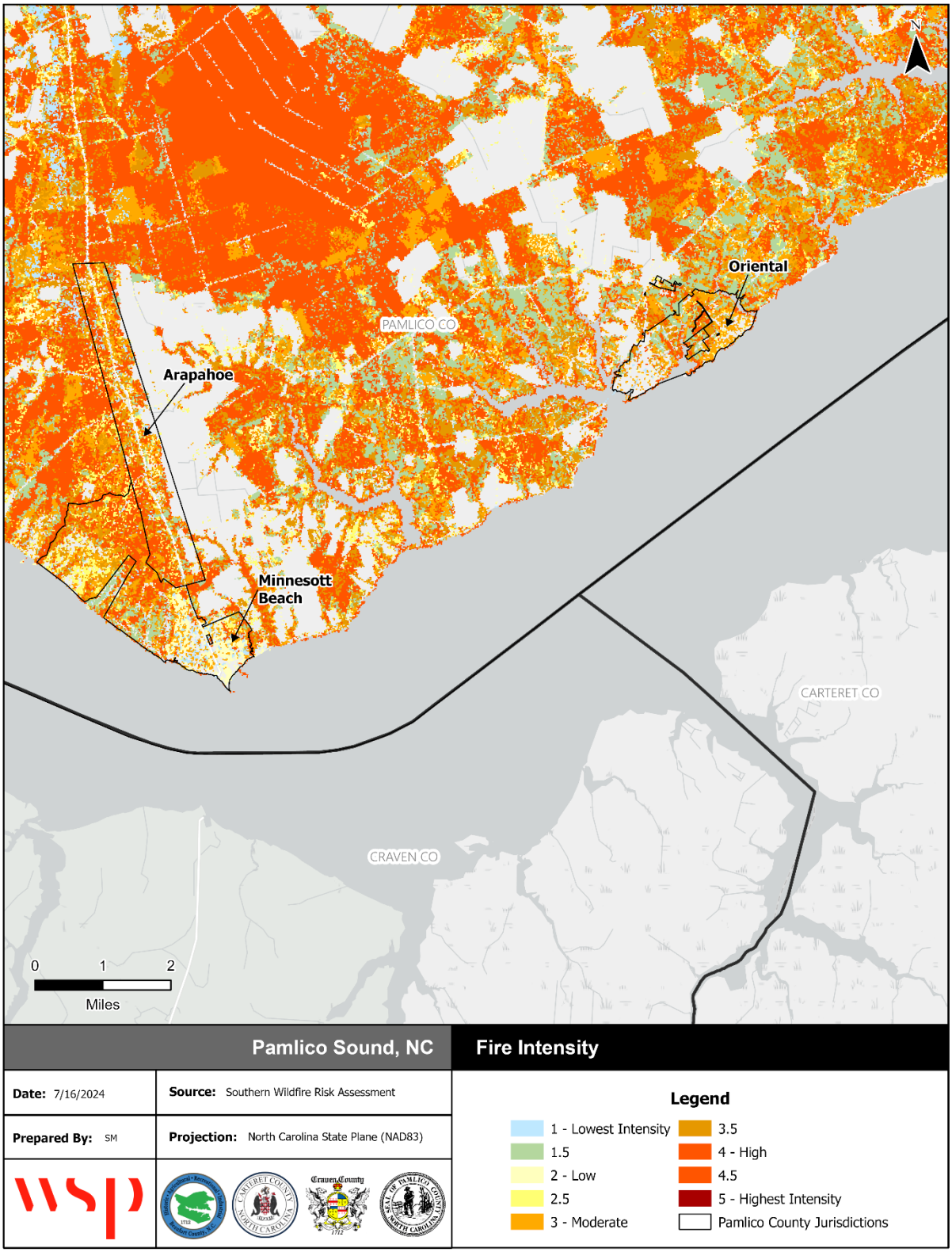
Source: Southern Wildfire Risk Assessment

Figure D.32 – Fire Intensity Scale, Pamlico County (Detail 1)



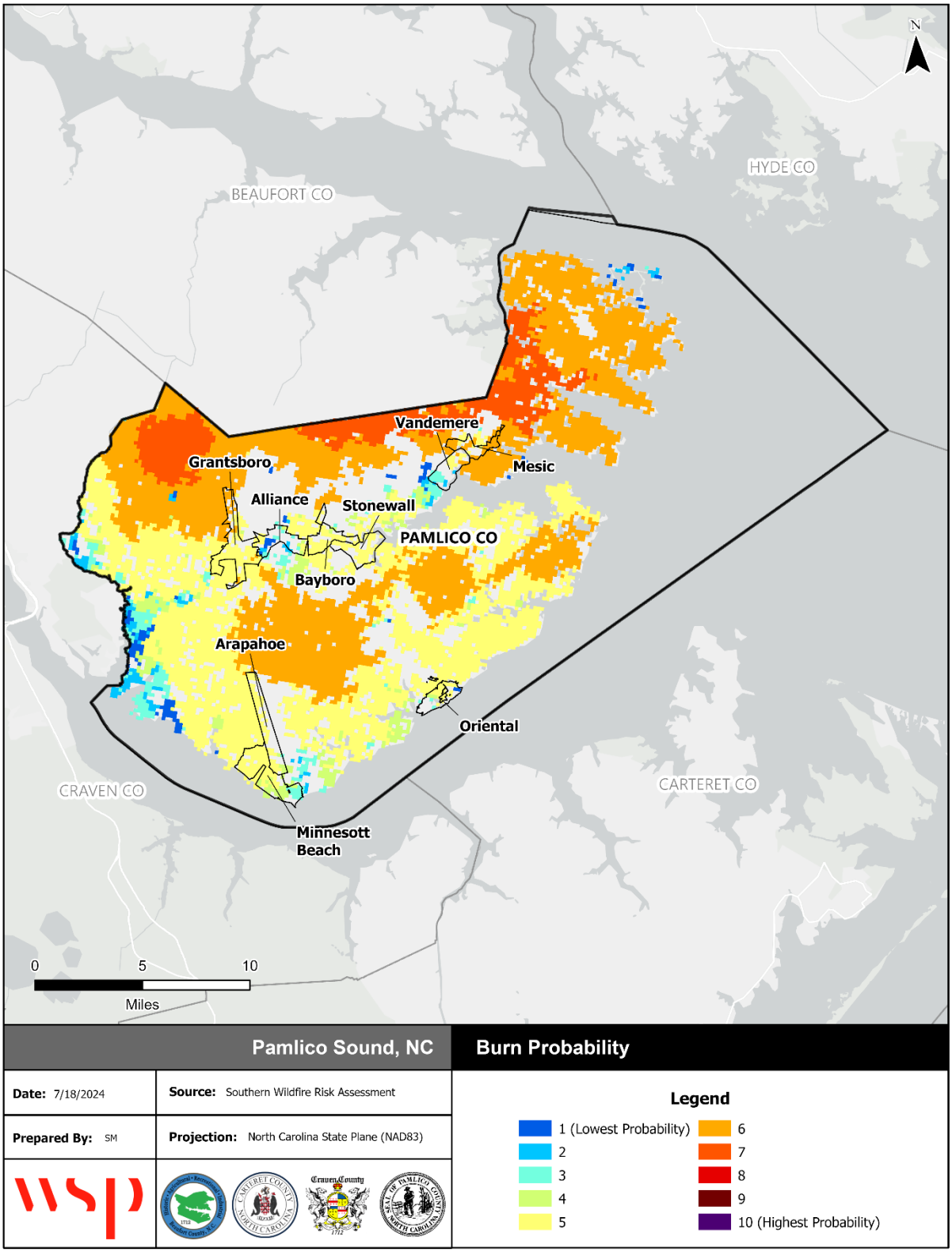
Source: Southern Wildfire Risk Assessment

Figure D.33 – Fire Intensity Scale, Pamlico County (Detail 2)



Source: Southern Wildfire Risk Assessment

Figure D.34 – Burn Probability, Pamlico County



Source: Southern Wildfire Risk Assessment

D.3 MITIGATION STRATEGY

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P1	In the event of a substantial flooding event, or other natural hazard occurrence, perform damage assessments in coordination with NCEM. These assessments will assist the County in determining the extent of the damage caused by the respective disaster event. This data will be utilized as a tool for land use planning and future hazard mitigation plan updates and to gauge the effectiveness of the County's two-foot freeboard requirement.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	Med	3.1	PP	**Pamlico County Emergency Services,** Pamlico County Administration, Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as necessary	Carry Forward	Post-Florence there were gaps in collection of building level damage assessments. The County is working to improve capability and procedures for damage assessments and to track the resulting data. Outside partnerships and resources are needed. CAMA land use plan update currently underway.
P2	Continue to monitor drainage conditions throughout the County, in particular, issues associated with drainage ditches and agricultural runoff canals situated throughout the County. Once issues are identified, the County will work with municipal jurisdictions and State agencies to identify short- and long-term solutions to these issues.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Wildfire, Dam & Levee Failure	High	1.3	NRP	**Pamlico County Administration,** Pamlico County Emergency Services, Municipal Administrations	Staff Time	GF, NCDEQ, NCDOT	Ongoing – In Process	Carry Forward	Living shoreline project at Whittaker Pointe in Oriental has been completed. Water and Soil Department has received grants and is working on drainage maintenance across the county. Lowland and Hobucken still need ditch maintenance, especially along Hwy 304N. Current issues cause roadway flooding, which affects access to a Coast Guard station that responds to Pamlico Sound. Coastal Dynamics Design Lab is working with Pamlico County. CDDL has done a hydraulics study of the county and completing a Flood Print evaluation of flood vulnerability in the County and opportunities for mitigation, including living shorelines.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P3	Continue to proactively seek grant funding through NCEM and FEMA for mitigation of repetitive loss properties (RLP's) and other high-risk properties from future flooding events. The County will maintain a list of RLP's, and on an annual basis, will apply for funding for all structures that meet cost-benefit thresholds as defined by FEMA. Pamlico County will assist all municipal jurisdictions in working through the structural mitigation grant funding process.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	3.1	PP	**Pamlico County Planning Department,** Pamlico County Board of Commissioners, Municipal Administrations, United Way, NC Volunteers Active in Disasters	Staff Time	GF, NCDPS, HMGP, BRIC, UHMA, United Way	Ongoing – as needed	Carry Forward	One acquisition completed in the last five years. Multiple elevations have been completed and a new round will begin soon; approximately 70 applicants are interested. The County is working with the Eastern Carolina COG to manage these projects. Pamlico County has coordinated with the Pamlico County Disaster Recovery Coalition (PCDRC) and partners to support post-event repairs to preserve structures and prepare them for elevation.
P4	Continue to educate County residents about flood-related health hazards, including the linkage between flooding (standing water) and the proliferation of mosquitos, as well as mold intrusion.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Dam & Levee Failure	Med	2.2	PIO	**Pamlico County Administration,** Pamlico County Emergency Services, Pamlico County Health Department, Municipal Administrations	Staff Time	GF, NCDEQ, NCDPS	Ongoing – in process	Carry Forward	Pamlico County Health Department maintains an educational program regarding mosquito abatement and provides some resources for abatement. Duke students worked with PCDRC to study health impacts of mold. PCDRC has held some workshops on mold remediation.
P5	Make a range of materials related to flood insurance, flood protection, floodplain management, information on floodplains, and how to find a qualified contractors/ realtors familiar with floodproofing and elevation techniques, available through various avenues including: • Placing materials in the local library • Maintaining documents at the County Planning and Economic Development office • Disseminating information to local contractors • Distributing information to churches and other community-based organizations • Establishing a means to distribute information to schoolchildren	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Dam & Levee Failure	High	2.2	PIO	**Pamlico County Planning Department,** Pamlico County Board of Commissioners, Municipal Administrations	Staff Time	GF	Ongoing – next 5 years	Carry Forward	Grant funded Lead for NC Fellow in place in Pamlico County is supporting public information coordination. The County annually coordinates outreach before hurricane season. Pamlico County collaborates with other partner agencies and organizations to share relevant information & resources. The Town of Oriental independently provides educational information sessions on hazard mitigation and preparedness. Town of Vandemere created an Emergency Management board to share information from the County.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P6	Review and update the County Emergency Operations Plan on an annual basis. This update will involve coordination with all municipalities to ensure that all emergency contacts are accurate and that all jurisdictions are adequately prepared.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	Med	3.2	ES	**Pamlico County Emergency Services,** Municipal Administrations	Staff Time	GF, NCDPS	Ongoing – as needed	Carry Forward	The County EOP is reviewed annually and updated as necessary. The County is in the process of completing a full update to the EOP.
P7	Continue to work with the North Carolina Department of Environmental Quality to enforce standards outlined within the statewide stormwater management program. Currently, this program generally addresses stormwater management for projects disturbing an area equal to or greater than one acre. Additionally, the County will monitor localized flooding issues and, where feasible, address these issues through the installation of stormwater best management practices (BMPs).	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	Med	1.3	P	**Pamlico County Administration** Municipal Administration	Staff Time	GF, NCDPS, NCDEQ	Ongoing – In Process	Carry Forward	Pamlico County Inspections Department provides development review services throughout the County and works with NCDEQ to enforce state stormwater regulations.
P8	Develop a formal system and plan for evaluating and assessing the availability and effectiveness of all critical facilities outlined within this plan and acquire any additional equipment or backup power to ensure continuity of operations at these facilities. Pamlico County will coordinate with NCEM, Red Cross, Salvation Army, local animal shelters, local care homes etc., in making determinations relating to need and capacity.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Tornado & Thunderstorm, Severe Winter Weather, Excessive Heat, Earthquake, Wildfire, Dam & Levee Failure	High	2.1	P	**Pamlico County Emergency Services,** Pamlico County Board of Commissioners, Municipal Elected Boards	Staff Time	GF, NCDPS, American Red Cross	2 to 3 years	Carry Forward	Pamlico County coordinates with partner organizations and all participating municipal jurisdictions on critical facility protection. New County EOC is under construction.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P9	Ensure that there is adequate capacity for snow and ice removal in the event of a major snowstorm. The County will work with the North Carolina Department of Transportation (NCDOT) and North Carolina Emergency Management (NCEM) to ensure that all resources necessary are available to carry out this effort. Additionally, the County will work closely with the County school system, as well as other entities, to make determinations regarding closures and delays.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Severe Winter Weather	Med	1.1	P	**Pamlico County Emergency Services,** Municipal Administrations, NCDOT	Staff Time	GF, NCDPS, NCDOT	Ongoing – In Process	Carry Forward	Pamlico County and Towns do not own equipment for snow and ice removal but Emergency Management coordinates with NCDOT on road pre-treatment, road clearing, and communicating road safety to the public.
P10	Continue to maintain all development regulations, emergency and land use related plans, and applications for permits on the respective jurisdictions' website. This information will be maintained and updated as deemed necessary. If a local website does not exist, municipal jurisdictions will consider developing one through implementation of this plan.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	High	1.3	PIO	**Pamlico County Administration,** Municipal Administrations	Staff Time/ $3,500	GF	3 to 5 years	Carry Forward	Pamlico County continues to maintain current plans and development regulations on the County website. Vandemere developed a website within the last year. Oriental and Grantsboro maintain town websites.
P11	Continue to coordinate annually with the NC Forest Service to address the threat of wildfire throughout the County. These efforts will involve posting of the daily fire risk present within the County on the County website daily. Additionally, the County will distribute and make information available regarding County methods for mitigating fire hazards.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Wildfire	High	4.1	PP	**Pamlico County Emergency Services,** Pamlico County Board of Commissioners, Municipal Administrations	Staff Time	GF, NC Forest Service, NCDPS	Other - Annually	Carry Forward	NC Forest Service notifies the County of daily fire risk as well as controlled burns and other wildfire mitigation.
P12	Maintain reciprocal mutual aid agreements with all neighboring communities. Additionally, all jurisdictions will provide preventive maintenance efforts to ensure the fire hydrants and equipment are working properly.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	High	4.2	ES	**Pamlico County Emergency Services,** Municipal Administrations, Volunteer Fire Departments	Staff Time	GF, NCDPS	Ongoing – next 5 years	Carry Forward	Pamlico County is part of the statewide mutual aid agreement and has mutual aid agreements with all municipalities and neighboring counties. Fire departments have mutual aid agreements with NC Forest Service.

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
P13	Maintain Debris Removal and Monitoring Services Contracts for post disaster response. These services should focus on preparing documentation necessary to ensure full reimbursement of cost associated with community cleanup and immediate infrastructure restoration.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	All Hazards	Med	1.1	PP	**Pamlico County Emergency Services,** Pamlico County Board of Commissioners, Municipal Administrations	To Be Determined	GF, NCDPS, FEMA	Ongoing – As needed	Carry Forward	Debris Removal and Monitoring Services Contracts are in place. A statewide agreement is underway.
P14	Maintain all property acquired through annual and post disaster mitigation funding as open space in perpetuity. Additionally, appropriate reuse strategies will be developed regarding this dedicated open space.	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Flooding, Hurricanes & Coastal Hazards, Dam & Levee Failure	High	1.2	PP	**Pamlico County Administration,** Municipal Administrations	To Be Determined	GF, NCDPS	Ongoing – in process	Carry Forward	Pamlico County is coordinating with NC Department of Commerce's Creating Outdoor Recreational Economies program. Looking into creating a kayak trail, parks, natural habitat areas, and other passive recreation opportunities on preserved coastal open space properties. Derelict/abandoned structures present an ongoing risk but funding is needed to mitigate these buildings.
P15	Create or Update Community Wildfire Protection Plans in each fire district	Pamlico County, Alliance, Arapahoe, Bayboro, Grantsboro, Mesic, Minnesott Beach, Oriental, Stonewall, Vandemere	Wildfire	Med	4.1	P, PIO	**Pamlico County Fire Departments,** NC Forest Service	To Be Determined	Grant Funds	3-5 years	New	
P16	Encourage planting native vegetation to support infiltration, reduce runoff, and protect property and water quality. Provide resources from NC State Cooperative Extension to educate the public on the benefits of native plantings.	Pamlico County	Flooding, Hurricanes & Coastal Hazards	Med	2.2	PIO	**Pamlico County Administration,** NC State Cooperative Extension	Staff Time	GF	1-2 years	New	
P17	Identify and equip a facility to serve as a new emergency shelter.	Pamlico County	All Hazards	High	2.1	ES, PP	**Pamlico County Emergency Services**	To Be Determined	GF, Grant Funds	3-5 years	New	
P18	Integrate hazard mitigation into land use planning.	Pamlico County	All Hazards	Med	1.2, 1.3, 1.4	P	**Pamlico County Planning Department**	Staff Time	GF	1-2 years	New	CAMA Land Use Plan update is currently underway.
P19	Develop a backup communications system in the event of cell tower failure.	Pamlico County	All Hazards	High	4.2	ES	**Pamlico County Administration**	To Be Determined	GF	2-3 years	New	

Action #	Description	Applicable Jurisdictions	Hazards Addressed	Priority	Goal & Objective	Category	Lead/Participating Agencies (Lead in bold)	Estimated Cost	Potential Funding Sources	Implementation Schedule	2025 Status	2025 Status Comments/ Explanation
OR1	Annual outreach to residents for hurricane season preparations, quarterly meetings with Church reps to disseminate prep materials, instructions for before, during, and following disasters. Keep seasonal information in Town Hall and disseminate to businesses. Distribute through mailings (newsletter), social media, traditional media materials. Disseminate info on elevation for new construction, restrict building in floodplain.	Oriental	Flooding, Hurricanes & Coastal Hazards	High	2.2	PIO	**Town of Oriental Administration**	$2,000	General fund	Ongoing annually	Carry Forward	Annual Outreach done May 2024 for Hurricane Season 2024 with representatives from NOAA, NWS, churches. Hurricane packages updated and distributed in same time frame. Social media used extensively. New TextMyGov service enabled for emergency messaging. All building elevation information distributed with permitting paperwork.
OR2	Annual outreach to realtors to make sure most updated building restrictions in GMO are disseminated to all potential buyers.	Oriental	Flooding, Hurricanes & Coastal Hazards	High	2.2	PIO	**Town of Oriental Administration**	$100	General fund	Ongoing annually	Carry Forward	Monthly updates on any changes to GMO distributed through website, social media, news outlets
OR3	Annual review by Planning Board and Town Board and make changes to GMO that prevent recurrent flooding and enhance drainage capacity.	Oriental	Flooding, Hurricanes & Coastal Hazards	High	1.3	P	**Town of Oriental Administration**	$500	General fund	Ongoing annually	Carry Forward	Priority drainage through budgeting process in order of severity. Substantial dedicated funds annually.
OR4	Annual ditch clearing and assessment of town-maintained open and covered culverts. Annual education of residents/businesses about the flow of drainage (culverts not there to take water away, but to settle solids), Priority list established and reviewed for clearing/blockage of street culverts, education about ownership of land vs. rights-of-way, necessity of clearing residentially maintained ditches.	Oriental	Flooding, Hurricanes & Coastal Hazards	High	1.3	PP	**Town of Oriental Administration**	$16,000-$20,000 annually	General fund	Ongoing annually	Carry Forward	Residential education, drainage plan, green waste disposal to assist in removing vegetation- funded at $20,000.
VM1	Annual outreach to residents for hurricane season preparations. Distribute through website, newsletter, social media, and/or traditional media materials.	Vandemere	Flooding, Hurricanes & Coastal Hazards	High	2.2	PIO	**Town of Vandemere Administration**	$2,000	General fund	Ongoing annually	New	

APPENDIX A PLAN REVIEW TOOL

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Local Mitigation Plan Review Tool

Cover Page

The Local Mitigation Plan Review Tool (PRT) demonstrates how the local mitigation plan meets the regulation in 44 CFR § 201.6 and offers states and FEMA Mitigation Planners an opportunity to provide feedback to the local governments, including special districts.

1. The Multi-Jurisdictional Summary Sheet is a worksheet that is used to document how each jurisdiction met the requirements of the plan elements (Planning Process; Risk Assessment; Mitigation Strategy; Plan Maintenance; Plan Update; and Plan Adoption).
2. The Plan Review Checklist summarizes FEMA's evaluation of whether the plan has addressed all requirements.

For greater clarification of the elements in the Plan Review Checklist, please see Section 4 of this guide. Definitions of the terms and phrases used in the PRT can be found in Appendix E of this guide.

Plan Information	
Jurisdiction(s)	Beaufort County, Carteret County, Craven County, and Pamlico County and incorporated jurisdictions
Title of Plan	Pamlico Sound Regional Hazard Mitigation Plan
New Plan or Update	Update
Single- or Multi-Jurisdiction	Multi-jurisdiction
Date of Plan	2/14/2025
Local Point of Contact	
Title	David Stroud
Agency	WSP
Address	4021 Stirrup Creek Drive, Suite 100, Durham, NC 27703
Phone Number	919-325-6497
Email	david.stroud@wsp.com

Additional Point of Contact	
Title	
Agency	
Address	
Phone Number	
Email	

Review Information	
State Review	
State Reviewer(s) and Title	John Mello, Hazard Mitigation Planner
State Review Date	3/3/2025
FEMA Review	
FEMA Reviewer(s) and Title	Kymberly Kudla, Community Planner
Date Received in FEMA Region	3/28/2025
Plan Not Approved	Click or tap to enter a date.
Plan Approvable Pending Adoption	Click or tap to enter a date.
Plan Approved	4/30/2025

Multi-Jurisdictional Summary Sheet

#	Jurisdiction Name	Requirements Met (Y/N)						
		A. Planning Process	B. Risk Assessment	C. Mitigation Strategy	D. Plan Maintenance	E. Plan Update	F. Plan Adoption	G. State Requirements
1	**Beaufort County**	Y	Y	Y	Y	Y		
2	Aurora	Y	Y	Y	Y	Y		
3	Bath	Y	Y	Y	Y	Y		
4	Belhaven	Y	Y	Y	Y	Y		
5	Chocowinity	Y	Y	Y	Y	Y		
6	Pantego	Y	Y	Y	Y	Y		
7	Washington	Y	Y	Y	Y	Y		
8	Washington Park	Y	Y	Y	Y	Y		
9	**Carteret County**	Y	Y	Y	Y	Y		
10	Atlantic Beach	Y	Y	Y	Y	Y		
11	Beaufort	Y	Y	Y	Y	Y		
12	Bogue	Y	Y	Y	Y	Y		
13	Cape Carteret	Y	Y	Y	Y	Y		
14	Cedar Point	Y	Y	Y	Y	Y		
15	Emerald Isle	Y	Y	Y	Y	Y		
16	Indian Beach	Y	Y	Y	Y	Y		
17	Morehead City	Y	Y	Y	Y	Y		
18	Newport	Y	Y	Y	Y	Y		
19	Peletier	Y	Y	Y	Y	Y		

#	Jurisdiction Name	Requirements Met (Y/N)						
		A. Planning Process	B. Risk Assessment	C. Mitigation Strategy	D. Plan Maintenance	E. Plan Update	F. Plan Adoption	G. State Requirements
20	Pine Knoll Shores	Y	Y	Y	Y	Y		
21	**Craven County**	Y	Y	Y	Y	Y		
22	Bridgeton	Y	Y	Y	Y	Y		
23	Cove City	Y	Y	Y	Y	Y		
24	Dover	Y	Y	Y	Y	Y		
25	Havelock	Y	Y	Y	Y	Y		
26	New Bern	Y	Y	Y	Y	Y		
27	River Bend	Y	Y	Y	Y	Y		
28	Trent Woods	Y	Y	Y	Y	Y		
29	Vanceboro	Y	Y	Y	Y	Y		
30	**Pamlico County**	Y	Y	Y	Y	Y		
31	Alliance	Y	Y	Y	Y	Y		
32	Arapahoe	Y	Y	Y	Y	Y		
33	Bayboro	Y	Y	Y	Y	Y		
34	Grantsboro	Y	Y	Y	Y	Y		
35	Mesic	Y	Y	Y	Y	Y		
36	Minnesott Beach	Y	Y	Y	Y	Y		
37	Oriental	Y	Y	Y	Y	Y		
38	Stonewall	Y	Y	Y	Y	Y		
39	Vandemere	Y	Y	Y	Y	Y		

Plan Review Checklist

The Plan Review Checklist is completed by FEMA. States and local governments are encouraged, but not required, to use the PRT as a checklist to ensure all requirements have been met prior to submitting the plan for review and approval. The purpose of the checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been "met" or "not met." FEMA completes the "required revisions" summary at the bottom of each element to clearly explain the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is "not met." Sub-elements in each summary should be referenced using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each element and sub-element are described in detail in Section 4: Local Plan Requirements of this guide.

Plan updates must include information from the current planning process.

If some elements of the plan do not require an update, due to minimal or no changes between updates, the plan must document the reasons for that.

Multi-jurisdictional elements must cover information unique to all participating jurisdictions.

Element A: Planning Process

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))		
A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan's development, as well as who was involved?	Section 2, p.7-20; Appendix B Concur	Met
A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?	Section 1.3, p.2; Section 2.3-2.9, p.7-25; Appendix B Concur	Met

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development as well as businesses, academia, and other private and non-profit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))		
A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?	Section 2.4, p.11-17; Section 2.5, p.17-18; Section 2.7-2.8, p.19-20, Appendix B, p.B.66-B.68 Concur	Met
A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))		
A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?	Section 2.4-2.7, p.10-20; Appendix B, p.B.28-B.65 Concur	Met
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))		
A4-a. Does the plan document what existing plans, studies, reports, and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?	Section 2.3.1, p.9 Concur, Annex A-D	Met
ELEMENT A REQUIRED REVISIONS		
Required Revision: NCEM 1st Review: No revisions required.		

Element B: Risk Assessment

<table>
<tr><th>Element B Requirements</th><th>Location in Plan
(section and/or page number)</th><th>Met /
Not Met</th></tr>
<tr><td colspan="3">B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))</td></tr>
<tr><td>B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?</td><td>Section 4.2, p.89-93, Section 4.5, p.109-315 (Hazard Description, Location, Extent, Hazard Summary by Jurisdiction)<table><tr><td colspan="2">95-99</td></tr><tr><td>Dam/Levee Failure</td><td>115-116</td></tr><tr><td>Drought</td><td>128</td></tr><tr><td>Earthquakes</td><td>139</td></tr><tr><td>Excessive Heat</td><td>156</td></tr><tr><td>Flood</td><td>166-169</td></tr><tr><td>Hurricanes & Coastal Hazards</td><td>208-209</td></tr><tr><td>Severe Winter Weather</td><td>240</td></tr><tr><td>Tornadoes/ Thunderstorms</td><td>247-249</td></tr><tr><td>Wildfire</td><td>288</td></tr></table></td><td>Met</td></tr>
</table>

<table>
<tr><th>Element B Requirements</th><th>Location in Plan
(section and/or page number)</th><th>Met /
Not Met</th></tr>
<tr><td>B1-b. Does the plan include information on the location of each identified hazard?</td><td>Section 4.5, p.109-315 (“Location” subheadings)<table><tr><td></td><td></td></tr><tr><td>Dam/Levee Failure</td><td>118-121, 123</td></tr><tr><td>Drought</td><td>129</td></tr><tr><td>Earthquakes</td><td>140-141, 145</td></tr><tr><td>Excessive Heat</td><td>158</td></tr><tr><td>Flood</td><td>170, 172-175, 178-187, Annex A-D</td></tr><tr><td>Hurricanes & Coastal Hazards</td><td>210-211</td></tr><tr><td>Severe Winter Weather</td><td>240</td></tr><tr><td>Tornadoes/ Thunderstorms</td><td>250, 256</td></tr><tr><td>Wildfire</td><td>289-291, Annex A-D</td></tr></table></td><td>Met</td></tr>
<tr><td>B1-c. Does the plan describe the extent for each identified hazard?</td><td>Section 4.5, p.109-315 (“Extent” subheadings)<table><tr><td></td><td></td></tr><tr><td>Dam/Levee Failure</td><td>124</td></tr><tr><td>Drought</td><td>130-133</td></tr><tr><td>Earthquakes</td><td>141-143</td></tr><tr><td>Excessive Heat</td><td>158-159</td></tr><tr><td>Flood</td><td>176-191</td></tr><tr><td>Hurricanes & Coastal Hazards</td><td>212-222</td></tr><tr><td>Severe Winter Weather</td><td>240-245</td></tr><tr><td>Tornadoes/ Thunderstorms</td><td>250-260</td></tr><tr><td>Wildfire</td><td>292-295</td></tr></table></td><td>Met</td></tr>
</table>

<table>
<tr><th>Element B Requirements</th><th>Location in Plan
(section and/or page number)</th><th>Met /
Not Met</th></tr>
<tr><td>B1-d. Does the plan include the history of previous hazard events for each identified hazard?</td><td>Section 4.5, p.109-315 (“Historical Occurrences” subheadings)<table><tr><td colspan="2">97-98</td></tr><tr><td>Dam/Levee Failure</td><td>124</td></tr><tr><td>Drought</td><td>130-133</td></tr><tr><td>Earthquakes</td><td>142-144</td></tr><tr><td>Excessive Heat</td><td>158-159</td></tr><tr><td>Flood</td><td>188-191</td></tr><tr><td>Hurricanes & Coastal Hazards</td><td>215-222</td></tr><tr><td>Severe Winter Weather</td><td>241-245</td></tr><tr><td>Tornadoes/ Thunderstorms</td><td>251-260</td></tr><tr><td>Wildfire</td><td>294-295</td></tr></table></td><td>Met</td></tr>
<tr><td>B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards?</td><td>Section 4.5, p.109-315 (“Probability of Future Occurrence” subheadings)<table><tr><td colspan="2"></td></tr><tr><td>Dam/Levee Failure</td><td>124-125</td></tr><tr><td>Drought</td><td>133</td></tr><tr><td>Earthquakes</td><td>144-146</td></tr><tr><td>Excessive Heat</td><td>159</td></tr><tr><td>Flood</td><td>191</td></tr><tr><td>Hurricanes & Coastal Hazards</td><td>223-224</td></tr><tr><td>Severe Winter Weather</td><td>245</td></tr><tr><td>Tornadoes/ Thunderstorms</td><td>261</td></tr><tr><td>Wildfire</td><td>295-297</td></tr></table></td><td>Met</td></tr>
<tr><td>B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?</td><td>Section 4.5, p.109-315 (“Hazard Summary by Jurisdiction” subheadings);
Annexes, p.425-724
Concur</td><td>Met</td></tr>
</table>

<table>
<tr><th>Element B Requirements</th><th>Location in Plan
(section and/or page number)</th><th>Met /
Not Met</th></tr>
<tr><td colspan="3">B2. Does the plan include a summary of the jurisdiction's vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))</td></tr>
<tr><td>B2-a. Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards?</td><td>Section 4.3, p.94-97;
Section 4.4, p.98-108;
Section 4.5, p.109-315 ("Vulnerability Assessment" subheadings);
Annexes, p.425-724
<table><tr><td colspan="2">105-113, Annex A-D</td></tr><tr><td>Dam/Levee Failure</td><td>125-127</td></tr><tr><td>Drought</td><td>134-138</td></tr><tr><td>Earthquakes</td><td>146-155</td></tr><tr><td>Excessive Heat</td><td>161-165</td></tr><tr><td>Flood</td><td>193-207</td></tr><tr><td>Hurricanes & Coastal Hazards</td><td>224-239</td></tr><tr><td>Severe Winter Weather</td><td>245-246</td></tr><tr><td>Tornadoes/ Thunderstorms</td><td>261-287</td></tr><tr><td>Wildfire</td><td>297-306</td></tr></table></td><td>Met</td></tr>
<tr><td>B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?</td><td>Section 4.5, p.109-315; Annexes, p.425-724
<table><tr><td colspan="2">40-73, 78-86, 90-93, Annex A-D</td></tr><tr><td>Dam/Levee Failure</td><td>125-127</td></tr><tr><td>Drought</td><td>134-138</td></tr><tr><td>Earthquakes</td><td>146-155</td></tr><tr><td>Excessive Heat</td><td>161-165</td></tr><tr><td>Flood</td><td>193-207</td></tr><tr><td>Hurricanes & Coastal Hazards</td><td>224-239</td></tr><tr><td>Severe Winter Weather</td><td>245-246</td></tr><tr><td>Tornadoes/ Thunderstorms</td><td>261-287</td></tr><tr><td>Wildfire</td><td>297-306</td></tr></table></td><td>Met</td></tr>
</table>

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?	Section 4.5.4, p.198-199 204-205	Met
ELEMENT B REQUIRED REVISIONS		
Required Revision: NCEM 1st Review: No revisions required.		

Element C: Mitigation Strategy

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C1. Does the plan document each participant's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))		
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?	Section 5, p.318-354 325-360	Met
C1-b. Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation?	Section 5, p.318-354 360, 366-396	Met
C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C2-a. Does the plan contain a narrative description or a table/list of their participation activities?	Section 5.3.1.3, p.326-354, Table 5.2, Table 5.3 170, 192, 332-348	Met
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))		
C3-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?	Section 6.1, p.355-356 Concur	Met

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))		
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?	Section 7, p.359-389; Appendix C Concur	Met
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment?	Section 7, p.359-389 Concur	Met
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including a cost-benefit review), implemented, and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))		
C5-a. Does the plan describe the criteria used for prioritizing actions?	Section 6.2, p. 357-358 Concur	Met
C5-b. Does the plan provide the position, office, department or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?	Section 7, p.359-389 Concur	Met
ELEMENT C REQUIRED REVISIONS		
Required Revision: NCEM 1st Review: No revisions required.		

Element D: Plan Maintenance

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))		
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?	Section 8.3, p.396-397 Concur	Met

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))		
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?	Section 8.2, p.394-396 Concur	Met
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.	Section 8.2, p.394-396 concur	Met
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?	Section 8.2, p.394-396 Concur	Met
D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))		
D3-a. Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms?	Section 8.1, p. 390-394; Section 8.2, p.394-396 Concur	Met
D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated?	Section 8.1, p. 390-394; Section 8.2, p.394-396 Concur	Met
D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?	Section 8.1, p. 390-394; Section 8.2, p.394-396 Concur	Met
ELEMENT D REQUIRED REVISIONS		
Required Revision**:** NCEM 1st Review: No revisions required.		

Element E: Plan Update

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))		
E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved?	Section 3.2-3.5, p.32-87 ("Land Development Trends" sections) Concur	Met
E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))		
E2-a. Does the plan describe how it was revised due to changes in community priorities?	Section 2.1-2.2, p.5-7; Section 6, p.355-358, Section 7, p. 359-389 Concur, 95-99	Met
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?	Section 7, p. 359-389; Section 2.9, p.20-25 Concur	Met
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?	Section 8.1, p.390-394 Concur	Met
ELEMENT E REQUIRED REVISIONS		
Required Revision: NCEM 1st Review: No revisions required.		

Element F: Plan Adoption

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F1-a. Does the participant include documentation of adoption?	Section 9, p.397-438	Not Met
F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))		
F2-a. Did each participant adopt the plan and provide documentation of that adoption?	Section 9, p.397-438	Not Met

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
ELEMENT F REQUIRED REVISIONS		
Required Revision: NCEM 1st Review: Plan adoption resolutions are pending formal approval by participating jurisdictions.		

Element G: High Hazard Potential Dams (Optional)

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD1. Did the plan describe the incorporation of existing plans, studies, reports and technical information for HHPDs?		
HHPD1-a. Does the plan describe how the local government worked with local dam owners and/or the state dam safety agency?	N/A	Choose an item.
HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?	N/A	Choose an item.
HHPD2. Did the plan address HHPDs in the risk assessment?		
HHPD2-a. Does the plan describe the risks and vulnerabilities to and from HHPDs?	N/A	Choose an item.
HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?	N/A	Choose an item.
HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?		
HHPD3-a. Does the plan address how to reduce vulnerabilities to and from HHPDs as part of its own goals or with other long-term strategies?	N/A	Choose an item.
HHPD3-b. Does the plan link proposed actions to reducing long-term vulnerabilities that are consistent with its goals?	N/A	Choose an item.
HHPD4-a. Did the plan include actions that address HHPDs and prioritize mitigation actions to reduce vulnerabilities from HHPDs?		
HHPD4-a. Does the plan describe specific actions to address HHPDs?	N/A	Choose an item.
HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?	N/A	Choose an item.

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
HHPD4-c. Does the plan identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?	N/A	Choose an item.
HHPD Required Revisions		
Required Revision: NCEM 1st Review: No revisions required.		

Plan Assessment

These comments can be used to help guide your annual/regularly scheduled updates and the next plan update.

Element A. Planning Process

Strengths/Opportunities for Improvement

- Broad range of HMPC members and included additional supporting staff that assisted in the planning process. Range of stakeholders contacted from the four different groups as required in the guidance. Public involvement was sought using a variety of methods including open public meetings, an interactive plan website, a survey (with an impressive 558 responses), and providing draft copies of the plan in government offices and online.

Element C. Mitigation Strategy

Strengths

- Provided two tables: One for each jurisdiction and when they joined NFIP, current CRS class, and map defective date. The other has the designated person, and SD/SI process for each jurisdiction. Also provided detailed capabilities tables.

Element E. Plan Update

Strengths

- Table with each jurisdiction and how they integrated the plan into other planning mechanisms within the last five years and how they intend to integrate in the future.

APPENDIX B PLANNING PROCESS DOCUMENTATION

B.1 PLANNING STEP 1: ORGANIZE TO PREPARE THE PLAN

Table B.1 – HMPC Meeting Topics, Dates, and Locations

Meeting Title	Meeting Topic	Meeting Date	Meeting Location
HMPC Mtg. #1 – Project Kickoff	1) Introduction to DMA and CRS requirements and the planning process 2) Review of HMPC responsibilities and the project schedule	June 12, 2024	Craven County Cooperative Extension Building, 300 Industrial Dr, New Bern NC 28562 & Microsoft Teams
HMPC Mtg. #2	1) Review the draft Hazard Identification & Risk Assessment 2) Discuss updates to local capabilities 3) Review problem statements and mitigation action ideas	October 29, 2024	Crystal Coast Civic Center, 3505 Arendell Street, Morehead City, NC 28557 & Microsoft Teams
HMPC Mtg. #3	1) Review draft goals and objectives 2) Review mitigation alternatives and draft mitigation strategies	December 4, 2024	Microsoft Teams
HMPC Mtg. #4	1) Review the draft Hazard Mitigation Plan 2) Solicit comments and feedback	January 28, 2025	Microsoft Teams

Note: All HMPC Meetings were open to the public.

Meeting agendas, minutes, and sign in sheets are provided on the following pages. Presentations referenced in the minutes can be provided upon request.

HMPC MEETING MINUTES AND ATTENDANCE RECORDS

HMPC MEETING 1: JUNE 12, 2024

Pamlico Sound 2025 Regional Hazard Mitigation Plan Update
Stakeholder Kickoff Meeting
6/12/24, 10 AM – 11 AM
[Draft Notes]
[Online Participants] – Abigail Moore, Annie Bunnell, Beth Bucksot, Carolyn, Charlie Rocci, Charles Tripp, Chris Crew, Chris Newkirk, Dan Allen, David Stroud, Drew Kennedy, Elisabeth Webster, Gregg Hartman, Gene Foxworth, Jason Baker, Jennifer Ansell, John Nevel, John Rouse, Jimmie Beckom, Judy Thaanum, Julie Shambaugh, Lynn Davis Belhaven, Melanie Dixon, Melissa Beacham, Mike Dail, Paul Payne, Sandi Watkins, Sarah Spiegler, Scott Harvey, Sharron Wilson, Tim White, Will Sanderson
[In-person Participants] – See sign-in sheet

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1. PLEASE NOTE: minutes recording delayed due to last-minute meeting logistics needs
2. [Nathan Slaughter, presenting] Purpose of Update – Compliance and Funding
    a. Ensure compliance with federal/state requirements (DMA, NC GS 166A); we are 15+ years into the hazard planning processes
    b. Maintain eligibility for disaster mitigation funding and assistance programs – HMGP, FMA, BRIC, CRS; many communities in this plan update are CRS communities
3. Purpose of Update – Ensure Preparedness
    a. Ensure better preparedness to better protect lives and property and mitigate disasters
4. Plan Update Process: Step 1 Organize Resources
    a. Planning for public involvement
    b. Coordinating with departments/agencies
    c. Finalizing a list of HMPC stakeholders for involvement; need to consider underserved and socially vulnerable populations for greater participation in update process
5. Plan Update Process: Step 2: Risk Assessment
    a. Hazard ID – what can happen here?
    b. Vulnerability assessment – what will be impacted?
    c. Capability assessment – how prepared are we?
6. Previously Identified Hazards (2020)
    a. PRI scores and organization by high, moderate, and low risk
    b. [QUESTION]: are you going to email this information to everybody?
        i. [NS]: Yes.
7. Plan Update Process: Step 3 Develop a Mitigation Plan
    a. Setting planning goals
    b. Reviewing mitigation alternatives
        i. Each jurisdiction has a previous list of what you are trying to get accomplished; FEMA requires that we provide some type of implementation status update on each action
        ii. This is the perfect time to develop new actions for the mitigation action plan, this will be discussed further at another future meeting (mitigation strategy meeting)
    c. Drafting an action plan
8. Plan Update Process: Step 4 Adoption and Implementation

a. There is a checklist of everything that must go into these plans from a FEMA regulatory perspective, we will be working with each of your jurisdictions to participate in the plan and adopt by resolution to remain eligibility for funding

9. Project Schedule
    a. Project kickoff date – 2/26/24
    b. Stakeholder kickoff meeting – 6/12/24
    c. Public meeting 1 – date TBD
    d. Proposed delivery of draft – 12/15/24
    e. Public meeting 2 – date TBD
    f. Existing plan expiration date – 6/15/25 (the most important date)
    g. [QUESTION]: So we want to have the plan adopted before the June 15 deadline?
        i. [NS]: Yes, ideally you can adopt the plan before the FEMA review to get in front of it.
    h. [QUESTION]: Would your agency be responsible for notifying us of passing state review?
        i. [NS]: Yes, we will let everyone know about any passing updates.
    i. ACTION ITEMS FOR ATTENDEES: (1) mitigation action plans and associated information and (2) updated critical facility lists
10. Plan Website
    a. Project team requests counties/municipalities post relevant information and updates about project
    b. Can be used as a tool for HMPC coordination and public outreach
    c. Ideas shared for website content
        i. Upcoming meeting announcements
        ii. Meeting agendas
        iii. Public survey
        iv. Draft documents
        v. Opportunities to provide feedback
11. Next Steps
    a. Record and analyze input received during Stakeholder Meeting
    b. Share public survey
    c. Select date of public meeting 1 (online or in-person)
    d. Update risk assessment (underway)
    e. Update capability assessment (underway)
    f. Mitigation strategy development meeting (date TBD)
    g. Actionable items for stakeholders:
        i. Begin reviewing mitigation action plan and updating status of each action (FEMA requirements)
        ii. Brainstorm dates for public meeting 1 (online or in-person)
        iii. Brainstorm dates/locations for Mitigation Strategy meeting
12. Complete and Share the Public Survey
    a. Will send out the QR code and link in follow-up materials
    b. [QUESTION]: An issue we have had before in Oriental is multiple surveys coming from the same people using the same IP. Any solutions here?

i. [NS]: Biggest thing we are looking for is where people are located at. We can have paper copies available at local departments or something similar.

13. Questions
    a. [NS]: With this update, FEMA is requiring that vulnerable and underserved groups have the opportunity participate in it. Looking to county social services, county health department, planning departments, emergency management, churches, food pantries, etc. looking at who is connected to community voices and interests.
        i. [QUESTION]: Would it be worth reaching out to CDRA zones?
            1. [NS]: Yes.
        ii. [COMMENT]: Think you will find that reaching out through the churches will get the outreach you are looking for.
        iii. [QUESTION]: Would you want the demographic of the church identified?
            1. [NS]: Yes, that would help us address the requirements.
    b. [QUESTION]: Last time we had a designated website with all this information? Will we use that again or something else?
        i. [NS]: We are working with the contractor that set it up to see if we can use it. Plan B is to send through county/local websites if we need it. There is no specific FEMA requirement for this though.
14. Meeting adjourned and sign-in sheets collected
    a. We will be sending follow-up materials including slides and survey, begin thinking about mitigation action plans and updated critical facility lists
    b. Project team will be responding to any questions as needed

Pamlico Sound Regional Hazard Mitigation Plan
Stakeholder Kickoff Meeting

June 12, 2024
10:00AM - Noon

Name	Jurisdiction	Title	Phone Number	E-mail Address
John Kirkland	River Bend	Mayor	252 259 8093	Jkirkland@riverbendnc.com
Robert Edwards	~~Engineer~~ River Bend	~~CMED~~ River Bend ~~Public Rep~~	248 321 5721	~~edwards@gmail.com~~ edw1958@gmail.com
Delane Jackson	River Bend	Town Manager	252-638-3870	Manager@riverbendnc.org
David M. Rief	Cedar Point	town Manager	252-393-7898	drief@cedarpointnc.org
Alisha Dahart	Cedar Point	Code Enforcement Officer	252-393-7898	adahart@cedarpointnc.or
Jimmie Beckom	Pine Knoll Shores	Strategic Planning Representative	919-906-2174	jimmiebeckom@hotmail.co
Chad Strawn	Craven County	Planning Director	252-636-6618	cstrawn@cravencountync.go
Katrina Marshall	City of Havelock	Planning Director	252-444-6411	Kmarshall@havelocknc.us

Pamlico Sound Regional Hazard Mitigation Plan
Stakeholder Kickoff Meeting

June 12, 2024
10:00AM - Noon

Name	Jurisdiction	Title	Phone Number	E-mail Address
Bill Kepp	Oriental		712-395-0489	billkepp@outlook.com
Bill Marlowe	Oriental		252-725-4676	WM12@EMBARQ MAIL
Diane H. Miller	Oriental	Town Manager	252-671-2821 (c) 252-249-0555 (w)	manager@townoforiental.com
Ann Marie Rost	Oriental	Board of Adjustment Oriental	252 249 0117 340 513 3011	annrost@weisslaw-vi.net

Pamlico Sound Regional Hazard Mitigation Plan
Stakeholder Kickoff Meeting

June 12, 2024
10:00AM - Noon

Name	Jurisdiction	Title	Phone Number	E-mail Address
Jason Frederick	Craven County	Assist. Planning Director	252-636-6618	jfrederick@cravencountync.gov
William Flynn	Craven County	Planner	↑	williams.flynn@cravencountync.gov
Don LaValle	Craven County	Planner II	" "	dlavalle@cravencountync.gov

Pamlico Sound Regional Hazard Mitigation Plan
Stakeholder Kickoff Meeting

June 12, 2024
10:00AM - Noon

Name	Jurisdiction	Title	Phone Number	E-mail Address
Bill Stompf	M.H.C.	Board of Adjust.	252-724-1965	BSTOMPF@GMAIL.COM
Chris Seaberg	Emerald Isle	Planning Director	252-354-3338	cseaberg@emeraldisle.nc.gov
ERNEST E. CUTLER	HAVELOCK	HAVELOCK PLANNING BOARD CHAIRMAN	252-675-9100	ecutler12@gmail.com
Tim Buck	Pamlico County	County Manage	252-745-3133	tim.buck@pamlicocounty.org

1. Summary			
Meeting title	Pamlico Sound Regional Hazard Mitigation Plan Update Kickoff		
Attended participants	29		
Start time	6/12/24, 9:31:50 AM		
End time	6/12/24, 1:03:09 PM		
Meeting duration	3h 31m 19s		
Average attendance time	55m 11s		
2. Participants			
Name	First Join	Last Leave	In-Meeting Duration
Nathan Slaughter	6/12/24, 9:53:06 AM	6/12/24, 10:59:23 AM	1h 6m 17s
Julie Shambaugh (External)	6/12/24, 9:53:13 AM	6/12/24, 10:58:48 AM	1h 5m 34s
DC Linton (Unverified)	6/12/24, 9:53:24 AM	6/12/24, 10:03:14 AM	9m 49s
Melissa Beacham	6/12/24, 9:53:24 AM	6/12/24, 10:58:16 AM	1h 4m 51s
Dan Allen, Oriental (Unverified)	6/12/24, 9:53:25 AM	6/12/24, 10:58:31 AM	1h 5m 6s
Charlie Rocci (External)	6/12/24, 9:53:49 AM	6/12/24, 10:58:17 AM	1h 4m 27s
John Nevel (External)	6/12/24, 9:54:24 AM	6/12/24, 10:58:07 AM	1h 3m 42s
Lynn Davis, Belhaven (Unverified)	6/12/24, 9:54:26 AM	6/12/24, 10:58:15 AM	1h 3m 49s
Tim White (External)	6/12/24, 9:54:50 AM	6/12/24, 10:57:05 AM	1h 2m 14s
Chris Newkirk	6/12/24, 9:55:36 AM	6/12/24, 10:57:33 AM	1h 1m 57s
Melanie Dixon (External)	6/12/24, 9:55:46 AM	6/12/24, 1:03:09 PM	3h 7m 22s
Scott Harvey (Unverified)	6/12/24, 9:56:28 AM	6/12/24, 10:58:08 AM	1h 1m 39s
Moore, Abigail	6/12/24, 9:56:30 AM	6/12/24, 10:58:09 AM	1h 1m 39s
Elisabeth Webster (External)	6/12/24, 9:57:33 AM	6/12/24, 10:58:07 AM	1h 33s
Stroud, David	6/12/24, 9:57:35 AM	6/12/24, 10:58:10 AM	1h 34s
Gregg Hartman & Gene Foxworth (Unverified)	6/12/24, 9:57:36 AM	6/12/24, 10:58:45 AM	1h 1m 9s
Annie Bunnell	6/12/24, 9:59:26 AM	6/12/24, 10:58:13 AM	58m 46s
Jennifer Ansell (External)	6/12/24, 9:59:46 AM	6/12/24, 10:58:11 AM	58m 24s
Mike Dail (Unverified)	6/12/24, 10:00:21 AM	6/12/24, 11:01:19 AM	1h 57s
Tripp, Charles (NCEM) (External)	6/12/24, 10:00:37 AM	6/12/24, 10:57:08 AM	56m 30s
Sarah Spiegler	6/12/24, 10:01:09 AM	6/12/24, 10:59:40 AM	58m 30s
Sharron Wilson (Unverified)	6/12/24, 10:01:49 AM	6/12/24, 10:58:26 AM	56m 36s
Beth Bucksot (External)	6/12/24, 10:02:06 AM	6/12/24, 10:58:09 AM	56m 2s
+19192186557 (Unverified)	6/12/24, 10:07:37 AM	6/12/24, 10:12:56 AM	3m 46s
Crew, John (NCEM) (Guest)	6/12/24, 10:12:53 AM	6/12/24, 10:22:56 AM	10m 3s
+12526229665 (Unverified)	6/12/24, 10:13:35 AM	6/12/24, 10:20:27 AM	6m 52s
Jason Baker (External)	6/12/24, 10:20:05 AM	6/12/24, 10:58:13 AM	38m 7s
Carolyn (Unverified)	6/12/24, 10:29:41 AM	6/12/24, 10:55:17 AM	25m 35s
John Flores	6/12/24, 10:32:12 AM	6/12/24, 11:01:29 AM	29m 16s

HMPC MEETING 2: OCTOBER 29, 2024

Pamlico Sound HIRA Meeting

October 29th, 2024
10am-12pm

Resourced Shared

1. Email Attachments
    a. Menti Results
    b. HIRA Presentation
    c. Mitigation Strategies Handout (PDF)
    d. Meeting Attendees
2. Online Resources
    a. Express Maps - Pamlico Sound Hazard Mitigation Plan: Key Areas
    b. Plan Website - Pamlico Sound Regional HMP

Welcome & Introductions

Welcome

Nathan Slaughter from ESP Associates facilitated the meeting and began by introducing WSP (lead consultant) and ESP Associates (sub-consultant). He thanked all participants for their attendance and noted that the meeting was expected to utilize the full two-hour schedule. Nathan highlighted that the team was incorporating new elements into the presentation to encourage participants to start thinking about the upcoming Mitigation Strategy Meeting.

Participants

There were over 30 people in attendance of the HIRA meeting. See attached spreadsheet.

Meeting Objectives

HIRA Purpose in Mitigation

The relationship between hazard identification and risk assessment (HIRA) and the overall mitigation strategy was explained. Understanding hazards is crucial for developing effective mitigation measures that can reduce risk and enhance community resilience.

Build Consensus

The meeting was intended to encourage open dialogue among participants and build consensus on the identified hazards was encouraged. It was noted that collective agreement is important for the success of the mitigation plan.

Confirm PRI

The group discussed the Priority Risk Index (PRI), confirming its relevance and applicability in ranking the hazards faced by the region. Participants were also offered an opportunity to adjust the PRI criteria based on personal knowledge and expertise. The aim was to ensure everyone is aligned on the criteria and ranking.

Link Mitigation

The conversation shifted to linking identified hazards with potential mitigation strategies. Participants were encouraged and prompted to brainstorm mitigation strategies in preparation for the upcoming mitigation strategy meeting.

HIRA Overview

Compliance and Eligibility

To provide context at the front end of the meeting, the role of HIRA in mitigation was reviewed in great depth. HIRA, which stands for Hazard Identification and Risk Assessment, serves as the foundation for developing effective mitigation plans. It is essential not only for state and federal compliance, but also guides the entire planning process. By understanding the risks associated with various hazards and having an HMP in place, communities can better position themselves for important funding sources, such as the Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), and the Flood Mitigation Assistance (FMA) program.

Best Practices and Standards

The meeting highlighted the increasing frequency and intensity of hazards, as shown by recent storms in areas like Brunswick County and Western NC. This reality prompts questions about how communities should adapt their planning strategies. Participants discussed the need for an all-hazards approach that recognizes both natural and human-caused threats, aligning with the State HMP as well as the general shift toward comprehensive emergency response planning.

The meeting underscored the importance of a robust and inclusive approach to hazard mitigation planning. By engaging a diverse group of stakeholders, particularly those from historically underserved populations, and incorporating insights from various communities, the HMP can more effectively address local risks and enhance overall resilience. As the group moves forward, the focus will remain on evaluating capabilities and developing practical mitigation measures.

HIRA Process

Essential steps in the HIRA process were summarized. The HIRA process begins with the identification of hazards that may impact the communities, using data and information from various sources, including existing regional plans and the North Carolina Hazard Mitigation Plan. Hazard impacts and the susceptibility of local assets and infrastructure are then assessed to estimate the associated risks to property, people, and infrastructure. The Priority Risk Index (PRI) is developed to help prioritize risks, using a scoring matrix, to inform mitigation efforts.

In addition to assessing hazards and their impacts, community capability is considered. This involves identifying existing gaps, conflicts, and opportunities within current systems, while also highlighting past achievements in mitigation. Documentation is an essential component of the plan update as FEMA emphasizes the need to maintain a clear record of the findings, methodologies, and processes involved.

Previous Assessment

The Pamlico Sound Region has been participating in the regional hazard mitigation update for at least 15 years. The group reviewed findings from the 2020 HMP assessment, with a focus on previously identified hazards, community capabilities, and PRI scores. The previous assessment only included natural hazards where many of the identified hazards fell into the "high risk" category according to the PRI scoring matrix.

The previous capability assessment results were also discussed, which is currently undergoing updates. From the 2020 plan, 20 communities scored low capacity, 17 with moderate capacity, and 2 with high capacity. It was noted that the 2025 plan is subject to change, as several communities are anticipated to increase from low to moderate capacity. Ideally, the best-case scenario would be to achieve high capacity with low risk. However, the current situation reflects a reality of higher risk coupled with moderate capacity.

Updated Assessment

High-Risk Hazards Identified and Profiled

The initial assessment findings for the 2025 plan update were shared with a focus on the high-risk hazards and the risk assessment methodology. The process began with a review of past disaster declarations to understand the historical context of hazards affecting our region. Each significant hazard was profiled in line with FEMA requirements and

summarized during the meeting. The presentation focused on profiles of high-risk hazards which included:

1. Excessive heat (emerging as the greatest risk considering heat-related death and illness)
2. Hurricane and coastal hazards
3. Flooding (extensive floodplain areas contribute to vulnerability)
4. Tornadoes and thunderstorms
5. Wildfires (warmer temperatures and prolonged drought conditions have been shown to exacerbate wildfire risks, especially in our wildland-urban interface)
6. Winter weather (particularly related to transportation challenges)

These updated findings will be used to guide upcoming mitigation planning efforts and help prioritize strategies to reduce risk and enhance community resilience against the identified hazards faced by the Pamlico Sound Region.

Interactive Session – Problem Statements

General Concerns

Interactive sessions were incorporated as a new element within the HIRA meeting to actively engage participants, foster discussion, and capture input. Initial public survey results (461 responses) were reviewed and analyzed to identify problems statements including general concerns and key hazard areas. General concerns were developed based on arising themes found in survey responses intended to broadly depict the issues of the Region. General concerns included:

1. Inadequate drainage systems
2. Development in flood-prone areas
3. Natural habitat degradation
4. Limited community awareness and readiness
5. Aging and undersized infrastructure
6. Insufficient communication and resources (during and post event)

A Menti Poll was created and integrated into the meeting for live polling feature that displayed participant responses as they were submitted. Participants were asked to rank the significance of each general concern where significance was based on the need to address the concern in order to mitigate risk and enhance resilience in the Region.

Participants were also encouraged to identify hazard areas, propose strategies, and share previous and/or ongoing efforts within their community to address the general concern. The following information summarizes any additional information shared/collected during

the activity. Menti Poll results are included as an attachment in the follow-up email as requested by participants.

1. Inadequate drainage
    a. The planning team will do GIS follow-up to locate and identify any areas mentioned at this time.
    b. Goose Greek Island was identified in the virtual meeting chat.
    c. Town of Vandemere was identified in the virtual meeting chat.
    d. Front Street in Downtown Beaufort was identified in the virtual meeting chat.
2. Development in flood-prone areas
    a. The Non-Intensification Zone in Beaufort was discussed with the group. This effort gained traction and support through the land use and resilience plan. It is not regulatory yet, but Beaufort is currently updating its UDO. The aim is to incorporate zones within the updated ordinances. The Town received funding through the RCPP and is working with White and Smith to update ordinances, which is anticipated to be a year-long process.
    b. Impervious surface restrictions were suggested in-person at the meeting.
3. Natural habitat degradation
    a. The public survey responses largely align with key stakeholders in the Region.
    b. The Town of Oriental shared a recent effort.
4. Limited community awareness and readiness
    a. A community recently coordinated with real-estate firms to discuss and educate on implications of Coastal A zones and changes involved. Overall, the firms found it helpful, and others inquired about the information.
    b. A participant suggested sharing information at a scheduled event (e.g. a festival or parade) that is likely to have community turnout versus scheduling a separate event.
    c. The facilitator also noted that interactive pieces and visualization components are effective tools to engage the community.
    d. Places suggested to host and share mitigation-related materials include municipal websites, municipal buildings (e.g. town hall or libraries), and monthly newsletters.
5. Aging and undersized infrastructure
    a. Storm drains through the Town of Belhaven were called out. Located in an AE flood zone, the Town is a RCPP community and has received funding to develop a town-wide comprehensive stormwater management plan.
    b. Undersized drainage outfalls in Morehead City were identified.

6. Insufficient communication and resources (during and post event)
    a. A heat action plan was mentioned during the meeting to help communities gain access to resources (e.g. heat action plans and ordinances). The NCORR Resilience Exchange was shared as a useful resource.

Key Hazard Areas (Express Maps)

In addition to general concerns, the planning team also collected specific geographical locations and/or assets from survey responses to map key hazard areas. This information was then entered into ARC GIS Express Maps to pinpoint and visualize locations. The team will continue to update this map based on input received throughout the process including the HIRA meeting. It is intended to serve as a living catalogue of problem areas along with mitigation actions to address vulnerabilities. The Express Map will be linked to the project website to serve as a valuable public facing resource.

Initial PRI Findings

The initial priority risk index (PRI) scores were reviewed, noting that the latest assessment closely resembles the previous update from 2020. There was a consensus among attendees to consider adding man-made hazards, such as cyber threats and infectious diseases, to the classification.

Discussion arose regarding whether mitigation actions are necessary for these new hazards. It was clarified by Carl Baker that mitigation for man-made hazards was not a review element, but this will be confirmed. It was pointed out that infectious diseases could be classified as either natural or human-caused.

The group re-examined the probability for coastal hazards and flooding, both of which were updated to "Highly Likely." It was noted that any adjustments to these categories would affect the overall PRI scores. Participants were invited to share any questions or comments regarding the rankings.

Linking to Mitigation Strategies

The connection between the HIRA and mitigation strategies was outlined. A handout was distributed that included preliminary mitigation strategies derived from public survey responses, setting the stage for a focused discussion on potential solutions. With a clearer understanding of risks, the conversation shifted towards developing informed, effective, and practical mitigation measures.

The mitigation action plan, which spans over 15 years, includes existing actions from each jurisdiction. The implementation status of each action must be reviewed to ensure

compliance with FEMA requirements. Additionally, there is an opportunity to incorporate new projects as part of the mitigation action plan for RCPP communities. To keep stakeholders informed, both the handout and the existing mitigation action plan will be shared in the meeting follow-up communication.

Interactive Sessions – Initial Mitigation Strategies

The second interactive session was intended to get participants to start thinking about problem solutions. In addition to problem statement identification from survey results, the planning team also collected and reviewed proposed mitigation strategies from the public survey. Meeting participants were then asked to rank mitigation measures to address the previously identified general concerns (covered in the first activity summarized above). The Menti Poll results are included as an attachment to meeting follow-up. During this discussion, it was noted that people move to the Region without understanding the risk.

Next Steps

The next steps in the planning process were shared. Participants were encouraged to review the mitigation strategies handout as well as the existing Mitigation Action Plan considering new mitigation actions and potential projects. Emphasis was placed on leveraging funding opportunities from RCPP and BRIC to enhance mitigation efforts.

A Mitigation Strategy Meeting needs to be scheduled soon, ideally before Christmas. The Town of Oriental volunteered to host the next meeting.

HMPC Meeting 2 Attendance

Virtual Attendees	
Name	Organization
Abigail Moore	WSP (Lead Contractor)
Alisha Dahart	Town of Cedarpoint
Annie Bunnell	Morehead City
Autumn Hardison	Pamlico County
Bill Kepp	Town of Oriental
Bob Edwards	Town of Riverbend
Carl Baker	NCEM
Chad Strawn	Craven County
Charlie Rocci	Pine Knoll Shores
Chris Seaberg	Emerald Isle
David Rief	Town of Cedarpoint
David Stroud	WSP (Lead Contractor)
Delane Jackson	Town of Riverbend
Donnie LaVelle	Craven County
Egon Lippert	Town of Riverbend
Foster Hughes	City of New Bern
Frankie Winberry	Town of Cedarpoint
Hannah DeLude	ESP Associates (Sub-Contractor)
Jason Baker	Pine Knoll Shores
John Flores	ESP Associates (Sub-Contractor)
Jonathon Russel	Town of Washington
Julie Shambaugh	Cape Carteret
Lynn Davis	Town of Belhaven
Sandi Watkins	Morehead City
Sarah Spiegler	Beaufort/NC Sea Grant
Tim White	Town of Indian Beach
William Flynn	Craven County
In-Person Attendees	
Name	Organization
Aaron Stryker	Carteret County
Ann Marie Rost	Town of Oriental
Bill Stomf	MHC
Cole Borrow	Carteret County
Diana Tootle	City of Morehead
Diane Miller	Town of Oriental
Gregg Hartman	Carteret County
Michelle Eitner	Beaufort
Sue Steinhauser	City of Havelock

HMPC MEETING 3: DECEMBER 4, 2024

PAMLICO SOUND MITIGATION STRATEGY MEETING

December 4th, 2024
Teams Meeting
10:00am – 12:00pm

Participants

Name	Role	Organization
Erin Striker	EM Coordinator	Carteret County
Bill Kepp		Town of Oriental
Chad Strawn	Planning Director	Craven County
Charlie Rocci	Town Planner	Pine Knoll Shores
Chris Seaberg	Planning Director	Emerald Isle
Brad Connel	Program Consultant	NCDEQ Blueprint
Nathan Slaughter	Project Team (Subconsultant)	ESP Associates
Diana Tootle	Planning Board	Morehead City
Chris Dreps	Program Consultant	NCDEQ Blueprint
Kenny Handson	Project Team (Lead Consultant)	WSP
Jason Baker	Fire Chief	Pine Knoll Shores
Jason Frederick	Assistant Planning Director	Craven County
Jeremy Ganey	Zoning Manager	Town of Beaufort
Katrina Marshall	Planning Director	City of Havelock
John Mello	Hazard Mitigation Planner	NCEM
Michelle Eitner	Planner/Code Enforcement Officer	Town of Beaufort
Mike Haber	Maintenance and Zoning Supervisor	Town of Trent Woods
Abigail Moore	Project Team (Lead Consultant)	WSP
Sandy Watkins	Planning and Inspections Director	Morehead City
Annie Bunnell	Planner	Morehead City
David Stroud	Project Team (Lead Consultant)	WSP
Sue Steinhouser	Planner	City of Havelock
Hannah Thompson Welch	Wildfire Mitigation Specialist	NC Forest Service
Tim White	Town Manager	Town of Indian Beach
Delane Jackson	Town Manager	Town of Riverbend
Egon Lippert	Planning Board Chairman	Town of Riverbend
Bob Edwards		Town of Riverbend
Helene Wetherington	Resilient Communities Specialist	NCORR
Holly White	Resilience Planner	NCORR
Jake Brown	Planning Department	Pamlico County
Diane Miller	Town Manager	Town of Oriental
Chris Crew	State Hazard Mitigation Officer	NCEM
Hannah DeLude	Project Team (Subconsultant)	ESP Associates

PAMLICO SOUND MITIGATION STRATEGY MEETING

Introduction

The Mitigation Strategy Meeting for the Pamlico Sound Regional Hazard Mitigation Plan Update 2025 was held virtually to facilitate efficient collaboration aiming for draft completion in approximately one month. The project team was introduced and includes WSP, the lead consultant, as well as ESP Associates, the sub-consultant. The project team welcomed all participants including several new stakeholders. The discussion centered on the importance of mitigation actions to reduce future hazards based on priority risks, identified problems, and evolving needs.

Mitigation Overview

During the meeting, the participants discussed the concept of mitigation, which refers to *proactive measures taken to reduce the impact of hazards before they occur*, with the goal of minimizing future risks and damages. Several key components of effective mitigation were outlined, including solution identification, maintaining eligibility for funding, and the continuous revision of mitigation actions based on stakeholder feedback. The project team explained the importance of updating the Mitigation Action Plan, which prioritizes and implements specific actions to reduce hazard risks.

It was noted that all mitigation actions are categorized into two major groups (existing development and future development) and fall under one of the six techniques summarized (prevention, preparedness, natural resource protection, emergency services, property protection, and education and awareness). The evolution of the Hazard Mitigation Plan (HMP) was reviewed, which previously operated at the county level and now operates at the regional level. The plan is required to be updated every five years, although some communities revise it more frequently in response to emerging risks.

The project team sought feedback on existing mitigation goals. The conversation highlighted the necessity of revising these goals based on community input and ensuring that future planning reduces vulnerability in local communities. Existing mitigation goals were found to be aligned with current priorities with very minor revisions needed. The strong momentum mitigation and resilience was acknowledged highlighting the significant funding opportunities available. It was noted that for every dollar spent on mitigation, there is a savings of six dollars in future recovery efforts.

Interactive Session #1

During the Pamlico Sound Mitigation Strategy Meeting for the Regional Hazard Mitigation Plan Update, participants engaged in an interactive session discussing various goals, previous successes, challenges and opportunities related to hazard mitigation in the region.

Challenges mentioned include:

- Diane Miller emphasized the need for increased funding for actual construction projects rather than just planning, highlighting the ongoing struggle with complacency among new residents unfamiliar with coastal hazards.
- A sense of planning fatigue was noted and the necessity to connect funding to actionable projects.
- Challenges such as contractor availability and bidding processes were discussed, particularly in Pine Knoll Shores, where contractor solicitation for grant-funded projects has been difficult.
- Participants raised concerns about the adequacy of current flood maps, advocating for updated data to reflect recent disasters.
- There is a level of complacency among residents considering coastal hazards. The recent effects of Hurricane Helene emphasize the need for continued planning and preparedness efforts.

Opportunities discussed include:

- John Mello introduced the Building Resilient Infrastructure and Communities (BRIC) grant funding, which supports multi-jurisdictional projects.
- The session underscored the importance of collaboration between state and local governments and the potential of the NC Resilience Exchange to connect communities with vital resources.
- In response to concerns raised about FEMA flood maps, Chris Crew explained that there may be opportunities to calculate benefit cost in areas that have a history of multiple flood events although not located in the SFHA. Additionally, fundings for stormwater management projects has become more accessible through BRIC and these funds may be applicable to areas outside of the SFHA.
- There is collaboration between the State and local government when updating the flop maps. Local governments are given the opportunity to identify specific areas of concern or to request additional studies.

Refer to the Menti Poll results PDF shared as part of the follow-up materials to view results.

Key HIRA Findings

Key findings from the Hazard Identification and Risk Assessment (HIRA) were reviewed, sharing revisions or notable adjustments based on input received during the previous meeting. This included successful efforts shared by communities, additional general concerns and hazard areas added to the Story Maps, changes in the Priority Risk Index (PRI) scoring criteria, as well as new hazards considered in the plan (human-caused).

Additional success stories shared at this time include:

PAMLICO SOUND MITIGATION STRATEGY MEETING

- Craven County shared successful mitigation actions, including home elevations completed under the Hazard Mitigation Grant Program (HMGP) following Tropical Storm Michael and Hurricane Dorian as well as generator installation at critical facilities. The County went from a Class 8 to Class 7 CRS classification rating.
- Carteret County hosts an annual hurricane expo to heighten awareness and educate residents on storm surge, king tides, and coastal flooding. This is particularly important for new residents are not familiar with coastal hazards.
- The Town of Riverbend moved the public works facility a half mile done the road to safeguard the facility and equipment, where is now has a 27 ft. elevation.
- The City of Havelock adopted a 2' freeboard since the last plan update and is now a Class 7 CRS community.
- Morehead City is now a Class 5 CRS community, implementing several stormwater projects (on Shepherd, Bay, and Avery) as well as a large restoration project for Sugarloaf Island.

Interactive Session #2

In a second interactive session, participants brainstormed potential new mitigation actions, focusing on problem statements discussed/confirmed during the previous HIRA meeting. These actions primarily focused on infrastructure improvements and community awareness initiatives. There was a consensus on the importance of including specific projects in the mitigation plan and the necessity for collaboration among municipalities to effectively update action plans. Refer to the Menti Poll results PDF shared as part of the follow-up materials to view results.

Mitigation Action Plan Development

The meeting emphasized the importance of reviewing existing mitigation actions and assessing their implementation status, which included determining whether actions were completed, deleted, or carried forward for further development. A collaborative effort is needed to refine and integrate new mitigation actions, with many county initiatives encompassing broader municipal concerns. Discussions highlighted the need to differentiate between mitigation and capability projects, acknowledging that some initiatives may not directly lead to mitigation outcomes. Enforcement of these actions was also a focal point.

Holly White contributed insights on leveraging the NC Resilience Exchange's Identify Actions tab and stressed the importance of incorporating findings from land use and capital improvement plans, particularly in anticipating future conditions such as increased rainfall impacts on stormwater drainage systems. John Mello reiterated the common challenges faced in the grant approval process, encouraging patience and resubmission efforts, as many stakeholders navigate similar hurdles.

PAMLICO SOUND MITIGATION STRATEGY MEETING

Next Steps

Critical next steps were outlined to advance the planning process. A key suggestion was to establish a specific date for addressing remaining items, including the identification of necessary mitigation actions and the adoption of the plan. Additionally, a new requirement was introduced, which involves pulling Standard Data Elements (SDE) procedures for each participating community. This task is primarily the responsibility of floodplain managers, who will ensure that the required data is compiled efficiently to support the overall mitigation strategy.

The meeting concluded with a call for collaborative updates among counties and municipalities, emphasizing the necessity of brainstorming across departments to foster a unified approach to hazard mitigation.

HMPC MEETING 4: JANUARY 28, 2025

Pamlico Sound Regional Hazard Mitigation Plan Update
4th HMPC Meeting
1/28/25, 1 PM – 2 PM
Virtual, Microsoft Teams

[**Online Attendees; 36**]: Nathan Slaughter, Chris Crew, Tim White, Linda Marshall, Delane Jackson, Egon Lippert, Bob Edwards, DC Linton, Stephen Rea, April Alligood, Charlie Rocci, Shawne Southard, Ray Lewis, Chris Dreps. Michelle Eitner, Aaron Stryker, Kimberly Hansen, Abby Moore, Austin Brinkley, David Reif, Alisha Dahart, Lynn Davis, Jayne Calhoun, Jake Brown, Hannah Thompson-Welch, Beth Bucksot, John Mello, Brad Connell, Cole Barrow, Greg Gartman, Elisabeth Webster, Annie, Bunnell, Jason Frederick, Chris Seaberg

I. Welcome and Introductions
    a. Trying to wrap up the draft plan update
        i. Draft will be available very soon
        ii. It will be available on Pamlico Sound HMP website and sent directly to HMPC members
        iii. Plan will be available as a PDF
        iv. rying to track down some missing pieces
    b. Attendee introductions
II. Meeting Objectives (3 key objectives)
    a. Educate and inform
    b. Review Draft Plan Items
    c. Discuss Finding
III. Planning Process Steps
    a. 10 step process (See ppt. for comprehensive list)
        i. Step 7 – Review possible activities (current)
        ii. Step 8 – Draft an Action Plan (current)
IV. Structure and Components Review
    a. Plan structure – TOC will look like this
    b. Plan components
        i. Hazard profiles
            1. Included some additional hazards in this version
            2. Made changes to the risk assessment summary
                a. Review/make sure it reflects what's been discussed
            3. PRI results reviewed and revised based on mitigation meeting
        ii. Capability assessment

1. Revised slightly – stakeholders to review

iii. Goals and objectives in mitigation strategy
1. No revision requests currently

iv. Mitigation action plan
1. Large component of plan update
2. Still missing from several participating communities
3. Implementation status update narrative
4. Handful of actions that stakeholders proposed for inclusion – make sure this information is accurately captured
a. Want to make sure these items are included

c. Sections overview including annexes/appendices

V. Plan Implementation and Maintenance
a. Role this group plays in implementation/maintenance
i. Potentially meet annually
ii. CRS communities – regular reviews are important to maximize credit
b. Pursue implementation of actions
c. Procedures to continue public involvement
d. Integrate with other planning efforts
i. How the previous plan has been integrated within jurisdiction
1. Section within maintenance section
ii. Comprehensive plan, CIP, EOP, other ordinances/policies
1. Making mitigation more of a day-to-day activity
iii. How to improve integration with future efforts
1. Reflect any efforts you're hoping to do
e. Update in 2030

VI. Next Steps
a. Track/report plan integration efforts
b. Finalize mitigation actions
c. Final Public Meeting tonight
d. Review draft plan
e. Adoptions can begin as soon as we get green light from NCEM (simultaneous review)
i. Revise based on all feedback
ii. Send along to FEMA
1. Approval pending adoption
2. Now provide approval letter and list those who have already adopted plan
iii. All jurisdictions must adopt

VII. Questions/Comments

a. AM: Still need updated mitigation actions from two counties. Municipalities please feel free to add local actions if you'd like.
b. DJ: River Bend identified specific actions for our municipality because we want to pursue federal grant funding and actions need to be included in the plan to be eligible for that funding.
c. AM: We will include an action for every community to update or create a community wildfire protection plan.
d. NS: Also still need to collect substantial damage estimate procedures from each jurisdiction if available.
    i. HW: Can small communities fall under the County's SDE procedures? And can you share an example of these procedures?
        1. NS: Yes, where we know that information, we've included it and yes, we did share an example previously.
e. BB: Pamlico County has been integrating the HMP with our Community Economic Development Strategy. Looking at how we build and where.
f. BC and CD: We are pulling mitigation actions for consideration with the NC Flood Resiliency Blueprint.
g. JF: Craven County using the HMP to inform infrastructure decisions, generator decisions, EOC mitigation, living shoreline project etc.
h. CC: UNC School of City and Regional planning mentioned there is a national interest in the capability assessments in these plans.

HMPC Meeting 4 Attendance

1. Summary			
Meeting title	4th Pamlico Sound Regional Hazard Mitigation Planning Team Meeting		
Attended participants	36		
Start time	1/28/25, 12:33:34 PM		
End time	1/28/25, 1:56:54 PM		
Meeting duration	1h 23m 20s		
Average attendance time	50m 27s		
2. Participants			
Name	First Join	Last Leave	In-Meeting Duration
Nathan Slaughter	1/28/25, 12:48:43 PM	1/28/25, 1:51:19 PM	1h 2m 36s
Crew, John (NCEM) (External)	1/28/25, 12:48:37 PM	1/28/25, 1:51:11 PM	1h 2m 33s
Tim White (External)	1/28/25, 12:48:46 PM	1/28/25, 1:49:50 PM	1h 1m 3s
Linda Marshall	1/28/25, 12:49:07 PM	1/28/25, 1:51:30 PM	1h 2m 22s
Town of River Bend (Unverified)	1/28/25, 12:49:08 PM	1/28/25, 12:53:30 PM	4m 22s
David Linton	1/28/25, 12:49:16 PM	1/28/25, 1:51:30 PM	1h 2m 13s
Stephen Rea (External)	1/28/25, 12:49:46 PM	1/28/25, 1:47:24 PM	48m 32s
April Alligood (Unverified)	1/28/25, 12:51:41 PM	1/28/25, 1:51:11 PM	59m 30s
Charlie Rocci (External)	1/28/25, 12:52:56 PM	1/28/25, 1:51:11 PM	58m 15s
Shawne Southard (Unverified)	1/28/25, 12:52:57 PM	1/28/25, 1:49:45 PM	56m 47s
Delane Jackson (Unverified)	1/28/25, 12:53:49 PM	1/28/25, 1:51:06 PM	57m 16s
Town of Grantsboro (Ray Lewis) (Unverified)	1/28/25, 12:54:44 PM	1/28/25, 1:51:25 PM	56m 40s
Dreps, Christopher L (External)	1/28/25, 12:54:48 PM	1/28/25, 1:51:46 PM	56m 57s
Michelle Eitner (External)	1/28/25, 12:55:04 PM	1/28/25, 1:51:17 PM	56m 12s
Aaron Stryker (External)	1/28/25, 12:56:45 PM	1/28/25, 1:51:21 PM	54m 36s
Hansen, Kimberly	1/28/25, 12:57:09 PM	1/28/25, 1:51:09 PM	54m
Moore, Abigail	1/28/25, 12:57:34 PM	1/28/25, 1:51:25 PM	53m 51s
Austin Brinkley (External)	1/28/25, 12:57:39 PM	1/28/25, 1:51:08 PM	53m 29s
David Rief (External)	1/28/25, 12:57:48 PM	1/28/25, 1:51:12 PM	53m 24s
Alisha Dahart (External)	1/28/25, 12:58:18 PM	1/28/25, 1:51:39 PM	53m 20s
Lynn Davis	1/28/25, 12:59:25 PM	1/28/25, 1:51:16 PM	51m 51s
Jayne Calhoun (External)	1/28/25, 1:00:30 PM	1/28/25, 1:51:18 PM	50m 48s
Fireflies.ai Notetaker William (Unverified)	1/28/25, 1:00:48 PM	1/28/25, 1:56:54 PM	56m 6s
read.ai meeting notes (Unverified)	1/28/25, 1:00:48 PM	1/28/25, 1:55:12 PM	54m 23s
Jake Brown (Unverified)	1/28/25, 1:00:51 PM	1/28/25, 1:51:07 PM	50m 16s
Thompson, Hannah (External)	1/28/25, 1:01:17 PM	1/28/25, 1:51:13 PM	49m 56s
Beth Bucksot (Unverified)	1/28/25, 1:01:22 PM	1/28/25, 1:22:13 PM	20m 51s
Mello, John (NCEM) (External)	1/28/25, 1:01:28 PM	1/28/25, 1:51:15 PM	49m 46s
White, Holly B (External)	1/28/25, 1:01:33 PM	1/28/25, 1:51:13 PM	49m 39s
Connell, Brad (External)	1/28/25, 1:02:16 PM	1/28/25, 1:51:11 PM	48m 54s
Cole Barrow (Unverified)	1/28/25, 1:02:57 PM	1/28/25, 1:51:09 PM	48m 12s
Elisabeth Webster (External)	1/28/25, 1:03:02 PM	1/28/25, 1:54:41 PM	51m 39s
Annie Bunnell	1/28/25, 1:03:14 PM	1/28/25, 1:51:11 PM	47m 56s
Jason Frederick (External)	1/28/25, 1:04:21 PM	1/28/25, 1:51:11 PM	46m 50s
Beth Bucksot (External)	1/28/25, 1:20:00 PM	1/28/25, 1:51:16 PM	31m 16s
Chris Seaberg (Unverified)	1/28/25, 1:31:20 PM	1/28/25, 1:51:11 PM	19m 50s

JURISDICTIONS DESIGNATING REPRESENTATIVES TO THE HMPC

The communities of Aurora, Bath, Chocowinity, Pantego, Peletier, Cove City, Dover, Vanceboro, Arapahoe, and Mesic designated their respective county officials to represent their jurisdiction on the HMPC. The following letters detail participation agreements and acknowledgements for several of these jurisdictions that were unable to attend formal HMPC meetings and required County support for the planning process.

Town of Cove City
PO Box 8
Cove City, NC 28523
(252)633-1595

Dred C. Mitchell Jr., Mayor
Barbara H Jones, Mayor Pro-Tem

Commissioner Roy D. McCoy
Commissioner Evelyn E. Brown
Commissioner Linda McCoy
Commissioner Blenda Hargett

A small town with a Big vision for the Future

March 13,2025

To Whom it May Concern,

The Town of Cove City recognizes the importance of hazard mitigation planning and has participated in the plan update of the Pamlico Sound Regional Hazard Mitigation Plan in connection with Craven Couty Government. Due to our limited staffing and scheduling conflicts, Town staff were unable to attend any of the Hazard Mitigation Planning Committee meetings. However, the Craven County Planning Department attended these meetings and represented the Town of Cove City interests during these meetings. Additionally, Town staff has contacted the Craven County Planning Department about reviewing meeting presentations and meeting minutes, reviewed the draft plan, and in coordination with Craven County Government and the Hazard Mitigation Planning Committee via email.

Our Town Board of Commissioners supports the decisions of the Craven County Government per the Craven County Planning Department's. The acceptance of this planning process and its intentions to adopt the updated Pamlico Sound Regional Hazard Mitigation Plan upon its completion is in conjunction with The Town of Cove City since we abide by the Craven County Government regulations.

Sincerely,

Lydia Parker Monette, Town Clerk

Mayor
William Randy Mitchell, Jr.

Board of Commissioners
Theodore Bright
Diannia Bright
Anita Douglas
Gilbert Moore
Robert "Bobby" Pollock
Brenda Ingram, Town Clerk/Finance Director
Melissa Bryant, Water Clerk

Town of Dover
established 1901

105 North Main Street
Post Office Box 128
Dover, NC 28526

Telephone: (252) 523-9610
Facsimile: (252) 523-0239
Brenda Ingram, Town Clerk
townclerkdover5@gmail.com
Melissa Bryant, Water Clerk
waterclerktownofdover@gmail.com

March 13, 2025

To Whom it May Concern,

The Town of Dover recognizes the importance of hazard mitigation planning and has participated in the plan update of the Pamlico Sound Regional Hazard Mitigation Plan. Due to our limited staffing and scheduling conflicts, Town staff were unable to attend any of the Hazard Mitigation Planning Committee meetings. However, the Craven County Planning Department attended these meetings and represented the Town of Dover's interests during these meetings. Additionally, Town staff reviewed meeting presentations and meeting minutes, reviewed the draft plan, and coordinated with Craven County and the Hazard Mitigation Planning Committee via email. Our Town Commissioners supports this planning process and intends to adopt the updated Pamlico Sound Regional Hazard Mitigation Plan upon its completion and approval.

Sincerely,

Brenda Ingram

Brenda Ingram / Town Clerk

Mayor Chad Braxton

Town Clerk Beverly Drake

Alderman Stephen Belrose
Alderman Keith Cannon
Alderman Russell Ipock
Alderman Thad Jones
Alderman Todd McMillen

February 18, 2025

To Whom it May Concern,

The Town of Vanceboro recognizes the importance of hazard mitigation planning and has participated in the plan update of the Pamlico Sound Regional Hazard Mitigation Plan. Due to our limited staffing and scheduling conflicts, Town staff were unable to attend any of the Hazard Mitigation Planning Committee meetings. However, the Craven County Planning Department attended these meetings and represented the Town of Vanceboro's interests during these meetings. Additionally, Town staff reviewed meeting presentations and meeting minutes, reviewed the draft plan, and coordinated with Craven County and the Hazard Mitigation Planning Committee via email.

Our Town Board of Alderman supports this planning process and intends to adopt the updated Pamlico Sound Regional Hazard Mitigation Plan upon its completion and approval.

Sincerely,

Chad E. Braxton

Mayor

B.2 PLANNING STEP 2: INVOLVE THE PUBLIC

Table B.2 – Public Meeting Topics, Dates, Locations

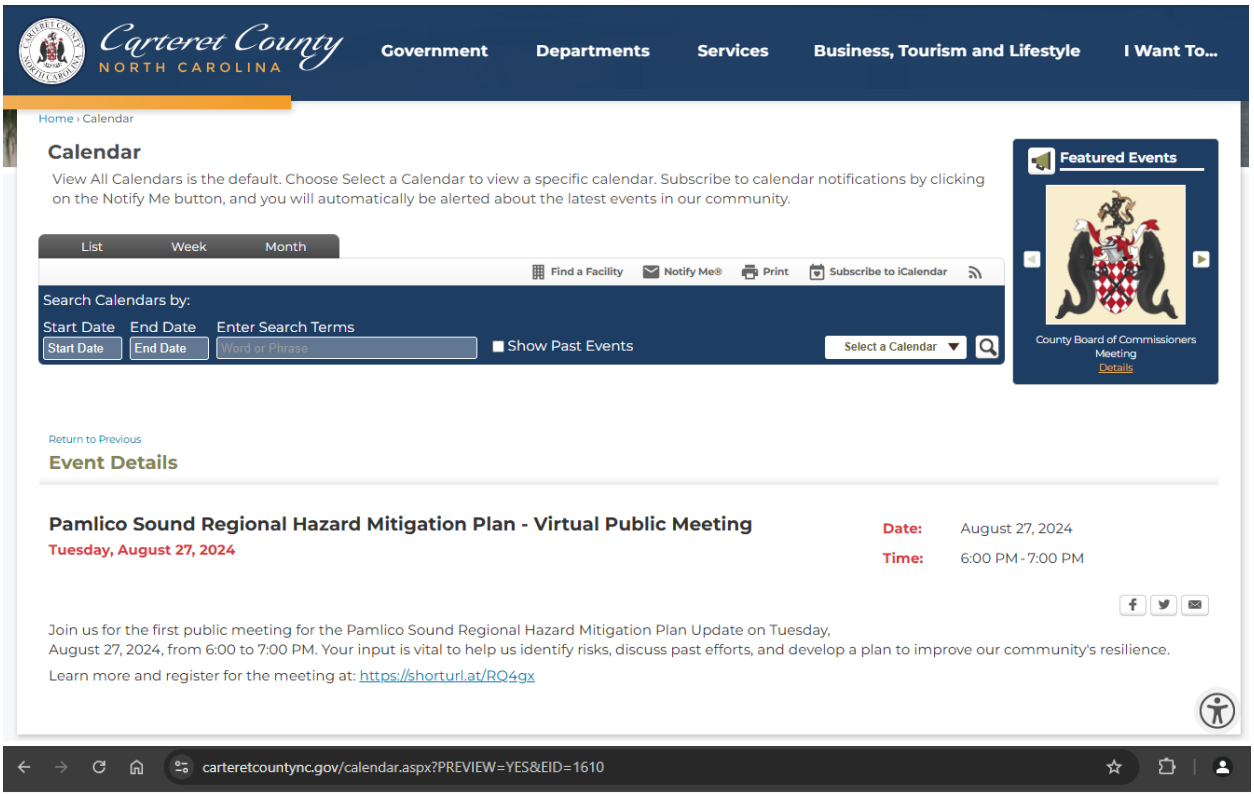
Meeting Title	Meeting Topic	Meeting Date	Meeting Location
Public Meeting #1	1) Introduction to the planning process and project schedule 2) Explanation of mitigation 3) Review of hazard identification	August 27, 2024	Microsoft Teams
Public Meeting #2	1) Review draft Hazard Mitigation Plan 2) Solicit comments and feedback	January 28, 2025	Microsoft Teams

PUBLIC MEETING MINUTES, SIGN-IN SHEETS, AND ANNOUNCEMENTS

PUBLIC MEETING 1: AUGUST 27, 2024

1. Summary			
Meeting title	Pamlico Sound Regional Hazard Mitigation Plan - Public Meeting		
Registration page views	0		
Registered participants	0		
Canceled registrations	0		
Attended participants	17		
Start time	8/27/24, 5:51:12 PM		
End time	8/27/24, 6:40:36 PM		
Meeting duration	49m 23s		
Average attendance time	26m 34s		
2. Participants			
Name	First Join	Last Leave	In-Meeting Duration
Nathan Slaughter	8/27/24, 5:57:07 PM	8/27/24, 6:40:36 PM	43m 28s
John Nevel (External)	8/27/24, 5:52:02 PM	8/27/24, 6:02:53 PM	10m 50s
Charlie Burgess (External)	8/27/24, 5:54:18 PM	8/27/24, 6:30:29 PM	36m 11s
Baker, Carl (NCEM) (External)	8/27/24, 5:57:13 PM	8/27/24, 6:34:10 PM	36m 57s
John Flores	8/27/24, 5:57:44 PM	8/27/24, 6:34:28 PM	36m 44s
Ruffins, Ranger	8/27/24, 5:58:23 PM	8/27/24, 6:30:52 PM	32m 29s
Austin Brinkley (External)	8/27/24, 6:00:03 PM	8/27/24, 6:30:47 PM	30m 44s
Diana Tootle (Unverified)	8/27/24, 6:00:14 PM	8/27/24, 6:31:14 PM	30m 59s
Ciara Blosser	8/27/24, 6:01:29 PM	8/27/24, 6:06:02 PM	4m 33s
Katrina Marshall (Unverified)	8/27/24, 6:02:07 PM	8/27/24, 6:32:26 PM	30m 19s
Nevel, John	8/27/24, 6:02:35 PM	8/27/24, 6:31:13 PM	28m 37s
Elisabeth Webster (Unverified)	8/27/24, 6:04:28 PM	8/27/24, 6:31:31 PM	27m 3s
Scott Harvey (Unverified)	8/27/24, 6:05:37 PM	8/27/24, 6:08:53 PM	3m 15s
WCTI (Unverified)	8/27/24, 6:05:58 PM	8/27/24, 6:33:37 PM	27m 39s
Michelle Eitner (Unverified)	8/27/24, 6:06:47 PM	8/27/24, 6:32:33 PM	25m 46s
Jason Frederick (External)	8/27/24, 6:06:54 PM	8/27/24, 6:31:12 PM	24m 17s
Scott Harvey (Unverified)	8/27/24, 6:09:08 PM	8/27/24, 6:31:02 PM	21m 53s

Pamlico Sound
Regional Hazard Mitigation Plan
PUBLIC MEETING
Be part of shaping our future.
YOUR VOICE MATTERS!
VIRTUAL ONLINE EVENT
Register for Free:
Tuesday
August 27th
6:00 - 7:00 pm
Online Event
Join us for the first public meeting for the Pamlico Sound Regional Hazard Mitigation Plan Update. Your participation is vital to help identify risks, discuss past efforts, and shape the 2024 Plan to improve our community's resilience. Don't miss this chance to contribute your insights and feedback.
Purpose:
Engage with the community, provide project background, and gather input on hazards and risks.
Your Role:
Share experiences, identify recurring risks, and discuss mitigation actions.
Impact:
Your feedback is crucial for a plan that reflects our community's needs and enhances the Pamlico Sound Region's resiliency.
REGISTER HERE: HTTPS://SHORTURL.AT/RQ4GX



Event Details

Pamlico Sound Regional Hazard Mitigation Plan - Virtual Public Meeting
Tuesday, August 27, 2024

Date: August 27, 2024
Time: 6:00 PM - 7:00 PM

Join us for the first public meeting for the Pamlico Sound Regional Hazard Mitigation Plan Update on Tuesday, August 27, 2024, from 6:00 to 7:00 PM. Your input is vital to help us identify risks, discuss past efforts, and develop a plan to improve our community's resilience.

Learn more and register for the meeting at: https://shorturl.at/RQ4gx

Pamlico Sound
Regional Hazard Mitigation Plan
PUBLIC MEETING
Be part of shaping our future.
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VIRTUAL ONLINE EVENT
Register for Free:
Tuesday
August 27th
6:00 - 7:00 pm
Online Event
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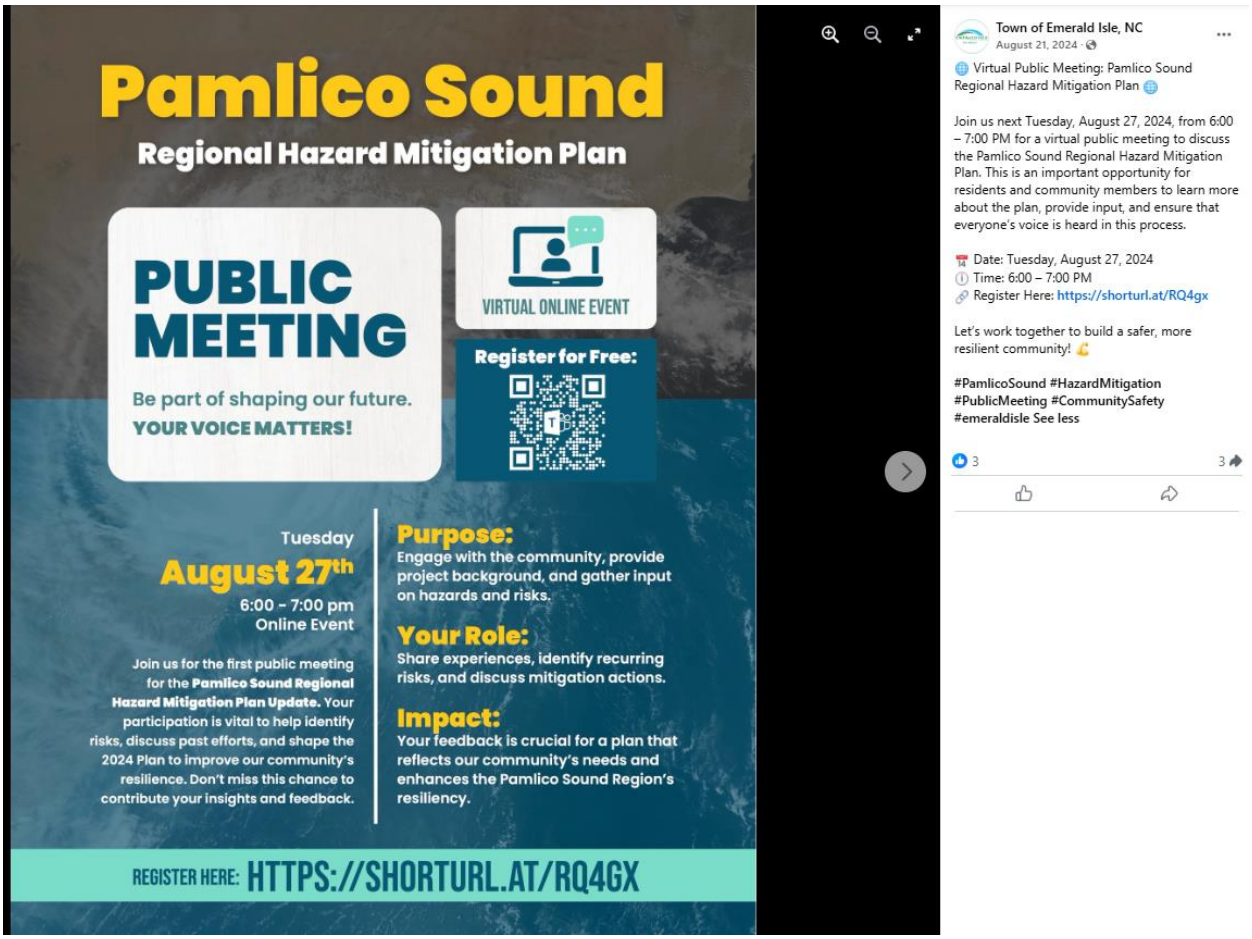
REGISTER HERE: HTTPS://SHORTURL.AT/RQ4GX
townofcapecarteret • Follow
townofcapecarteret Help Shape the Future of Our Community!
Join us for the first public meeting for the Pamlico Sound Regional Hazard Mitigation Plan Update on Tuesday, August 27, 2024, from 6:00 to 7:00 PM. Your input is vital to help identify risks , discuss past efforts, and develop a plan to improve our community's resilience.
Learn more and register for the virtual meeting at https://shorturl.at/RQ4gx
20 weeks ago
Likes : 3
August 21, 2024
Please log in to like and comment.


Pamlico Sound
Regional Hazard Mitigation Plan
PUBLIC MEETING
Be part of shaping our future.
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VIRTUAL ONLINE EVENT
Register for Free:
Tuesday
August 27th
6:00 - 7:00 pm
Online Event
Join us for the first public meeting for the Pamlico Sound Regional Hazard Mitigation Plan Update. Your participation is vital to help identify risks, discuss past efforts, and shape the 2024 Plan to improve our community's resilience. Don't miss this chance to contribute your insights and feedback.
Purpose:
Engage with the community, provide project background, and gather input on hazards and risks.
Your Role:
Share experiences, identify recurring risks, and discuss mitigation actions.
Impact:
Your feedback is crucial for a plan that reflects our community's needs and enhances the Pamlico Sound Region's resiliency.
REGISTER HERE: HTTPS://SHORTURL.AT/RQ4GX

Town of Emerald Isle, NC
August 21, 2024 ·
Virtual Public Meeting: Pamlico Sound Regional Hazard Mitigation Plan
Join us next Tuesday, August 27, 2024, from 6:00 – 7:00 PM for a virtual public meeting to discuss the Pamlico Sound Regional Hazard Mitigation Plan. This is an important opportunity for residents and community members to learn more about the plan, provide input, and ensure that everyone's voice is heard in this process.
Date: Tuesday, August 27, 2024
Time: 6:00 – 7:00 PM
Register Here: https://shorturl.at/RQ4gx
Let's work together to build a safer, more resilient community!
#PamlicoSound #HazardMitigation #PublicMeeting #CommunitySafety #emeraldisle See less
3
3

Pamlico Sound
Regional Hazard Mitigation Plan
PUBLIC MEETING
Be part of shaping our future.
YOUR VOICE MATTERS!
VIRTUAL ONLINE EVENT
Register for Free:
Tuesday
August 27th
6:00 – 7:00 pm
Online Event
Join us for the first public meeting for the Pamlico Sound Regional Hazard Mitigation Plan Update. Your participation is vital to help identify risks, discuss past efforts, and shape the 2024 Plan to improve our community's resilience. Don't miss this chance to contribute your insights and feedback.
Purpose:
Engage with the community, provide project background, and gather input on hazards and risks.
Your Role:
Share experiences, identify recurring risks, and discuss mitigation actions.
Impact:
Your feedback is crucial for a plan that reflects our community's needs and enhances the Pamlico Sound Region's resiliency.
REGISTER HERE: HTTPS://SHORTURL.AT/RQ4GX
townemeraldisle • Follow
townemeraldisle Virtual Public Meeting: Pamlico Sound Regional Hazard Mitigation Plan
Join us next Tuesday, August 27, 2024, from 6:00 – 7:00 PM for a virtual public meeting to discuss the Pamlico Sound Regional Hazard Mitigation Plan. This is an important opportunity for residents and community members to learn more about the plan, provide input, and ensure that everyone's voice is heard in this process.
Date: Tuesday, August 27, 2024
Time: 6:00 – 7:00 PM
Register Here:
https://shorturl.at/RQ4gx
Let's work together to build a safer, more resilient community!
1 like
August 21, 2024

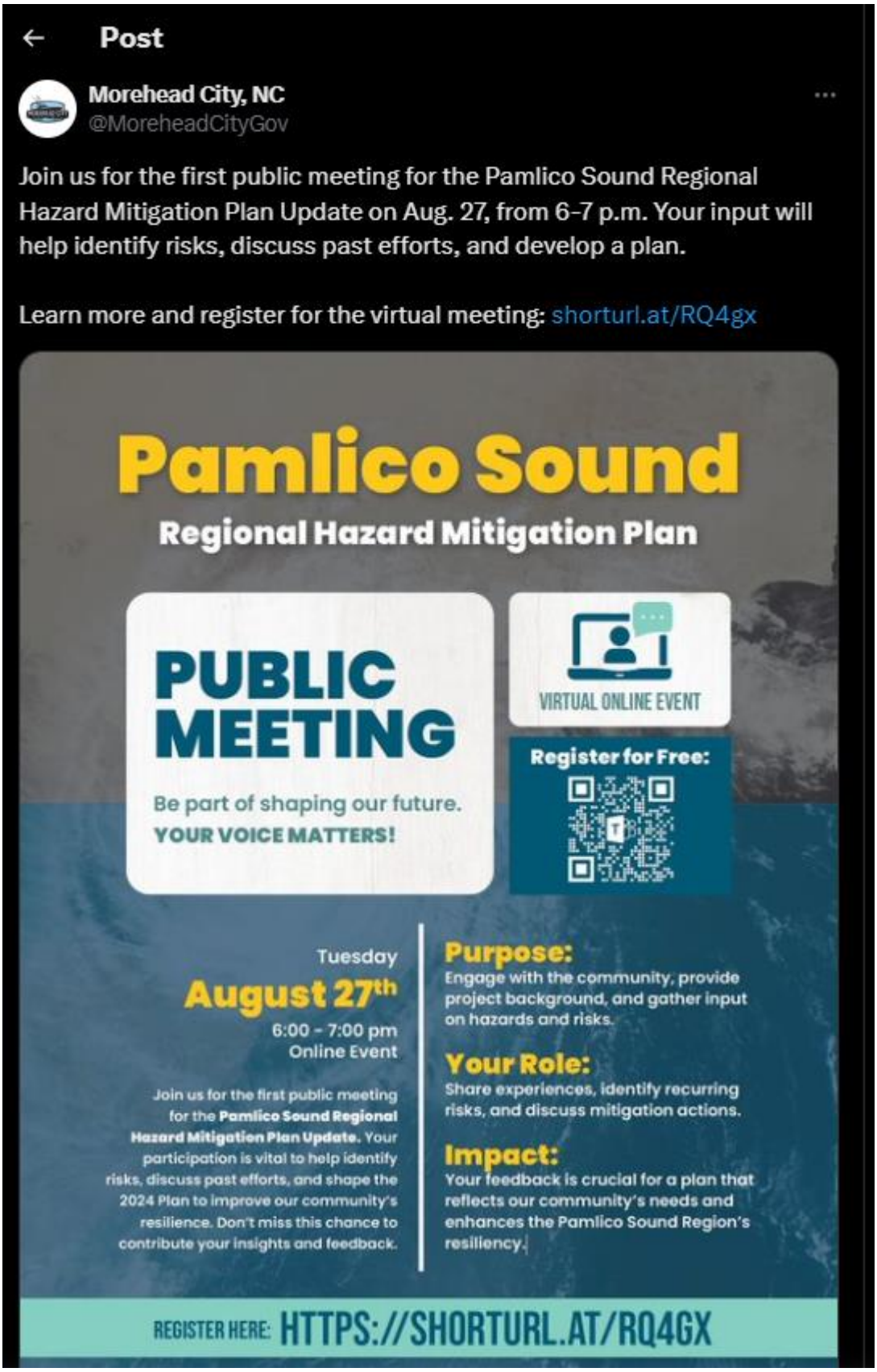
City of Washington, NC's Post

City of Washington, NC
August 27, 2024 ·

All are invited to join a virtual public meeting for the Pamlico Sound Regional Hazard Mitigation Plan this evening, Tuesday, August 27, 2024, from 6:00 – 7:00 PM.

The purpose of this meeting is to engage with the community, provide project background, and gather input on hazards and risks.

Register for this public meeting here https://bit.ly/3Z3HLPk

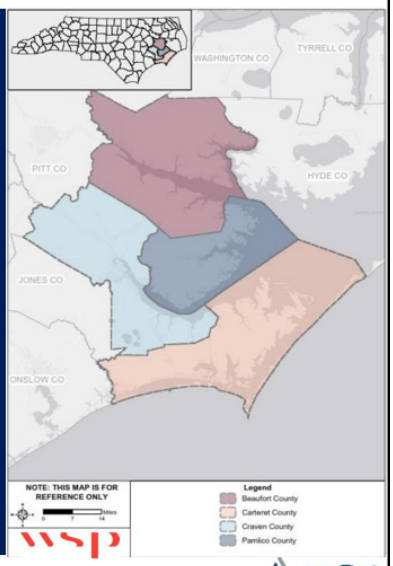

Post
Morehead City, NC
@MoreheadCityGov
Join us for the first public meeting for the Pamlico Sound Regional Hazard Mitigation Plan Update on Aug. 27, from 6-7 p.m. Your input will help identify risks, discuss past efforts, and develop a plan.
Learn more and register for the virtual meeting: shorturl.at/RQ4gx
Pamlico Sound
Regional Hazard Mitigation Plan
PUBLIC MEETING
Be part of shaping our future.
YOUR VOICE MATTERS!
VIRTUAL ONLINE EVENT
Register for Free:
Tuesday
August 27th
6:00 - 7:00 pm
Online Event
Join us for the first public meeting for the Pamlico Sound Regional Hazard Mitigation Plan Update. Your participation is vital to help identify risks, discuss past efforts, and shape the 2024 Plan to improve our community's resilience. Don't miss this chance to contribute your insights and feedback.
Purpose:
Engage with the community, provide project background, and gather input on hazards and risks.
Your Role:
Share experiences, identify recurring risks, and discuss mitigation actions.
Impact:
Your feedback is crucial for a plan that reflects our community's needs and enhances the Pamlico Sound Region's resiliency.
REGISTER HERE: HTTPS://SHORTURL.AT/RQ4GX

PUBLIC MEETING 2: JANUARY 28, 2025

Pamlico Sound Regional Hazard Mitigation Plan – Public Meeting

January 28, 2025

Virtual – Microsoft Teams



Pamlico Sound HMP Update | Public Meeting | January 28, 2025

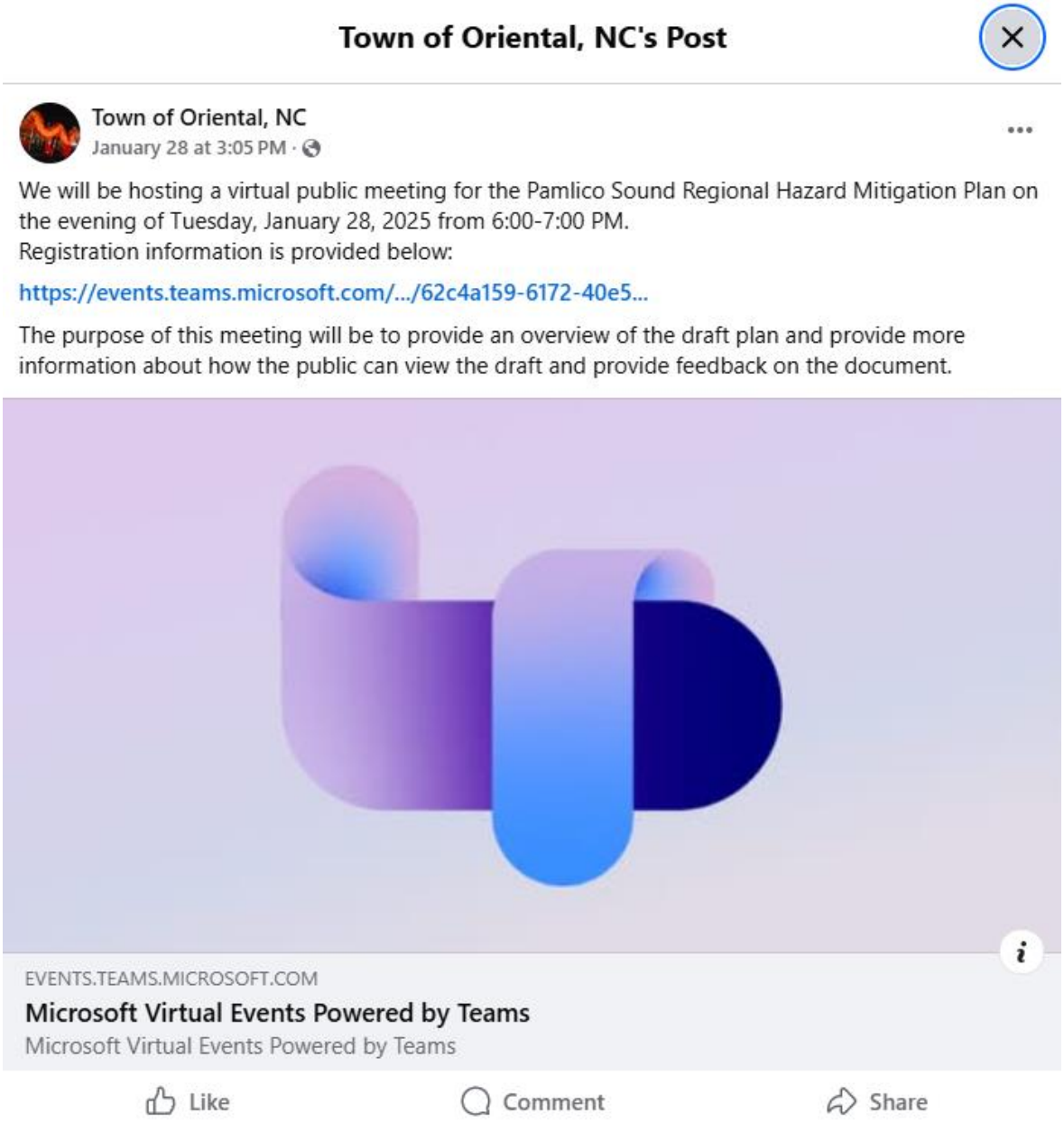
Pamlico Sound Regional Hazard Mitigation Plan

Public Meeting 1/28/25 - Public Meeting

Virtual/Teams Meeting

- Participants:
  - Nathan Slaughter, ESP
  - David Bone – Eastern Carolina COG
  - Marie Spain – Town of Stonewall
- Contracted by NCEM as prime contractor
- Working in this region for 15+ years
- List of participating municipalities
- Meeting purpose
- Mitigation overview (definition, 2 types, techniques)
- Mitigation technique examples
- Why do we do the update?
  - Changing risk
  - Evolving risks
  - Maintaining compliance
  - Enhancing resilience & preparedness
- Communities are continuing to grow = more people and assets at risk
- Including man-made, technological hazards
- Anticipated increase in frequency and magnitude (FEMA requires) - what does this mean for the community
- Growth trends – where and how are we growing? Increased development also increases specific challenges
- Remain eligible – DMA 2000 (federal legislation that ties FEMA pots of money to hazard mitigation plans)
  - FMA
  - BRIC
  - HMGP – After a disaster, NC is looking at significant amount of funding post-Helene; every county is going to eligible; $1.5 billion available
    - Well positioned for funding
- Improved preparedness – Sustained continuity
- Planning process
  - Planning Committee
  - Public outreach
  - Public meeting

  - Planning process continue now
  - Wrapping up in the next few weeks
- Hazard ID – what can happen here? What do they do? What's our capacity to do anything about these hazards?
- PRI Index – a few lower risk hazards
- Next steps
  - Draft plan coming soon – will be on regional plan website
  - Communities will start working to adopt
- Questions:
  - DB: how can the COG help?
    - NS: Review plan and provide comments from regional coordination perspective, share with stakeholders that you think would be interested
  - DB: are there regional actions?
    - NS: most are local but there may be a few regional in nature – definitely take a look
  - DB: how can we see existing mitigation actions
    - NS: Pulled up Pamlico Sound HMP website and showed how to view previous plan
  - MS: will you please send the sample adoption resolution
    - NS: Yes as soon as we have the draft plan available


Town of Oriental, NC's Post
Town of Oriental, NC
January 28 at 3:05 PM ·
We will be hosting a virtual public meeting for the Pamlico Sound Regional Hazard Mitigation Plan on the evening of Tuesday, January 28, 2025 from 6:00-7:00 PM.
Registration information is provided below:
https://events.teams.microsoft.com/.../62c4a159-6172-40e5...
The purpose of this meeting will be to provide an overview of the draft plan and provide more information about how the public can view the draft and provide feedback on the document.
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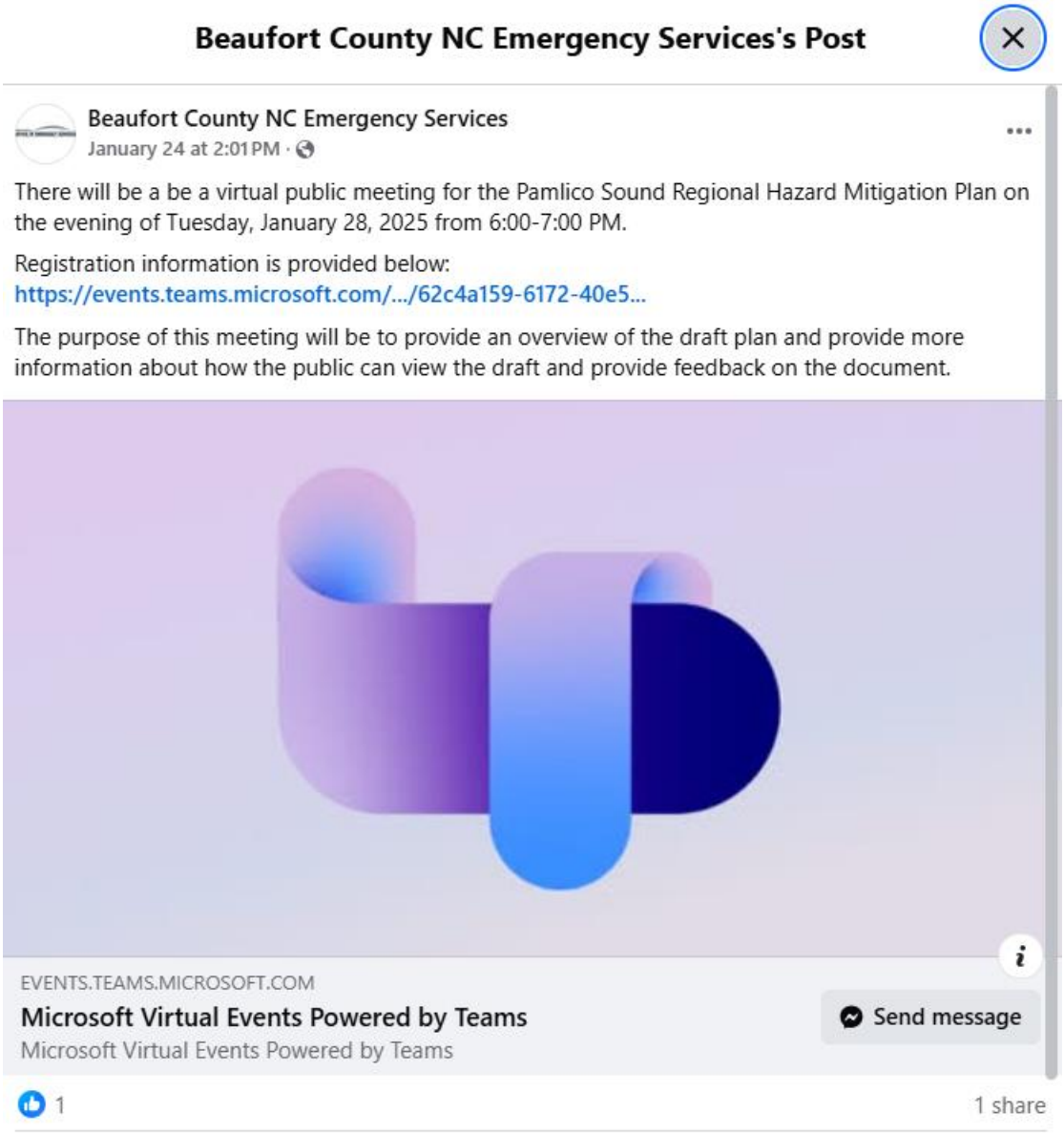
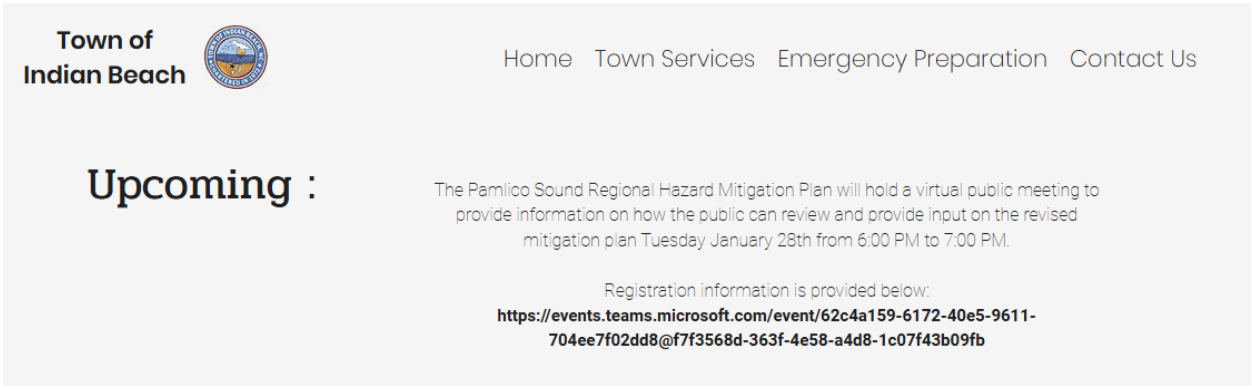
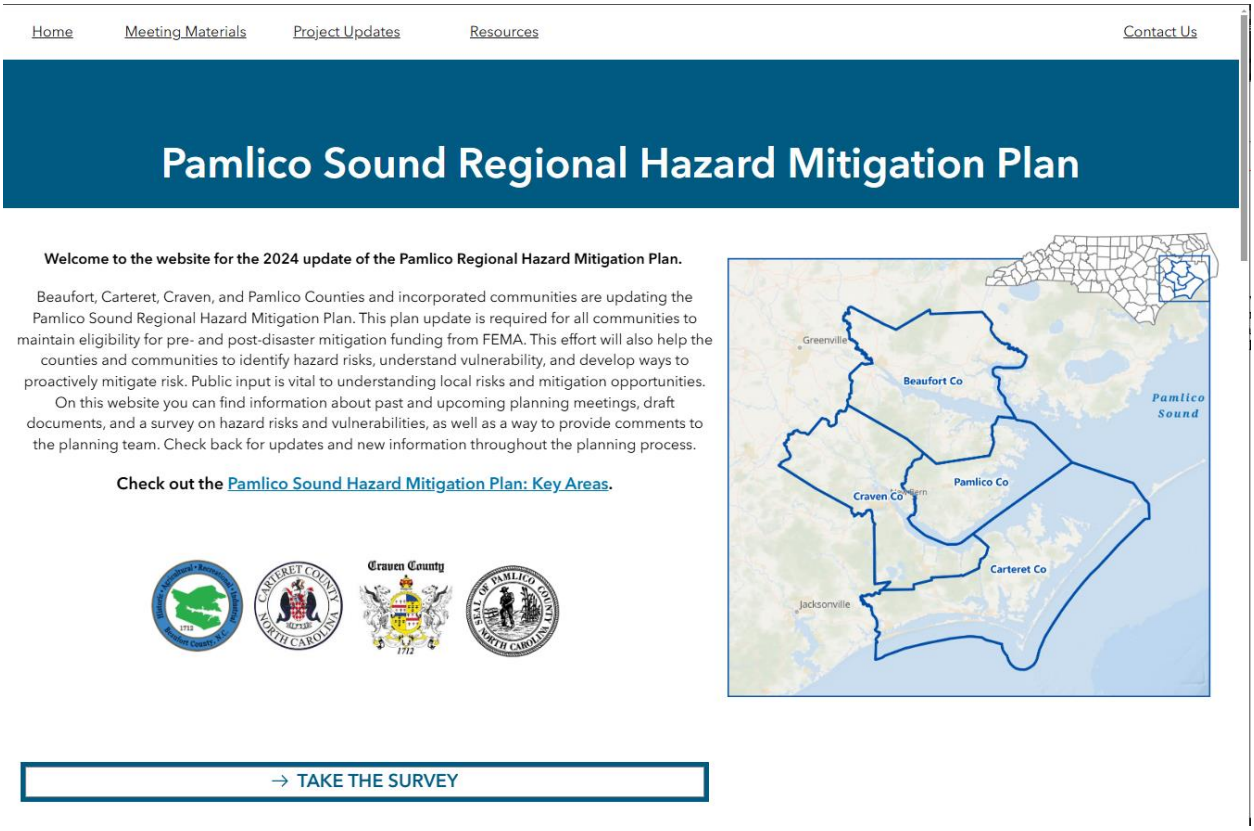
Search
Town Hall Community Business Visitors How Do I Parking Projects
Community
Beaufort Emergency Alerts
Golf Carts
Hurricane/Flood Preparedness
Rental Facilities
Report a Streetlight Repair
Request Maintenance
Upcoming Events
Easter Sunday
Sun, Apr 20 2025, All day
Last Day of School
Fri, Jun 6 2025, 5 - 6pm
View the Calendar
Contact Information
Phone Number
(252) 728-2141
Pamlico Sound Regional Hazard Mitigation Plan Public Meeting
News Release Date:01-27-2025
Back to News
Tue, Jan 28 2025, 6 - 7pm
Add to your calendar +
Back to Calendar
Pamlico Sound Regional Hazard Mitigation Plan
Pamlico Sound Regional Hazard Mitigation Plan Public Meeting
The Pamlico Sound Regional Hazard Mitigation Plan is a comprehensive document for Carteret, Beaufort, Craven, and Pamlico counties and their municipalities to prepare for, respond to, and recover from disasters and emergencies. This plan is created in accordance with FEMA requirements to remain eligible for federal disaster assistance and is updated every five years.
The 2025 plan is nearing completion, and the planning consultants are hosting a virtual public meeting for the Pamlico Sound Regional Hazard Mitigation Plan on the evening of Tuesday, January 28, 2025 from 6:00-7:00 PM.
Registration information is provided below:
https://events.teams.microsoft.com/event/62c4a159-6172-40e5-9611-704ee7f02dd8@f7f3568d-363f-4e58-a4d8-1c07f43b09fb
The purpose of this meeting will be to provide an overview of the draft plan and provide more information about how the public can view the draft and provide feedback on the document.

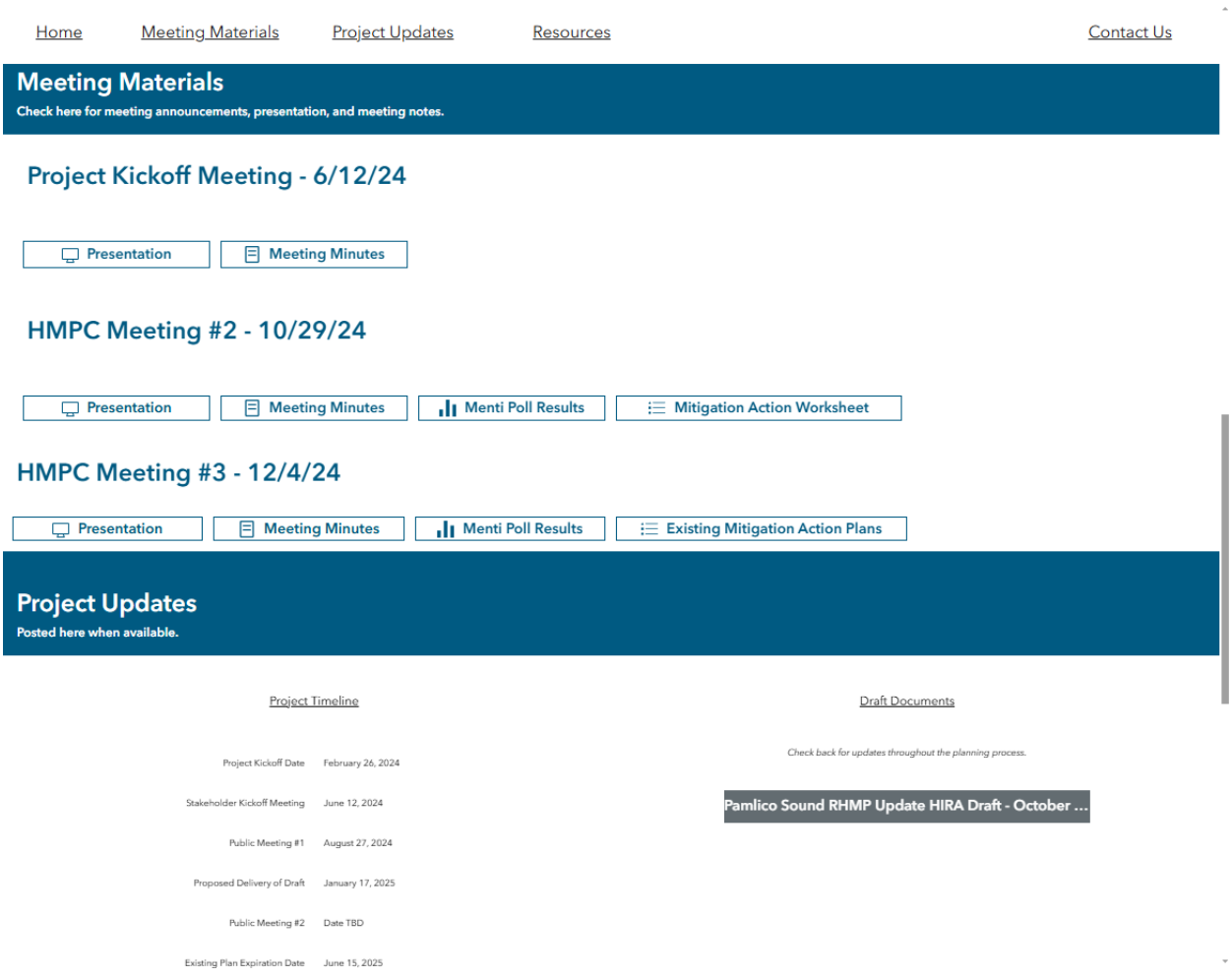

Beaufort County NC Emergency Services's Post
Beaufort County NC Emergency Services
January 24 at 2:01 PM ·
There will be a be a virtual public meeting for the Pamlico Sound Regional Hazard Mitigation Plan on the evening of Tuesday, January 28, 2025 from 6:00-7:00 PM.
Registration information is provided below:
https://events.teams.microsoft.com/.../62c4a159-6172-40e5...
The purpose of this meeting will be to provide an overview of the draft plan and provide more information about how the public can view the draft and provide feedback on the document.
EVENTS.TEAMS.MICROSOFT.COM
Microsoft Virtual Events Powered by Teams
Microsoft Virtual Events Powered by Teams
Send message
1
1 share


Town of Indian Beach
Home
Town Services
Emergency Preparation
Contact Us
Upcoming :
The Pamlico Sound Regional Hazard Mitigation Plan will hold a virtual public meeting to provide information on how the public can review and provide input on the revised mitigation plan Tuesday January 28th from 6:00 PM to 7:00 PM.
Registration information is provided below:
https://events.teams.microsoft.com/event/62c4a159-6172-40e5-9611-704ee7f02dd8@f7f3568d-363f-4e58-a4d8-1c07f43b09fb

OTHER PUBLIC OUTREACH EFFORTS

PLAN WEBSITE




Home
Meeting Materials
Project Updates
Resources
Contact Us
Meeting Materials
Check here for meeting announcements, presentation, and meeting notes.
Project Kickoff Meeting - 6/12/24
Presentation
Meeting Minutes
HMPC Meeting #2 - 10/29/24
Presentation
Meeting Minutes
Menti Poll Results
Mitigation Action Worksheet
HMPC Meeting #3 - 12/4/24
Presentation
Meeting Minutes
Menti Poll Results
Existing Mitigation Action Plans
Project Updates
Posted here when available.
Project Timeline
Project Kickoff Date February 26, 2024
Stakeholder Kickoff Meeting June 12, 2024
Public Meeting #1 August 27, 2024
Proposed Delivery of Draft January 17, 2025
Public Meeting #2 Date TBD
Existing Plan Expiration Date June 15, 2025
Draft Documents
Check back for updates throughout the planning process.
Pamlico Sound RHMP Update HIRA Draft - October ...

PLAN WEBSITE AND SURVEY OUTREACH

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Administration

Posted on: August 1, 2024

Input needed for Pamlico Sound Regional Hazard Mitigation Plan update

Beaufort County, Carteret County, Craven County, Pamlico County, and their incorporated communities are updating the Pamlico Sound Regional Hazard Mitigation Plan. Local governments are required to prepare and update hazard mitigation plans to be eligible for FEMA hazard mitigation assistance grants.

Public input is critical to the planning process. Please take a few minutes to complete a brief public survey to provide your input on hazard risks and mitigation options: https://forms.office.com/e/00Uq2Aup2r

For more information about the plan update, visit the project website at www.PamlicoSoundHMP.com. On this site you will find information about upcoming and past Hazard Mitigation Planning Committee meetings and public meetings, a link for the public survey, draft documents, and other mitigation planning resources.

⇐ Previous
County participates in annual Safe and Sound Week

Next ⇒
Manager's Recommended Budget Presented to Board

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- Health Department
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News Releases

Posted on: June 18, 2024

Public Survey: Pamlico Sound Regional Hazard Mitigation Plan

Beaufort County, Carteret County, Craven County, Pamlico County, and their incorporated communities are updating the Pamlico Sound Regional Hazard Mitigation Plan. Local governments are required to prepare and update hazard mitigation plans to be eligible for FEMA hazard mitigation assistance grants.

Pamlico Sound Regional Hazard Mitigation Plan Public Survey

Public input is critical to the planning process. Please take a few minutes to complete a brief public survey to provide your input on hazard risks and mitigation options. Click here or scan the QR code for the survey.

For more information about the plan update, visit the project website at www.PamlicoSoundHMP.com. On this site you will find information about upcoming and past Hazard Mitigation Planning Committee meetings and public meetings, a link for the public survey, draft documents, and other mitigation planning resources.

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- Sheriff
- News Releases
- Board of Elections

Carteret County Government
3 days ago
The Pamlico Sound Regional Hazard Mitigation Plan update is underway and we need your input! Respond to this survey to share your concerns about hazard risks and ideas for mitigation. Visit www.pamlicosoundhmp.com for more information about the plan update.
Survey link: https://forms.office.com/e/00Uq2Aup2r
Pamlico Sound Regional Hazard Mitigation Plan Public Survey
3
7
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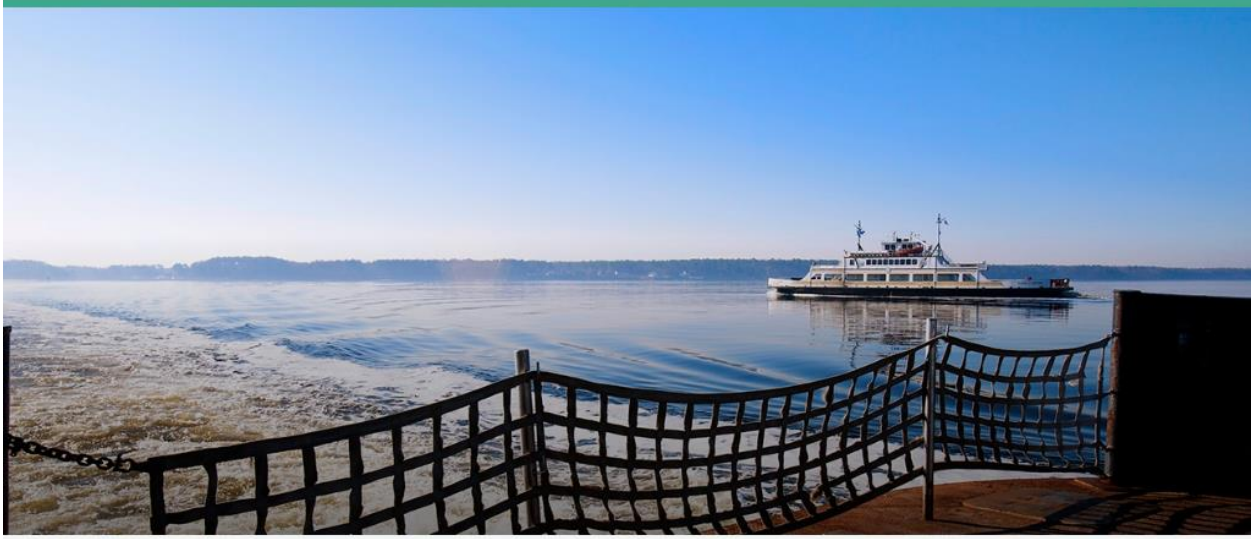

Home › Pamlico Sound Regional Hazard Mitigation Plan Public Survey

Font Size + −

Pamlico Sound Regional Hazard Mitigation Plan Public Survey

Pamlico Sound Regional Hazard Mitigation Plan Public Survey

Beaufort, Carteret, Craven, and Pamlico Counties and their incorporated communities are beginning to update the Pamlico Sound Regional Hazard Mitigation Plan to identify and assess our region's risks from hazards such as flooding, drought, heat, hurricane, severe weather, winter weather, and other hazards. This plan will help determine how to best minimize or manage those risks. This survey is an opportunity for you to share your opinions and participate in the mitigation planning process. The information you provide will help us better understand local hazard risks and problems and can lead to mitigation activities that help lessen the impacts of future hazards.

Please help us by completing this survey by August 30, 2024

Hazard Mitigation Survey

Or Access the public survey here: https://forms.office.com/pages/responsepage.aspx?id=VUIjPQ_iBUKIpZZYpAKZmz1r9qFHJkhNkCYoFGqYXXVUQ1dDS0VNMDdYOTNISDlLSlZVUkgwSzZWNiQlQCN0PWcu

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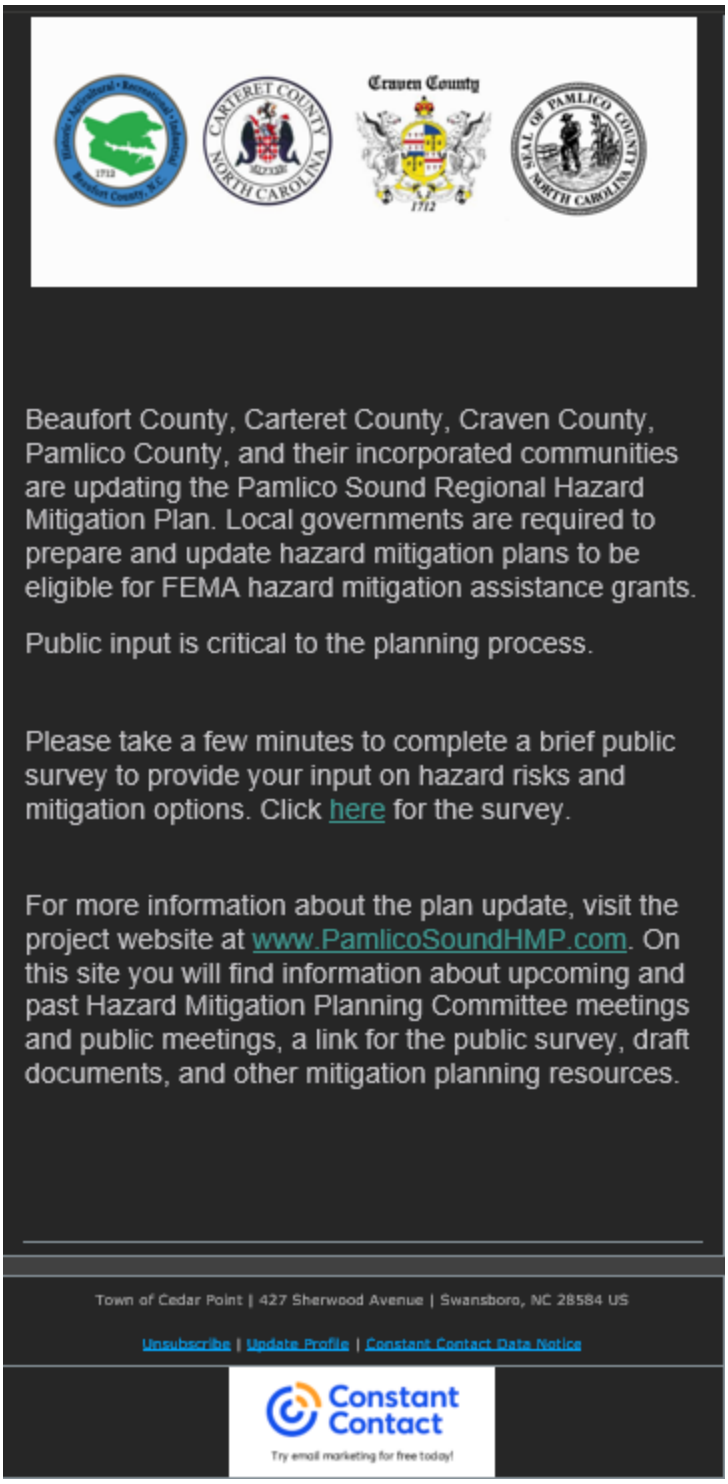
Pamlico Sound Regional Hazard Mitigation Plan
News Release Date:08-29-2024
Back to News
Welcome to the website for the 2024 update of the Pamlico Regional Hazard Mitigation Plan.
Beaufort, Carteret, Craven, and Pamlico Counties and incorporated communities are updating the Pamlico Sound Regional Hazard Mitigation Plan. This plan update is required for all communities to maintain eligibility for pre- and post-disaster mitigation funding from FEMA. This effort will also help the counties and communities to identify hazard risks, understand vulnerability, and develop ways to proactively mitigate risk. Public input is vital to understanding local risks and mitigation opportunities. On this website you can find information about past and upcoming planning meetings, draft documents, and a survey on hazard risks and vulnerabilities, as well as a way to provide comments to the planning team. Check back for updates and new information throughout the planning process.
Related Links
Pamlico Sound Regional Hazard Mitigation Plan

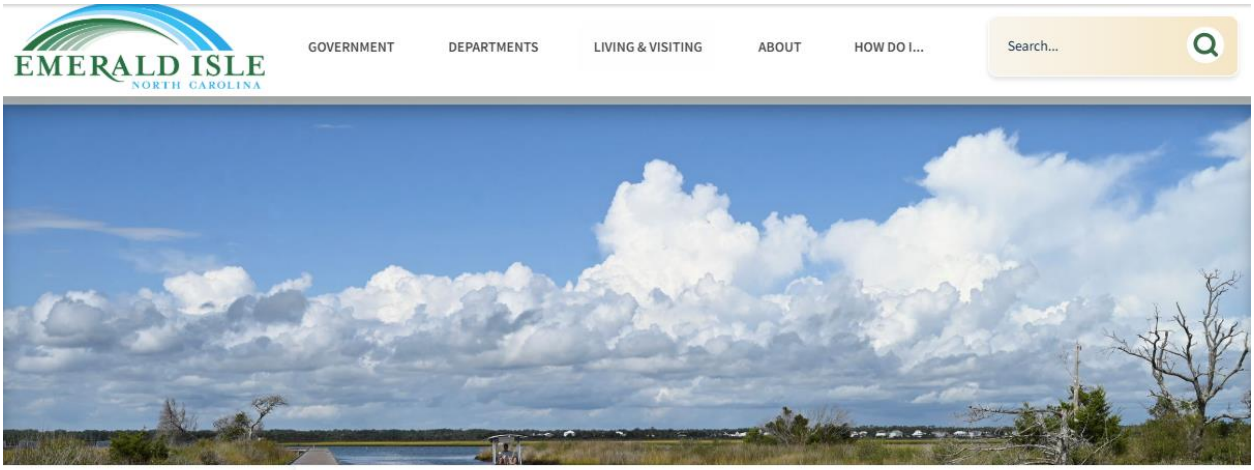


Beaufort County, Carteret County, Craven County, Pamlico County, and their incorporated communities are updating the Pamlico Sound Regional Hazard Mitigation Plan. Local governments are required to prepare and update hazard mitigation plans to be eligible for FEMA hazard mitigation assistance grants.

Public input is critical to the planning process.

Please take a few minutes to complete a brief public survey to provide your input on hazard risks and mitigation options. Click here for the survey.

For more information about the plan update, visit the project website at www.PamlicoSoundHMP.com. On this site you will find information about upcoming and past Hazard Mitigation Planning Committee meetings and public meetings, a link for the public survey, draft documents, and other mitigation planning resources.



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Posted on: August 13, 2024

The Pamlico Sound Regional Hazard Mitigation Plan

Beaufort County, Carteret County, Craven County, Pamlico County, and their incorporated communities are updating the Pamlico Sound Regional Hazard Mitigation Plan. Local governments are required to prepare and update hazard mitigation plans to be eligible for FEMA hazard mitigation assistance grants.

Public input is critical to the planning process. Please take a few minutes to complete a brief public survey to provide your input on hazard risks and mitigation options. Click here or scan the QR code for the survey.

For more information about the plan update, visit the project website at www.PamlicoSoundHMP.com. On this site you will find information about upcoming and past Hazard Mitigation Planning Committee meetings and public meetings, a link for the public survey, draft documents, and other mitigation planning resources.

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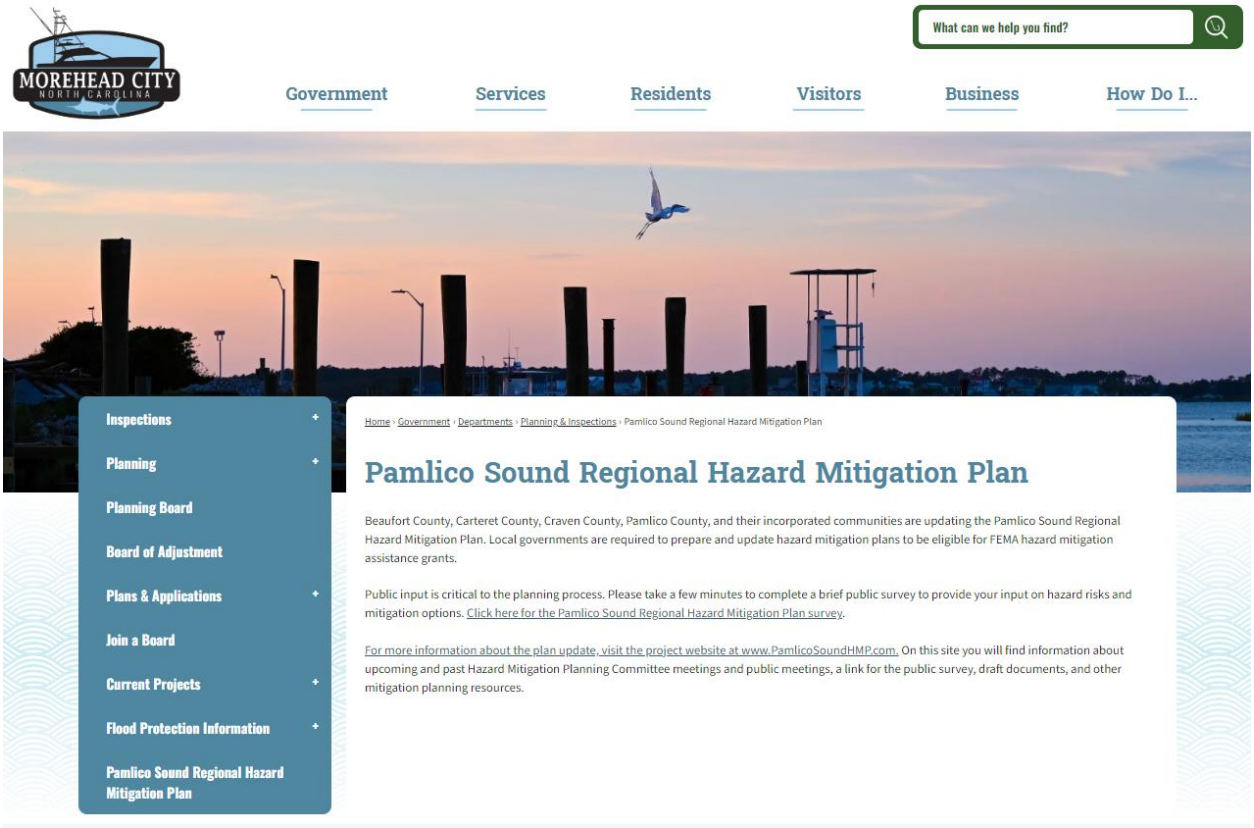
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Pamlico Sound Regional Hazard Mitigation Plan
Beaufort County, Carteret County, Craven County, Pamlico County, and their incorporated communities are updating the Pamlico Sound Regional Hazard Mitigation Plan. Local governments are required to prepare and update hazard mitigation plans to be eligible for FEMA hazard mitigation assistance grants.
Public input is critical to the planning process. Please take a few minutes to complete a brief public survey to provide your input on hazard risks and mitigation options. Click here for the Pamlico Sound Regional Hazard Mitigation Plan survey.
For more information about the plan update, visit the project website at www.PamlicoSoundHMP.com. On this site you will find information about upcoming and past Hazard Mitigation Planning Committee meetings and public meetings, a link for the public survey, draft documents, and other mitigation planning resources.

Town of Morehead City
August 5 at 8:59 AM ·

The Pamlico Sound Regional Hazard Mitigation Plan update is underway and we need your input! Respond to this survey to share your concerns about hazard risks and ideas for mitigation. Visit www.pamlicosoundhmp.com for more information about the plan update.

Survey link: https://forms.office.com/e/00Uq2Aup2r

2 1 share

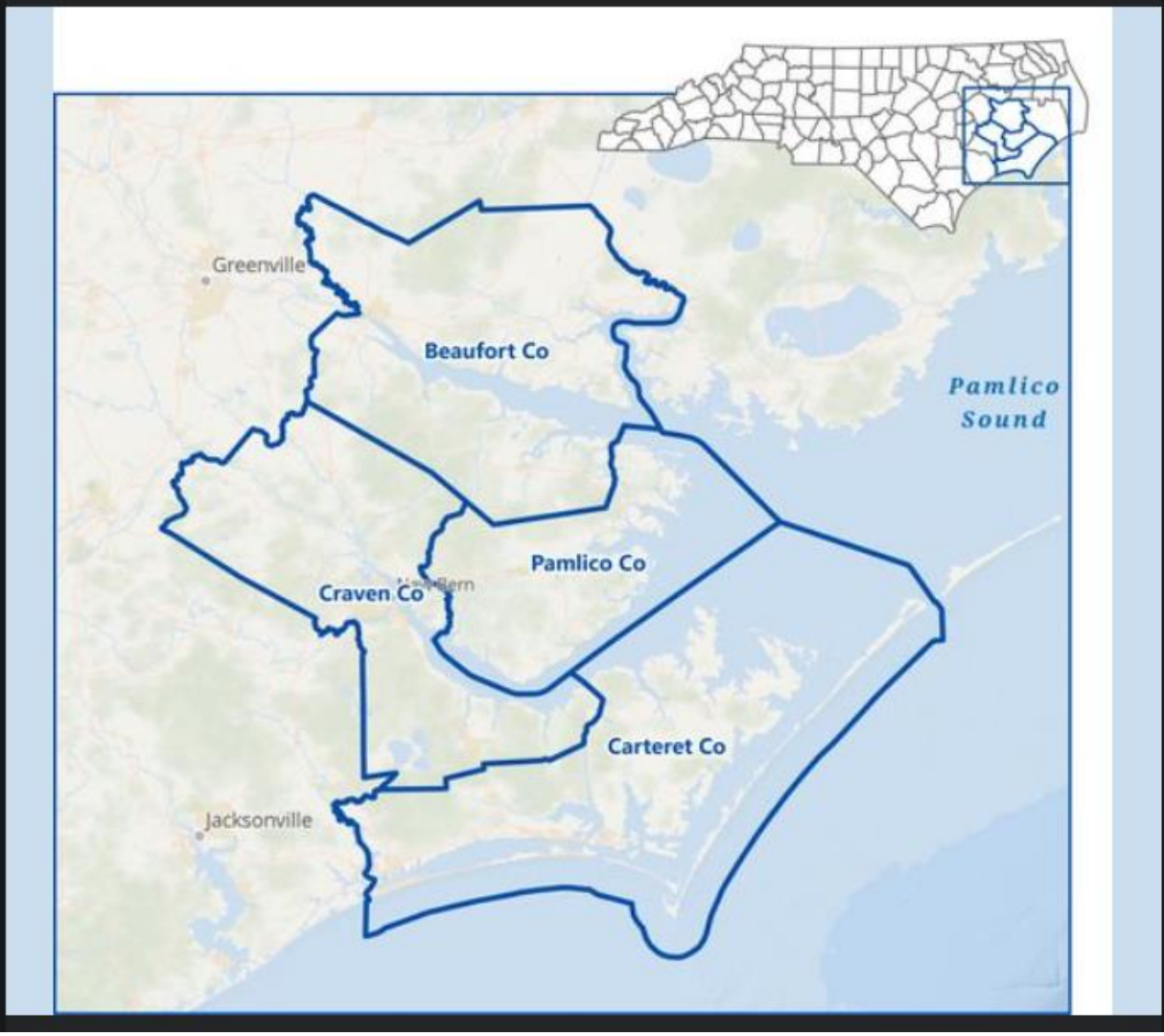
Like Comment

City of Washington, NC
6 hours ago ·

The Pamlico Sound Regional Hazard Mitigation Plan update is underway and we need your input! Respond to this survey to share your concerns about hazard risks and ideas for mitigation.

Visit www.pamlicosoundhmp.com for more information about the plan update.

Survey link: https://forms.office.com/e/00Uq2Aup2r



8/13/24, 2:53 PM Constant Contact

Pine Knoll Shores Community Members,

Beaufort County, Carteret County, Craven County, Pamlico County, and their incorporated communities are updating the Pamlico Sound Regional Hazard Mitigation Plan. Local governments are required to prepare and update hazard mitigation plans to be eligible for FEMA hazard mitigation assistance grants.

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Survey link: https://forms.office.com/e/00Uq2Aup2r

PUBLIC SURVEY

The Pamlico Sound Region distributed a public survey, shown below, that requested public input into the Hazard Mitigation Plan planning process and the identification of mitigation activities that could lessen the risk and impact of future flood hazard events. The survey was announced at the first public meeting, provided via a link on participating jurisdictions websites and social media accounts, and made available online on the plan website.

Pamlico Sound Regional Hazard Mitigation Plan Public Survey

Beaufort, Carteret, Craven, and Pamlico Counties and their incorporated communities are beginning to update the Pamlico Sound Regional Hazard Mitigation Plan to identify and assess our region's risks from hazards such as flooding, drought, heat, hurricane, severe weather, winter weather, and other hazards. This plan will help determine how to best minimize or manage those risks. This survey is an opportunity for you to share your opinions and participate in the mitigation planning process. The information you provide will help us better understand local hazard risks and problems and can lead to mitigation activities that help lessen the impacts of future hazards. **Please help us by completing this survey by August 30, 2024 and returning it to:**

WSP – Attn: David Stroud, 4021 Stirrup Creek Drive, Suite 100, Durham, NC 27703
Or by email to: david.stroud@wsp.com

1. Where do you live?
   - ☐ Beaufort County
   - ☐ Carteret County
   - ☐ Craven County
   - ☐ Pamlico County
   - ☐ I live outside of the Pamlico Sound Region but work or recreate in the region.
   - ☐ Other: _____

2. Have you ever experienced or been impacted by a hazard or disaster in the Pamlico Sound Region?
   - ☐ Yes
   - ☐ No

   If yes, please explain your experience & where it occurred.

3. On a scale of 1-5, where 1 = not at all concerned and 5 = very concerned, how concerned are you about the possibility of your community being impacted by a hazard event?

4. Please review the list of hazards below and rate each hazard from 0-3 based on how much risk you think it poses to your community.
   0 = no risk, 1 = low, 2 = moderate, 3 = high
   - ___ Coastal Hazards
   - ___ Drought
   - ___ Earthquake
   - ___ Extreme Heat
   - ___ Flood
   - ___ Hurricane
   - ___ Landslide
   - ___ Severe Weather
   - ___ Winter Storm
   - ___ Tornado
   - ___ Wildfire

5. Is your home located in a floodplain?
   - ☐ Yes
   - ☐ No
   - ☐ No, but I still experience flooding
   - ☐ I don't know

6. Do you have flood insurance for your home and/or personal property?
   - ☐ Yes
   - ☐ No
   - ☐ I don't know

7. If you do NOT have flood insurance, what is the reason?
   - ☐ It's too expensive
   - ☐ I never really considered it
   - ☐ I don't need it because my home is elevated or otherwise protected
   - ☐ Other: _____

Pamlico Sound Regional Hazard Mitigation Plan Public Survey

8. Have you taken any actions to protect your home or neighborhood from hazards?

   ☐ Yes
   ☐ No

   If yes, please explain what you implemented.

9. Do you know what government office to contact to learn more about your hazard risks and how to reduce vulnerability in your area?

   ☐ Yes
   ☐ No

10. What are some steps your local government could take to reduce the risk of future hazard damages in your neighborhood?

11. What is the best way for you to receive information about how to make your home or neighborhood more resistant to flood damage? Please select your top three choices.

    ☐ Newspaper
    ☐ TV Ads/Programming
    ☐ Radio Ads/Programming
    ☐ Public library
    ☐ Public workshop/meetings
    ☐ School meetings
    ☐ Mail
    ☐ Email
    ☐ Text message
    ☐ Local government website
    ☐ Local government social media

12. Many community-wide activities can reduce our risk from hazards. These activities generally fall into one of six broad categories. Please rank these categories from 1 (most important) to 6 (least important) by how important you think each one is for your community to consider pursuing.

    ___ **Prevention:** administrative and regulatory actions, plans, policies, and ordinances that influence how land is developed and buildings are built. *Examples include planning and zoning, building codes, open space preservation, land use, and floodplain regulations.*

    ___ **Property Protection**: actions that involve the modification of existing buildings to protect them from a hazard or remove them from a hazardous area. *Examples include acquisition, relocation, elevation, structural retrofits, and storm shutters.*

    ___ **Natural Resource Protection**: actions that minimize hazard losses and preserve or restore the functions of natural systems. *Examples include floodplain protection, habitat preservation, slope stabilization, stream buffers, wetland and marsh protection, and forest management.*

    ___ **Structural Projects**: actions that lessen the impact of a hazard by modifying the natural progression of a hazard. *Examples include dams, levees, floodwalls, berms, drainage infrastructure, detention/retention basins, channel modifications, retaining walls, and storm sewers.*

    ___ **Emergency Services**: actions that protect people and property during and immediately after a hazard event. *Examples include warning systems, evacuation planning, emergency response training, and protection of critical emergency facilities or systems.*

    ___ **Public Education and Awareness**: actions to inform the public about hazards and techniques they can use to protect themselves and their property. *Examples include outreach projects, school education programs, library materials, and demonstration events.*

The Region received 558 responses to the survey. Questions and responses are summarized in Figure B.1 through Figure B.10. Detailed survey response data was shared with the HMPC during the planning process.

Figure B.1 – Survey Response, County of Residence

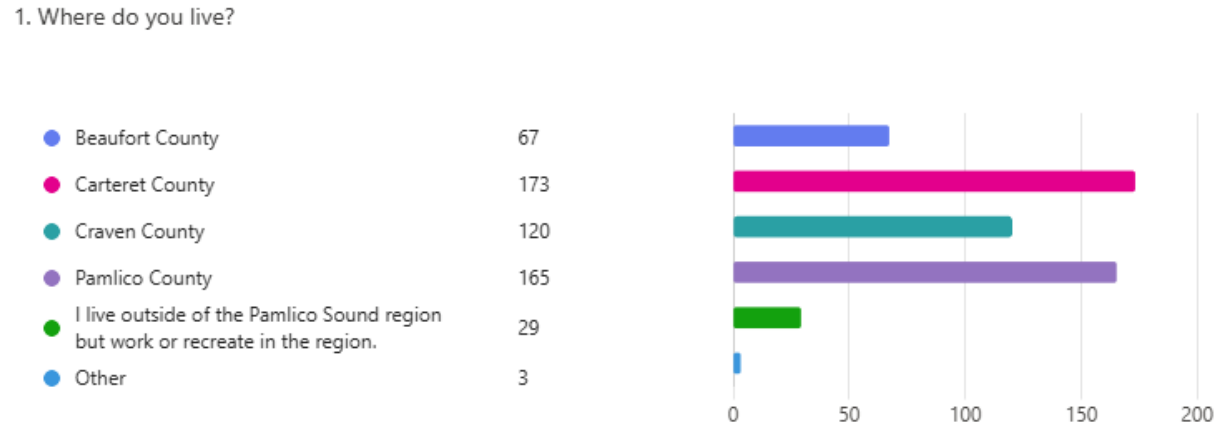


Figure B.2 – Survey Response, Past Hazard Impact

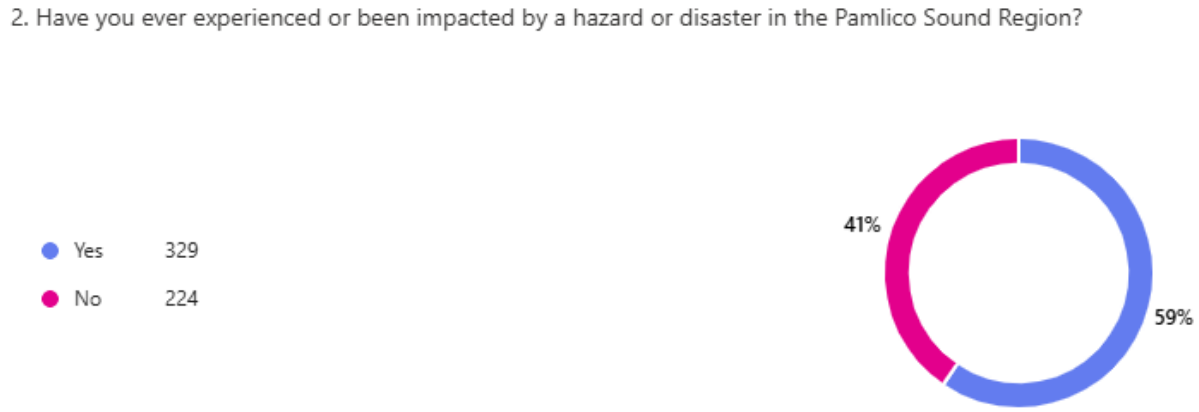


Figure B.3 – Survey Response, Past Hazard Experience

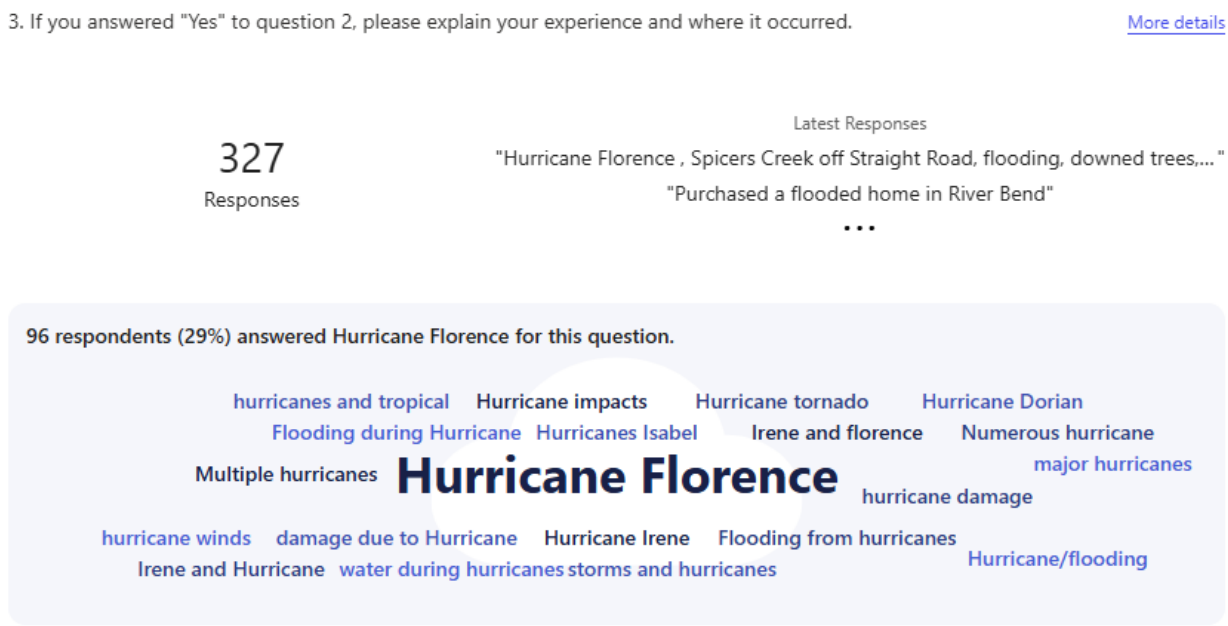


Figure B.4 – Survey Response, Concern About Hazard Impacts

Figure B.5 – Survey Response, Hazard Risk Ratings

5. Please review the list of hazards below and rate each hazard based on how much risk you think it poses to your community. More details

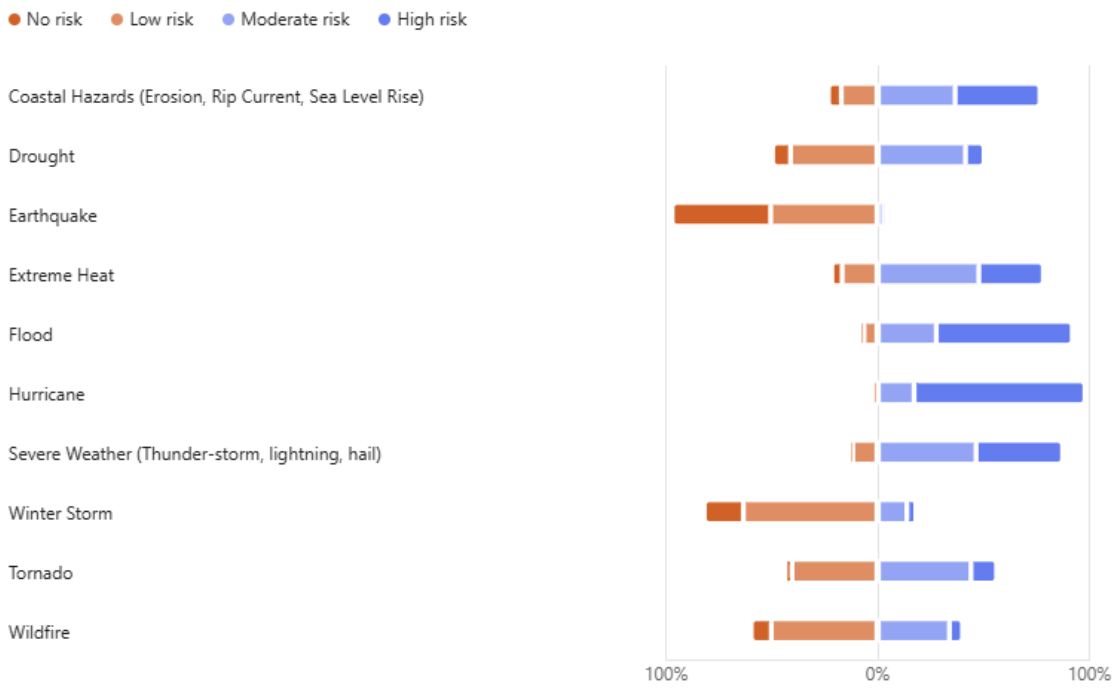


Figure B.6 – Survey Response, Home in Floodplain

6. Is your home located in a floodplain?

Figure B.7 – Survey Response, Flood Insurance

7. Do you have flood insurance for your home and/or personal property?

Yes	334
No	209
I don't know	13

Figure B.8 – Survey Response, No Flood Insurance Explanation

8. If you do NOT have flood insurance, what is the reason?

It's too expensive	60
I never really considered it	8
I don't need it because my home is elevated or otherwise protected	114
Other	38

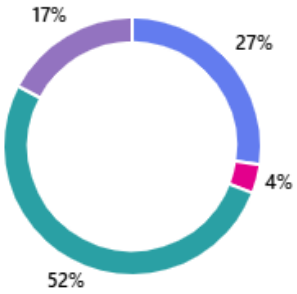


Figure B.9 – Survey Response, Personal Actions Taken for Mitigation

9. Have you taken any actions to protect your home or neighborhood from hazards?

Yes	341
No	215

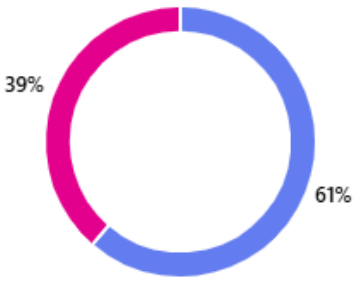


Figure B.10 – Survey Response, Personal Actions Taken for Mitigation, Details

10. If you answered "Yes" to question 9, what actions have you implemented? More details

342
Responses

Latest Responses
"Back up generator, drainage, gutters, French Drains"
"Keep drainage ditch clear, replacement high wind speed house windows"
"Added and improved water egress vents along crawl space. Keep onhand w... "
...

65 respondents (19%) answered trees for this question.

Figure B.11 – Survey Response, Knowledge of Where to Find Hazard Information

11. Do you know what government office to contact to learn more about your hazard risks and how to reduce vulnerabili ty in your area? More details

Figure B.12 – Survey Response, Recommendations for Mitigation

12. What are some steps your local government could take to reduce the risk of future hazard damages in your neighbor hood? More details

399
Responses

Latest Responses
"Treat climate change as our responsibility!"
"Live in River Bend, badly need a second / third drive-able escape route to Rt... "
"Prompt notifications/information via cellphones, emails, direct police contacts."
...

45 respondents (11%) answered road for this question.

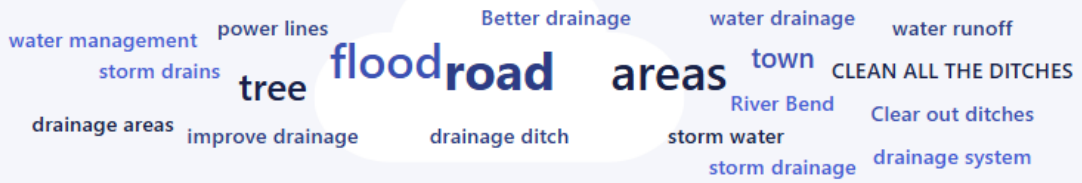


Figure B.13 – Survey Response, Preferred Mitigation Categories

13. Many community-wide activities can reduce our risk from hazards. These activities generally fall into one of the follo wing six broad categories:

- **Prevention:** administrative and regulatory actions, plans, policies, and ordinances that influence how land is de veloped and buildings are built. *Examples include planning and zoning, building codes, open space preservation, land use, and floodplain regulations.*
- **Property Protection**: actions that involve the modification of existing buildings to protect them from a hazard or remove them from a hazardous area. *Examples include acquisition, relocation, elevation, structural retrofits, a nd storm shutters.*
- **Natural Resource Protection**: actions that minimize hazard losses and preserve or restore the functions of nat ural systems. *Examples include floodplain protection, habitat preservation, slope stabilization, stream buffers, wet land and marsh protection, and forest management.*
- **Structural Projects**: actions that lessen the impact of a hazard by modifying the natural progression of a hazar d. *Examples include dams, levees, floodwalls, berms, drainage infrastructure, detention/retention basins, channel modifications, retaining walls, and storm sewers.*
- **Emergency Services**: actions that protect people and property during and immediately after a hazard event. *E xamples include warning systems, evacuation planning, emergency response training, and protection of critical e mergency facilities or systems.*
- **Public Education and Awareness**: actions to inform the public about hazards and techniques they can use to protect themselves and their property. *Examples include outreach projects, school education programs, library m aterials, and demonstration events.*

More details

Please rank these categories by how important you think each one is for your community to consider pursuing.

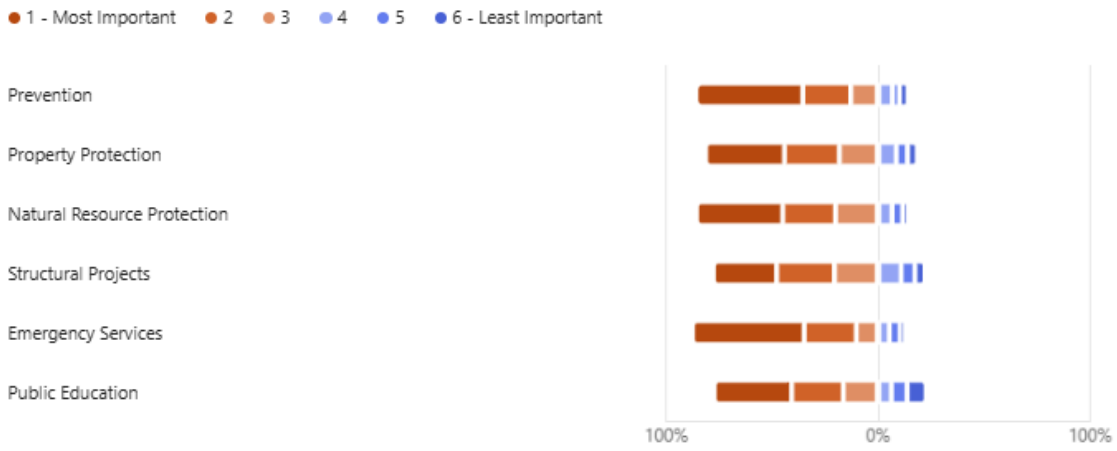
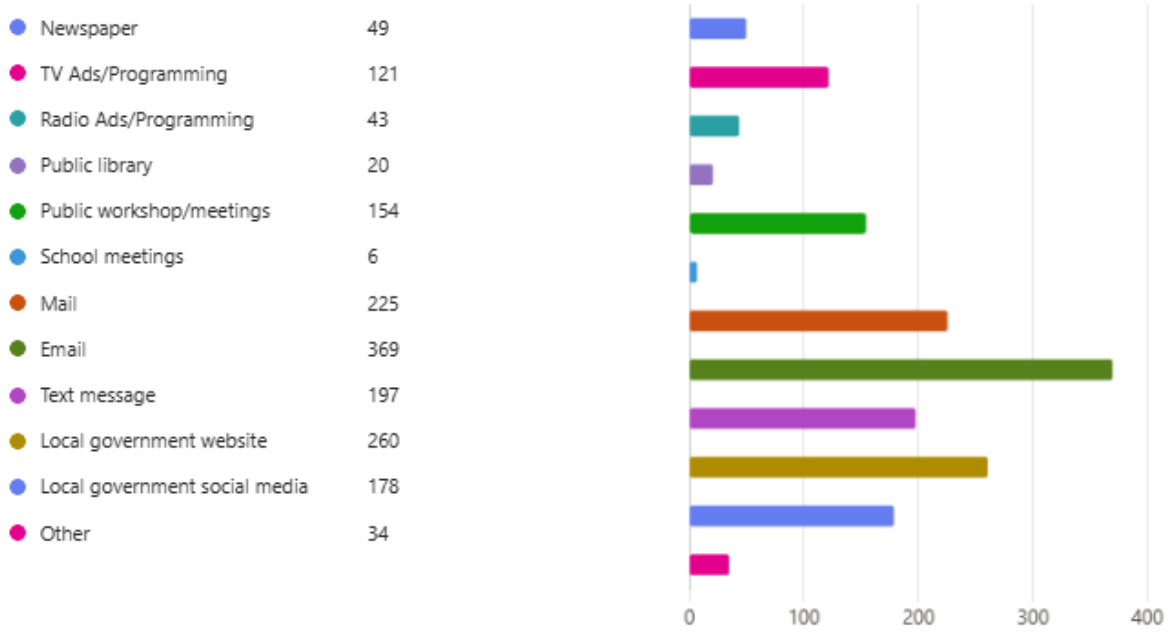


Figure B.14 – Survey Response, Preferred Methods of Communication

14. What is the best way for you to receive information about how to make your home or neighborhood more resistant t o flood damage? Please select your top three choices.



PLANNING STEP 3: COORDINATE

This planning step credits the incorporation of other plans and other agencies' efforts into the development of the Hazard Mitigation Plan. Other agencies and organizations must be contacted to determine if they have studies, plans and information pertinent to the Hazard Mitigation Plan, to determine if their programs or initiatives may affect the community's program, and to see if they could support the community's efforts. To incorporate stakeholder input into the plan, a variety of stakeholders were identified by the HMPC and sent an email inviting them to review the draft plan and provide feedback and comments. The HMPC emphasized reaching out to stakeholders that could represent and engage with vulnerable populations and underserved communities. Stakeholders were also involved through specific requests for data to support the development of the plan.

The coordination letter sent via email is provided below. A list of stakeholders invited to participate in the plan update is provided in Table B.3.

From: Moore, Abigail
Sent: Thursday, March 13, 2025 3:11 PM
Subject: Pamlico Sound Regional Hazard Mitigation Plan Stakeholder Outreach

Good afternoon,

Beaufort, Carteret, Craven, and Pamlico Counties and their incorporated jurisdictions have updated the Pamlico Sound Regional Hazard Mitigation Plan and are seeking stakeholder input on the draft plan. You are receiving this email because the plan participants identified you as a stakeholder of this plan. This plan update is required for all communities to maintain eligibility for pre- and post-disaster mitigation funding from FEMA, and it will also help the participating communities to understand vulnerabilities and proactively mitigate risk.

To learn more about the plan update and to review the draft plan, please visit www.PamlicoSoundHMP.com. If you would like to share any information or feedback that might be relevant to the plan and local mitigation efforts, please send it to me at abigail.moore@wsp.com by Monday, March 31, 2025.

We appreciate any input you may wish to share and thank you for your assistance with this planning effort!

Abby Moore, AICP, CFM
Hazard Mitigation & Resilience Planner
She/Her

T +1 919-767-1112

WSP
4021 Stirrup Creek Drive, Suite 100
Durham, NC 27703

wsp.com

Table B.3 – Stakeholder List

First Name	Last Name	Organization
		Non-Profit Organizations
Kenneth	Lingerfelt	NC Coastal Land Trust, Director of Land Protection
James	Jarvis	Red Cross Cape Fear Chapter, Executive Director
Sandra	Phelps	United Way of Coastal Carolina, Executive Director
Heather	Jacobs Deck	Sound Rivers, Executive Director
		Educational Institutions
Jeremy	Johnson	Pamlico County Public Schools Superintendent
Wendy	Miller	Craven County Public Schools Superintendent
Richie	Paylor	Carteret County Public Schools Superintendent
Matthew	Cheeseman	Beaufort County Public Schools Superintendent
Zac	Schnell	Pamlico Community College, President
Dendray	Ballard	Craven Community College, Director of Security & Emergency Management
Richard	Abell	Carteret Community College Security & Emergency Preparedness, Director
Dave	Loope	Beaufort County Community College, President
Stacy	Davis	UNC-CH Institute of Marine Sciences, Facilities Manager
		Surrounding Municipalities
Stacie	Miles	Onslow County Emergency Services Deputy Director
Ryan	Mills	Jones County Emergency Services Director
Murry	Stroud	Lenoir County Division of Emergency Management Director
Randy	Gentry	Pitt County Planning Director
Jody	Griffin	Martin County Emergency Management, Director
Lance	Swindell	Washington County EM Coordinator
Joey	Williams	Hyde County Emergency Services Director
		Federal Government
Jason	Hunter	FEMA Region IV, Chief, Floodplain Management & Insurance Branch
Valerie	Anderson	FEMA Region IV, Natural Hazards Program Specialist
Dewana	Davis	FEMA Region IV, Insurance Specialist
Roy	McClure	FEMA NFIP/CRS Specialist
Kymberly	Kudla	FEMA Mitigation Planning Specialist
David	Holcomb	ISO/CRS Specialist
Mike	Bratcher	ISO/CRS Specialist
Sherry	Harper	ISO/CRS Technical Coordinator
Katherine	Smith	USGS Climate Adaptation Science Center
Etta	Lucas	MCAS Cherry Point Installation Emergency Manager
		State Government
Steve	Garrett	State NFIP Coordinator
Steve	McGugan	State Hazard Mitigation Officer
Linda	Culpepper	DEQ Division of Water Resources, Director
Mary Beth	Houston	NCDOT, Division 2 Representative
Hannah	Thompson-Welch	NC Forest Service, Wildfire Mitigation Specialist
		Business Community
Wendy	Card	New Bern Now, Editor-in-Chief

First Name	Last Name	Organization
Vail	Stewart Rumley	Washington Daily News Author
Kevin	Roberts	New Bern Area Chamber of Commerce; President
Erin	Knight	Carteret County Chamber of Commerce, President
Catherine	Glover	Washington Beaufort County Chamber of Commerce, Executive Director
Bob	Fuller	Pamlico County Chamber of Commerce

APPENDIX C MITIGATION ALTERNATIVES

44 CFR Subsection D §201.6(c)(3)(ii): [The mitigation strategy section shall include] a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction's participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.

As part of the process of developing the mitigation action plans found in Section 7, the HMPC reviewed and considered a comprehensive range of mitigation options before selecting the actions identified for implementation. This section summarizes the full range of mitigation measures evaluated and considered by the HMPC, including a review of the categories of mitigation measures outlined in the 2017 CRS Coordinator's Manual, a discussion of current local implementation and CRS credits earned for those measures, and a list of the specific mitigation projects considered and recommended for implementation.

Mitigation alternatives identified for implementation by the HMPC were evaluated and prioritized using the criteria discussed in Section 6 of this plan.

C.1 CATEGORIES OF MITIGATION MEASURES CONSIDERED

The HMPC analyzed viable mitigation options that addressed each of the identified hazards and supported the identified goals and objectives. As part of the review of mitigation alternatives, the HMPC was provided with the following list of mitigation categories which are utilized as part of the CRS planning process.

- Prevention
- Property Protection
- Natural Resource Protection
- Structural Projects
- Emergency Services
- Public Information and Outreach

Action ideas within each of these categories were discussed and considered for inclusion in the plan. The HMPC was encouraged to select actions to pursue within most if not all of these categories so as to develop a comprehensive approach to hazard mitigation.

C.2 ALTERNATIVE MITIGATION MEASURES PER CATEGORY

This section presents a summary review of the mitigation measures that were considered by the HMPC. Note: the CRS credit recommendations are based on the 2017 CRS Coordinator's Manual and the 2021 Addendum.

C.2.1 PREVENTATIVE AND REGULATORY MEASURES

Preventative measures are designed to keep a problem, such as flooding, from occurring or from getting worse. The objective of preventative measures is to ensure that future development is not exposed to damage and does not cause an increase in damages to other properties. Building, zoning, planning and code enforcement offices usually administer preventative measures. Some examples of types of preventative measures include:

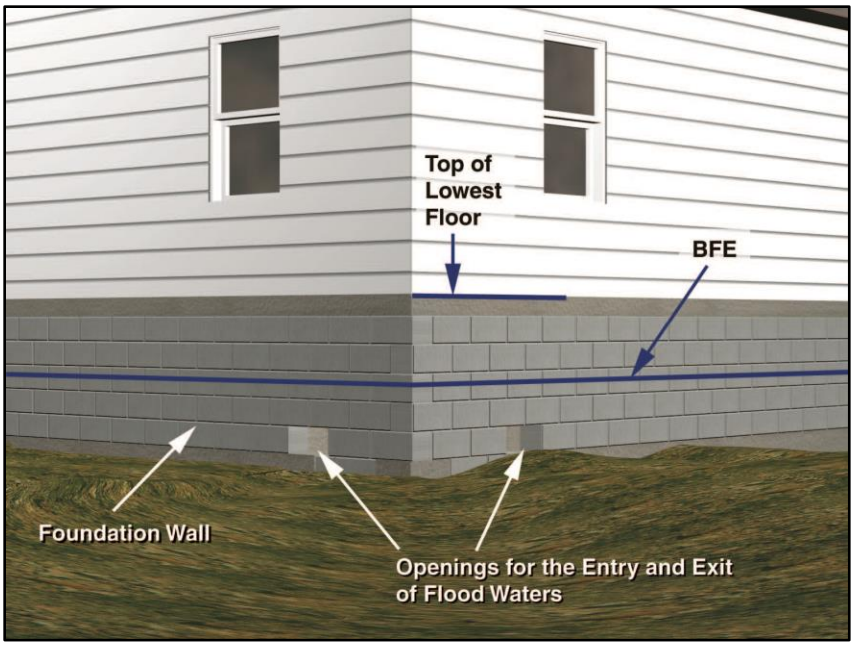
- Building codes
- Comprehensive or land use planning
- Zoning ordinance
- Open space preservation
- Floodplain regulations
- Subdivision regulations
- Stormwater management regulations

BUILDING CODES

Building codes provide one of the best methods for addressing natural hazards. When properly designed and constructed according to code, the average building can withstand many of the impacts of natural hazards. Hazard protection standards for all new and improved or repaired buildings can be incorporated into the local building code. Building codes can ensure that the first floors of new buildings are constructed to be higher than the elevation of the 100-year flood (the flood that is expected to have a one percent chance of occurring in any given year). This is shown in Figure C.1.

Just as important as having code standards is the enforcement of the code. Adequate inspections are needed during the course of construction to ensure that the builder understands the requirements and is following them. Making sure a structure is properly elevated and anchored requires site inspections at each step.

Figure C.1 – Building Codes and Flood Protection Elevations



Source: FEMA Publication: *Above the Flood: Elevating Your Floodprone House, 2000*

ASCE 24 is a referenced standard in the International Building Code. Any building or structure that falls within the scope of the IBC that is proposed in a flood hazard area is to be designed in accordance with ASCE 24. Freeboard is required as a function of the nature of occupancy and the flood zone. Dwellings and most other buildings have 1-foot of freeboard; certain essential facilities have 2-3 feet; only agricultural facilities, temporary facilities and minor storage facilities are allowed to have their lowest floors at the BFE.

COMPREHENSIVE OR LAND USE PLANNING

Building codes provide guidance on how to build in hazardous areas. Planning and zoning activities direct development away from these areas, particularly floodplains and wetlands. They do this by designating land uses that are compatible with the natural conditions of land that is prone to flooding, such as open space or recreation. Communities in the Pamlico Sound Region prepare land use plans in compliance with North Carolina Coastal Area Management Act (CAMA) requirements.

ZONING ORDINANCE

Zoning enables a community to designate what uses are acceptable on a given parcel. Zoning can ensure compatibility of land use with the land's level of suitability for development. Planning and zoning activities can also provide benefits by allowing developers more flexibility in arranging improvements on a parcel of land through the planned development approach. Zoning regulations describe what type of land use and specific activities are permitted in each district, and how to regulate how buildings, signs, parking, and other construction may be placed on a lot. Zoning regulations also provide procedures for rezoning and other planning applications. The zoning map and zoning regulations provide properties with certain rights to development.

OPEN SPACE PRESERVATION

Keeping the floodplain and other hazardous areas open and free from development is the best approach to preventing damage to new developments. Open space can be maintained in agricultural use or can serve as parks, greenway corridors and golf courses.

Comprehensive and capital improvement plans should identify areas to be preserved by acquisition and other means, such as purchasing an easement. With an easement, the owner is free to develop and use private property, but property taxes are reduced or a payment is made to the owner if the owner agrees to not build on the part set aside in the easement.

Although there are some federal programs that can help acquire or reserve open lands, open space lands and easements do not always have to be purchased. Developers can be encouraged to dedicate park land and required to dedicate easements for drainage and maintenance purposes.

FLOODPLAIN REGULATIONS

A Flood Damage Prevention Ordinance sets development standards for Special Flood Hazard Areas (SFHAs). Communities participating in the National Flood Insurance Program (NFIP) are required to adopt a flood damage prevention ordinance that meets at least the minimum standards of the NFIP; however, a community can incorporate higher standards for increased protection. For example, communities can adopt higher regulatory freeboard requirements, cumulative substantial damage definitions, fill restrictions, and other standards.

Another important consideration in floodplain regulations is the protection of natural and beneficial functions and the preservation of natural barriers such as vegetation. Vegetation along a stream bank is extremely beneficial for the health of the stream. Trees and other plants have an extensive root system that strengthen stream banks and help prevent erosion. Vegetation that has sprouted up near streams should remain undisturbed unless removing it will significantly reduce a threat of flooding or further destruction of the stream channel.

STORMWATER MANAGEMENT REGULATIONS

Stormwater runoff is increased when natural ground cover is replaced by urban development. Development in the watershed that drains to a river can aggravate downstream flooding, overload the community's drainage system, cause erosion, and impair water quality. There are three ways to prevent flooding problems caused by stormwater runoff:

1. Regulating development in the floodplain to ensure that it will be protected from flooding and that it won't divert floodwaters onto other properties;
2. Regulating all development to ensure that the post-development peak runoff will not be greater than it was under pre-development conditions; and
3. Set construction standards so buildings are protected from shallow water.

REDUCING FUTURE FLOOD LOSSES

Zoning and comprehensive planning can work together to reduce future flood losses by directing development away from hazard prone areas. Creating or maintaining open space is the primary way to reduce future flood losses.

Planning for open space must also be supplemented with development regulations to ensure that stormwater runoff is managed and that development is protected from flooding. Enforcement of the flood damage prevention ordinance and the flood protection elevation requirement provides an extra level of protection for buildings constructed in the planning area.

Stormwater management and the requirement that post-development runoff cannot exceed pre-development conditions is one way to prevent future flood losses. Retention and detention requirements also help to reduce future flood losses.

LOCAL IMPLEMENTATION RECOMMENDATIONS

The CRS encourages strong building codes. It provides credit in two ways: points are awarded based on the community's Building Code Effectiveness Grading Schedule (BCEGS) classification and points are awarded for adopting the International Code series. In North Carolina, communities are limited by the State Building Code Council which has not implemented the most current version of the International Building Code.

CRS credits are available for regulations that encourage developers to preserve floodplains or other hazardous areas away from development. There is no credit for a plan, only for the enforceable regulations that are adopted pursuant to a plan. Communities in the Pamlico Sound Region could receive credit for Activity 430 – Higher Regulatory Standards and for Activity 420 – Open Space Preservation for preserving parcels within the SFHA as open space. Preserving flood prone areas as open space is one of the highest priorities of the Community Rating System. The credits in the 2017 manual have doubled for OSP (Open Space Preservation). The participating communities could also receive credit for Activity 450 – Stormwater Management for enforcing regulations for stormwater management and soil and erosion control. Several prevention actions considered by the HMPC are detailed below.

Table C.1 – Prevention Mitigation Options and Recommended Projects

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
Prevention Measures Considered by HMPC and Not Recommended			
-	Update building codes to require that the first floor of all new construction be raised a minimum of two feet above the base flood elevation.	Most communities already have a building elevation requirement. Limited political support for more elevation.	n/a

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
-	Review all land use planning and regulatory documents pertinent to hazard mitigation in an effort to: (1) Reduce exposure to natural hazards (2) Promote resource protection (3) Encourage the use of best management practices	This strategy is adequately addressed through other strategies included in the updated plan.	n/a
Prevention Measures and Funding Recommended for Implementation			
P1	In the event of a substantial flooding event, or other natural hazard occurrence, perform damage assessments in coordination with NCEM. These assessments will assist the County in determining the extent of the damage caused by the respective disaster event. This data will be utilized as a tool for land use planning and future hazard mitigation plan updates and to gauge the effectiveness of the County's two-foot freeboard requirement.	Pamlico County has carried out this process following Hurricanes Matthew and Florence since adoption of the past plan. The impacts of these storms will be factored into decisions regarding land use and development policy through implementation of this plan.	GF, NCDPS
B15	Integrate new greenway and public park improvements into comprehensive planning and capital improvement efforts for land not suitable for development (including coordination with all local certified CAMA Land Use Plans).	Beaufort County updated its certified CAMA Land Use plan this year and will use the updated LUP to promote these strategies.	GF, NCDEQ
CR2	Review respective Flood Damage Prevention Ordinances to assess whether any revisions and/or updates have been mandated by FEMA or NCEM. Additionally, jurisdictions will consider whether regulatory options are available to provide for more effective floodplain management.	Effective floodplain management can protect people and property and prevent flood damages.	GF, NCDPS

C.2.2 PROPERTY PROTECTION MEASURES

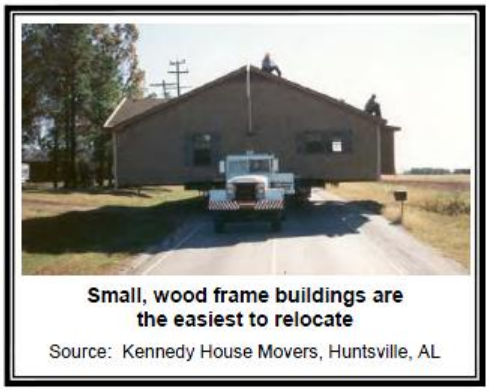
Generally, natural hazards do not damage vacant areas; the major impact of hazards is to people and improved property. Property protection measures are used to modify buildings or property that are subject to damage in order to reduce their vulnerability. Property protection measures fall under three approaches:

- Modify the site to keep the hazard from reaching the building;
- Modify the building (retrofit) so it can withstand the impacts of the hazard; and
- Insure the property to provide financial relief after the damage occurs.

Property protection measures are normally implemented by the property owner, although in many cases technical and financial assistance can be provided by a government agency.

KEEP THE HAZARD AWAY

In some cases, properties can be modified so the hazard does not reach the damage-prone improvements. For example, a berm can be built to prevent floodwaters from reaching a house.

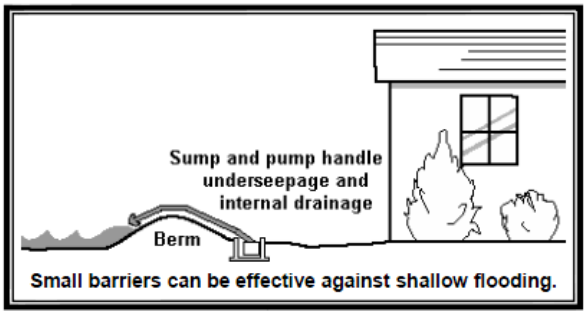


Small, wood frame buildings are the easiest to relocate

Source: Kennedy House Movers, Huntsville, AL

BARRIERS

A flood protection barrier can be built of dirt or soil (a "berm") or concrete or steel (a "floodwall"). Careful design is needed so as not to create flooding or drainage problems on neighboring properties. Depending on how porous the ground is, if floodwaters will stay up for more than an hour or two, the design needs to account for leaks, seepage of water underneath, and rainwater that will fall inside the perimeter. This is usually done with a sump or drain to collect the internal groundwater and surface water and a pump and pipe to pump the internal drainage over the barrier. Barriers can only be built so high. They can be overtopped by a flood higher than expected. Barriers made of earth are susceptible to erosion from rain and floodwaters if not properly sloped, covered with grass, and properly maintained.



Small barriers can be effective against shallow flooding.

MODIFY THE BUILDING

There are several common methods to keep a flood from damaging a building:

- Move the building out of the flood-prone area.
- Elevate the building above the flood level.
- Demolish the building.
- Replace the building with a new one that is elevated above the flood level.
- Retrofit the building to reduce the impact of flooding when it occurs.

Elevation, acquisition, and pilot reconstruction are the most effective types to consider for the planning area.

This low floodwall has landscaping to minimize the adverse impact on the property's appearance.

RELOCATION

Moving a building out of a flood prone area to higher ground is the surest and safest way to protect it from flooding. While almost any building can be moved, the cost increases for heavier structures, such as those with exterior brick and stone walls, and for large or irregularly shaped buildings. Relocation is also preferred for large lots that include buildable areas outside the floodplain or where the owner has a new flood-free lot (or portion of the existing lot) available.

BUILDING ELEVATION

Raising a building above the flood level can be almost as effective as moving it out of the floodplain. Water flows under the building, causing little or no damage to the structure or its contents. Raising a building above the flood level is cheaper than moving it and can be less disruptive to a neighborhood.

Elevation has proven to be an acceptable and reasonable means of complying with floodplain regulations that require new, substantially improved, and substantially damaged buildings to be elevated above the base flood elevation.

DEMOLITION

Some buildings, especially heavily damaged or repetitively flooded ones, are not worth the expense to protect them from future damages. It is cheaper to demolish them and either replace them with new, flood protected structures or relocate the occupants to a safer site. Demolition is also appropriate for buildings that are difficult to move – such as larger, slab foundation or masonry structures – and for dilapidated structures that are not cost-beneficial to protect.

Demolishing a repetitively flooded home

PILOT RECONSTRUCTION

If a building is not in good shape, elevating it may not be worthwhile or it may even be dangerous. An alternative is to demolish the structure and build a new one on the site that meets or exceeds all flood protection codes. FEMA funding programs refer to this approach as "pilot reconstruction." It is still a pilot program, and not a regularly funded option. Certain rules must be followed to qualify for federal funds for pilot reconstruction.

RETROFITTING

An alternative to keeping the hazard away from a building is to modify or retrofit the site or building to minimize or prevent damage. There are a variety of techniques to do this, as described below.

- **Dry Floodproofing**

  Dry floodproofing means making all areas below the flood protection level watertight. Walls are coated with waterproofing compounds or plastic sheeting. Openings, such as doors, windows and vents, are closed, either permanently, with removable shields, or with sandbags. Dry floodproofing of new and existing non-residential buildings in the regulatory floodplain is permitted under state, FEMA and local regulations. Dry floodproofing of existing residential buildings in the floodplain is also permitted as long as the building is not substantially damaged or being substantially improved. Owners of buildings located outside the regulatory floodplain can always use dry floodproofing techniques.

  Dry floodproofing is only effective for shallow flooding, such as repetitive drainage problems. It does not protect from the deep flooding along lakes and larger rivers caused by hurricanes or other storms.

- **Wet Floodproofing**

  The alternative to dry floodproofing is wet floodproofing: water is let in and everything that could be damaged by a flood is removed or elevated above the flood level. Structural components below the flood level are replaced with materials that are not subject to water damage. For example, concrete block walls are used instead of wooden studs and gypsum wallboard. The furnace, water heater and laundry facilities are permanently relocated to a higher floor. Where the flooding is not deep, these appliances can be raised on blocks or platforms.

INSURANCE

Technically, insurance does not mitigate damage caused by a natural hazard. However, it does help the owner repair, rebuild, and hopefully afford to incorporate some of the other property protection measures in the process. Insurance offers the advantage of protecting the property, so long as the policy is in force, without requiring human intervention for the measure to work.

- **Private Property**

  Although most homeowner's insurance policies do not cover a property for flood damage, an owner can insure a building for damage by surface flooding through the NFIP. Flood insurance coverage is provided for buildings and their contents damaged by a "general condition of surface flooding" in the area. Most people purchase flood insurance because it is required by the bank when they get a mortgage or home improvement loan. Usually these policies just cover the building's structure and not the contents. Contents coverage can be purchased separately. Renters can buy contents coverage, even if the owner does not buy structural coverage on the building. Most people don't realize that there is a 30-day waiting period to purchase a flood insurance policy and there are limits on coverage.

- **Public Property**

  Governments can purchase commercial insurance policies. Larger local governments often self-insure and absorb the cost of damage to one facility, but if many properties are exposed to damage, self-insurance can drain the government's budget. Communities cannot expect federal disaster assistance to make up the difference after a flood.

LOCAL IMPLEMENTATION RECOMMENDATIONS

The CRS provides the most credit points for acquisition and relocation under Activity 520, because this measure permanently removes insurable buildings from the floodplain. Communities in the Pamlico Sound Region could receive credit for Activity 520 – Acquisition and Relocation, for acquiring and relocating buildings from the SFHA. The HMPC recommended that communities pursue the purchase of repetitive loss buildings and other buildings which are subject to flood damage in order to return this land to open space.

The CRS also credits barriers and elevating existing buildings under Activity 530. The credit for Activity 530 is based on the combination of flood protection techniques used and the level of flood protection provided. Points are calculated for each protected building. Bonus points are provided for the protection of repetitive loss buildings and critical facilities. Communities could receive credit for Activity 360 – Flood Protection Assistance by providing advice and assistance to homeowners who may want to flood proof their home or business. Advice is provided both on property protection techniques and on financial assistance programs to help fund mitigation.

Flood insurance information for each community is provided in Section 5 and in greater detail in Annex B. There is no credit for purchasing flood insurance, but the CRS does provide credit for local public information programs that, among other topics, explain flood insurance to property owners. The CRS also reduces the premiums for those people who do buy NFIP coverage. Communities in the Pamlico Sound Region could receive credit for Activity 330 – Outreach Projects. Property protection mitigation options considered by the HMPC are described below.

Table C.2 – Property Protection Mitigation Options and Recommended Projects

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
Property Protection Measures Considered by HMPC and Not Recommended			
-	Provide a fund for residents to update their sites and buildings to prevent future hazard damages.	No money to create this fund and would likely not gain political support.	n/a
Property Protection Measures and Funding Recommended for Implementation			
P3	Continue to proactively seek grant funding through NCEM and FEMA for mitigation of repetitive loss properties (RLP's) from future flooding events. The County will maintain a list of RLP's, and on an annual basis, will apply for funding for all structures that meet cost-benefit thresholds as defined by FEMA. Pamlico County will assist all municipal jurisdictions in working through the structural mitigation grant funding process.	RLPs and SRLPs are the highest priority for property mitigation.	GF, NCDPS, HMGP, BRIC, UHMA
CA5	Maintain, and where necessary, install backup generators at all identified critical facilities. Additionally, County Emergency Services will evaluate the equipment on a regular basis to ensure it continues to meet operational demands at county facilities.	Back up power can ensure continuity of operations at critical facilities.	GF, HMGP, BRIC, UHMA
RB3	Flood Mitigation at Wastewater Treatment Plant by raising top of structures to above base flood elevation and plus 2' freeboard where possible.	Mitigation of the wastewater treatment plant in River Bend is a priority for public health and safety and continuity of operations	GF, FEMA, NCDEQ

C.2.3 NATURAL RESOURCE PROTECTION

Resource protection activities are generally aimed at preserving (or in some cases restoring) natural areas. These activities enable the naturally beneficial functions of fields, floodplains, wetlands, and other natural lands to operate more effectively. Natural and beneficial functions of watersheds, floodplains and wetlands include:

- Reduction in runoff from rainwater and stormwater in pervious areas
- Infiltration that absorbs overland flood flow
- Removal and filtering of excess nutrients, pollutants and sediments
- Storage of floodwaters
- Absorption of flood energy and reduction in flood scour
- Water quality improvement
- Groundwater recharge
- Habitat for flora and fauna
- Recreational and aesthetic opportunities

As development occurs, many of the above benefits can be achieved through regulatory steps for protecting natural areas or natural functions. This section covers the resource protection programs and standards that can help mitigate the impact of natural hazards, while they improve the overall environment. Six areas were reviewed:

- Wetland protection
- Erosion and sedimentation control
- Stream/River restoration
- Best management practices
- Dumping regulations
- Farmland protection

WETLAND PROTECTION

Wetlands are often found in floodplains and topographically depressed areas of a watershed. Many wetlands receive and store floodwaters, thus slowing and reducing downstream flows. They also serve as a natural filter, which helps to improve water quality, and they provide habitat for many species of fish, wildlife and plants.

EROSION AND SEDIMENTATION CONTROL

Farmlands and construction sites typically contain large areas of bare exposed soil. Surface water runoff can erode soil from these sites, sending sediment into downstream waterways. Erosion also occurs along stream banks and shorelines as the volume and velocity of flow or wave action destabilize and wash away the soil. Sediment suspended in the water tends to settle out where flowing water slows down. This can clog storm drains, drain tiles, culverts and ditches and reduce the water transport and storage capacity of river and stream channels, lakes and wetlands.

There are two principal strategies to address these problems: minimize erosion and control sedimentation. Techniques to minimize erosion include phased construction, minimal land clearing, and stabilizing bare ground as soon as possible with vegetation and other soil stabilizing practices.

STREAM/SHORELINE RESTORATION

The objective of "stream conservation," "bioengineering," or "riparian corridor restoration" is to return streams, stream banks, natural meanders, and adjacent land to a more natural condition. Another term is "ecological restoration," which restores native indigenous plants and animals to an area.

A key component of these efforts is to use appropriate native plantings along the banks that resist erosion. This may involve retrofitting the shoreline with willow cuttings, wetland plants, or rolls of landscape material covered with a natural fabric that decomposes after the banks are stabilized with plant roots.

In all, restoring the right vegetation to a stream has the following advantages:

- Reduces the amount of sediment and pollutants entering the water
- Enhances aquatic habitat by cooling water temperature
- Provides food and shelter for both aquatic and terrestrial wildlife
- Can reduce flood damage by slowing the velocity of water
- Increases the beauty of the land and its property value
- Prevents property loss due to erosion
- Provides recreational opportunities, such as hunting, fishing and bird watching
- Reduces long-term maintenance costs

Communities are required by state and federal regulations to monitor storm water drainage outfalls and control storm water runoff.

BEST MANAGEMENT PRACTICES

Point source pollutants come from pipes such as the outfall of a municipal wastewater treatment plant. They are regulated by the US EPA. Nonpoint source pollutants come from non-specific locations and harder to regulate. Examples of nonpoint source pollutants are lawn fertilizers, pesticides, other chemicals, animal wastes, oils from street surfaces and industrial areas, and sediment from agriculture, construction, mining and forestry. These pollutants are washed off the ground's surface by stormwater and flushed into receiving storm sewers, ditches and streams.

The term "best management practices" (BMPs) refers to design, construction and maintenance practices and criteria that minimize the impact of stormwater runoff rates and volumes, prevent erosion, protect natural resources and capture nonpoint source pollutants (including sediment). They can prevent increases in downstream flooding by attenuating runoff and enhancing infiltration of stormwater. They also minimize water quality degradation, preserve beneficial natural features onsite, maintain natural base flows, minimize habitat loss, and provide multiple usages of drainage and storage facilities.

DUMPING REGULATIONS

BMPs usually address pollutants that are liquids or are suspended in water that are washed into a lake or stream. Dumping regulations address solid matter, such as shopping carts, appliances and landscape waste that can be accidentally or intentionally thrown into channels or wetlands. Such materials may not pollute the water, but they can obstruct even low flows and reduce the channels' and wetlands' abilities to convey or clean stormwater.

Many cities have nuisance ordinances that prohibit dumping garbage or other "objectionable waste" on public or private property. Waterway dumping regulations need to also apply to "non-objectionable" materials, such as grass clippings or tree branches, which can kill ground cover or cause obstructions in channels. Regular inspections to catch violations should be scheduled.

Many people do not realize the consequences of their actions. They may, for example, fill in the ditch in their front yard without realizing that is needed to drain street runoff. They may not understand how re-grading their yard, filling a wetland, or discarding leaves or branches in a watercourse can cause a problem to themselves and others. Therefore, a dumping enforcement program should include public information materials that explain the reasons for the rules as well as the penalties.

FARMLAND PROTECTION

Farmland protection is an important piece of comprehensive planning and zoning throughout the United States. The purpose of farmland protection is to provide mechanisms for prime, unique, or important agricultural land to remain as such, and to be protected from conversion to nonagricultural uses.

Frequently, farm owners sell their land to residential or commercial developers and the property is converted to non-agricultural land uses. With development comes more buildings, roads and other infrastructure. Urban sprawl occurs, which can lead to additional stormwater runoff and emergency management difficulties.

Farms on the edge of cities are often appraised based on the price they could be sold for to urban developers. This may drive farmers to sell to developers because their marginal farm operations cannot afford to be taxed as urban land. The Farmland Protection Program in the United States Department of Agriculture's 2002 Farm Bill (Part 519) allows for funds to go to state, tribal, and local governments as well as nonprofit organizations to help purchase easements on agricultural land to protect against the development of the land.

LOCAL IMPLEMENTATION RECOMMENDATIONS

There is credit for preserving open space in its natural condition or restored to a state approximating its natural condition. The credit is based on the percentage of the floodplain that can be documented as wetlands protected from development by ownership or local regulations. Communities in the Pamlico Sound Region could receive credit for Activity 420 – Open Space Preservation for preserving a portion of the SFHA as open space.

Additionally, credit is available for Activity 540 – Drainage System Maintenance. Having a portion of the drainage system inspected regularly throughout the year and maintenance performed as needed would earn a community credit. Communities could also get credit under this activity for listing problem sites that are inspected more frequently, and for implementing an ongoing Capital Improvements Program.

Table C.3 – Natural Resource Protection Mitigation Options and Recommended Projects

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
Natural Resource Protection Measures Considered by HMPC and Not Recommended			
-	Create a Best Management Practices guideline to collect several techniques into one plan.	Not enough administrative or fiscal resources to complete.	n/a
-	Develop an open space management plan	Not enough administrative or fiscal resources to complete.	n/a
Natural Resource Protection Measures and Funding Recommended for Implementation			
P2	Continue to monitor drainage conditions throughout the County, in particular, issues associated with drainage ditches and agricultural runoff canals situated throughout the County. Once issues are identified, the County will work with municipal jurisdictions and State agencies to identify short- and long-term solutions to these issues.	Pamlico County is currently working towards solutions regarding flooding associated with Hurricanes Matthew and Florence. The most substantial of these problems has been identified in the Hurricane Matthew Resiliency Redevelopment Plan.	GF, NCDEQ, NCDOT
CA10	Maintain all property acquired within the Special Flood Hazard Area (SFHA) as undisturbed open space in perpetuity. Continue to proactively establish open space within the floodplain and floodway as HMGP grant funds become available to carry out this initiative.	Open space preservation will prevent new flood exposure and may involve removing existing property from high risk areas.	GF, NCDPS
CR3	Continue to support NCDENR in efforts to enforce the Neuse River Basin-wide Water Quality Management Rules.	Enforcement of these rules remains a priority. Changes in standards will coincide with amendments established by NCDEQ.	GF
CR24	Integration of environmentally friendly flood control measures will be implemented where necessary, such as the installation of living shorelines, marsh sills, flood barriers etc. to protect environmentally sensitive areas and maintain the natural floodplain.	These efforts will help reestablish shorelines and floodplain lost to natural disasters or other means of degradation through environmentally friendly methods and techniques.	GF, FEMA, NCDPS, Other

C.2.4 EMERGENCY SERVICES MEASURES

Emergency services measures protect people during and after a disaster. A good emergency management program addresses all hazards, and it involves all local government departments. This section reviews emergency services measures following a chronological order of responding to an emergency. It starts with identifying an impending problem (threat recognition) and continues through post-disaster activities.

THREAT RECOGNITION

The first step in responding to a flood is to know when weather conditions are such that an event could occur. With a proper and timely threat recognition system, adequate warnings can be disseminated.

The National Weather Service (NWS) is the prime agency for detecting meteorological threats. Severe weather warnings are transmitted through NOAA's Weather Radio System. Local emergency managers can then provide more site-specific and timely recognition after the Weather Service issues a watch or a warning. A flood threat recognition system predicts the time and height of a flood crest. This can be done by measuring rainfall, soil moisture, and stream flows upstream of the community and calculating the subsequent flood levels.

On smaller rivers and streams, locally established rainfall and river gauges are needed to establish a flood threat recognition system. The NWS may issue a "flash flood watch." This is issued to indicate current or developing hydrologic conditions that are favorable for flash flooding in and close to the watch area, but the occurrence is neither certain nor imminent. These events are so localized and so rapid that a "flash flood warning" may not be issued, especially if no remote threat recognition equipment is available. In the absence of a gauging system on small streams, the best threat recognition system is to have local personnel monitor rainfall and stream conditions. While specific flood crests and times will not be predicted, this approach will provide advance notice of potential local or flash flooding.

WARNING

The next step in emergency response following threat recognition is to notify the public and staff of other agencies and critical facilities. More people can implement protection measures if warnings are early and include specific detail.

The NWS issues notices to the public using two levels of notification:

- Watch: conditions are right for flooding, thunderstorms, tornadoes or winter storms.
- Warning: a flood, tornado, etc., has started or been observed.

A more specific warning may be disseminated by the community in a variety of ways. The following are the more common methods:

- CodeRED countywide mass telephone emergency communication system
- Commercial or public radio or TV stations
- The Weather Channel
- Cable TV emergency news inserts
- Telephone trees/mass telephone notification
- NOAA Weather Radio
- Tone activated receivers in key facilities
- Outdoor warning sirens
- Sirens on public safety vehicles
- Door-to-door contact

- Mobile public address systems
- Email notifications

Just as important as issuing a warning is telling people what to do in case of an emergency. A warning program should include a public information component.

STORMREADY

The National Weather Service (NWS) established the StormReady program to help local governments improve the timeliness and effectiveness of hazardous weather-related warnings for the public. To be officially StormReady, a community must:

- Establish a 24-hour warning point and emergency operations center
- Have more than one way to receive severe weather warnings and forecasts and to alert the public
- Create a system that monitors weather conditions locally
- Promote the importance of public readiness through community seminars
- Develop a formal hazardous weather plan, which includes training severe weather spotters and holding emergency exercises

Being designated a NWS StormReady community is a good measure of a community's emergency warning program for weather hazards. All counties in the region and the towns of Cape Carteret and Pine Knoll Shores are designated StormReady.

RESPONSE

The protection of life and property is the most important task of emergency responders. Concurrent with threat recognition and issuing warnings, a community should respond with actions that can prevent or reduce damage and injuries. Typical actions and responding parties include the following:

- Activating the emergency operations center (emergency preparedness)
- Closing streets or bridges (police or public works)
- Shutting off power to threatened areas (utility company)
- Passing out sand and sandbags (public works)
- Holding children at school or releasing children from school (school superintendent)
- Opening evacuation shelters (the American Red Cross)
- Monitoring water levels (public works)
- Establishing security and other protection measures (police)

An emergency action plan ensures that all bases are covered and that the response activities are appropriate for the expected threat. These plans are developed in coordination with the agencies or offices that are given various responsibilities.

Emergency response plans should be updated annually to keep contact names and telephone numbers current and to ensure that supplies and equipment that will be needed are still available. They should be critiqued and revised after disasters and exercises to take advantage of the lessons learned and of changing conditions. The end result is a coordinated effort implemented by people who have experience working together so that available resources will be used in the most efficient manner possible.

EVACUATION AND SHELTER

There are six key components to a successful evacuation:

- Adequate warning

- Adequate routes
- Proper timing to ensure the routes are clear
- Traffic control
- Knowledgeable travelers
- Care for special populations (e.g., disabled persons, prisoners, hospital patients, schoolchildren)

Those who cannot get out of harm's way need shelter. Typically, the American Red Cross will staff a shelter and ensure that there is adequate food, bedding, and wash facilities. Shelter management is a specialized skill. Managers must deal with problems like scared children, families that want to bring in their pets, and the potential for an overcrowded facility.

LOCAL IMPLEMENTATION RECOMMENDATIONS

Flash flood warnings are issued by National Weather Service Offices, which have the local and county warning responsibility. Flood warnings are forecasts of coming floods, are distributed to the public by the NOAA Weather Radio, commercial radio and television, and through local emergency agencies. The warning message tells the expected degree of flooding, the affected river, when and where flooding will begin, and the expected maximum river level at specific forecast points during flood crest.

Communities in the Pamlico Sound Region could receive credit for Activity 610 – Flood Warning Program for maintaining a program that provides timely identification of impending flood threats, disseminates warnings to appropriate floodplain residents, and coordinates flood response activities. Community Rating System credits are based on the number and types of warning media that can reach the community's flood prone population. Depending on the location, communities can receive credit for the telephone calling system and more credits for additional measures, like telephone trees. Being designated as a StormReady community also provides additional credits.

Table C.4 – Emergency Services Mitigation Options and Recommended Projects

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
Emergency Services Measures Considered by HMPC and Not Recommended			
-	Ensure that emergency routes are adequately marked and clear.	This work is already managed by NCDOT and does not require further local action.	n/a
Emergency Services Measures and Funding Recommended for Implementation			
B5	Complete an annual evaluation of each designated emergency shelter, including structural inspection, resource inventory, staffing plan, and vulnerability assessment, including coordination with American Red Cross (ARC) personnel.	This action will ensure shelter preparedness for hazard events.	GF, NCDPS, ARC
CR13	Work to expand upon the County's Special Medical Needs Registry (SMNR). The SMNR is available to all County residents. Effective participation will require close cooperation between County ES and local government staff members. All jurisdictions will work to advertise the availability of this service within their respective communities.	Providing evacuation support during hazard events protects live and safety for special needs populations.	GF

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
P14	Maintain Debris Removal and Monitoring Services Contracts for post disaster response. These services should focus on preparing documentation necessary to ensure full reimbursement of cost associated with community cleanup and immediate infrastructure restoration.	Post disaster debris removal is critical to recovery and continuity of operations.	GF, NCDPS, FEMA

C.2.5 STRUCTURAL PROJECTS

Four general types of flood control projects are reviewed here: levees, reservoirs, diversions, and dredging. These projects have three advantages not provided by other mitigation measures:

- They can stop most flooding, protecting streets and landscaping in addition to buildings.
- Many projects can be built without disrupting citizens' homes and businesses.
- They are constructed and maintained by a government agency, a more dependable long-term management arrangement than depending on many individual private property owners.

However, as shown below, structural measures also have shortcomings. The appropriateness of using flood control depends on individual project area circumstances.

Advantages

- They may provide the greatest amount of protection for land area used
- Because of land limitations, they may be the only practical solution in some circumstances
- They can incorporate other benefits into structural project design, such as water supply and recreational uses
- Regional detention may be more cost-efficient and effective than requiring numerous small detention basins

Disadvantages

- They can disturb the land and disrupt the natural water flows, often destroying wildlife habitat
- They require regular maintenance
- They are built to a certain flood protection level that can be exceeded by larger floods
- They can create a false sense of security
- They promote more intensive land use and development in the floodplain

LEVEES AND FLOODWALLS

Probably the best-known flood control measure is a barrier of earth (levee) or concrete (floodwall) erected between the watercourse and the property to be protected. Levees and floodwalls confine water to the stream channel by raising its banks. They must be well designed to account for large floods, underground seepage, pumping of internal drainage, and erosion and scour.

RESERVOIRS AND DETENTION

Reservoirs reduce flooding by temporarily storing flood waters behind dams or in storage or detention basins. Reservoirs lower flood heights by holding back, or detaining, runoff before it can flow downstream. Flood waters are detained until the flood has subsided, and then the water in the reservoir or detention basin is released or pumped out slowly at a rate that the river can accommodate downstream.

Reservoirs can be dry and remain idle until a large rain event occurs. Or they may be designed so that a lake or pond is created. The lake may provide recreational benefits or water supply (which could also help mitigate a drought).

Retention pond

Flood control reservoirs are most commonly built for one of two purposes. Large reservoirs are constructed to protect property from existing flood problems. Smaller reservoirs, or detention basins, are built to protect property from the stormwater runoff impacts of new development.

DIVERSION

A diversion is a new channel that sends floodwaters to a different location, thereby reducing flooding along an existing watercourse. Diversions can be surface channels, overflow weirs, or tunnels. During normal flows, the water stays in the old channel. During floods, the floodwaters spill over to the diversion channel or tunnel, which carries the excess water to a receiving lake or river.

LOCAL IMPLEMENTATION RECOMMENDATIONS

Structural flood control projects that provide at least 100-year flood protection and that result in revisions to the Flood Insurance Rate Map are not credited by the CRS so as not to duplicate the larger premium reduction provided by removing properties from the mapped floodplain. Other flood control projects can be accepted by offering a 25-year flood protection.

Table C.5 – Structural Projects Mitigation Options and Recommended Projects

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
Structural Project Measures Considered by HMPC and Not Recommended			
-	Modify channels for water diversion to other areas. This will reduce flooding in existing areas.	This is a low priority because channelization can significantly increase runoff.	n/a
-	Mitigate flooding and erosion with breakwater and bulkheads.	Breakwaters and bulkheads are in place and can be effective but they provide limited mitigation depending on their design.	n/a
Structural Project Measures and Funding Recommended for Implementation			
CR24	Integration of environmentally friendly flood control measures will be implemented where necessary, such as the installation of living shorelines, marsh sills, flood barriers etc. to protect environmentally sensitive areas and maintain the natural floodplain.	These efforts help reestablish shorelines and floodplain and their beneficial functions.	GF, FEMA, NCDPS, Other

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
CA26	Improve stormwater management planning and implement stormwater improvement projects.	Drainage improvements are needed to address system deficiencies and reduce localized flooding.	GF, BRIC, HMGP, State grant funds, NCDEQ
B24	Monitor natural and man-made drainage structures to ensure they are clear and functioning properly; prioritize needed drainage projects and review funding alternatives annually.	Monitoring and maintenance is necessary for drainage systems to function properly.	GF, NCDPS, NCDOT, USDA, HMA

C.2.6 PUBLIC INFORMATION AND OUTREACH

OUTREACH PROJECTS

Outreach projects are the first step in the process of orienting property owners to the hazards they face and to the concept of property protection. They are designed to encourage people to seek out more information in order to take steps to protect themselves and their properties.

Awareness of the hazard is not enough; people need to be told what they can do about the hazard. Thus, projects should include information on safety, health and property protection measures. Research has shown that a properly run local information program is more effective than national advertising or publicity campaigns. Therefore, outreach projects should be locally designed and tailored to meet local conditions.

Community newsletters/direct mailings: The most effective types of outreach projects are mailed or distributed to everyone in the community. In the case of floods, they can be sent only to floodplain property owners.

News media: Local newspapers can be strong allies in efforts to inform the public. Local radio stations and cable TV channels can also help. These media offer interview formats and cable TV may be willing to broadcast videos on the hazards.

LIBRARIES AND WEBSITES

The two previous activities tell people that they are exposed to a hazard. The next step is to provide information to those who want to know more. The community library and local websites are obvious places for residents to seek information on hazards, hazard protection, and protecting natural resources.

Books and pamphlets on hazard mitigation can be given to libraries, and many of these can be obtained for free from state and federal agencies. Libraries also have their own public information campaigns with displays, lectures and other projects, which can augment the activities of the local government. Today, websites are commonly used as research tools. They provide fast access to a wealth of public and private sites for information. Through links to other websites, there is almost no limit to the amount of up to date information that can be accessed online.

In addition to online floodplain maps, websites can link to information for homeowners on how to retrofit for floods or a website about floods for children.

TECHNICAL ASSISTANCE

HAZARD INFORMATION

Residents and business owners that are aware of the potential hazards can take steps to avoid problems or reduce their exposure to flooding. Communities can easily provide map information from FEMA's FIRMs and Flood Insurance Studies. They may also assist residents in submitting requests for map amendments and revisions when they are needed to show that a building is located outside the mapped floodplain.

Some communities supplement what is shown on the FIRM with information on additional hazards, flooding outside mapped areas and zoning. When the map information is provided, community staff can explain insurance, property protection measures and mitigation options that are available to property owners. They should also remind inquirers that being outside the mapped floodplain is no guarantee that a property will never flood.

PROPERTY PROTECTION ASSISTANCE

While general information provided by outreach projects or the library is beneficial, most property owners do not feel ready to retrofit their buildings without more specific guidance. Local building department staffs are experts in construction. They can provide free advice, not necessarily to design a protection measure, but to steer the owner onto the right track. Building or public works department staffs can provide the following types of assistance:

- Visit properties and offer protection suggestions
- Recommend or identify qualified or licensed contractors
- Inspect homes for anchoring of roofing and the home to the foundation
- Explain when building permits are needed for home improvements.

PUBLIC INFORMATION PROGRAM

A Program for Public Information (PPI) is a document that receives CRS credit. It is a review of local conditions, local public information needs, and a recommended plan of activities. A PPI consists of the following parts, which are incorporated into this plan:

- The local flood hazard
- The property protection measures appropriate for the flood hazard
- Flood safety measures appropriate for the local situation
- The public information activities currently being implemented within the community, including those being carried out by non-government agencies
- Goals for the community's public information program
- The outreach projects that will be done each year to reach the goals
- The process that will be followed to monitor and evaluate the projects

LOCAL IMPLEMENTATION RECOMMENDATIONS

Communities in the Pamlico Sound Region could receive credit under Activity 330 – Outreach Projects as well as Activity 350 – Flood Protection Information. Credit is available for targeted and general outreach projects. Credit is also provided for making publications relating to floodplain management available in the reference section of the local library.

Table C.6 – Public Information and Outreach Mitigation Options and Recommended Projects

Action #	Mitigation Action	Reason for Pursuing / Not Pursuing	Funding
Public Information and Outreach Measures Considered by HMPC and Not Recommended			
-	Develop a multi-jurisdictional program for public information.	Most communities already coordinate their own public outreach efforts. Regional coordination may be considered in the future.	n/a
Public Information and Outreach Measures and Funding Recommended for Implementation			
B10	Hold an annual public hazard mitigation meeting, attended by the HMPC and participating jurisdictions, to educate the public and elected officials and receive comments about the location of high-risk facilities/development, the jurisdictions' overall vulnerability to natural and man-made hazards, and the jurisdictions' hazards mitigation efforts.	Beaufort County Emergency Services holds a public officials conference at least annually to educate decision makers on the vulnerability to hazards and mitigation efforts.	GF
CA16	Mail a notice annually to all property owners in an effort to educate citizens about dangers associated with flooding in low-lying coastal areas.	Targeted outreach is considered most effective. Carteret County mails all property owners a flood tips brochure with their tax bill. 100% of property owners receive this flood tips brochure. Property owners in Repetitive Loss Areas also receive annual notification of their susceptibility to flooding and grant opportunities.	GF, NCDPS

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